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ÖLFLEX® Power & control cables

ÖLFLEX® has become synonymous with power and control cables. Our flexible and oil-resistant cables satisfy the highest demands and can withstand even the very toughest conditions.

Application range

- Industrial machinery, machine tools, plant & equipment engineering
- Measurement, control, heating & air conditioning systems
- Wind power and photovoltaic systems
- Public buildings, airports & stations.
- Medical technology, chemical industry, composting plants & sewage works
- Food & beverage industry
- Power drive systems
- Robot applications
- Railway applications

Product range

- 25** Flexible power & control cable
- 51** Tray-rated cable
- 59** Continuous flex power & control cable
- 79** Torsional & robotic cable
- 85** High temperature cable
- 95** Flexible cable for drives, motors & assemblies
- 125** Harmonized European hook-up wire & cordage
- 137** Lift & crane cable
- 149** Spiral cable



Flexible power & control cable



Tray-rated cable



Continuous flex power & control cable



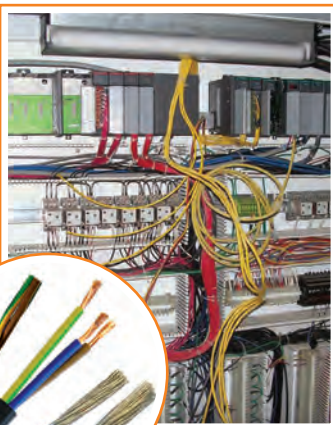
Torsional & robotic cable



High temperature cable



Flexible cable for motors, drives & assemblies



Harmonized European hook-up wire & cordage



Lift & crane cable



Spiral cable

26 Quick select chart

UL/CSA PVC cable

- 28 **ÖLFLEX® 190/190 CY**
Extremely oil-resistant flexible control cable with UL TC & UL/CSA AWM
- 30 **ÖLFLEX® 150/150 CY**
Oil-resistant flexible control cable with <HAR> approval
- 32 **ÖLFLEX® CONTROL TM/TM CY**
Extremely oil-resistant flexible control cable with UL MTW & UL/CSA TC

UL/CSA PUR cable

- 34 **ÖLFLEX® 409 P** 
Oil and abrasion-resistant control cable with PUR jacket & UL/CSA AWM
- 36 **ÖLFLEX® 490 P/490 CP**
Highly abrasion-resistant control cable with PUR jacket & UL/CSA AWM
- 38 **ÖLFLEX® 590 P/590 CP**
Flexible heavy duty, LSLH, indoor/outdoor cable with PUR jacket
- 40 **ÖLFLEX® POWER MULTI**
Flexible oil-resistant tray cable & STOOW extra hard service cordage

European PVC cable

- 41 **ÖLFLEX® CLASSIC 100/100 CY**
Flexible color-coded power & control cable
- 43 **ÖLFLEX® CLASSIC 100 SY**
Flexible color-coded power & control cable with steel braid
- 44 **ÖLFLEX® CLASSIC 110/110 CY**
Flexible number-coded power & control cable
- 46 **ÖLFLEX® CLASSIC 110 SY**
Flexible number-coded power & control cable with steel braid

Halogen-free cable

- 47 **ÖLFLEX® CLASSIC 110 H/110 CH**
Oil-resistant, low smoke, zero halogen control cable
- 49 **ÖLFLEX® CLASSIC 130 H BK/135 CH BK**
Low smoke, zero halogen control cable

Flexible power & control cable in other catalog sections

- 54 **ÖLFLEX® TRAY II/TRAY II CY**
- 104 **ÖLFLEX® SDP TC**
- 131 **ÖLFLEX® POWER QUAD II**
- 208 **UNITRONIC® 300/300 S**

Quick select chart

Product name	Construction			AWG range	Conductor count	
	shielding	insulation	jacket			
UL/CSA PVC cable						
ÖLFLEX® 190	no	PVC	thermoplastic polymer	20 - 2 AWG	2, 3, 4, 5, 7, 9, 12, 18, 25, 34, 41, 50	
ÖLFLEX® 190 CY	yes					
ÖLFLEX® 150	no	PVC	PVC	20 - 14 AWG	3, 4, 5, 7, 12, 18, 25	
ÖLFLEX® 150 CY	yes			18 - 14 AWG	3, 4, 5, 7	
ÖLFLEX® CONTROL TM	no	PVC/nylon	thermoplastic polymer	18 - 10 AWG	3, 4, 5, 7, 9, 12, 18, 19, 25	
ÖLFLEX® CONTROL TM CY	yes					
UL/CSA PUR cable						
ÖLFLEX® 409 P	no	PVC	PUR	19 - 6 AWG	2, 3, 4, 5, 7, 10, 12, 18, 25	
ÖLFLEX® 490 P	no	PVC	PUR	20 - 14 AWG	2, 3, 4, 5, 7, 9, 12, 18, 25	
ÖLFLEX® 490 CP	yes					
ÖLFLEX® 590 P	no	TPE	PUR	18 - 10 AWG	2, 3, 4, 5, 7	
ÖLFLEX® 590 CP	yes				2, 3, 4, 5	
ÖLFLEX® POWER MULTI	no	PVC	thermoplastic polymer	18 - 8 AWG	3, 4, 5, 7, 12, 18, 25	
European PVC cable						
ÖLFLEX® CLASSIC 100	no	PVC	PVC	20 AWG - 350 KCMIL	2, 3, 4, 5	
ÖLFLEX® CLASSIC 100 CY	yes					
ÖLFLEX® CLASSIC 100 SY	yes (steel)	PVC	PVC	18 - 2 AWG	2, 3, 4, 5	
ÖLFLEX® CLASSIC 110	no	PVC	PVC	20 - 2 AWG	2, 3, 4, 5, 7, 12, 18, 25, 34, 41, 50, 52, 65, 80, 100	
ÖLFLEX® CLASSIC 110 CY	yes			20 - 6 AWG	2, 3, 4, 5, 7, 12, 18, 25	
ÖLFLEX® CLASSIC 110 SY	yes (steel)	PVC	PVC	20 - 6 AWG	2, 3, 4, 5, 7, 12, 18, 25	
Halogen-free cable						
ÖLFLEX® CLASSIC 110 H	no	halogen-free	halogen-free	20 - 2 AWG	3, 4, 5, 7, 12, 18, 25	
ÖLFLEX® CLASSIC 110 CH	yes					
ÖLFLEX® CLASSIC 130 H BK	no	halogen-free	halogen-free	20 - 4 AWG	2, 3, 4, 5, 7, 12, 18, 25	
ÖLFLEX® CLASSIC 135 CH BK	yes			20 - 2 AWG		

	Nominal voltage	Temperature range		Approvals	Cable attributes, see page 648			Page
		low	high		oil resistance	flame resistance	mechanical properties	
	600V	-40°C	90°C	     	OR-04	FR-03	MP-02	28
	600V	-40°C	90°C	      	OR-04	FR-02	MP-02	30
	1000V	-40°C	90°C	      	OR-03	FR-03	MP-03	32
	1000V	-40°C	80°C	   	OR-05	FR-02	MP-05	34
	600V	-20°C	80°C	    	OR-05	FR-02	MP-05	36
	600V	-50°C	80°C	    	OR-05	FR-02	MP-05	38
	1000V	-40°C	90°C	     	OR-03	FR-03	MP-03	40
	500 - 750V	-40°C	80°C	 	OR-01	FR-02	MP-01	41
	500 - 750V	-40°C	80°C	 	OR-01	FR-02	MP-01	43
	500V	-40°C	80°C	   	OR-01	FR-02	MP-01	44
	500V	-40°C	80°C	  	OR-01	FR-02	MP-01	46
	600V	-40°C	75°C	    	OR-03	FR-04	MP-01	47
	1000V	-40°C	75°C	   	OR-01	FR-04	MP-01	49

ÖLFLEX® 190/190 CY

Extremely oil-resistant flexible control cable with UL TC & UL/CSA AWM



ÖLFLEX® 190 is a multi-conductor cable with a highly oil-, coolant-, and solvent-resistant thermoplastic polymer jacket for control and power applications in an industrial environment. It is designed for use in all electrical equipment under dry, damp, and wet conditions. ÖLFLEX® 190 is also UL TC approved so it can be routed in tray as well. ÖLFLEX® 190 CY is a shielded version for EMI and RFI protection.

Recommended applications

CNC machining centers; grinding machines; bottling equipment; conveyors; processing equipment; assembly lines; control panels

Approvals



Cable attributes		page 648	
OIL	OR-04	FLAME	FR-03
MOTION	WT-02	MECH.	MP-03

Unshielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC

Jacket: specially formulated thermoplastic polymer; gray

Shielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC

Shielding: PVC inner jacket; tinned copper braid (85% coverage)

Jacket: specially formulated thermoplastic polymer; gray

Application advantage

- Extremely oil-resistant (Oil Res I & II)
- Meets NFPA 79 machinery wiring standard
- Very flexible and number-coded for easy routing and termination
- Round jacket for optimal seal with a SKINTOP® strain relief cable gland
- Resistant to a wide range of disinfecting solutions used in the food, beverage, chemical and related industries, according to ECOLAB® PM 40-1 test procedure

Complete the installation

	SKINTOP® strain relief page 492		EPIC® connectors page 284
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Technical data

	Minimum bend radius:			Color code:	black with white numbers, plus green/yellow ground
	- for installation:	4 x cable diameter			
	- shielded:	6 x cable diameter			
	Temperature range:			Approvals:	UL: TC-ER per UL 1277 WTTC per UL 2277 PLTC-ER per UL 13 (20 AWG) AWM 2587 & 21098 (Oil)
	- UL TC:	-25°C to +90°C			Attributes: UL Oil Res I/II 90°C wet; 90°C dry sunlight resistant direct burial NFPA 79
	- for stationary use:	-40°C to +105°C			Canada: CSA AWM I/II A/B FT4 CSA C22.2 210.2
	- for flexible use:	-25°C to +90°C			Additional: torsion rated for wind market (± 90°/m) & (± 150°/m) (18 - 2 AWG) CE & RoHS
	Nominal voltage:				
	- UL PLTC:	300V			
	- UL TC:	600V			
	- UL WTTC:	1000V			
	- UL/CSA AWM:	1000V			
	Test voltage:	2000V			
	Conductor stranding:				
	- 20 - 6 AWG:	Class 5 fine wire*			
	- 4 AWG and larger:	Class K fine wire			
	* 18 AWG meets only Class 5 cross section and DC resistance				

If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® 190

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
20 AWG (0.5 mm²)						
602002**	2	0.253	6.4	7	40	S1109
602003	3	0.265	6.7	10	42	S1109
602004	4	0.285	7.2	13	51	S1111
602005	5	0.308	7.8	17	60	S1111
602007	7	0.331	8.4	23	82	S1111
602009	9	0.409	10.4	30	100	S1113
602012	12	0.421	10.7	39	168	S1113
602018	18	0.487	12.4	59	198	S1116
602025	25	0.586	14.9	82	242	S1121
18 AWG (1 mm²)						
601802**	2	0.277	7.0	13	42	S1111
601803	3	0.291	7.4	20	44	S1111
601804	4	0.314	8.0	26	55	S1111
601805	5	0.340	8.6	33	64	S1111
601807	7	0.367	9.3	46	84	S1111
601809	9	0.454	11.5	59	119	S1113
601812	12	0.471	12.0	79	141	S1116
601818	18	0.579	14.7	118	207	S1121
601825	25	0.656	16.7	164	278	S1121
601834	34	0.761	19.3	206	575	S1129
601841	41	0.873	22.2	250	680	S1129
601850	50	0.927	23.5	305	825	S1129
16 AWG (1.5 mm²)						
601602**	2	0.303	7.7	20	57	S1111
601603	3	0.319	8.1	29	62	S1111
601604	4	0.345	8.8	39	75	S1111
601605	5	0.375	9.5	49	90	S1111
601607	7	0.406	10.3	68	121	S1113
601609	9	0.509	12.9	88	174	S1116
601612	12	0.557	14.1	112	209	S1121
601618	18	0.644	16.4	175	298	S1121
601625	25	0.733	18.6	242	417	S1129
601634	34	0.892	22.7	296	760	S1129
601641	41	0.974	24.7	357	875	S1236
601650	50	1.036	26.3	437	1020	S1136
601661	61	1.098	27.9	530	1180	S1136

* 2c cable does not include ground

** Part numbers are not -ER rated

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
14 AWG (2.5 mm²)						
601402**	2	0.337	8.6	33	88	S1111
601403	3	0.356	9.0	49	93	S1111
601404	4	0.386	9.8	65	121	S1113
601405	5	0.421	10.7	81	145	S1113
601407	7	0.457	11.6	113	192	S1113
601409	9	0.609	15.5	145	317	S1121
601412	12	0.628	16.0	194	401	S1121
601418	18	0.729	18.5	290	575	S1129
601425	25	0.872	22.1	404	860	S1129
12 AWG (4 mm²)						
601203	3	0.417	10.6	78	156	S1113
601204	4	0.454	11.5	104	198	S1113
601205	5	0.497	12.6	129	238	S1116
601207	7	0.573	14.6	181	363	S1121
601211	11	0.745	18.9	284	397	S1129
10 AWG (6 mm²)						
601003	3	0.466	11.8	116	223	S1116
601004	4	0.509	12.9	155	267	S1121
601005	5	0.590	15.0	194	322	S1121
8 AWG (10 mm²)						
600804	4	0.664	16.9	258	436	S1129
600805	5	0.728	18.5	323	525	S1129
6 AWG (16 mm²)						
600604	4	0.870	22.1	413	699	S1129
600605	5	0.955	24.3	516	842	S1129
4 AWG (21 mm²)						
600404	4	1.005	25.5	515	950	S1136
600405	5	1.105	28.1	645	1200	S1136
2 AWG (33.7 mm²)						
600204	4	1.178	29.9	876	1405	S1136
600205	5	1.300	33.0	1129	1752	S1248

ÖLFLEX® 190 CY

Part number	Number of conductors incl ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
20 AWG (0.5 mm²)						
602002CY**	2	0.329	8.4	25	66	53112220
602003CY	3	0.341	8.7	30	82	53112220
602004CY	4	0.361	9.2	35	88	53112220
602005CY	5	0.384	9.8	41	99	53112230
602007CY	7	0.407	10.3	51	112	53112230
602012CY	12	0.497	12.6	73	181	53112240
602025CY	25	0.678	17.2	139	295	53112260
18 AWG (1 mm²)						
601802CY**	2	0.353	9.0	28	75	53112220
601803CY	3	0.367	9.3	40	82	53112230
601804CY	4	0.390	9.9	48	106	53112230
601805CY	5	0.416	10.6	57	123	53112230
601807CY	7	0.443	11.3	94	139	53112240
601812CY	12	0.586	14.9	153	229	53112250
601818CY	18	0.678	17.2	216	317	53112260
601825CY	25	0.764	19.4	226	436	53112260
16 AWG (1.5 mm²)						
601603CY	3	0.395	10.0	52	115	53112230
601604CY	4	0.421	10.7	66	128	53112230
601605CY	5	0.451	11.5	76	150	53112240
601607CY	7	0.482	12.2	98	181	53112240
601612CY	12	0.656	16.7	167	311	53112250
601618CY	18	0.743	18.9	235	456	53112260
601625CY	25	0.888	22.6	313	639	53112260

* 2c cable does not include ground

** Part numbers are not -ER rated

Part number	Number of conductors incl ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
14 AWG (2.5 mm²)						
601403CY	3	0.432	11.0	75	148	53112230
601404CY	4	0.462	11.7	93	181	53112240
601405CY	5	0.497	12.6	115	218	53112240
601407CY	7	0.533	13.5	147	282	53112250
601412CY	12	0.727	18.5	253	516	53112260
601418CY	18	0.884	22.5	361	741	53112260
12 AWG (4 mm²)						
601203CY	3	0.500	12.7	124	227	53112240
601204CY	4	0.585	14.9	154	311	53112250
601205CY	5	0.628	16.0	180	359	53112250
601207CY	7	0.672	17.1	234	494	53112260
10 AWG (6 mm²)						
601003CY	3	0.565	14.4	164	311	53112250
601004CY	4	0.608	15.4	208	386	53112250
601005CY	5	0.689	17.5	255	474	53112260
601007CY	7	0.740	18.8	335	639	53112260
8 AWG (10 mm²)						
600804CY	4	0.763	19.4	324	574	53112260
6 AWG (16 mm²)						
600604CY	4	0.994	25.2	494	1115	53112270

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.

ÖLFLEX® 150/150 CY

Oil-resistant flexible control cable with <HAR> approval

LAPP KABEL STUTTGART ÖLFLEX® 150



LAPP KABEL STUTTGART ÖLFLEX® 150 CY



ÖLFLEX® 150 is an internationally approved, 600V multi-conductor cable. It has UL & CSA AWM and <HAR> approvals for use as an interconnect cable for machinery. ÖLFLEX® 150 is extremely flexible for easier installation and has outstanding oil, coolant, and chemical resistance. ÖLFLEX® 150 CY is a shielded version with an inner PVC jacket and tinned copper braid shield.

Recommended applications

Control and power on industrial machinery; food & beverage; processing & pharmaceutical equipment; machinery for export to Europe

Approvals



Cable attributes		page 648	
OIL	OR-04	FLAME	FR-02
MOTION	FL-01	MECH.	MP-02

Unshielded construction

Conductors: finely stranded bare copper

Insulation: PVC

Jacket: specially formulated PVC; gray

Shielded construction

Conductors: finely stranded bare copper

Insulation: PVC

Shielding: PVC inner jacket; tinned copper braid (85% coverage)

Jacket: specially formulated PVC; gray

Application advantage

- Industrial grade PVC jacket (Oil Res I & II)
- International approvals: UL, CSA, <HAR>
- Very flexible pressure-extruded jacket for easy installation
- Number-coded conductors for easy identification & wiring

Complete the installation



SKINTOP®
strain relief
page 492



EPIC®
connectors
page 284

Technical data

	Minimum bend radius: - for installation: 4 x cable diameter - shielded: 6 x cable diameter		Test voltage: 3000V
	Temperature range: - for stationary use: - UL/CSA: -40°C to +90°C - <HAR>: -40°C to +70°C - for flexible use: - UL/CSA: -5°C to +90°C - <HAR>: -5°C to +70°C		Conductor stranding: Class 5 fine wire
	Nominal voltage: - UL/CSA: 600V - <HAR>: 300/500V		Color code: black with white numbers, plus green/yellow ground
			Approvals: - UL: AWM 2587 & 21098 (Oil) - Attributes: UL Oil Res I/II NFPA 79 - Canada: CSA AWM I/II A/B FT1 - Additional: <HAR> H05VV5-F (non-shielded) <HAR> H05VVC4V5-K (shielded) CE & RoHS

If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® 150

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
20 AWG (0.5 mm²)						
0015003	3	0.244	6.2	10	42	S1107
0015004	4	0.268	6.8	13	46	S1109
0015005	5	0.291	7.4	17	59	S1111
0015007	7	0.354	9.0	23	80	S1111
0015012	12	0.437	11.1	39	133	S1113
0015018	18	0.520	13.2	58	220	S1116
0015025	25	0.630	16.0	81	256	S1121
19 AWG (0.75 mm²)						
0015103	3	0.264	6.7	15	51	S1109
0015104	4	0.283	7.2	20	56	S1111
0015105	5	0.319	8.1	25	76	S1111
0015107	7	0.390	9.9	34	97	S1113
0015112	12	0.472	12.0	58	165	S1116
0015118	18	0.567	14.4	87	22	S1121
0015125	25	0.673	17.1	121	313	S1121
18 AWG (1 mm²)						
0015203	3	0.276	7.0	20	53	S1111
0015204	4	0.307	7.8	26	67	S1111
0015205	5	0.339	8.6	33	89	S1111
0015207	7	0.409	10.4	46	114	S1113
0015212	12	0.504	12.8	78	192	S1116
0015218	18	0.594	15.1	117	272	S1121
0015225	25	0.709	18.0	162	383	S1129

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	lbs/mft	lbs/mft	PG thread
16 AWG (1.5 mm²)						
0015303	3	0.327	8.3	29	74	S1111
0015304	4	0.354	9.0	39	97	S1111
0015305	5	0.398	10.1	49	113	S1113
0015307	7	0.492	12.5	68	151	S1116
0015312	12	0.594	15.1	117	243	S1121
0015318	18	0.709	18.0	175	348	S1129
0015325	25	0.843	21.4	242	491	S1129
14 AWG (2.5 mm²)						
0015403	3	0.390	9.9	49	114	S1113
0015404	4	0.425	10.8	65	141	S1113
0015405	5	0.476	12.1	81	173	S1116
0015407	7	0.579	14.7	113	229	S1121
0015412	12	0.705	17.9	194	390	S1129
0015418	18	0.850	21.6	291	571	S1129
0015425	25	1.008	25.6	404	784	S1136

ÖLFLEX® 150 CY

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
18 AWG (1 mm²)						
0015703	3	0.370	9.4	52	97	53112230
0015704	4	0.394	10.0	54	121	53112230
0015705	5	0.433	11.0	64	136	53112230
0015707	7	0.512	13.0	80	183	53112240
16 AWG (1.5 mm²)						
0015803	3	0.413	10.5	57	107	53112230
0015804	4	0.449	11.4	64	142	53112240
0015805	5	0.500	12.7	82	162	53112240
0015807	7	0.594	15.1	97	205	53112250

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® MS-SC PG thread
14 AWG (2.5 mm ²)						
0015903	3	0.469	11.9	81	164	53112240
0015904	4	0.520	13.2	115	198	53112240
0015905	5	0.579	14.7	138	245	53112250
0015907	7	0.689	17.5	162	322	53112260

ÖLFLEX® CONTROL TM/TM CY

Extremely oil-resistant flexible control cable with UL MTW & UL/CSA TC



ÖLFLEX® CONTROL TM is a multi-conductor cable designed for use on machine tool equipment and other industrial machinery conforming to NFPA 79 wiring norms. ÖLFLEX® CONTROL TM is also UL/CSA TC approved so it can be routed in tray as well. ÖLFLEX® CONTROL TM CY has foil tape and a tinned copper braid shield for improved effectiveness against noise and interference.

Recommended applications

Machine tool machinery; food & beverage; processing equipment; machine wiring for conformance to NFPA 79

Approvals



Cable attributes		page 648	
OIL	OR-03	FLAME	FR-03
MOTION	WT-02	MECH.	MP-03

Unshielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC/nylon

Jacket: specially formulated thermoplastic polymer; gray

Shielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC/nylon

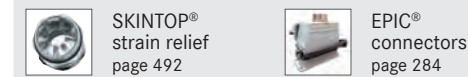
Shielding: foil tape; tinned copper braid (85% coverage)

Jacket: specially formulated thermoplastic polymer; gray

Application advantage

- Conforms to NFPA 79 standards for wiring machinery
- Gray jacket and number-coded for easy connection
- UL TC-ER approval so it can be installed off the machine and into an overhead tray without conduit
- Flexible copper stranding and pressure-extruded jacket, improved shielding effectiveness

Complete the installation



Technical data

	Minimum bend radius:			Approvals:	UL: TC-ER per UL 1277 MTW per UL 1063 WTTC per UL 2277 bus drop cable (14 AWG & larger; 3c & 4c only) AWM 20886 & 21098 (Oil)
	- for installation:	4 x cable diameter			
	- shielded:	6 x cable diameter			
	Temperature range:			Attributes:	UL Oil Res I/II 75°C wet; 90°C dry sunlight resistant direct burial NFPA 79
	- UL/CSA TC:	-25°C to +90°C			
	- for stationary use:	-40°C to +105°C			
	- for flexible use:	-25°C to +90°C			
	Nominal voltage:			NEC:	Class 1 Division 2 per NEC Article 501
	- UL/CSA TC:	600V			
	- UL WTTC:	1000V			
	Test voltage:	2000V		Canada:	c(UL) CIC/TC FT4
	Conductor stranding:	Class 5 fine wire*		Additional:	CSA AWM I/II A/B FT4
	* 18 AWG meets only Class 5 cross section and DC resistance				torsion rated for wind market (± 90°/m) & (± 150°/m)
	Color code:	black with white numbers, plus green/yellow ground			CE & RoHS

If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® CONTROL TM

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
18 AWG (1 mm²)						
281803	3	0.291	7.4	20	55	S1111
281804	4	0.315	8.0	26	64	S1111
281805	5	0.340	8.6	33	75	S1111
281807	7	0.367	9.3	46	97	S1111
281809	9	0.423	10.7	59	108	S1113
281812	12	0.471	12.0	79	165	S1116
281818	18	0.579	14.7	118	245	S1121
281819	19	0.579	14.7	124	262	S1121
281825	25	0.656	16.7	164	311	S1121
16 AWG (1.5 mm²)						
281603	3	0.319	8.1	29	66	S1111
281604	4	0.345	8.8	39	79	S1111
281605	5	0.375	9.5	48	95	S1111
281607	7	0.406	10.3	68	123	S1113
281609	9	0.470	11.9	88	165	S1116
281612	12	0.557	14.1	116	214	S1121
281618	18	0.644	16.4	175	289	S1121
281619	19	0.644	16.4	184	293	S1121
281625	25	0.733	18.6	242	311	S1129

* Cable meets UL bus drop approval

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	lbs/mft	lbs/mft	PG thread
14 AWG (2.5 mm²)						
281403*	3	0.356	9.0	49	88	S1111
281404*	4	0.386	9.8	65	106	S1113
281405	5	0.421	10.7	81	123	S1113
281407	7	0.457	11.6	113	163	S1113
281409	9	0.563	14.3	146	218	S1121
281412	12	0.628	16.0	194	298	S1121
281419	19	0.729	18.5	307	450	S1129
281425	25	0.872	22.1	404	569	S1129
12 AWG (4 mm²)						
281203*	3	0.417	10.6	78	110	S1113
281204*	4	0.454	11.5	104	148	S1113
281205	5	0.497	12.6	129	181	S1116
281207	7	0.573	14.6	181	324	S1121
281209	9	0.665	16.9	233	359	S1121
10 AWG (6 mm²)						
281003*	3	0.492	12.5	117	194	S1116
281004*	4	0.570	14.5	155	256	S1121
281005	5	0.623	15.8	194	306	S1121
281007	7	0.678	17.2	271	430	S1121
281009	9	0.791	20.1	349	549	S1129

ÖLFLEX® CONTROL TM CY

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs./mft	Approx. weight lbs./mft	SKINTOP® MS-SC PG thread
18 AWG (1 mm²)						
281803CY	3	0.316	8.0	37	79	53112220
281804CY	4	0.339	8.6	41	93	53112220
281805CY	5	0.365	9.3	55	99	53112220
281807CY	7	0.392	10.0	69	130	53112230
281812CY	12	0.502	12.8	109	223	53112240
281819CY	19	0.610	15.5	172	295	53112250
281825CY	25	0.687	17.4	222	386	53112260
16 AWG (1.5 mm²)						
281603CY	3	0.344	8.7	44	97	53112220
281604CY	4	0.370	9.4	60	117	53112230
281605CY	5	0.400	10.2	72	128	53112230
281607CY	7	0.437	11.1	94	165	53112230
281612CY	12	0.588	14.9	151	287	53112250
281618CY	18	0.675	17.1	227	326	53112260
281625CY	25	0.764	19.4	305	476	53112260

* Cable meets UL bus drop approval

Part number	Number of conductors incl. ground	Nominal outer diameter inmm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
14 AWG (2.5 mm²)						
281403CY*	3	0.381	9.7	71	121	53112230
281404CY*	4	0.411	10.4	91	150	53112230
281405CY	5	0.452	11.5	108	181	53112240
281407CY	7	0.488	12.4	143	220	53112240
281412CY	12	0.659	16.7	246	399	53112250
281419CY	19	0.760	19.3	369	527	53112260
281425CY	25	0.903	22.9	474	705	53112260
12 AWG (4 mm²)						
281203CY*	3	0.448	11.4	104	161	53112240
281204CY*	4	0.485	12.3	133	212	53112240
281205CY	5	0.560	14.2	163	260	53112250
281207CY	7	0.604	15.3	217	452	53112250
10 AWG (6 mm²)						
281003CY*	3	0.555	14.1	150	271	53112250
281004CY*	4	0.601	15.3	191	370	53112250
281005CY	5	0.654	16.6	245	412	53112250
281007CY	7	0.709	18.0	330	575	53112260

ÖLFLEX® 409 P

Oil and abrasion-resistant control cable with PUR jacket & UL/CSA AWM



LAPP KABEL STUTTGART ÖLFLEX® 409 P

ÖLFLEX® 409 P is a flexible control cable with a rugged, highly abrasion-resistant polyurethane jacket. It is UV-resistant and performs very well in mineral oils, cutting oils, and areas with high mechanical abuse. The innovative functional layer allows for easier stripping of the cable jacket compared to other PUR cables.

Recommended applications

Machine tool equipment; handheld controls; any areas where the cable can be cut and damaged by sharp objects

Approvals



Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	FL-02	MECH.	MP-05

Construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC

Jacket: specially formulated polyurethane with gap-filling functional layer; black

Application advantage

- Rugged PUR jacket to resist cuts, nicks, and abrasion
- UL & CSA AWM approved
- Extremely oil and chemical resistant
- Able to be dragged on the floor with minimal damage
- Improved ease of jacket stripping compared to other PUR cables

Complete the installation



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Technical data



Minimum bend radius:

- for installation: 4 x cable diameter
- for flexible use: 12.5 x cable diameter



Temperature range:

- for stationary use: -40°C to +80°C
- for flexible use: -5°C to +80°C



Nominal voltage:

- UL/CSA: 1000V
- U₀/U: 300/500V



Test voltage:

4000V



Conductor stranding:

Class 5 fine wire



Color code:

black with white numbers,
plus green/yellow ground



Approvals:

UL: AWM 20234
Attributes: VW-1
NFA 79
Canada: cRU AWM I/II AB FT1
Additional: CE & RoHS

ÖLFLEX® 409 P

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
19 AWG (0.75 mm²)						
1311852	2	0.272	6.9	10	41	S2111
1311103	3	0.283	7.2	15	48	S2111
1311104	4	0.303	7.7	19	56	S2111
1311105	5	0.327	8.3	24	67	S2111
1311107	7	0.350	8.9	34	82	S2111
1311110	10	0.425	10.8	48	121	S2113
1311112	12	0.437	11.1	58	133	S2113
1311118	18	0.504	12.8	87	185	S2116
1311125	25	0.571	14.5	121	245	S2121
18 AWG (1 mm²)						
1311902	2	0.283	7.2	13	46	S2111
1311203	3	0.295	7.5	19	54	S2111
1311204	4	0.315	8.0	26	65	S2111
1311205	5	0.343	8.7	32	79	S2111
1311207	7	0.366	9.3	45	95	S2111
1311210	10	0.449	11.4	65	142	S2113
1311212	12	0.461	11.7	77	157	S2116
1311218	18	0.531	13.5	116	220	S2121
1311225	25	0.606	15.4	161	294	S2121
16 AWG (1.5 mm²)						
1311952	2	0.307	7.8	19	58	S2111
1311303	3	0.323	8.2	29	70	S2111
1311304	4	0.346	8.8	39	85	S2111

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
16 AWG (1.5 mm²)						
1311305	5	0.374	9.5	48	101	S2111
1311307	7	0.402	10.2	68	126	S2113
1311312	12	0.512	13.0	116	211	S2116
1311318	18	0.591	15.0	174	296	S2121
1311325	25	0.677	17.2	242	401	S2121
14 AWG (2.5 mm²)						
1311403	3	0.374	9.5	48	101	S2111
1311404	4	0.402	10.2	65	124	S2113
1311405	5	0.437	11.1	81	151	S2113
1311407	7	0.472	12.0	113	190	S2116
1311412	12	0.610	15.5	194	323	S2121
12 AWG (4 mm²)						
1311504	4	0.465	11.8	103	179	S2116
1311505	5	0.508	12.9	129	218	S2116
10 AWG (6 mm²)						
1311604	4	0.516	13.1	155	241	S2116
1311605	5	0.563	14.3	194	294	S2121
8 AWG (10 mm²)						
1311704	4	0.650	16.5	258	393	S2121
1311705	5	0.717	18.2	323	485	S2129
6 AWG (16 mm²)						
1311804	4	0.752	19.1	413	579	S2129
1311805	5	0.870	22.1	516	744	S2129

ÖLFLEX® 490 P/490 CP

Highly abrasion-resistant control cable with PUR jacket & UL/CSA AWM



ÖLFLEX® 490 P is a flexible control cable with a rugged, highly abrasion-resistant polyurethane jacket. It is UV-resistant and performs very well in mineral oils, cutting oils, and areas with high mechanical abuse. ÖLFLEX® 490 CP is the shielded version, with an overall foil tape with drain wire and tinned copper braid for EMI and RFI protection.

Recommended applications

Machine tool equipment; handheld controls; any areas where the cable can be cut and damaged by sharp objects

Approvals



Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	FL-01	MECH.	MP-06

Unshielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC

Jacket: specially formulated polyurethane; gray

Shielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC

Shielding: overall foil tape wrap with drain wire; tinned copper braid (85% coverage)

Jacket: specially formulated polyurethane; gray

Application advantage

- Rugged PUR jacket to resist cuts, nicks, and abrasion
- UL & CSA AWM approved
- Extremely oil and chemical resistant
- Able to be dragged on the floor with minimal damage
- Number-coded for easy wiring

Complete the installation



SKINTOP®
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Technical data



Minimum bend radius:

- for installation: 4 x cable diameter
- shielded: 6 x cable diameter



Temperature range:

- for flexible use: -10°C to +80°C
- for stationary use: -20°C to +80°C



Nominal voltage:

600V



Test voltage:

2000V



Conductor stranding:

Class 5 fine wire*

* 18 AWG meets only Class 5 cross section and DC resistance



Color code:

black with white numbers,
plus green/yellow ground



Approvals:

UL: AWM 20234
Attributes: UL Oil Res I/II
sunlight resistant
NFPA 79
Canada: CSA AWM I/II A/B FT1
Additional: CE & RoHS

ÖLFLEX® 490 P

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
20 AWG (0.5 mm²)						
402002	2	0.245	6.2	7	35	S1107
402003	3	0.256	6.5	10	40	S1109
402004	4	0.274	7.0	13	46	S1109
402005	5	0.293	7.4	17	53	S1111
402007	7	0.313	8.0	23	66	S1111
402009	9	0.355	9.0	30	82	S1111
402012	12	0.401	10.2	38	106	S1113
402018	18	0.459	11.7	59	139	S1113
402025	25	0.534	13.6	79	176	S1121
18 AWG (1 mm²)						
401802	2	0.269	6.8	13	44	S1109
401803	3	0.281	7.1	20	51	S1111
401804	4	0.303	7.7	26	64	S1111
401805	5	0.325	8.3	31	75	S1111
401807	7	0.349	8.9	46	93	S1111
401809	9	0.399	10.1	59	119	S1113
401812	12	0.451	11.5	79	143	S1113
401818	18	0.519	13.2	118	203	S1116
401825	25	0.607	15.4	164	264	S1121

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
16 AWG (1.5 mm²)						
401602	2	0.295	7.5	20	53	S1111
401603	3	0.310	7.9	29	64	S1111
401604	4	0.333	8.5	39	77	S1111
401605	5	0.360	9.1	48	90	S1111
401607	7	0.388	9.9	68	115	S1113
401609	9	0.446	11.3	88	141	S1113
401612	12	0.496	12.6	117	179	S1116
401618	18	0.574	14.6	175	253	S1121
401625	25	0.654	16.6	242	335	S1121
14 AWG (2.5 mm²)						
401402	2	0.329	8.4	33	66	S1111
401403	3	0.347	8.8	49	75	S1111
401404	4	0.374	9.5	65	108	S1111
401405	5	0.406	10.3	81	121	S1113
401407	7	0.439	11.2	113	170	S1113
401409	9	0.507	12.9	146	194	S1116
401412	12	0.567	14.4	194	238	S1121
401418	18	0.659	16.7	290	357	S1121
401425	25	0.754	19.2	404	474	S1129

ÖLFLEX® 490 CP

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
20 AWG (0.5 mm²)						
402002CP	2	0.270	6.9	19	46	53112210
402003CP	3	0.281	7.1	24	55	53112220
402004CP	4	0.299	7.6	27	66	53112220
402005CP	5	0.318	8.1	33	73	53112220
402007CP	7	0.338	8.6	40	84	53112220
402009CP	9	0.380	9.7	53	104	53112230
402012CP	12	0.426	10.8	69	117	53112230
402018CP	18	0.490	12.4	90	163	53112240
402025CP	25	0.565	14.4	119	214	53112250
18 AWG (1 mm²)						
401802CP	2	0.294	7.5	28	62	53112220
401803CP	3	0.306	7.8	35	71	53112220
401804CP	4	0.328	8.3	44	82	53112220
401805CP	5	0.350	8.9	51	95	53112220
401807CP	7	0.374	9.5	70	117	53112230
401809CP	9	0.424	10.8	89	139	53112230
401812CP	12	0.473	12.0	110	176	53112240
401818CP	18	0.540	13.7	155	240	53112250
401825CP	25	0.609	15.5	218	311	53112250

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
16 AWG (1.5 mm²)						
401602CP	2	0.320	8.1	43	73	53112220
401603CP	3	0.335	8.5	50	82	53112220
401604CP	4	0.358	9.1	60	97	53112220
401605CP	5	0.385	9.8	76	112	53112230
401607CP	7	0.413	10.5	98	137	53112230
401609CP	9	0.477	12.1	122	170	53112240
401612CP	12	0.527	13.4	156	216	53112240
401618CP	18	0.605	15.4	231	295	53112250
401625CP	25	0.685	17.4	307	384	53112260
14 AWG (2.5 mm²)						
401402CP	2	0.354	9.0	56	84	53112220
401403CP	3	0.372	9.4	76	101	53112230
401404CP	4	0.399	10.1	96	123	53112230
401405CP	5	0.431	10.9	116	145	53112230
401407CP	7	0.470	11.9	149	183	53112240
401409CP	9	0.538	13.7	188	225	53112250
401412CP	12	0.598	15.2	242	287	53112250
401418CP	18	0.690	17.5	359	390	53112260
401425CP	25	0.785	19.9	479	558	53112260

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.

ÖLFLEX® 590 P/590 CP

Flexible heavy duty, LSLH, indoor/outdoor cable with PUR jacket



ÖLFLEX® 590 P is a color-coded, flexible power and control cable with a rugged, highly abrasion-resistant yellow polyurethane jacket. It is UV-resistant and performs very well in cold-temperature indoor and outdoor applications. ÖLFLEX® 590 CP is the shielded version, with an overall foil tape, drain wire, and tinned copper braid for EMI and RFI protection.

Recommended applications

Portable hand tools; utility & forestry trucks & equipment; cold temperature applications; areas where the cable can be cut or damaged by sharp objects

Approvals



Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	FL-01	MECH.	MP-06

Unshielded construction

Conductors: finely stranded tinned copper

Insulation: TPE

Jacket: polyurethane; yellow

Shielded construction

Conductors: finely stranded tinned copper

Insulation: TPE

Shielding: overall foil tape with drain wire; tinned copper braid (85% coverage)

Jacket: specially formulated polyurethane; yellow

Application advantage

- Rugged PUR jacket resists cuts, nicks & abrasions
- TPE insulation for superior cold-temperature flexibility
- Safety colored yellow jacket
- Good for damp environments
- UL & CSA AWM approval

Complete the installation

	SKINTOP® strain relief page 492		EPIC® connectors page 284
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Technical data

Minimum bend radius: - for installation: 5 x cable diameter - shielded: 8 x cable diameter	Color code: chart 1, page 680 (#4 conductor is green/yellow)
Temperature range: - for flexible use: -50°C to +80°C	Approvals: UL: AWM 20234 Attributes: Oil Res I/II sunlight resistant NFPA 79 Canada: CSA AWM I/II A/B FT1 Additional: CE & RoHS
Nominal voltage: 600V	
Test voltage: 2000V	
Conductor stranding: Class 5 fine wire* * 18 AWG meets only the Class 5 cross section and DC resistance	

ÖLFLEX® 590 P

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs./mft	Approx. weight lbs./mft	SKINTOP® SL PG thread
18 AWG (1 mm²)						
501802	2	0.293	7.4	13	44	S2111
501803	3	0.308	7.8	19	51	S2111
501804	4	0.332	8.4	25	64	S2111
501805	5	0.357	9.1	31	77	S2111
501807	7	0.390	9.9	44	95	S2113
16 AWG (1.5 mm²)						
501602	2	0.315	8.0	18	51	S2111
501603	3	0.331	8.4	26	64	S2111
501604	4	0.357	9.1	39	77	S2111
501605	5	0.387	9.8	44	90	S2113
501607	7	0.418	10.6	62	115	S2113

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
14 AWG (2.5 mm²)						
501403	3	0.360	9.1	43	82	S2111
501404	4	0.389	9.9	57	101	S2113
501405	5	0.422	10.7	72	123	S2113
12 AWG (4 mm²)						
501203	3	0.399	10.1	72	117	S2113
501204	4	0.447	11.4	96	145	S2113
10 AWG (6 mm²)						
501003	3	0.485	12.3	105	161	S2116
501004	4	0.532	13.5	139	205	S2121

ÖLFLEX® 590 CP

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs./mft	Approx. weight lbs./mft	SKINTOP® MS-SC PG thread
18 AWG (1 mm²)						
501803CP	3	0.330	8.4	34	73	53112220
501804CP	4	0.354	9.0	41	84	53112220
501805CP	5	0.379	9.6	50	99	53112230
16 AWG (1.5 mm²)						
501602CP	2	0.346	8.8	37	73	53112220
501603CP	3	0.362	9.2	46	86	53112220
501604CP	4	0.388	9.9	56	99	53112230
501605CP	5	0.418	10.6	67	117	53112230
14 AWG (2.5 mm²)						
501403CP	3	0.391	9.9	71	108	53112230
501404CP	4	0.420	10.7	88	130	53112230
501405CP	5	0.458	11.6	103	161	53112240

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
12 AWG (4 mm²)						
501203CP	3	0.442	11.2	109	156	53112240
501204CP	4	0.479	12.2	136	190	53112240
501205CP	5	0.518	13.2	160	231	53112240
10 AWG (6 mm²)						
501003CP	3	0.521	13.2	147	216	53112240
501004CP	4	0.564	14.3	184	262	53112250
501005CP	5	0.635	16.1	222	315	53112250

ÖLFLEX® POWER MULTI

Flexible oil-resistant tray cable & STOOW extra hard service cordage

LAPP KABEL STUTTGART ÖLFLEX® POWER MULTI

ÖLFLEX® POWER MULTI is a multi-purpose power cable with cordage, tray, and NEC Class 1 Div. 1 (flexible use only) approvals.

Recommended applications

Power cord for equipment; paint booths; appliances; factory installations; any power hook-up in the plant

Approvals



Cable attributes		page 648	
OIL	OR-03	FLAME	FR-03
MOTION	FL-02	MECH.	MP-03

Construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC

Jacket: specially formulated thermoplastic polymer; black

Application advantage

- UL & CSA STOOW cordage approval
- UL TC-ER & CSA TC approval
- One cable does the job of three
- Durable jacket for long performance life

Complete the installation



SKINTOP® strain relief
page 492



EPIC® pin & sleeve
page 465

Technical data



Minimum bend radius:

- for installation: 4 x cable diameter



Temperature range:

- UL/CSA TC: -25°C to +90°C
- for flexible use: -25°C to +105°C
- for stationary use: -40°C to +105°C



Nominal voltage:

- UL/CSA TC/STOOW: 600V



Test voltage:

2000V



Conductor stranding:

Class 5 fine wire*

* 18 AWG meets only Class 5 cross section and DC resistance



Color code:

- 3c: color & number-coded
black, white, green/yellow
- 4c: black, white, red, green/yellow
- 5c: black, white, red, brown,
green/yellow
- 7c & higher: black with white numbers,
plus green/yellow ground



Approvals:

UL: TC-ER per UL 1277
STOOW per UL 62
Attributes: UL Oil Res I/II
75°C wet; 90°C dry
sunlight resistant
direct burial
NFPA 79
NEC: Class 1 Division 1 & 2 per
NEC Article 501
Canada: c(UL) CIC/TC FT4
c(UL) STOOW
CSA AWM I/II A/B FT4
Additional: CE & RoHS

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	lbs/mft	lbs/mft	PG thread
18 AWG (1 mm²)						
611803	3	0.371	9.4	20	62	S2111
611804	4	0.399	10.1	26	71	S2113
611805	5	0.471	12.0	33	82	S2116
16 AWG (1.5 mm²)						
611603	3	0.399	10.1	29	75	S2113
611604	4	0.430	10.9	39	88	S2113
611605	5	0.507	12.9	49	104	S2116
611607	7	0.544	13.8	68	132	S2121
611612	12	0.719	18.3	117	225	S2129
611618	18	0.824	20.9	175	295	S2129
611625	25	0.966	24.5	242	401	S2136

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
14 AWG (2.5 mm²)						
611403	3	0.541	13.8	49	93	S2121
611404	4	0.584	14.8	65	112	S2121
611405	5	0.663	16.8	81	132	S2121
12 AWG (4 mm²)						
611203	3	0.631	16.0	78	126	S2121
611204	4	0.681	17.3	104	156	S2129
611205	5	0.739	18.8	129	192	S2129
10 AWG (6 mm²)						
611003	3	0.676	17.2	117	229	S2121
611004	4	0.732	18.6	155	271	S2129
8 AWG (10 mm²)						
610803	3	0.840	21.3	194	430	S2129
610804	4	0.943	24.0	258	566	S2129

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® CLASSIC 100/100 CY

Flexible color-coded power & control cable



ÖLFLEX® CLASSIC 100 is a color-coded multi-conductor power and control cable for use in all electrical equipment in dry, damp, or wet conditions. It is a European-style cable, conforms to CE, and is available shielded or unshielded.

Recommended applications

Control systems; assembly lines; control panels; data processing equipment; European machinery

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-01	MECH.	MP-01

Unshielded construction

Conductors: finely stranded bare copper

Insulation: PVC

Jacket: PVC; gray

Shielded construction

Conductors: finely stranded bare copper

Insulation: PVC

Shielding: Gray PVC inner jacket; tinned copper braid (85% coverage)

Jacket: PVC; transparent

Application advantage

- European color code for power
- Conforms to CE standards
- Available with inner jacket and tinned copper braid for EMI & RFI protection
- Pressure-extruded jacket for improved flexibility

Complete the installation	
SKINTOP® strain relief page 492	EPIC® connectors page 284

Technical data

Minimum bend radius: - for installation: 4 x cable diameter - shielded: 6 x cable diameter	Test voltage: 4000V
	Conductor stranding: Class 5 fine wire
Temperature range: - for flexible use: -5°C to +70°C - for stationary use: -40°C to +80°C	Color code: VDE 0293-308: chart 6, page 681
	Approvals: based on VDE specifications CE & RoHS
Nominal voltage: - unshielded: - ≤ 16 AWG: 300/500V - ≥ 14 AWG: 450/750V - shielded: - ≤ 18 AWG: 300/500V - ≥ 16 AWG: 450/750V	

ÖLFLEX® CLASSIC 100

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
20 AWG (0.5 mm²)					
00100004	2	0.189	4.8	6	24 S1107
00100014	3	0.201	5.1	10	28 S1107
00100024	4	0.224	5.7	13	36 S1107
00100034	5	0.244	6.2	16	42 S1107
18 AWG (1 mm²)					
00100414	2	0.224	5.7	13	36 S1107
00100424	3	0.236	6.0	19	44 S1107
00100434	4	0.256	6.5	26	53 S1109
00100444	5	0.280	7.1	32	63 S1111
16 AWG (1.5 mm²)					
00100634	2	0.248	6.3	19	46 S1109
00100644	3	0.264	6.7	29	56 S1109
00100654	4	0.283	7.2	39	70 S1111
00100664	5	0.319	8.1	48	86 S1111
14 AWG (2.5 mm²)					
0010086	2	0.350	8.9	32	86 S1111
0010087	3	0.378	9.6	48	109 S1113
00100883	4	0.421	10.7	65	136 S1113
00100893	5	0.465	11.8	81	163 S1116
12 AWG (4 mm²)					
0010100	2	0.409	10.4	52	126 S1113
0010210	3	0.441	11.2	77	164 S1113
00101013	4	0.492	12.5	103	200 S1116
00101023	5	0.539	13.7	129	239 S1121
10 AWG (6 mm²)					
0010105	3	0.496	12.6	116	214 S1116
00101063	4	0.543	13.8	155	265 S1121
00101073	5	0.614	15.6	194	329 S1121

* 2c cable does not include ground

** SKINTOP® MS with metric thread

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
8 AWG (10 mm²)					
0010301	3	0.626	15.9	194	342 S1121
00101093	4	0.693	17.6	258	437 S1129
00101103	5	0.776	19.7	323	532 S1129
6 AWG (16 mm²)					
0010302	3	0.720	18.3	310	489 S1129
00101123	4	0.803	20.4	413	730 S1129
00101133	5	0.898	22.8	516	751 S1129
4 AWG (25 mm²)					
0010303	3	0.906	23.0	484	932 S1129
00101153	4	1.000	25.4	645	1063 S1136
00101163	5	1.122	28.5	806	1190 S1136
2 AWG (35 mm²)					
0010304	3	1.008	25.6	677	1187 S1136
00101173	4	1.122	28.5	903	1416 S1136
00101183	5	1.256	31.9	1129	1771 S1248
1 AWG (50 mm²)					
0010305	3	1.220	31.0	968	1718 S1248
00101193	4	1.358	34.5	1290	1978 S1248
2/0 AWG (70 mm²)					
0010306	3	1.390	35.3	1355	2139 S1142
00101203	4	1.551	39.4	1806	2750 S1148
3/0 AWG (95 mm²)					
0010307	3	1.626	41.3	1839	3142 S1148
00101213	4	1.803	45.8	2451	3534 S3112080**
4/0 AWG (120 mm²)					
0010308	3	1.874	47.6	2322	3776 S3112080**
00103093	4	2.091	53.1	3096	4694 S3112080**
350 KCMIL (185 mm²)					
00103123	4	2.472	62.8	4774	5578 S3112510**

ÖLFLEX® CLASSIC 100 CY

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
20 AWG (0.5 mm²)					
0035001	2	0.276	7.0	28	50 S3112210
0035002	3	0.287	7.3	31	56 S3112220
00350033	4	0.311	7.9	37	67 S3112220
00352013	5	0.331	8.4	44	75 S3112220
18 AWG (1 mm²)					
0035220	2	0.311	7.9	38	66 S3112220
0035221	3	0.323	8.2	44	75 S3112220
00352223	4	0.343	8.7	52	87 S3112220
00352233	5	0.374	9.5	60	103 S3112230
16 AWG (1.5 mm²)					
0035000	2	0.390	9.9	44	89 S3112230
0035458	3	0.406	10.3	53	114 S3112230
00354593	4	0.445	11.3	65	137 S3112240
00354603	5	0.496	12.6	78	165 S3112240
14 AWG (2.5 mm²)					
0035011	3	0.465	11.8	98	142 S3112240
00350173	4	0.531	13.5	112	208 S3112240
00350123	5	0.575	14.6	134	219 S3112250
12 AWG (4 mm²)					
00350183	4	0.594	15.1	159	271 S3112250
00350133	5	0.650	16.5	220	321 S3112250
10 AWG (6 mm²)					
00350193	4	0.654	16.6	214	350 S3112250
00350143	5	0.717	18.2	296	419 S3112260

* 2c cable does not include ground

* SKINTOP® MS-SC with metric thread

** SKINTOP® BRUSH with metric thread

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
8 AWG (10 mm²)					
00350213	4	0.831	21.1	375	566 S3112260
00352903	5	0.909	23.1	480	675 S3112260
6 AWG (16 mm²)					
00350223	4	0.941	23.9	540	782 S3112260
00350153	5	1.055	26.8	706	1216 S3112270
4 AWG (25 mm²)					
00350233	4	1.157	29.4	866	1279 S3112270
00350243	5	1.283	32.6	972	1595 S3112670*
2 AWG (35 mm²)					
00350253	4	1.276	32.4	1138	1673 S3112670*
00350263	5	1.417	36.0	1327	1862 S3112680**
1 AWG (50 mm²)					
00350273	4	1.528	38.8	1574	2259 S3112680**
2/0 AWG (70 mm²)					
00350283	4	1.720	43.7	2039	2499 S3112680**
3/0 AWG (95 mm²)					
00350293	4	1.984	50.4	2725	3931 S3112681**
4/0 AWG (120 mm²)					
00354303	4	2.236	56.8	3511	5046 S3112501**
300 KCMIL (150 mm²)					
00354313	4	2.449	62.2	4233	5242 S3112500**
350 KCMIL (185 mm²)					
00354323	4	2.669	67.8	5210	6630 S3112503**

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.

ÖLFLEX® CLASSIC 100 SY

Flexible color-coded power & control cable with steel braid



ÖLFLEX® CLASSIC 100 SY is a color-coded multi-conductor power and control cable with a galvanized steel braided shield for mechanical and low frequency protection. It is for use in all electrical equipment in dry, damp, or wet conditions. It is a European-style cable conforming to CE.

Recommended applications

Control systems; assembly lines; control panels; data processing equipment; European machinery

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-01	MECH.	MP-01

Construction

Conductors: finely stranded bare copper

Insulation: PVC

Inner jacket: PVC; gray

Shielding: galvanized steel braid (75% coverage)

Jacket: PVC; transparent

Application advantage

- Available with inner jacket and steel braid for mechanical protection
- Steel braid provides protection from low-frequency noise
- Pressure-extruded jacket for improved flexibility

Complete the installation

	SKINTOP® MS-SC page 522		EPIC® connectors page 284
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Technical data

Minimum bend radius: - for installation: 6 x cable diameter	Test voltage: 4000V
Temperature range: - for flexible use: -5°C to +70°C - for stationary use: -40°C to +80°C	Conductor stranding: Class 5 fine wire
Nominal voltage: - ≤ 16 AWG: 300/500V - ≥ 14 AWG: 450/750V	Color code: VDE 0293-308: chart 6, page 681
	Approvals: based on VDE specifications CE & RoHS

Part number	Number of conductors incl. ground*	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	lbs/mft	lbs/mft	PG thread
18 AWG (1 mm²)						
0016043	3	0.346	8.8	19	103	S1111
00160443	4	0.374	9.5	26	121	S1111
00160453	5	0.398	10.1	32	136	S1113
16 AWG (1.5 mm²)						
0016065	3	0.382	9.7	29	128	S1113
00160663	4	0.402	10.2	39	146	S1113
00160673	5	0.437	11.1	48	180	S1113
14 AWG (2.5 mm²)						
0016088	3	0.496	12.6	48	187	S1116
00160893	4	0.547	13.9	65	228	S1121
00160903	5	0.598	15.2	81	267	S1121
12 AWG (4 mm²)						
0016101	2	0.535	13.6	52	221	S1121
00161023	4	0.618	15.7	103	307	S1121
00161033	5	0.673	17.1	129	366	S1121

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	lbs/mft	lbs/mft	PG thread
10 AWG (6 mm²)						
0016106	3	0.622	15.8	116	365	S1121
00161073	4	0.677	17.2	155	461	S1121
00161083	5	0.740	18.8	194	536	S1129
8 AWG (10 mm²)						
00161103	4	0.838	21.3	258	677	S1129
00161113	5	0.917	23.3	323	803	S1129
6 AWG (16 mm²)						
00161133	4	0.949	24.1	413	929	S1129
4 AWG (25 mm²)						
00161163	4	1.157	29.4	645	1356	S1136
00161173	5	1.283	32.6	806	1654	S1248
2 AWG (35 mm²)						
00161183	4	1.276	32.4	903	1725	S1248

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® CLASSIC 110/110 CY

Flexible number-coded power & control cable



ÖLFLEX® CLASSIC 110 is a number-coded multi-conductor power and control cable for use in all electrical equipment in dry, damp, or wet conditions. It is a European-style cable, conforms to CE, and is available unshielded or shielded.

Recommended applications

Control systems; assembly lines; control panels; data processing equipment; European machinery

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-01	MECH.	MP-01

Unshielded construction

Conductors: finely stranded bare copper

Insulation: PVC

Jacket: PVC; gray

Shielded construction

Conductors: finely stranded bare copper

Insulation: PVC

Inner jacket: PVC; gray

Shielding: tinned copper braid (85% coverage)

Jacket: PVC; transparent

Application advantage

- Common European control cable
- Conforms to CE standards
- Available with inner jacket and tinned copper braid for EMI & RFI protection
- Pressure-extruded jacket for improved flexibility

Complete the installation	
SKINTOP® strain relief page 492	EPIC® connectors page 284

Technical data

Minimum bend radius:	- for installation:	4 x cable diameter	Test voltage:	4000V
	- shielded:	6 x cable diameter		
Temperature range:	- for flexible use:	-5°C to +70°C	Conductor stranding:	Class 5 fine wire
	- for stationary use:	-40°C to +80°C		
Nominal voltage:		300/500V	Color code:	black with white numbers, plus green/yellow ground
			Approvals:	based on VDE 7030 CE & RoHS

ÖLFLEX® CLASSIC 110

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
20 AWG (0.5 mm²)						
1119752	2	0.189	4.8	6	24	S1107
1119003	3	0.201	5.1	10	28	S1107
1119004	4	0.224	5.7	13	36	S1107
1119005	5	0.244	6.2	16	42	S1107
1119007	7	0.264	6.7	23	54	S1109
1119012	12	0.350	8.9	39	88	S1111
1119018	18	0.413	10.5	58	126	S1113
1119025	25	0.488	12.4	81	175	S1116
1119035	35	0.571	14.5	113	239	S1121
1119052	52	0.681	17.3	168	347	S1129
1119065	65	0.772	19.6	210	433	S1129
1119080	80	0.831	21.1	258	524	S1129
1119100	100	0.929	23.6	323	655	S1129
18 AWG (1 mm²)						
1119852	2	0.224	5.7	13	36	S1107
1119203	3	0.236	6.0	19	44	S1107
1119204	4	0.256	6.5	26	53	S1109
1119205	5	0.280	7.1	32	63	S1111
1119207	7	0.315	8.0	45	85	S1111
1119212	12	0.413	10.5	77	138	S1113
1119218	18	0.500	12.7	116	215	S1116
1119225	25	0.579	14.7	161	274	S1121
1119234	34	0.673	17.1	219	370	S1121
1119241	41	0.740	18.8	265	444	S1129
1119250	50	0.811	20.6	323	536	S1129
1119265	65	0.929	23.6	419	694	S1129
1119280	80	0.996	25.3	516	841	S1136
1119300	100	1.114	28.3	645	1048	S1136
16 AWG (1.5 mm²)						
1119902	2	0.248	6.3	19	46	S1109
1119303	3	0.264	6.7	29	56	S1109
1119304	4	0.283	7.2	39	70	S1111
1119305	5	0.319	8.1	48	86	S1111
1119307	7	0.350	8.9	68	112	S1111
1119312	12	0.472	12.0	116	188	S1116

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
1119318	18	0.567	14.4	174	274	S1121
1119325	25	0.665	16.9	242	376	S1121
1119334	34	0.764	19.4	329	501	S1129
1119341	41	0.839	21.3	397	602	S1129
1119350	50	0.925	23.5	484	732	S1129
1119365	65	1.051	26.7	629	940	S1136
14 AWG (2.5 mm²)						
1119952	2	0.295	7.5	32	68	S1111
1119403	3	0.319	8.1	48	89	S1111
1119404	4	0.350	8.9	65	110	S1111
1119405	5	0.394	10.0	81	134	S1113
1119407	7	0.437	11.1	113	179	S1113
1119412	12	0.583	14.8	194	299	S1121
1119418	18	0.701	17.8	290	436	S1129
1119425	25	0.819	20.8	403	598	S1129
1119434	34	0.961	24.4	548	812	S1129
1119450	50	1.157	29.4	806	1179	S1136
12 AWG (4 mm²)						
1119503	3	0.390	9.9	77	135	S1113
1119504	4	0.425	10.8	103	167	S1113
1119505	5	0.476	12.1	129	198	S1116
1119507	7	0.528	13.4	181	274	S1116
10 AWG (6 mm²)						
1119603	3	0.461	11.7	116	194	S1116
1119604	4	0.512	13.0	155	245	S1116
1119605	5	0.571	14.5	194	300	S1121
1119607	7	0.630	16.0	271	403	S1121
8 AWG (10 mm²)						
1119614	4	0.638	16.2	258	397	S1121
6 AWG (16 mm²)						
1119624	4	0.740	18.8	413	731	S1129
4 AWG (25 mm²)						
1119634	4	0.925	23.5	645	1063	S1129
2 AWG (35 mm²)						
1119644	4	1.039	26.4	903	1415	S1136
1119645	5	1.165	29.6	1129	1771	S1136

ÖLFLEX® CLASSIC 110 CY

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
20 AWG (0.5 mm²)						
1135003	3	0.287	7.3	31	56	53112220
1135004	4	0.311	7.9	37	67	53112220
1135005	5	0.331	8.4	44	75	53112220
1135007	7	0.350	8.9	54	89	53112220
1135012	12	0.445	11.3	93	136	53112240
1135018	18	0.524	13.3	105	194	53112240
1135025	25	0.598	15.2	168	254	53112250
18 AWG (1 mm²)						
1135203	3	0.323	8.2	44	75	53112220
1135204	4	0.343	8.7	52	87	53112220
1135205	5	0.374	9.5	60	103	53112230
1135207	7	0.402	10.2	76	124	53112230
1135212	12	0.524	13.3	126	206	53112240
1135218	18	0.610	15.5	192	288	53112250
1135225	25	0.689	17.5	261	366	53112260
16 AWG (1.5 mm²)						
1135902	2	0.335	8.5	44	79	53112220
1135303	3	0.350	8.9	56	91	53112220
1135304	4	0.378	9.6	67	110	53112230

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
1135305	5	0.406	10.3	84	126	53112230
1135307	7	0.445	11.3	100	159	53112240
1135312	12	0.583	14.8	188	264	53112250
1135318	18	0.677	17.2	261	362	53112260
1135325	25	0.791	20.1	360	501	53112260
14 AWG (2.5 mm²)						
1135403	3	0.406	10.3	98	129	53112230
1135404	4	0.445	11.3	112	157	53112240
1135405	5	0.496	12.6	134	190	53112240
1135407	7	0.547	13.9	194	249	53112250
12 AWG (4 mm²)						
1135504	4	0.528	13.4	159	233	53112240
1135505	5	0.579	14.7	188	278	53112250
10 AWG (6 mm²)						
1135604	4	0.622	15.8	214	326	53112250
8 AWG (10 mm²)						
1135614	4	0.748	19.0	375	494	53112260
6 AWG (16 mm²)						
1135624	4	0.874	22.2	540	934	53112260

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.

ÖLFLEX® CLASSIC 110 SY

Flexible number-coded power & control cable with steel braid



ÖLFLEX® CLASSIC 110 SY is a number-coded multi-conductor power and control cable with a galvanized steel braid shield for mechanical and low-frequency protection. It is a European-style cable conforming to CE, for use in all electrical equipment in dry, damp, or wet conditions.

Recommended applications

Control systems; assembly lines; control panels; data processing equipment; European machinery

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-01	MECH.	MP-01

Construction

Conductors: finely stranded bare copper

Insulation: PVC

Inner jacket: PVC; gray

Shielding: galvanized steel braid (75% coverage)

Jacket: PVC; transparent

Application advantage

- European-style control and power cable
- Conforms to CE standards
- Inner jacket and steel braid for mechanical protection
- Steel braid provides protection from low-frequency noise
- Pressure-extruded jacket for improved flexibility

Complete the installation



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MS-SC
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Technical data

Minimum bend radius: 6 x cable diameter

Temperature range:
- for flexible use: -5°C to +70°C
- for stationary use: -40°C to +80°C

Nominal voltage: 300/500V

Test voltage: 4000V

Conductor stranding: Class 5 fine wire

Color code: black with white numbers, plus green/yellow ground

Approvals: based on VDE 7030
CE & RoHS

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
20 AWG (0.5 mm²)						
1125003	3	0.319	8.1	10	64	53112220
1125004	4	0.335	8.5	13	72	53112220
1125005	5	0.362	9.2	16	83	53112220
1125007	7	0.382	9.7	23	99	53112230
1125012	12	0.469	11.9	39	143	53112240
1125018	18	0.547	13.9	58	196	53112250
1125025	25	0.614	15.6	81	252	53112250
18 AWG (1 mm²)						
1125852	2	0.335	8.5	13	71	53112220
1125203	3	0.346	8.8	19	80	53112220
1125204	4	0.374	9.5	26	95	53112230
1125205	5	0.398	10.1	32	110	53112230
1125207	7	0.433	11.0	45	134	53112230
1125212	12	0.547	13.9	77	208	53112250
1125218	18	0.626	15.9	116	279	53112250
1125225	25	0.713	18.1	161	368	53112260
16 AWG (1.5 mm²)						
1125303	3	0.382	9.7	29	101	53112230
1125304	4	0.402	10.2	39	116	53112230
1125305	5	0.437	11.1	48	136	53112230
1125307	7	0.469	11.9	68	167	53112240

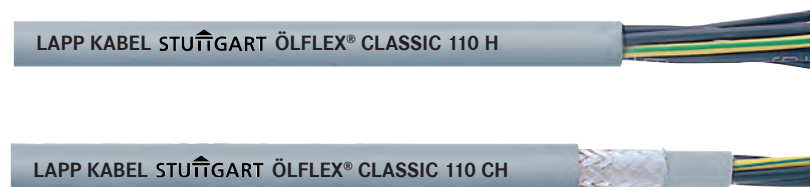
Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
1125312	12	0.606	15.4	116	266	53112250
1125318	18	0.693	17.6	174	362	53112260
1125325	25	0.799	20.3	242	479	53112260
14 AWG (2.5 mm²)						
1125403	3	0.437	11.1	48	138	53112230
1125404	4	0.476	12.1	65	167	53112240
1125405	5	0.520	13.2	81	198	53112240
1125407	7	0.563	14.3	113	251	53112250
1125412	12	0.717	18.2	194	394	53112260
1125418	18	0.843	21.4	290	553	53112260
1125425	25	0.961	24.4	403	734	53112260
12 AWG (4 mm²)						
1125503	3	0.500	12.7	77	192	53112240
1125504	4	0.551	14.0	103	234	53112250
1125505	5	0.594	15.1	129	276	53112250
10 AWG (6 mm²)						
1125604	4	0.638	16.2	155	324	53112250
1125605	5	0.697	17.7	194	389	53112260
8 AWG (10 mm²)						
1125614	4	0.764	19.4	258	491	53112260
6 AWG (16 mm²)						
1125624	4	0.882	22.4	413	930	53112260

* 2c cable does not include ground

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® CLASSIC 110 H/ 110 CH

Oil-resistant, low smoke, zero halogen control cable



ÖLFLEX® 110 H/ 110 CH is a low smoke, zero halogen (LSZH), multi-conductor control and power cable with improved oil resistance and flame protection. It is for use in all electrical equipment in dry or damp conditions. It is UV and weather resistant and comes in shielded and unshielded versions.

Recommended applications

Public buildings; airports; railway stations; amusement rides; areas where human safety is a concern

Approvals



Cable attributes		page 648	
OIL	OR-04	FLAME	FR-04
MOTION	FL-01	MECH.	MP-01

Unshielded construction

Conductors: finely stranded bare copper

Insulation: halogen-free

Jacket: halogen-free; gray

Shielded construction

Conductors: finely stranded bare copper

Insulation: halogen-free

Inner jacket: halogen-free; gray

Shielding: tinned copper braid (85% coverage)

Jacket: halogen-free; gray

Application advantage

- Low smoke, zero halogen (LSZH)
- Flame retardant
- Highly flexible and oil resistant
- UV-resistant jacket

Complete the installation



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strain relief
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Technical data

	Minimum bend radius:			Color code:	black with white numbers, plus green/yellow ground
	- unshielded:	4 x cable diameter			
	- shielded:	6 x cable diameter			
	Temperature range:			Approvals:	UL: AWM 21089 AWM 75°C, 600V
	- for flexible use:	-30°C to +70°C (UL: +75°C)		Attributes:	Oil Res I/II NFPA 79 sunlight resistant
	- for stationary use:	-40°C to +80°C (UL: +75°C)		Additional:	based on VDE specifications CE & RoHS DNV-GL certified LS acc. to IEC 61034-2 HF acc. to IEC 60754-1 Corrosiveness acc. to IEC 60754-2 FR acc. to IEC 60332-3-22/24/25
	Nominal voltage:				
	- UL:	600V			
	- U ₀ /U:	300/500V			
	Test voltage:	4000V			
	Conductor stranding:	Class 5 fine wire			

ÖLFLEX® CLASSIC 110 H

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
20 AWG (0.5 mm²)					
10019901	3	0.213	5.4	10	33 S1107
10019903	4	0.228	5.8	13	39 S1107
10019905	5	0.248	6.3	16	46 S1109
10019906	7	0.272	6.9	23	58 S1109
10019907	12	0.358	9.1	39	95 S1111
18 AWG (1 mm²)					
10019961	3	0.240	6.1	19	48 S1107
10019963	4	0.260	6.6	26	58 S1109
10019965	5	0.287	7.3	32	70 S1111
10019967	7	0.319	8.1	45	93 S1111
10019969	12	0.421	10.7	77	151 S1113
10019971	18	0.508	12.9	116	220 S1116
10019972	25	0.591	15.0	161	299 S1121
16 AWG (1.5 mm²)					
10019931	3	0.268	6.8	29	63 S1109
10019932	4	0.291	7.4	39	77 S1111
10019933	5	0.327	8.3	48	95 S1111
10019934	7	0.354	9.0	68	124 S1111
10019935	12	0.480	12.2	116	207 S1116
10019937	18	0.575	14.6	174	302 S1121
10019938	25	0.677	17.2	242	415 S1121

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
14 AWG (2.5 mm²)					
10019945	3	0.327	8.3	48	98 S1111
10019946	4	0.354	9.0	65	121 S1111
10019947	5	0.398	10.1	81	149 S1113
10019948	7	0.441	11.2	113	198 S1113
10019949	12	0.594	15.1	194	330 S1121
12 AWG (4 mm²)					
10019950	4	0.425	10.8	103	180 S1113
10019951	5	0.476	12.1	129	220 S1116
10019952	7	0.528	13.4	181	294 S1116
10 AWG (6 mm²)					
10019953	4	0.512	13.0	155	263 S1116
10019954	5	0.571	14.5	194	321 S1121
10019975	7	0.630	16.0	271	429 S1121
8 AWG (10 mm²)					
10019851	4	0.638	16.2	258	427 S2121
6 AWG (16 mm²)					
10019849	4	0.740	18.8	413	625 S2129
4 AWG (25 mm²)					
10019854	4	0.925	23.5	645	969 S2129
2 AWG (35 mm²)					
10019856	4	1.050	26.6	912	1288 S2136

ÖLFLEX® CLASSIC 110 CH

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
20 AWG (0.5 mm²)					
10035031	3	0.291	7.4	24	64 53112220
10035033	4	0.315	8.0	28	75 53112220
10035035	5	0.339	8.6	32	85 53112220
10035036	7	0.358	9.1	40	99 53112220
10035037	12	0.453	11.5	61	152 53112240
18 AWG (1 mm²)					
10035056	3	0.331	8.4	35	85 53112220
10035058	4	0.350	8.9	49	106 53112220
10035060	5	0.382	9.7	56	115 53112230
10035061	7	0.406	10.3	65	141 53112230
10035062	12	0.535	13.6	113	233 53112240
10035063	18	0.618	15.7	158	319 53112250
10035064	25	0.701	17.8	210	411 53112260
16 AWG (1.5 mm²)					
10035068	3	0.354	9.0	46	104 53112220
10035070	4	0.386	9.8	58	125 53112230
10035071	5	0.413	10.5	69	144 53112230
10035072	7	0.449	11.4	90	181 53112240
10035073	12	0.591	15.0	156	299 53112250
10035074	18	0.685	17.4	220	410 53112260
10035075	25	0.803	20.4	311	566 53112260

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
14 AWG (2.5 mm²)					
10035089	3	0.413	10.5	69	148 53112230
10035090	4	0.449	11.4	87	178 53112240
10035091	5	0.500	12.7	106	216 53112240
10035092	7	0.551	14.0	150	284 53112250
10035093	12	0.705	17.9	242	443 53112260
12 AWG (4 mm²)					
10035094	4	0.535	13.6	140	262 53112240
10035095	5	0.587	14.9	169	311 53112250
10035096	7	0.638	16.2	224	395 53112250
10 AWG (6 mm²)					
10035097	4	0.622	15.8	198	347 53112250
10035098	5	0.681	17.3	239	414 53112260
10035099	7	0.740	18.8	322	532 53112260
8 AWG (10 mm²)					
10035380	4	0.752	19.1	310	530 53112260
6 AWG (16 mm²)					
10035382	4	0.878	22.3	489	775 53112260
4 AWG (25 mm²)					
10035384	4	1.063	27.0	755	1214 53112270
2 AWG (35 mm²)					
10035386	4	1.197	30.4	1028	1560 53112270

ÖLFLEX® CLASSIC 130 H BK/135 CH BK

Low smoke, zero halogen control cable



ÖLFLEX® CLASSIC 130 H BK/135 CH BK is a low smoke, zero halogen (LSZH) multi-conductor power and control cable. It is for use in all electrical equipment in dry or damp conditions. It is UV and weather resistant and comes in shielded and unshielded versions.

Recommended applications

Public buildings; airports; railway stations; amusement rides; areas where human safety is a concern

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-04
MOTION	FL-01	MECH.	MP-01

Unshielded construction

Conductors: finely stranded bare copper

Insulation: halogen-free

Jacket: halogen-free; black

Shielded construction

Conductors: finely stranded bare copper

Insulation: halogen-free

Shielding: foil tape; tinned copper braid (85% coverage)

Jacket: halogen-free; black

Application advantage

- Low smoke, zero halogen (LSZH)
- Flame retardant
- Highly flexible
- UV-resistant jacket

Complete the installation



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strain relief
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Technical data

Minimum bend radius:	4 x cable diameter	Color code:	
		- up to 5c:	VDE 0293-308: chart 6, page 681
		- 6c & higher:	black with white numbers, plus green/yellow ground
Temperature range:		Approvals:	
- for flexible use:	-25°C to +70°C (UL: +75°C)	UL:	AWM 21156
- for stationary use:	-40°C to +80°C (UL: +75°C)	Attributes:	sunlight resistant NFPA 79
Nominal voltage:		Additional:	CE & RoHS LS acc. to IEC 61034-2 HF acc. to IEC 60754-1 Corrosiveness acc. to IEC 60754-2 FR acc. to IEC 60332-3-22/24/25
- UL:	1000V		
- U ₀ /U:	600/1000V		
Test voltage:	4000V		
Conductor stranding:	Class 5 fine wire		

ÖLFLEX® CLASSIC 130 H BK

Part number	Number of conductors incl. ground*	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	lbs/mft	lbs/mft	PG thread
18 AWG (1.0 mm²)						
1123410	2	0.339	8.6	13	72	S2111
1123411	3	0.355	9.0	19	83	S2111
1123412	4	0.378	9.6	26	97	S2113
1123413	5	0.410	10.4	32	112	S2113
1123414	7	0.437	11.1	45	138	S2113
1123415	12	0.552	14.0	77	211	S2221
1123416	18	0.634	16.1	116	288	S2121
1123417	25	0.733	18.6	161	382	S2229
16 AWG (1.5 mm²)						
1123418	2	0.378	9.6	19	92	S2113
1123419	3	0.398	10.1	29	108	S2113
1123420	4	0.426	10.8	39	128	S2113
1123421	5	0.461	11.7	48	149	S2113
1123422	7	0.496	12.6	68	185	S2116
1123423	12	0.634	16.1	116	287	S2121
1123424	18	0.741	18.8	174	401	S2229
1123425	25	0.855	21.7	242	537	S2129
14 AWG (2.5 mm²)						
1123426	2	0.426	10.8	32	124	S2113
1123427	3	0.445	11.3	48	147	S2113
1123428	4	0.481	12.2	65	176	S2116

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
1123429	5	0.524	13.3	81	206	S2116
1123430	7	0.567	14.4	113	262	S2221
1123431	12	0.737	18.7	194	419	S2229
1123432	18	0.867	22.0	290	591	S2129
1123433	25	1.017	25.8	403	814	S2236
12 AWG (4 mm²)						
1123434	3	0.496	12.6	77	195	S2116
1123435	4	0.540	13.7	103	236	S2116
1123436	5	0.587	14.9	129	280	S2221
10 AWG (6 mm²)						
1123437	3	0.548	13.9	116	253	S2221
1123438	4	0.595	15.1	155	311	S2121
1123439	5	0.662	16.8	194	376	S2121
8 AWG (10 mm²)						
1123440	4	0.737	18.7	258	509	S2229
1123441	5	0.816	20.7	323	615	S2129
6 AWG (16 mm²)						
1123442	4	0.839	21.3	413	719	S2129
1123443	5	0.930	23.6	516	871	S2129
4 AWG (25 mm²)						
1123444	4	1.032	26.2	645	1096	S2242

ÖLFLEX® CLASSIC 135 CH BK

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
18 AWG (1.0 mm²)						
1123460	2	0.370	9.4	27	81	53112230
1123461	3	0.386	9.8	34	94	53112230
1123462	4	0.410	10.4	42	111	53112230
1123463	5	0.441	11.2	51	128	53112230
1123464	6	0.469	11.9	65	155	53112240
1123465	12	0.591	15.0	114	242	53112250
1123466	18	0.682	17.3	160	332	53112250
1123467	25	0.780	19.8	212	432	53112260
16 AWG (1.5 mm²)						
1123468	2	0.410	10.4	36	100	53112230
1123469	3	0.429	10.9	47	119	53112230
1123470	4	0.457	11.6	58	140	53112230
1123471	5	0.493	12.5	70	163	53112240
1123472	7	0.528	13.4	92	202	53112240
1123473	12	0.682	17.3	160	327	53112250
1123474	18	0.796	20.2	239	464	53112260
1123475	25	0.910	23.1	319	614	53112260
14 AWG (2.5 mm²)						
1123476	2	0.457	11.6	53	132	53112230
1123477	3	0.477	12.1	71	163	53112240
1123478	4	0.512	13.0	90	197	53112240

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
1123479	5	0.556	14.1	106	230	53112250
1123480	7	0.607	15.4	151	310	53112250
1123481	12	0.792	20.1	258	482	53112260
1123482	18	0.922	23.4	369	679	53112260
1123483	25	1.080	27.4	512	921	53112270
12 AWG (4 mm²)						
1123484	3	0.528	13.4	113	220	53112240
1123485	4	0.579	14.7	142	268	53112250
1123486	5	0.626	15.9	168	317	53112250
10 AWG (6 mm²)						
1123487	3	0.587	14.9	156	278	53112250
1123488	4	0.634	16.1	201	349	53112250
1123489	5	0.701	17.8	239	408	53112260
8 AWG (10 mm²)						
1123490	4	0.792	20.1	330	562	53112260
1123491	5	0.863	21.9	394	669	53112260
6 AWG (16 mm²)						
1123492	4	0.887	22.5	494	778	53112260
1123493	5	0.985	25.0	597	946	53112270
4 AWG (25 mm²)						
1123494	4	1.095	27.8	757	1131	53112270

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values.

52 Quick select chart

54 ÖLFLEX® TRAY II/TRAY II CY

Extremely oil-resistant & flexible tray cable with UL & CSA; unshielded & shielded

56 ÖLFLEX® TRAY VTC

Flexible tray cable with TC-ER for easier installation

58 ÖLFLEX® AUTO-I

Heavy duty flexible tray cable with color-coded conductors for DC or AC control wiring

Tray-rated power & control cable in other catalog sections

28	ÖLFLEX® 190/190 CY	100	ÖLFLEX® VFD 2XL with Signal
32	ÖLFLEX® CONTROL TM/TM CY	101	ÖLFLEX® VFD SLIM
40	ÖLFLEX® POWER MULTI	102	ÖLFLEX® VFD with Signal
64	ÖLFLEX® CHAIN TM/TM CY	103	ÖLFLEX® FD VFD
78	ÖLFLEX® FD AUTO-X	104	ÖLFLEX® SDP TC
98	ÖLFLEX® VFD 2XL	109	ÖLFLEX® SERVO 7TCE
99	ÖLFLEX® VFD 2XL SYMMETRICAL		

Tray-rated data cable in other catalog sections

169	UNITRONIC® BUS DeviceNet™ Violet	210	UNITRONIC® 300 STP
175	UNITRONIC® BUS PB TRAY	236	ETHERLINE® CAT.5; Stationary
185	UNITRONIC® BUS CAN TRAY	237	ETHERLINE® CAT.5; Flexible
208	UNITRONIC® 300/300 S	253	ETHERLINE® TRAY CAT.5e

Quick select chart

Product	Construction		AWG range	Conductor count	
	shielding	jacket		other counts available on request	
Tray-rated cable					
ÖLFLEX® TRAY II	no	spec. form. thermoplastic polymer	18 AWG - 500 KCMIL	2, 3, 4, 5, 7, 8, 9, 12, 16, 18, 25, 41, 50, 61	
ÖLFLEX® TRAY II CY	yes		18 AWG - 2 AWG	2, 3, 4, 5, 7, 12,18, 25	
ÖLFLEX® TRAY VTC	no	spec. form. PVC	18 - 6 AWG	3, 4, 5, 7, 8, 9, 12, 16, 18, 19, 25	
ÖLFLEX® AUTO-I	no	spec. form. thermoplastic elastomer (TPE)	18 - 16 AWG	3, 5, 7, 11, 12, 19, 25, 33, 42, 49, 65	
Tray-rated power & control cables in other sections					
ÖLFLEX® 190	no	PVC	20 - 2 AWG	2, 3, 4, 5, 7, 9, 12, 18, 25, 34, 41, 50	
ÖLFLEX® 190 CY	yes				
ÖLFLEX® CONTROL TM	no	spec. form. thermoplastic polymer	18 - 10 AWG	3, 4, 5, 6, 7, 9, 10, 12, 15, 19, 20, 25	
ÖLFLEX® CONTROL TM CY	yes				
ÖLFLEX® POWER MULTI	no	spec. form. thermoplastic polymer	18 - 8 AWG	3, 4, 5, 7, 12, 18, 25	
ÖLFLEX® CHAIN TM	no	spec. form. thermoplastic polymer	18 - 10 AWG	3, 4, 5, 7, 12, 18, 25	
ÖLFLEX® CHAIN TM CY	yes				
ÖLFLEX® FD AUTO-X	no	spec. form. thermoplastic elastomer (TPE)	18 - 16 AWG	3, 5, 7, 11, 12, 19, 25, 33, 42, 49, 55	
ÖLFLEX® VFD 2XL	yes	spec. form. thermoplastic elastomer (TPE)	16 - 2 AWG	4	
ÖLFLEX® VFD 2XL SYMMETRICAL	yes	spec. form. thermoplastic elastomer (TPE)	1 AWG - 500 KCMIL	3 + 3 symmetrical grounds	
ÖLFLEX® VFD 2XL with Signal	yes	spec. form. thermoplastic elastomer (TPE)	16 - 2 AWG	4 + 1 pair	
ÖLFLEX® VFD SLIM	yes	spec. form. thermoplastic polymer	18 - 2 AWG	4	
ÖLFLEX® VFD with Signal	yes	spec. form. thermoplastic polymer	16 - 4 AWG	4 + 1 pair	
ÖLFLEX® FD VFD	yes	spec. form. thermoplastic polymer	14 - 10 AWG	4	
ÖLFLEX® SDP TC	no	spec. form. thermoplastic elastomer (TPE)	14 - 1 AWG	4	
ÖLFLEX® SERVO 7TCE	yes	spec. form. thermoplastic elastomer (TPE)	18 - 10 AWG	4, 4 + 1 pair, 4 + 2 pairs	
Tray-rated data cables in other sections					
UNITRONIC® BUS DeviceNet™, Violet	yes	PVC, halogen-free (FRNC)	18 AWG + 16 AWG	2 pairs	
UNITRONIC® BUS PB TRAY	yes	PVC	22 AWG	1 pair	
UNITRONIC® BUS CAN TRAY	yes	PVC	22 AWG	2 pairs	
UNITRONIC® 300	no	spec. formulated PVC	24 - 16 AWG	2, 3, 4, 6, 8, 10, 15, 20, 25, 30, 40, 50	
UNITRONIC® 300 S	yes				
UNITRONIC® 300 STP	yes	spec. formulated PVC	24 - 16 AWG	1, 2, 3, 6, 9, 15 pairs	
ETHERLINE® CAT.5; Stationary	yes	PVC	22 AWG	2 pairs	
ETHERLINE® CAT.5; Flexible	yes	PVC	22 AWG	2 pairs	
ETHERLINE® TRAY CAT.5e	yes	spec. formulated PVC	22 AWG	4 pairs	

	Stranding	Temperature range		Wet rating	Cable attributes, see page 648			Page
		low	high		oil resistance	flame resistance	mechanical properties	
	Class 5 / Class K fine wire	-40°C	90°C	75°C	OR-03	FR-03	MP-03	54
	Class B stranded wire	-25°C	90°C	90°C	OR-02	FR-03	MP-03	56
	Class K fine wire	-25°C	90°C	75°C	OR-02	FR-03	MP-03	58
	Class 5 / Class K fine wire	-40°C	90°C	90°C	OR-04	FR-03	MP-02	28
	Class 5 fine wire	-40°C	90°C	75°C	OR-03	FR-03	MP-03	32
	Class 5 fine wire	-40°C	90°C	75°C	OR-03	FR-03	MP-03	40
	Class 6 super fine wire	-40°C	105°C	75°C	OR-03	FR-03	MP-03	64
	Class M stranding	-25°C	90°C	75°C	OR-04	FR-03	MP-03	78
	Class 5 / Class K fine wire	-40°C	105°C	90°C	OR-03	FR-03	MP-03	98
	Class B stranded wire	-40°C	105°C	90°C	OR-01	FR-03	MP-02	99
	Class 5 / Class K fine wire	-40°C	105°C	90°C	OR-03	FR-03	MP-03	100
	Class 5 fine wire	-25°C	90°C	75°C	OR-03	FR-03	MP-03	101
	Class 5 fine wire	-25°C	105°C	75°C	OR-03	FR-03	MP-03	102
	Class 6 super fine wire	-25°C	105°C	75°C	OR-03	FR-03	MP-02	103
	Class 5 fine wire	-40°C	105°C	75°C	OR-03	FR-03	MP-03	104
	Class 5 fine wire	-40°C	105°C	90°C	OR-03	FR-03	MP-03	109
	stranded wire	-20°C	75°C	—	OR-00	FR-03	MP-01	169
	solid wire	-40°C	80°C	—	OR-02	FR-04	MP-03	175
	Class K fine wire	-40°C	80°C	—	OR-02	FR-04	MP-03	185
	Class 5 fine wire	-40°C	105°C	—	OR-02	FR-03	MP-02	208
	Class 5 fine wire	-40°C	105°C	—	OR-02	FR-03	MP-02	210
	solid wire	-40°C	80°C	—	OR-00	FR-03	MP-01	236
	solid wire	-20°C	60°C	—	OR-00	FR-03	MP-01	237
	solid wire	-40°C	80°C	—	OR-02	FR-05	MP-01	253

ÖLFLEX® TRAY II/TRAY II CY

Extremely oil-resistant & flexible tray cable with UL & CSA; unshielded & shielded



ÖLFLEX® TRAY II is an industrial grade tray cable with superior oil performance for long cable life. It has a pressure-extruded jacket and fine copper stranding for excellent flexibility, making it much easier to pull through tray. With UL TC-ER approval, no conduit is needed so you can reduce material costs along with saving on labor. ÖLFLEX® TRAY II CY is designed with foil tape and tinned copper braid shield for improved effectiveness.

Recommended applications

Industrial plant expansions; automotive plants; tray wiring; anywhere VNTC® cables are used

Approvals



Cable attributes		page 648	
OIL	OR-03	FLAME	FR-03
MOTION	WT-02	MECH.	MP-03

Unshielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC/nylon

Jacket: specially formulated thermoplastic polymer; black

Shielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC/nylon

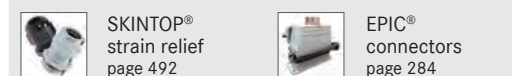
Shielding: foil tape; tinned copper braid (70% coverage)

Jacket: specially formulated thermoplastic polymer; black

Application advantage

- Oil-resistant pressure-extruded jacket improves flexibility
- Easier to pull than standard tray cables; lower labor costs
- UL TC-ER reduces material costs; no conduit is needed
- Black numbered conductors for easy identification
- Improved shielding effectiveness

Complete the installation



Technical data

Minimum bend radius: - for installation: - < 1 AWG: 4 x cable diameter - ≥ 1 AWG: 6 x cable diameter - shielded: 6 x cable diameter	Color code: black with white printing, plus green/yellow ground	Approvals: UL: TC-ER per UL 1277 MTW per UL 1063 WTTC per UL 2277 submersible pump (14 - 2 AWG) PLTC-ER per UL 13 (18 - 12 AWG) ITC-ER per UL 2250 (18 - 12 AWG) DP-1 per UL 1690 AWM 20886 (18 - 2 AWG) Attributes: UL Oil Res I/II 75°C wet; 90°C dry sunlight resistant direct burial NFPA 79 NEC: Class 1 Division 2 per NEC Article 501 Canada: c(UL) CIC/TC FT4 (18 - 4/0 AWG) CSA AWM I/II A/B FT4 Additional: torsion rated for wind market (± 90°/m) & (± 150°/m) (18 - 2 AWG) CE & RoHS MSHA: P-07-KA050016-MSHA (shielded only)
Temperature range: - UL/CSA TC: -25°C to +90°C - for stationary use: -40°C to +105°C - for flexible use: -25°C to +105°C		
Nominal voltage: - UL/CSA TC: 600V - UL WTTC/CSA AWM: 1000V		
Test voltage: - up to 1 AWG: 2000V - 1 AWG & larger: 4000V		
Conductor stranding: - 18-6 AWG: Class 5 fine wire* - 4 - 2 AWG: Class K fine wire - 1 AWG - 500 KCMIL: stranded wire * 18 AWG meets only Class 5 cross section and DC resistance		

VNTC® is a registered trademark of General Cable.

If not otherwise specified, all values relating to the product are nominal values.

Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® TRAY II

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
18 AWG (1 mm²)						
221803	3	0.297	7.5	20	57	S2111
221804	4	0.320	8.1	26	66	S2111
221805	5	0.346	8.8	33	77	S2111
221807	7	0.373	9.5	46	99	S2111
221809	9	0.429	10.9	59	112	S2113
221812	12	0.477	12.1	79	172	S2116
221818	18	0.587	14.9	118	245	S2121
221825	25	0.664	16.9	164	322	S2121
221850	50	0.939	23.9	303	646	S2129
16 AWG (1.5 mm²)						
221603	3	0.325	8.3	29	68	S2111
221604	4	0.351	8.9	39	84	S2111
221605	5	0.381	9.7	49	99	S2113
221607	7	0.412	10.5	68	128	S2113
221608	8	0.444	11.3	78	137	S2113
221609	9	0.476	12.1	88	172	S2116
221612	12	0.565	14.4	117	220	S2121
221616	16	0.621	15.8	155	271	S2121
221618	18	0.652	16.6	175	289	S2121
221625	25	0.741	18.8	242	397	S2129
221634	34	0.904	23.0	296	540	S2129
221641	41	0.986	25.0	357	626	S2136
221650	50	1.048	26.6	436	760	S2136
221661	61	1.085	27.6	533	771	S2136
14 AWG (2.5 mm²)						
221403	3	0.362	9.2	49	88	S2111
221404	4	0.392	10.0	65	106	S2113
221405	5	0.427	10.8	81	128	S2113
221407	7	0.463	11.8	113	170	S2116
221409	9	0.571	14.5	146	225	S2121
221412	12	0.636	16.2	194	309	S2121
221418	18	0.737	18.7	290	439	S2129
221425	25	0.886	22.5	404	586	S2129
12 AWG (4 mm²)						
221203	3	0.423	10.7	78	126	S2113
221204	4	0.460	11.7	104	152	S2113

* SKINTOP® MS-M with metric thread

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
221205	5	0.503	12.8	129	187	S2116
221207	7	0.581	14.8	181	258	S2121
10 AWG (6 mm²)						
221003	3	0.498	12.6	117	218	S2116
221004	4	0.578	14.7	155	264	S2121
221005	5	0.631	16.0	194	317	S2121
221007	7	0.686	17.4	271	445	S2129
8 AWG (10 mm²)						
220804	4	0.703	17.9	258	384	S2129
220805	5	0.772	19.6	323	518	S2129
6 AWG (16 mm²)						
220603	3	0.776	19.7	310	454	S2129
220604	4	0.899	22.8	413	580	S2129
220605	5	0.982	24.9	517	725	S2136
4 AWG (21 mm²)						
220403	3	0.999	25.3	386	919	S2136
220404	4	1.094	27.8	544	952	S2136
2 AWG (33.7 mm²)						
220203	3	1.155	29.3	658	1085	S2136
220204	4	1.272	32.3	859	1320	S2248
1 AWG (42.5 mm²)						
220104	4	1.373	34.9	1033	1780	53112170*
1/0 AWG (53.7 mm²)						
221104	4	1.474	37.4	1337	2035	53112070*
2/0 AWG (67.7 mm²)						
222204	4	1.601	40.7	1602	2475	53112070*
3/0 AWG (85.3 mm²)						
223304	4	1.828	46.4	2000	3015	53112080*
4/0 AWG (107.6 mm²)						
224404	4	1.980	50.3	2503	3835	53112080*
250 KCMIL (127.1 mm²)						
222504	4	2.190	55.6	3105	4405	53112511*
350 KCMIL (177.9 mm²)						
223504	4	2.337	59.4	4602	5995	53112511*
500 KCMIL (254.1 mm²)						
225004	4	2.813	71.5	5649	6216	53112512*

ÖLFLEX® TRAY II CY

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread	
18 AWG (1 mm²)						
2218030	3	0.322	8.2	29	79	53112220
2218040	4	0.346	8.8	38	93	53112220
2218050	5	0.371	9.4	45	99	53112230
2218070	7	0.398	10.1	59	130	53112230
2218120	12	0.508	12.9	101	223	53112240
2218180	18	0.618	15.7	145	295	53112250
2218250	25	0.695	17.7	238	386	53112260
16 AWG (1.5 mm²)						
2216030	3	0.350	8.9	41	97	53112220
2216040	4	0.376	9.6	51	117	53112230
2216050	5	0.406	10.3	63	128	53112230
2216070	7	0.443	11.3	88	165	53112240
2216120	12	0.596	15.1	144	287	53112250
2216180	18	0.683	17.3	210	346	53112260
2216250	25	0.772	19.6	280	430	53112260
14 AWG (2.5 mm²)						
2214030	3	0.387	9.8	62	121	53112230
2214040	4	0.423	10.7	85	150	53112230
2214050	5	0.458	11.6	101	181	53112240

* SKINTOP® MS-SC with metric thread

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
2214070	7	0.494	12.5	136	220	53112240
2214120	12	0.667	16.9	225	399	53112250
2214180	18	0.768	19.5	328	527	53112260
2214250	25	0.917	23.3	461	705	53112260
12 AWG (4 mm²)						
2212040	4	0.491	12.5	126	212	53112240
2212050	5	0.568	14.4	157	260	53112250
2212070	7	0.612	15.5	209	335	53112250
10 AWG (6 mm²)						
2210040	4	0.609	15.5	183	370	53112250
2210050	5	0.662	16.8	224	412	53112250
2210070	7	0.717	18.2	308	575	53112260
8 AWG (10 mm²)						
2208040	4	0.737	18.7	295	575	53112260
6 AWG (16 mm²)						
2206040	4	0.918	23.3	470	811	53112260
4 AWG (21 mm²)						
2204040	4	1.127	28.6	579	1331	53112270
2 AWG (33.7 mm²)						
2202040	4	1.309	33.2	950	1951	53112670*

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.

ÖLFLEX® TRAY VTC

Flexible tray cable with TC-ER for easier installation



ÖLFLEX® TRAY VTC is a multi-conductor cable approved for use in cable trays. It is UL TC-ER & CSA CIC, making it perfect for new plant installations and factory expansions. Premium PVC insulation provides greater flexibility over PVC/nylon without sacrificing cable size.

Recommended applications

Plant expansion; contractor markets; A&E firm plant designs; tray wiring; anywhere VNTC® cables are used

Approvals



Cable attributes		page 648	
	OIL	OR-02	FLAME FR-03
	MOTION	FL-01	MECH. MP-03

Construction

Conductors: finely stranded bare copper

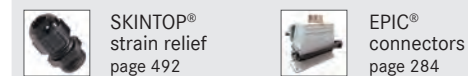
Insulation: specially formulated PVC

Jacket: specially formulated PVC; black

Application advantage

- Easier to pull than standard tray cable
- PVC insulation provides greater flexibility over PVC/nylon
- UL TC-ER approval reduces material costs; no conduit is needed
- Black numbered conductors with printed color code for easy identification
- UV-resistant and direct burial
- UL wet rating 90°C

Complete the installation



Technical data

Minimum bend radius:
- for installation: 4 x cable diameter

Temperature range:
- UL TC/c(UL) CIC: -25°C to +90°C
- for stationary use: -40°C to +105°C
- for flexible use: -5°C to +90°C

Nominal voltage:
- UL TC: 600V
- UL WTTC: 1000V
- UL AWM/cRU AWM: 1000V

Test voltage: 2000V

Conductor stranding: Class B stranded wire

Color code: black with white numbers and color per ICEA-NEMA (K-2): chart 10, page 683, plus green/yellow ground

Approvals:

UL: TC-ER per UL 1277
WTTC per UL 2277
AWM 20886

Attributes: UL Oil Res I
90°C wet; 90°C dry
sunlight resistant
direct burial
NFPA 79

NEC: Class 1 Division 2 per NEC Article 501

Canada: c(UL) CIC FT4
cRU AWM I/II A/B FT4

Additional: CE & RoHS

ÖLFLEX® TRAY VTC

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
18 AWG (7 strand)						
201803	3	0.286	7.3	16	46	S2111
201804	4	0.307	7.8	21	56	S2111
201805	5	0.332	8.4	26	67	S2111
201807	7	0.358	9.1	37	84	S2111
201809	9	0.411	10.4	48	106	S2113
201812	12	0.458	11.6	63	133	S2116
201818	18	0.562	14.3	95	204	S2121
201819	19	0.562	14.3	101	211	S2121
201825	25	0.636	16.2	132	267	S2121
16 AWG (7 strand)						
201603	3	0.312	7.9	26	59	S2111
201604	4	0.336	8.5	34	73	S2111
201605	5	0.365	9.3	43	87	S2111
201607	7	0.394	10.0	60	112	S2113
201608	8	0.424	10.8	68	127	S2113
201609	9	0.455	11.6	77	142	S2116
201612	12	0.508	12.9	103	180	S2121
201616	16	0.593	15.1	137	249	S2121
201618	18	0.622	15.8	154	275	S2129
201619	19	0.622	15.8	162	284	S2129
201625	25	0.706	17.9	214	363	S2129
14 AWG (19 strand)						
201403	3	0.344	8.7	40	78	S2111
201404	4	0.372	9.4	54	98	S2111

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
201405	5	0.405	10.3	67	118	S2113
201407	7	0.439	11.2	94	154	S2113
201409	9	0.509	12.9	121	197	S2121
201412	12	0.602	15.3	161	269	S2129
201418	18	0.697	17.7	242	381	S2129
201419	19	0.697	17.7	255	396	S2129
201425	25	0.794	20.2	335	508	S2129
12 AWG (19 strand)						
201203	3	0.381	9.7	64	106	S2113
201204	4	0.413	10.5	85	110	S2113
201205	5	0.451	11.5	106	164	S2113
201207	7	0.490	12.4	149	217	S2116
201212	12	0.673	17.1	255	378	S2129
201216	16	0.743	18.9	341	488	S2129
10 AWG (19 strand)						
201003	3	0.433	11.0	102	150	S2116
201004	4	0.471	12.0	136	193	S2116
201005	5	0.516	13.1	170	236	S2121
201007	7	0.594	15.1	238	333	S2129
8 AWG (19 strand)						
200804	4	0.621	15.8	217	343	S2121
200805	5	0.680	17.3	271	392	S2129
6 AWG (19 strand)						
200604	4	0.756	19.2	343	484	S2129
200605	5	0.871	22.1	429	629	S2129

ÖLFLEX® AUTO-I

Heavy duty flexible tray cable with color-coded conductors for DC or AC control wiring

LAPP KABEL STUTTGART ÖLFLEX® AUTO-I

ÖLFLEX® AUTO-I is a UV-resistant, multi-conductor cable designed for use on machine tool equipment and other industrial machinery conforming to NFPA 79. ÖLFLEX® AUTO-I is color-coded with either blue, red, yellow, orange, or black conductors for DC, AC, and other control wiring.

Recommended applications

Machine tool machinery; food & beverage; processing equipment; automotive and machine wiring for conformance to NFPA 79

Approvals



Cable attributes		page 648	
OIL	OR-02	FLAME	FR-03
MOTION	FL-02	MECH.	MP-03

Construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC/nylon

Jacket: specially formulated thermoplastic elastomer (TPE); gray

Application advantage

- UL TC-ER & CSA CIC/TC approval
- Number coded for easy wiring with either blue, red, orange, black, or yellow conductors

Complete the installation



SKINTOP® strain relief
page 492



EPIC® connectors
page 284

Technical data

Minimum bend radius: 4 x cable diameter

Temperature range:
 - UL/CSA TC: -25°C to +90°C
 - for stationary use: -40°C to +105°C
 - for flexible use: -25°C to +105°C

Nominal voltage:
 - UL/CSA TC: 600V
 - UL WTTC: 1000V

Test voltage: 2000V

Conductor stranding: Class K fine wire

Color code:
 - up to 3c: color & number-coded, plus green/yellow ground (black & blue have white numbers)
 - 4c & higher (blue): no. 2 conductor is white/blue
 - 4c & higher (red): no. 2 conductor is white
 - 4c & higher (yellow): no. 2 conductor is white/yellow

Approvals:
 UL: TC-ER per UL 1277
 WTTC per UL 2277
 Attributes: UL Oil Res I
 75°C wet; 90°C dry
 sunlight resistant
 direct burial
 NFPA 79
 NEC: Class 1 Division 2 per NEC Article 501
 Canada: c(UL) CIC/TC FT4
 CSA AWM I/II A/B FT4
 Additional: CE & RoHS

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	lbs/mft	lbs/mft	PG thread
18 AWG (1 mm²)						
251803IB	3	0.297	7.5	20	57	S1111
251805IB	5	0.346	8.7	33	77	S1111
251807IB	7	0.373	9.4	46	99	S1111
251811IB	11	0.463	11.8	71	156	S1116
251812IB	12	0.477	12.1	78	172	S1116
251819IB	19	0.583	14.8	123	253	S1121
251825IB	25	0.677	17.2	162	322	S1121
251833IB	33	0.736	18.7	200	397	S1129
251842IB	42	0.818	20.7	254	509	S1129
251849IB	49	0.908	23.0	317	617	S1129
251865IB	65	1.011	25.6	420	688	S1136

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	lbs/mft	lbs/mft	PG thread
16 AWG (1.5 mm²)						
251603IB	3	0.323	8.2	26	66	S1111
251607IB	7	0.409	10.4	60	126	S1113
251611IB	11	0.541	13.7	94	203	S1121
251612IB	12	0.557	14.1	103	218	S1121
251617IB	17	0.638	16.1	145	256	S1121
251619IB	19	0.643	16.3	162	284	S1121
251625IB	25	0.737	18.7	213	397	S1129
251633IB	33	0.816	20.7	270	489	S1129
251642IB	42	0.950	24.1	343	628	S1129
251649IB	49	1.005	25.5	401	760	S1136
251665IB	65	1.123	28.5	531	1005	S1136

Part numbers shown are for blue conductors. For other colors, replace the 'B' with an 'R' for red, 'Y' for yellow, 'O' for orange, or 'BK' for black conductors

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
 If not otherwise specified, all values relating to the product are nominal values.
 Photographs are not to scale and are not true representations of the products in question.

60 Quick select chart

- 61 **ÖLFLEX® CHAIN 896 P**
High-acceleration continuous flex power & control cable with PUR jacket
- 62 **ÖLFLEX® FD 855 P/855 CP**
Halogen-free highly flexible cable with PUR jacket
- 64 **ÖLFLEX® CHAIN TM/TM CY** 
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- 66 **ÖLFLEX® FD 890/890 CY**
Super flexible heavy duty continuous flex control cable with PVC jacket
- 68 **ÖLFLEX® CHAIN 809/809 CY**
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- 72 **ÖLFLEX® CHAIN 90 P/90 CP** 
Highly flexible single-conductor cable with PUR jacket
- 74 **ÖLFLEX® FD 90/90 CY**
Flexible single-conductor power supply cable with PVC jacket
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Highly flexible single-conductor cable with PVC jacket
- 78 **ÖLFLEX® FD AUTO-X**
Heavy duty continuous flex control cable

Continuous flex power & control cable in other catalog sections

- | | | | |
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Continuous flex data cable in other catalog sections

- | | | | |
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| 168 | UNITRONIC® BUS DeviceNet™ FD Gray | 223 | UNITRONIC® FD |
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| 184 | UNITRONIC® BUS CAN FD P | 227 | UNITRONIC® FD CP (TP) plus |
| 189 | UNITRONIC® BUS LD FD P | 238 | ETHERLINE® 2 pair: CAT.5/CAT.5e; continuous flex |
| 191 | UNITRONIC® BUS ASi FD | 245 | ETHERLINE® 4 pair: CAT.5e; continuous flex |
| 194 | UNITRONIC® BUS INTERBUS FD | 246 | ETHERLINE® 4 pair: CAT.6; continuous flex |
| 197 | UNITRONIC® BUS CC-Link FD | 248 | ETHERLINE® 4 pair: CAT.6A; continuous flex |
| 222 | UNITRONIC® FD 890 | | |

Quick select chart

Product	Shield	Jacket material	Temperature range		Nominal voltage	Flexing cycles	Page
			flexing	stationary			
ÖLFLEX® CHAIN 896 P	no	PUR	-40°C to +80°C	-50°C to +80°C	AWM: 1000V European: 600/1000V	10 million	61
ÖLFLEX® FD 855 P	no	PUR	-40°C to +80°C	-50°C to +80°C	AWM: 1000V European: 300/500V	10 million	62
ÖLFLEX® FD 855 CP	yes						
ÖLFLEX® CHAIN TM	no	spec. formulated thermoplastic polymer	-25°C to +90°C	-40°C to +105°C	UL TC: 600V UL AWM: 1000V European: 300/500V	5 million	64
ÖLFLEX® CHAIN TM CY	yes						
ÖLFLEX® FD 890	no	PVC	-5°C to +90°C	-25°C to +90°C	AWM: 600V	5 million	66
ÖLFLEX® FD 890 CY	yes						
ÖLFLEX® CHAIN 809	no	PVC	0°C to +80°C	-40°C to +80°C	AWM: 1000V European: 300/500V	2 million	68
ÖLFLEX® CHAIN 809 CY	yes						
ÖLFLEX® CLASSIC FD 810	no	PVC	0°C to +70°C	-40°C to +70°C	European: 300/500V	5 million	70
ÖLFLEX® CLASSIC FD 810 CY	yes						
ÖLFLEX® CHAIN 90 P	no	PUR	-35°C to +80°C	-45°C to +80°C	AWM: 1000V European: 600/1000V	10 million	72
ÖLFLEX® CHAIN 90 CP	yes						
ÖLFLEX® FD 90	no	PVC	-5°C to +90°C	-40°C to +90°C	AWM: 600V European: 600/1000V	5 million	74
ÖLFLEX® FD 90 CY	yes						
ÖLFLEX® CHAIN 809 SC	no	PVC	0°C to +90°C	-40°C to +90°C	AWM: 600V European: 600/1000V	2 million	76
ÖLFLEX® CHAIN 809 SC CY	yes						
ÖLFLEX® FD AUTO-X	no	TPE	-5°C to +90°C	-40°C to +105°C	UL TC/AWM: 600V UL WTTC: 1000V	5 million	78

ÖLFLEX® CHAIN 896 P

High-acceleration continuous flex power & control cable with PUR jacket

LAPP KABEL STUTTGART ÖLFLEX® CHAIN 896 P

ÖLFLEX® CHAIN 896 P is specially designed, manufactured, and tested by LAPP for usage in modern high-acceleration cable track applications as well as long travel lengths. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

Factory automation; industrial machinery; cable tracks used in assembly & pick and place machinery; machine tools; transfer lines

Approvals



Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	CF-04A	MECH.	MP-05

Complete the installation	
SKINTOP® strain relief	page 492
EPIC® connectors	page 284

ÖLFLEX® CONNECT solution	
	ÖLFLEX® CONNECT CHAIN
	page 617

Technical data

	Minimum bend radius: - for continuous flexing: - up to 6 AWG: 7.5 x cable diameter - 4 AWG: 10 x cable diameter - for stationary use: 4 x cable diameter
	Temperature range: - for continuous flexing: -40°C to +80°C - for stationary use: -50°C to +80°C
	Nominal voltage: - UL/CSA: 1000V - IEC U ₀ /U: 600/1000V
	Test voltage: 4000V
	Conductor stranding: Class 6 super fine wire
	Color code: black with white numbers, plus green/yellow ground
	Approvals: UL: AWM 20234 Attributes: NFPA 79 Canada: cRU AWM FT1 CSA AWM I/II A Additional: VDE Reg. no 8661 CE & RoHS MUD acc. to IEC 61892-4 Annex D

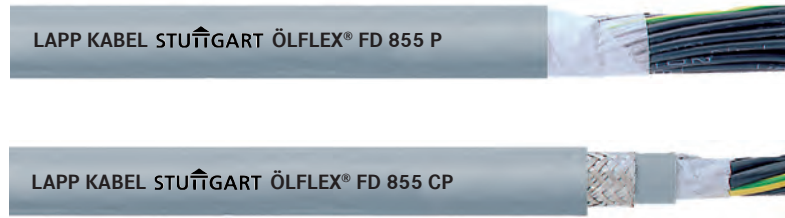
Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
16 AWG (1.5 mm²)						
1023229	4	0.378	9.6	39	81	S2113
1023230	5	0.394	10.0	48	96	S2113
14 AWG (2.5 mm²)						
1023238	4	0.433	11.0	65	117	S2113
1023239	5	0.473	12.0	81	141	S2116
12 AWG (4 mm²)						
1023245	4	0.493	12.5	103	163	S2116
1023246	5	0.540	13.7	129	212	S2121
10 AWG (6 mm²)						
1023248	4	0.563	14.3	155	225	S2121
1023249	5	0.619	15.7	194	295	S2121

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
8 AWG (10 mm²)						
1023250	4	0.670	17.0	258	338	S2121
1023251	5	0.745	18.9	323	446	S2129
6 AWG (16 mm²)						
1023252	4	0.835	21.2	413	544	S2129
1023253	5	0.938	23.8	516	716	S2129
4 AWG (25 mm²)						
1023254	4	1.020	25.9	645	843	S2136
1023255	5	1.143	29.0	806	1063	S2136

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
 If not otherwise specified, all values relating to the product are nominal values.
 Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® FD 855 P/855 CP

Halogen-free highly flexible cable with PUR jacket



ÖLFLEX® FD 855 P is designed for extreme mechanical stresses due to a tighter bend radius in continuous flex applications. Materials are halogen-free and environmentally friendly with an expanded temperature range. The polyurethane jacket is mechanically and chemically resistant to many environments. ÖLFLEX® FD 855 CP is a shielded version available with an overall tinned copper braid. This is recommended when electrical interference needs to be suppressed. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

Cable tracks; power chains; most automated manufacturing systems; gantry robots; pick and place units; conveyor systems; machine tools, continuous flexing applications

Approvals



Cable attributes		page 648	
	OIL	OR-05	FLAME
	MOTION	CF-04	MECH.
			FR-02
			MP-05

Complete the installation	
	SKINTOP® strain relief page 492
	EPIC® connectors page 284

ÖLFLEX® CONNECT solution	
	ÖLFLEX® CONNECT CHAIN page 617

Technical data

	Minimum bend radius:			Conductor stranding:	Class 6 super fine wire
	- for continuous flexing:	5 x cable diameter			black with white numbers, plus green/yellow ground
	- shielded:	7.5 x cable diameter			
	Temperature range:			Approvals:	
	- for continuous flexing:	-40°C to +80°C			UL: AWM 21576
	- for stationary use:	-50°C to +80°C			Attributes: NFPA 79
					Canada: cRU AWM I/II A/B
					Additional: CE & RoHS
					MUD acc. to IEC 61892-4 Annex D
					halogen-free: VDE 0472-815
	Nominal voltage:				
	- UL/c(UL):	1000V			
	- IEC U ₀ /U:	300/500V			
	Test voltage:	3000V			

Unshielded construction

Conductors: finely stranded bare copper

Insulation: TPE; dry lubricant; non-woven wrapping over outer layer

Jacket: polyurethane; gray

Shielded construction

Conductors: finely stranded bare copper

Insulation: TPE; dry lubricant; non-woven wrapping over outer layer

Inner jacket: TPE

Shielding: tinned copper braid (85% coverage)

Jacket: polyurethane; gray

Application advantage

- Our highest-performing continuous flexing cable
- Bend radius of 5 x cable diameter
- Designed for long travel distances up to 100 m horizontal
- Oil- and abrasion-resistant PUR jacket
- Cold temperature resistant to -40°C

ÖLFLEX® FD 855 P

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
20 AWG (0.5 mm²)						
0027530	2	0.201	5.1	7	23	S1107
0027531	3	0.217	5.5	9	27	S1107
0027532	5	0.260	6.6	16	37	S1109
0027533	6	0.280	7.1	19	42	S1111
0027534	7	0.303	7.7	23	51	S1111
0027535	12	0.358	9.1	39	77	S1111
0027536	18	0.429	10.9	58	111	S1113
0027537	20	0.453	11.5	65	121	S1113
0027538	25	0.528	13.4	81	147	S1116
0027540	30	0.535	13.6	97	169	S1121
0027541	36	0.579	14.7	116	195	S1121
19 AWG (0.75 mm²)						
0027545	2	0.220	5.6	9	28	S1107
0027546	3	0.236	6.0	15	34	S1107
0027547	4	0.264	6.7	19	40	S1109
0027548	5	0.287	7.3	24	48	S1111
0027549	7	0.346	8.8	34	67	S1111
0027550	12	0.406	10.3	58	106	S1113
0027551	18	0.488	12.4	87	147	S1116
0027552	20	0.524	13.3	97	161	S1116
0027553	25	0.610	15.5	121	208	S1121
0027555	36	0.665	16.9	174	276	S1121

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
18 AWG (1 mm²)						
0027560	2	0.236	6.0	13	34	S1107
0027561	3	0.256	6.5	19	41	S1109
0027562	4	0.283	7.2	26	47	S1111
0027563	5	0.307	7.8	32	62	S1111
0027564	7	0.374	9.5	45	82	S1111
0027565	12	0.441	11.2	77	132	S1113
0027566	18	0.539	13.7	116	184	S1121
0027568	25	0.661	16.8	161	259	S1121
16 AWG (1.5 mm²)						
0027575	2	0.264	6.7	19	46	S1109
0027576	3	0.287	7.3	29	56	S1111
0027586	4	0.315	8.0	39	67	S1111
0027577	5	0.354	9.0	48	86	S1111
0027578	7	0.422	10.7	68	119	S1113
0027579	12	0.500	12.7	116	185	S1116
0027580	18	0.598	15.2	174	272	S1121
0027582	25	0.740	18.8	242	380	S1129
0027585	36	0.811	20.6	348	510	S1129
0027587	41	0.882	22.4	413	657	S1129
14 AWG (2.5 mm²)						
0027370	3	0.350	8.9	48	81	S1111
0027371	4	0.390	9.9	65	110	S1113
0027372	5	0.433	11.0	81	132	S1113
0027373	7	0.528	13.4	113	179	S1116
0027374	12	0.622	15.8	194	300	S1121
0027375	18	0.744	18.9	290	447	S1129
0027376	25	0.925	23.5	403	624	S1129

ÖLFLEX® FD 855 CP

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
20 AWG (0.5 mm²)						
0027605	2	0.264	6.7	22	45	53112210
0027606	3	0.280	7.1	27	53	53112210
0027607	5	0.323	8.2	36	72	53112220
0027608	6	0.343	8.7	40	81	53112220
0027609	7	0.374	9.5	45	89	53112230
0027610	12	0.429	10.9	65	128	53112230
0027611	18	0.508	12.9	88	165	53112240
0027612	20	0.531	13.5	105	189	53112240
0027613	25	0.614	15.6	128	247	53112250
0027615	30	0.622	15.8	149	274	53112250
0027616	36	0.665	16.9	169	308	53112250
19 AWG (0.75 mm²)						
0027620	2	0.283	7.2	27	53	53112220
0027621	3	0.299	7.6	32	65	53112220
0027622	4	0.327	8.3	39	75	53112220
0027623	5	0.350	8.9	44	85	53112220
0027624	7	0.417	10.6	57	111	53112230
0027625	12	0.476	12.1	85	155	53112240
0027626	18	0.575	14.6	133	222	53112250
0027628	25	0.697	17.7	174	308	53112260
0027630	36	0.768	19.5	234	407	53112260

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® MS-SC PG thread
inmm lbs/mftlbs/mft						
18 AWG (1 mm²)						
0027635	2	0.299	7.6	30	62	53112220
0027636	3	0.319	8.1	37	73	53112220
0027637	4	0.346	8.8	46	85	53112220
0027638	5	0.378	9.6	54	99	53112230
0027639	7	0.445	11.3	71	132	53112240
0027640	12	0.520	13.2	118	196	53112240
0027641	18	0.626	15.9	163	281	53112250
0027643	25	0.768	19.5	221	386	53112260
16 AWG (1.5 mm²)						
0027649	2	0.327	8.3	39	77	53112220
0027650	3	0.350	8.9	51	93	53112220
0027661	4	0.386	9.8	61	105	53112230
0027651	5	0.425	10.8	75	133	53112230
0027652	7	0.492	12.5	97	171	53112240
0027653	12	0.587	14.9	163	280	53112250
0027654	18	0.685	17.4	233	379	53112260
0027656	25	0.843	21.4	327	545	53112260
14 AWG (2.5 mm²)						
0027380	3	0.421	10.7	74	130	53112230
0027381	4	0.461	11.7	91	157	53112240
0027382	5	0.504	12.8	121	197	53112240
0027383	7	0.614	15.6	165	281	53112250
0027384	12	0.709	18.0	253	423	53112260
0027385	18	0.846	21.5	382	613	53112260
0027386	25	1.043	26.5	514	851	53112270

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.

ÖLFLEX® CHAIN TM/TM CY

Continuous flex control cable with TC-ER rating



ÖLFLEX® CHAIN TM/TM CY are highly flexible multi conductor tray cables designed for continuous flex applications. ÖLFLEX® CHAIN TM CY has an overall tinned copper braid that provides protection against EMI and RFI. Fine stranding and a specially formulated thermoplastic polymer optimize flex life and provide excellent resistance to mineral oils, synthetic oils, and water-based coolants.

Recommended applications

Cable tracks & power chains; gantry robots; pick and place units; conveyor systems; machine tools; other continuous flexing applications

Approvals



Cable attributes		page 648	
OIL	OR-03	FLAME	FR-03
MOTION	CF-02	MECH.	MP-03

Complete the installation	
SKINTOP® strain relief	page 492
EPIC® connectors	page 284

ÖLFLEX® CONNECT solution	
ÖLFLEX® CONNECT CHAIN	page 617

Unshielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC/nylon; non-woven wrapping over outer layer

Jacket: specially formulated thermoplastic polymer; black

Shielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC/nylon; non-woven wrapping over outer layer

Shielding: tinned copper braid (85% coverage)

Jacket: specially formulated thermoplastic polymer; black

Application advantage

- UL TC-ER reduces material costs, as no conduit is needed
- Multi-standard approval reduces part numbers and cost
- Meets UL Oil Res I/II, resistant to harsh environments for a long service life
- Copper shielding complies with EMC requirements
- Resistant to a wide range of disinfecting solutions used in the food, beverage, chemical and related industries, according to ECOLAB® PM 40-1 test procedure

Technical data

Minimum bend radius:	
- for continuous flexing:	7.5 x cable diameter
- shielded:	10 x cable diameter

Temperature range:	
- UL/CSA TC:	-25°C to +90°C
- for continuous flexing:	-25°C to +90°C
- for stationary use:	-40°C to +105°C

Nominal voltage:	
- UL/CSA TC:	600V
- UL AWM:	1000V
- IEC U ₀ /U:	300/500V

Test voltage:	2000V
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Conductor stranding:	Class 6 super fine wire
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Color code:	black with white numbers, plus green/yellow ground
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Approvals:	UL: TC-ER per UL 1277 MTW per UL 1063 WTTTC per UL 2277 submersible pump PLTC-ER per UL 13 ITC-ER per UL 2250 DP-1 per UL 1690 AWM 20886
Attributes:	UL Oil Res I/II 75°C Wet; 90°C Dry sunlight resistant direct burial NFPA 79
NEC:	Class 1 Division 2 per NEC Article 501
Canada:	c(UL) CIC/TC FT4 CSA AWM I/II A/B FT4
Additional:	CE & RoHS

ÖLFLEX® CHAIN TM

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
18 AWG (1 mm²)						
8718030	3	0.308	7.8	20	44	S1111
8718040	4	0.337	8.6	26	55	S1111
8718050	5	0.365	9.3	33	64	S1111
8718070	7	0.423	10.7	46	84	S1113
8718120	12	0.486	12.3	79	141	S1116
8718180	18	0.606	15.4	118	207	S1121
8718250	25	0.699	17.8	164	278	S1129
16 AWG (1.5 mm²)						
8716030	3	0.340	8.6	29	62	S1111
8716040	4	0.373	9.5	39	75	S1111
8716050	5	0.405	10.3	49	90	S1113
8716070	7	0.473	12.0	68	121	S1116
8716120	12	0.580	14.7	112	209	S1121
8716180	18	0.679	17.2	175	298	S1121
8716250	25	0.786	20.0	242	417	S1129

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
14 AWG (2.5 mm²)						
8714040	4	0.419	10.6	65	121	S1113
8714070	7	0.570	14.5	113	192	S1121
12 AWG (4 mm²)						
8712040	4	0.487	12.4	104	198	S1116
10 AWG (6 mm²)						
8710040	4	0.600	15.2	155	267	S1121

ÖLFLEX® CHAIN TM CY

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
18 AWG (1 mm²)						
8718030S	3	0.330	8.4	40	82	53112220
8718040S	4	0.359	9.1	48	106	53112220
8718050S	5	0.392	10	57	123	53112230
8718070S	7	0.450	11.4	94	139	53112240
8718120S	12	0.547	13.9	153	229	53112250
8718180S	18	0.633	16.1	216	317	53112250
8718250S	25	0.734	18.6	226	436	53112260
16 AWG (1.5 mm²)						
8716030S	3	0.362	9.2	52	115	53112220
8716040S	4	0.400	10.2	66	128	53112230
8716050S	5	0.432	11	76	150	53112230
8716070S	7	0.500	12.7	98	181	53112240
8716120S	12	0.607	15.4	167	311	53112250
8716180S	18	0.714	18.1	235	456	53112260
8716250S	25	0.870	22.1	313	639	53112260

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
14 AWG (2.5 mm²)						
8714040S	4	0.447	11.4	93	181	53112240
8714070S	7	0.597	15.2	147	282	53112250
12 AWG (4 mm²)						
8712040S	4	0.515	13.1	154	311	53112240
10 AWG (6 mm²)						
8710040S	4	0.635	16.1	208	386	53112250

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.

ÖLFLEX® FD 890/890 CY

Super flexible heavy duty continuous flex control cable with PVC jacket



ÖLFLEX® FD 890 is a time-tested, performance-proven multi-conductor cable designed for continuous flex applications. Fine stranding and specially formulated compounds optimize flexing life and provide excellent resistance to mineral oils, synthetic oils, and water-based coolants. ÖLFLEX® FD 890 CY is a shielded version available with an overall tinned copper braid. This is recommended when electrical interference needs to be suppressed. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

Cable tracks & power chains; gantry robots; pick and place units; conveyor systems; machine tool and other continuous flexing applications

Approvals



Cable attributes		page 648	
OIL	OR-04	FLAME	FR-02
MOTION	CF-03	MECH.	MP-02

Complete the installation	
SKINTOP® strain relief	page 492
EPIC® connectors	page 284

ÖLFLEX® CONNECT solution	
ÖLFLEX® CONNECT CHAIN	page 617

Unshielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC; dry lubricant; non-woven wrapping over outer layer

Jacket: specially formulated PVC; black

Shielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC; dry lubricant; non-woven wrapping over outer layer

Inner jacket: PVC

Shielding: tinned copper braid (85% coverage)

Jacket: specially formulated PVC; black

Application advantage

- Meets Oil Res I/II, resistant to harsh environments for long service life
- Pressure-extruded jacket for precision connectorization
- Passes UL 1277 impact and crush tests

Technical data

	Minimum bend radius:			Color code:	black with white numbers, plus green/yellow ground
	- for continuous flexing:	7.5 x cable diameter			
	- shielded:	10 x cable diameter			
	Temperature range:			Approvals:	UL: AWM 2587
	- for continuous flexing:	-5°C to +90°C			AWM 21098 (Oil)
	- for stationary use:	-25°C to +90°C		Attributes:	UL Oil Res I/II
	Nominal voltage:	600V			sunlight resistant
	Test voltage:	2000V			NFPA 79
	Conductor stranding:	better than Class 6 super fine wire			UL 758 80°C Oil Test
				Canada:	CSA AWM I/II A/B FT1
					CSA C22.2, 210.2
				Additional:	CE & RoHS

ÖLFLEX® FD 890

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
20 AWG (0.5 mm²)						
8920034	3	0.264	6.7	10	43	S2109
8920044	4	0.291	7.4	16	53	S2111
8920054	5	0.323	8.2	19	68	S2111
8920074	7	0.382	9.7	27	75	S2113
8920124	12	0.457	11.6	39	124	S2113
8920184	18	0.539	13.7	69	183	S2121
8920254	25	0.677	17.2	96	265	S2121
18 AWG (1 mm²)						
8918034	3	0.287	7.3	18	46	S2111
8918044	4	0.327	8.3	24	60	S2111
8918054	5	0.355	9.0	29	74	S2111
8918074	7	0.429	10.9	41	102	S2113
8918124	12	0.500	12.7	70	158	S2116
8918154	15	0.559	14.2	88	202	S2121
8918184	18	0.614	15.6	105	234	S2121
8918254	25	0.763	19.4	146	336	S2129
8918344	34	0.826	21.0	211	434	S2129
16 AWG (1.5 mm²)						
8916034	3	0.323	8.2	30	79	S2111
8916044	4	0.358	9.1	39	106	S2111
8916054	5	0.393	10.0	49	132	S2113

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
8916074	7	0.480	12.2	68	138	S2116
8916124	12	0.555	14.1	117	214	S2121
8916184	18	0.685	17.4	175	323	S2129
8916254	25	0.854	21.7	242	505	S2129
8916344	34	0.925	23.5	329	623	S2129
8916504	50	1.094	27.8	437	880	S2136
14 AWG (2.5 mm²)						
8914044	4	0.456	11.6	67	148	S2113
8914074	7	0.614	15.6	117	227	S2121
12 AWG (4 mm²)						
8912044	4	0.531	13.5	104	208	S2121
8912074	7	0.740	18.8	181	335	S2129
10 AWG (6 mm²)						
8910044	4	0.640	16.3	155	275	S2121
8 AWG (10 mm²)						
8908044	4	0.756	19.2	259	481	S2129
6 AWG (16 mm²)						
8906044	4	0.909	23.1	413	709	S2129
4 AWG (25 mm²)						
8904044	4	1.059	26.9	646	1005	S2136
2 AWG (35 mm²)						
8902044	4	1.252	31.8	904	1240	S2248

ÖLFLEX® FD 890 CY

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
20 AWG (0.5 mm²)						
8920034S	3	0.342	8.7	27	82	53112220
8920044S	4	0.370	9.4	38	97	53112230
8920054S	5	0.409	10.4	44	108	53112230
8920074S	7	0.468	11.9	52	137	53112240
8920124S	12	0.551	14.0	68	214	53112250
8920184S	18	0.657	16.7	112	293	53112250
8920254S	25	0.803	20.4	158	421	53112260
18 AWG (1 mm²)						
8918034S	3	0.375	9.5	40	91	53112230
8918044S	4	0.419	10.6	48	112	53112230
8918054S	5	0.447	11.4	57	131	53112240
8918074S	7	0.528	13.4	76	198	53112240
8918124S	12	0.636	16.2	125	271	53112250
8918184S	18	0.719	18.3	162	357	53112260
8918254S	25	0.887	22.5	218	538	53112260
8918344S	34	0.986	25.0	211	660	53112270
16 AWG (1.5 mm²)						
8916034S	3	0.409	10.4	54	121	53112230
8916044S	4	0.444	11.3	68	154	53112240

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
8916054S	5	0.480	12.2	81	170	53112240
8916074S	7	0.598	15.2	125	258	53112250
8916124S	12	0.673	17.1	174	366	53112260
8916184S	18	0.826	21.0	239	493	53112260
8916254S	25	0.996	25.3	320	687	53112270
8916344S	34	1.067	27.1	446	769	53112270
14 AWG (2.5 mm²)						
8914044S	4	0.551	14.0	103	181	53112250
8914074S	7	0.709	18.0	175	347	53112260
8914184S	18	1.012	25.7	385	762	53112270
12 AWG (4 mm²)						
8912044S	4	0.650	16.5	160	302	53112250
8912074S	7	0.858	21.8	251	517	53112260
10 AWG (6 mm²)						
8910044S	4	0.752	19.1	215	333	53112260
8 AWG (10 mm²)						
8908044S	4	0.882	22.4	330	701	53112260
6 AWG (16 mm²)						
8906044S	4	1.066	27.1	498	986	53112270

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.

ÖLFLEX® CHAIN 809/809 CY

Continuous flex control cable with PVC jacket

LAPP KABEL STUTTGART ÖLFLEX® CHAIN 809

LAPP KABEL STUTTGART ÖLFLEX® CHAIN 809 CY

ÖLFLEX® CHAIN 809 is a flexible multi-conductor cable designed for basic continuous flexing applications. ÖLFLEX® CHAIN 809 CY is a shielded version available with an overall tinned copper braid. This is recommended when electrical interference needs to be suppressed. For bending cycles and operation parameters, see www.lappusa.com/cf-rating.

Recommended applications

Cable tracks; power chains; gantry robots; pick and place units; conveyor systems; machine tools; basic continuous flexing applications

Approvals



Cable attributes page 648

OIL	OR-01	FLAME	FR-02
MOTION	CF-01	MECH.	MP-01

Complete the installation


SKINTOP®
strain relief
page 492

EPIC®
connectors
page 284

ÖLFLEX® CONNECT solution


ÖLFLEX® CONNECT CHAIN
page 617

Technical data



Minimum bend radius:

- for continuous flexing: 10 x cable diameter
- sliding applications: 12 x cable diameter



Temperature range:

- for continuous flexing: 0°C to +80°C
- for stationary use: -40°C to +80°C



Nominal voltage:

- UL/CSA: 1000V
- VDE U₀/U: 300/500V



Test voltage:

- conductor/conductor: 4000V
- conductor/shield: 2000V



Conductor stranding:

Class 5 fine wire



Color code:

black with white numbers,
plus green/yellow ground


Approvals:

UL: AWM 20886
Attributes: NFPA 79
Canada: cRU AWM I/II A/B FT1
Additional: CE & RoHS
based on VDE 0281 Part 13

Unshielded construction

Conductors: finely stranded bare copper

Insulation: PVC; dry lubricant; non-woven wrapping over outer layer

Jacket: PVC; gray

Shielded construction

Conductors: finely stranded bare copper

Insulation: PVC; dry lubricant; non-woven wrapping over outer layer

Shielding: tinned copper braid (85% coverage)

Jacket: PVC; gray

Application advantage

- Designed with North American and European approvals
- Reduced-diameter shielded design
- Flame retardant: UL/CSA VW-1, FT1

ÖLFLEX® CHAIN 809

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
20 AWG (0.5 mm²)						
1026700	2	0.205	5.2	7	27	S1107
1026701	3	0.217	5.5	10	32	S1107
1026702	4	0.236	6.0	13	39	S1107
1026703	5	0.256	6.5	16	45	S1109
1026704	7	0.303	7.7	23	59	S1111
1026705	12	0.362	9.2	39	91	S1111
1026706	18	0.433	11.0	58	131	S1113
1026707	25	0.524	13.3	81	184	S1116
19 AWG (0.75 mm²)						
1026708	2	0.220	5.6	10	33	S1107
1026709	3	0.236	6.0	15	40	S1107
1026710	4	0.256	6.5	19	49	S1109
1026711	5	0.280	7.1	25	58	S1111
1026712	7	0.335	8.5	34	79	S1111
1026713	12	0.406	10.3	58	122	S1113
1026714	18	0.480	12.2	87	174	S1116
1026715	25	0.583	14.8	122	244	S1121
18 AWG (1 mm²)						
1026716	2	0.232	5.9	13	39	S1107
1026717	3	0.248	6.3	19	48	S1109

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
1026718	4	0.272	6.9	26	59	S1109
1026719	5	0.295	7.5	32	70	S1111
1026720	7	0.354	9.0	45	95	S1111
1026721	12	0.429	10.9	77	149	S1113
1026722	18	0.520	13.2	116	218	S1116
1026723	25	0.618	15.7	161	299	S1121
16 AWG (1.5 mm²)						
1026724	2	0.256	6.5	19	50	S1109
1026725	3	0.272	6.9	29	62	S1109
1026726	4	0.299	7.6	39	77	S1111
1026727	5	0.335	8.5	48	93	S1111
1026728	7	0.406	10.3	68	127	S1113
1026729	12	0.484	12.3	116	198	S1116
1026730	18	0.584	14.9	174	288	S1121
1026731	25	0.705	17.9	242	401	S1129
14 AWG (2.5 mm²)						
1026732	3	0.331	8.4	48	97	S1111
1026733	4	0.366	9.3	65	120	S1111
1026734	7	0.500	12.7	81	146	S1116
12 AWG (4 mm²)						
1026737	4	0.437	11.1	108	179	S1113

ÖLFLEX® CHAIN 809 CY

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
20 AWG (0.5 mm²)						
1026751	2	0.228	5.8	24	30	53112210
1026752	3	0.240	6.1	29	40	53112210
1026753	4	0.260	6.6	33	56	53112210
1026754	5	0.280	7.1	38	65	53112210
1026755	7	0.335	8.5	46	91	53112220
1026756	12	0.394	10.0	70	134	53112230
1026757	18	0.465	11.8	95	185	53112240
1026758	25	0.555	14.1	142	235	53112250
19 AWG (0.75 mm²)						
1026759	2	0.244	6.2	29	38	53112210
1026760	3	0.260	6.6	35	47	53112210
1026761	4	0.280	7.1	41	64	53112210
1026762	5	0.303	7.7	48	87	53112220
1026763	7	0.358	9.1	60	113	53112220
1026764	12	0.429	10.9	93	156	53112230
1026765	18	0.512	13.0	142	212	53112240
1026766	25	0.614	15.6	188	292	53112250
18 AWG (1 mm²)						
1026767	2	0.256	6.5	34	56	53112210
1026768	3	0.272	6.9	42	74	53112210

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
1026769	4	0.295	7.5	50	87	53112220
1026770	5	0.327	8.3	59	105	53112220
1026771	7	0.386	9.8	75	129	53112230
1026772	12	0.461	11.7	124	192	53112240
1026773	18	0.551	14.0	180	265	53112250
1026774	25	0.657	16.7	238	327	53112250
16 AWG (1.5 mm²)						
1026775	2	0.280	7.1	44	65	53112210
1026776	3	0.295	7.5	55	84	53112220
1026777	4	0.331	8.4	67	111	53112220
1026778	5	0.358	9.1	80	130	53112220
1026779	7	0.429	10.9	103	165	53112230
1026780	12	0.524	13.3	180	245	53112240
1026781	18	0.618	15.7	251	372	53112250
1026782	25	0.736	18.7	356	493	53112260
14 AWG (2.5 mm²)						
1026783	3	0.354	9.0	79	126	53112220
1026784	4	0.398	10.1	99	159	53112230
1026785	7	0.531	13.5	170	228	53112240
12 AWG (4 mm²)						
1026788	4	0.469	11.9	167	205	53112240

ÖLFLEX® CLASSIC FD 810/810 CY

Continuous flex control cable with PVC jacket



ÖLFLEX® CLASSIC FD 810 is a flexible multi-conductor cable designed for continuous flex applications. It is specially designed to optimize flex life and provides excellent resistance to minerals oils, synthetic oils, and water-based coolants. ÖLFLEX® CLASSIC FD 810 CY is a shielded version available with an overall tinned copper braid. This is recommended when electrical interference needs to be suppressed. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

Cable tracks; power chains; gantry robots; pick and place units; conveyor systems; machine tools; continuous flexing applications

Approvals



Unshielded construction

Conductors: finely stranded bare copper

Insulation: PVC; dry lubricant; non-woven wrapping over outer layer

Jacket: PVC; gray

Shielded construction

Conductors: finely stranded bare copper

Insulation: PVC; dry lubricant; non-woven wrapping over outer layer

Inner jacket: PVC

Shielding: tinned copper braid (85% coverage)

Jacket: PVC; gray

Application advantage

- European version with CE approvals
- Number-coded conductors for easier installation

Cable attributes		page 648	
	OIL	OR-01	FLAME
	MOTION	CF-02	MECH.
			FR-02
			MP-01

Complete the installation	
	SKINTOP® strain relief page 492
	EPIC® connectors page 284

ÖLFLEX® CONNECT solution	
	ÖLFLEX® CONNECT CHAIN page 617

Technical data

Minimum bend radius:
- for continuous flexing: 7.5 x cable diameter

Temperature range:
- for continuous flexing: 0°C to +70°C
- for stationary use: -40°C to +70°C

Nominal voltage: 300/500V

Test voltage: 4000V

Conductor stranding: Class 6 super fine wire

Color code: black with white numbers, plus green/yellow ground

Approvals: CE & RoHS based on VDE 0245/0281

ÖLFLEX® CLASSIC FD 810

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
20 AWG (0.5 mm²)						
0026100	2	0.209	5.3	7	27	S1107
0026101	3	0.224	5.7	10	32	S1107
0026102	4	0.248	6.3	13	39	S1109
0026103	5	0.268	6.8	16	45	S1109
0026104	7	0.315	8.0	23	59	S1111
0026105	12	0.374	9.5	39	91	S1111
0026106	18	0.449	11.4	58	131	S1113
0026107	25	0.539	13.7	81	184	S1121
0026109	34	0.614	15.6	110	241	S1121
0026110	50	0.728	18.5	161	346	S1129
19 AWG (0.75 mm²)						
0026119	2	0.224	5.7	10	33	S1107
0026120	3	0.244	6.2	15	40	S1107
0026121	4	0.268	6.8	19	49	S1109
0026122	5	0.291	7.4	25	58	S1111
0026123	7	0.350	8.9	34	79	S1111
0026124	12	0.417	10.6	58	122	S1113
0026125	16	0.472	12.0	78	157	S1116
0026126	18	0.500	12.7	87	174	S1116
0026127	25	0.598	15.2	122	244	S1121
18 AWG (1 mm²)						
0026130	2	0.240	6.1	13	39	S1107
0026131	3	0.260	6.6	19	48	S1109
0026132	4	0.287	7.3	26	59	S1111
0026133	5	0.315	8.0	32	70	S1111
0026134	7	0.378	9.6	45	95	S1113
0026135	12	0.449	11.4	77	149	S1113
0026138	18	0.547	13.9	116	218	S1121

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
0026139	25	0.646	16.4	161	299	S1121
0026142	41	0.811	20.6	265	478	S1129
0026143	50	0.878	22.3	323	574	S1129
16 AWG (1.5 mm²)						
0026149	2	0.268	6.8	19	50	S1109
0026150	3	0.291	7.4	29	62	S1111
0026151	4	0.319	8.1	39	77	S1111
0026152	5	0.358	9.1	48	93	S1111
0026153	7	0.429	10.9	68	127	S1113
0026154	12	0.508	12.9	116	198	S1116
0026156	18	0.614	15.6	174	288	S1121
0026157	25	0.733	18.6	242	401	S1129
0026159	34	0.831	21.1	329	526	S1129
14 AWG (2.5 mm²)						
0026170	3	0.354	9.0	48	97	S1111
0026171	4	0.394	10.0	65	120	S1113
0026172	5	0.441	11.2	81	146	S1113
0026173	7	0.535	13.6	113	204	S1121
0026175	14	0.677	17.2	226	368	S1121
12 AWG (4 mm²)						
0026180	3	0.417	10.6	81	144	S1113
0026181	4	0.461	11.7	108	179	S1116
10 AWG (6 mm²)						
0026183	4	0.547	13.9	150	266	S1121
8 AWG (10 mm²)						
0026185	4	0.693	17.6	258	433	S1129
0026186	5	0.772	19.6	323	528	S1129
6 AWG (16 mm²)						
0026187	4	0.827	21.0	413	620	S1129

ÖLFLEX® CLASSIC FD 810 CY

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
20 AWG (0.5 mm²)						
0026200	2	0.272	6.9	22	50	53112210
0026201	3	0.287	7.3	26	56	53112220
0026202	4	0.311	7.9	31	66	53112220
0026203	5	0.331	8.4	36	74	53112220
0026204	7	0.386	9.8	47	96	53112230
0026205	12	0.445	11.3	67	135	53112240
0026206	18	0.528	13.4	103	193	53112240
0026207	25	0.626	15.9	136	265	53112250
19 AWG (0.75 mm²)						
0026219	2	0.287	7.3	26	57	53112220
0026220	3	0.307	7.8	32	67	53112220
0026221	4	0.331	8.4	40	78	53112220
0026222	5	0.354	9.0	46	89	53112220
0026223	7	0.421	10.7	60	120	53112230
0026224	12	0.488	12.4	87	170	53112240
0026226	18	0.587	14.9	138	247	53112250
0026227	25	0.685	17.4	182	333	53112260
18 AWG (1 mm²)						
0026230	2	0.303	7.7	31	65	53112220
0026231	3	0.323	8.2	38	77	53112220
0026232	4	0.350	8.9	47	90	53112220
0026233	5	0.386	9.8	54	107	53112230
0026234	7	0.449	11.4	74	139	53112240
0026235	12	0.528	13.4	122	211	53112240
0026238	18	0.634	16.1	171	298	53112250
0026239	25	0.740	18.8	245	411	53112260

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
0026241	34	0.846	21.5	311	529	53112260
0026242	41	0.913	23.2	364	617	53112260
16 AWG (1.5 mm²)						
0026249	2	0.331	8.4	39	79	53112220
0026250	3	0.354	9.0	50	93	53112220
0026251	4	0.390	9.9	61	114	53112230
0026252	5	0.429	10.9	75	135	53112230
0026253	7	0.500	12.7	97	176	53112240
0026254	12	0.594	15.1	166	271	53112250
0026256	18	0.701	17.8	234	376	53112260
0026257	25	0.835	21.2	335	533	53112260
0026259	34	0.941	23.9	470	675	53112260
14 AWG (2.5 mm²)						
0026270	2	0.425	10.8	80	139	53112230
0026271	4	0.465	11.8	108	166	53112240
0026272	5	0.520	13.2	130	206	53112240
0026273	7	0.622	15.8	176	281	53112250
12 AWG (4 mm²)						
0026281	4	0.539	13.7	160	242	53112250
0026282	5	0.602	15.3	188	293	53112250
10 AWG (6 mm²)						
0026283	4	0.634	16.1	214	345	53112250
8 AWG (10 mm²)						
0026285	4	0.795	20.2	350	554	53112260
6 AWG (16 mm²)						
0026287	4	0.929	23.6	524	811	53112260

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.

ÖLFLEX® CHAIN 90 P/90 CP

Highly flexible single-conductor cable with PUR jacket



ÖLFLEX® CHAIN 90 P is a highly flexible PUR 1000V single-conductor cable for continuous flex applications. The polyurethane jacket is mechanically and chemically resistant to many environments. ÖLFLEX® CHAIN 90 CP with tinned copper braid shielding is used for applications where EMI emissions need to be suppressed. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

Power chains or moving machine parts; for wiring of electric and electronic equipment in switch cabinets; test systems in the automotive industry; vehicles and stationary fuel cell systems

Approvals



Unshielded construction

Conductors: finely stranded bare copper

Insulation: special black or green/yellow compound based on TPE

Jacket: polyurethane; black

Shielded construction

Conductors: finely stranded bare copper

Insulation: special black or green/yellow compound based on TPE

Shielding: tinned copper braid

Jacket: polyurethane; black

Application advantage

- Suitable for heavy duty power chain applications
- Can substitute multi-conductor power cables where space requirements can cause problems
- Suitable for dry or damp interior use
- Available in larger conductor sizes for power applications
- CSA FT1 flame retardant

Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	CF-04	MECH.	MP-05

Complete the installation	
SKINTOP® strain relief	EPIC® connectors
page 492	page 284

ÖLFLEX® CONNECT solution	
ÖLFLEX® CONNECT CHAIN	page 617

Technical data

Minimum bend radius: - for installation: 3 x cable diameter - for continuous flexing: 7.5 x cable diameter	Test voltage: 4000V
Temperature range: - for continuous flexing: -35°C to +80°C - for flexible use: -50°C to +80°C	Conductor stranding: Class 6 super fine wire
Nominal voltage: - UL/CSA: 1000V - IEC U ₀ /U: 600/1000V	Approvals: UL: AWM 11624, VW-1 Attributes: NFPA 79 Canada: cRU AWM I/II A FT1 Additional: CE & RoHS

ÖLFLEX® CHAIN 90 P

black conductor

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
16 AWG (1.5 mm²)					
1026514	1	0.248	6.3	10	32 S2109
14 AWG (2.5 mm²)					
1026516	1	0.272	6.9	16	42 S2109
12 AWG (4 mm²)					
1026518	1	0.283	7.2	26	52 S2109
10 AWG (6 mm²)					
1026520	1	0.303	7.7	39	64 S2111
8 AWG (10 mm²)					
1026522	1	0.358	9.1	65	98 S2111
6 AWG (16 mm²)					
1026524	1	0.417	10.6	103	138 S2113
4 AWG (25 mm²)					
1026526	1	0.484	12.3	161	195 S2116
2 AWG (35 mm²)					
1026528	1	0.524	13.3	226	278 S2116
1 AWG (50 mm²)					
1026530	1	0.626	15.9	323	360 S2121
2/0 AWG (70 mm²)					
1026532	1	0.709	18	452	522 S2129
3/0 AWG (95 mm²)					
1026534	1	0.783	19.9	614	672 S2129
4/0 AWG (120 mm²)					
1026536	1	0.886	22.5	775	840 S2129
250 KCMIL (150 mm²)					
1026538	1	0.969	24.6	969	1000 S2136
350 KCMIL (185 mm²)					
1026540	1	1.071	27.2	1195	1203 S2136
450 KCMIL (240 mm²)					
1026542	1	1.264	32.1	1550	1602 S2142
500 KCMIL (300 mm²)					
1026544	1	1.339	34	1938	1994 S2142

green/yellow conductor

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
16 AWG (1.5 mm²)					
1026513	1	0.248	6.3	10	32 S2109
14 AWG (2.5 mm²)					
1026515	1	0.272	6.9	16	42 S2109
12 AWG (4 mm²)					
1026517	1	0.283	7.2	26	52 S2109
10 AWG (6 mm²)					
1026519	1	0.303	7.7	39	64 S2111
8 AWG (10 mm²)					
1026521	1	0.358	9.1	65	98 S2111
6 AWG (16 mm²)					
1026523	1	0.417	10.6	103	138 S2113
4 AWG (25 mm²)					
1026525	1	0.484	12.3	161	195 S2116
2 AWG (35 mm²)					
1026527	1	0.524	13.3	226	278 S2116
1 AWG (50 mm²)					
1026529	1	0.626	15.9	323	360 S2121
2/0 AWG (70 mm²)					
1026531	1	0.709	18	452	522 S2129
3/0 AWG (95 mm²)					
1026533	1	0.783	19.9	614	672 S2129
4/0 AWG (120 mm²)					
1026535	1	0.886	22.5	775	840 S2129
250 KCMIL (150 mm²)					
1026537	1	0.969	24.6	969	1000 S2136
350 KCMIL (185 mm²)					
1026539	1	1.071	27.2	1195	1203 S2136
450 KCMIL (240 mm²)					
1026541	1	1.264	32.1	1550	1602 S2142
500 KCMIL (300 mm²)					
1026543	1	1.339	34	1938	1994 S2142

ÖLFLEX® CHAIN 90 CP

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
16 AWG (1.5 mm²)					
1026547	1	0.276	7	16	40 53112210
14 AWG (2.5 mm²)					
1026548	1	0.299	7.6	28	61 53112220
12 AWG (4 mm²)					
1026549	1	0.311	7.9	40	67 53112220
10 AWG (6 mm²)					
1026550	1	0.331	8.4	55	81 53112220
8 AWG (10 mm²)					
1026551	1	0.386	9.8	83	121 53112230
6 AWG (16 mm²)					
1026553	1	0.445	11.3	126	161 53112230
4 AWG (25 mm²)					
1026555	1	0.512	13	189	229 53112240
2 AWG (35 mm²)					
1026557	1	0.559	14.2	268	323 53112250

* SKINTOP® MS-SC with metric thread.

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
1 AWG (50 mm²)					
1026559	1	0.661	16.8	371	410 53112250
2/0 AWG (70 mm²)					
1026561	1	0.752	19.1	520	592 53112260
3/0 AWG (95 mm²)					
1026563	1	0.850	21.6	698	781 53112260
4/0 AWG (120 mm²)					
1026565	1	0.929	23.6	860	929 53112260
250 KCMIL (150 mm²)					
1026567	1	1.020	25.9	1089	1124 53112270
350 KCMIL (185 mm²)					
1026569	1	1.122	28.5	1317	1332 53112270
450 KCMIL (240 mm²)					
1026571	1	1.315	33.4	1690	1750 53112670*
500 KCMIL (300 mm²)					
1026573	1	1.390	35.3	2097	2160 53112670*

ÖLFLEX® FD 90/90 CY

Flexible single-conductor power supply cable with PVC jacket



ÖLFLEX® FD 90 is a flexible 600V UL and CSA approved single-conductor cable for continuous flex applications. It is designed with super fine wire stranding and specially formulated PVC compounds that are resistant to most mineral oils and water-based coolants. ÖLFLEX® FD 90 CY with tinned copper braid shielding is used for applications where EMI emissions need to be suppressed. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

Power circuits and applications requiring flexible power cable to interconnect the power supply to the machine

Approvals



Cable attributes				page 648	
	OIL	OR-01		FLAME	FR-02
	MOTION	CF-02		MECH.	MP-01

Complete the installation	
	SKINTOP® strain relief page 492
	EPIC® connectors page 284

ÖLFLEX® CONNECT solution	
	ÖLFLEX® CONNECT CHAIN page 617

Unshielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated black or green/yellow PVC; non-woven wrapping

Jacket: specially formulated PVC; black

Shielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated black PVC; non-woven wrapping

Shielding: tinned copper braid

Jacket: specially formulated PVC; orange

Application advantage

- Core line for ordinary duty in power chain applications
- North American UL/CSA and European market approvals
- Suitable for dry, damp interior use
- Available in larger conductor sizes for power applications
- CSA FT1 flame retardant

Technical data

	Minimum bend radius:			Conductor stranding:	Class 6 super fine wire
	- for continuous flexing:	7.5 x cable diameter			
	- for stationary use:	3 x cable diameter		Approvals:	UL: AWM 10107
	Temperature range:			Attributes:	NFPA 79
	- for continuous flexing:	-5°C to +90°C		Canada:	CSA AWM I/II A/B FT1 (≤ 4/0 AWG)
	- for stationary use:	-40°C to +90°C			cRU AWM I/II A/B FT1 (≥ 300 KCMIL)
	Nominal voltage:			Additional:	CE & RoHS based on VDE 0250/0281
	- UL/CSA:	600V			
	- IEC:	600/1000V			
	Test voltage:	4000V			

ÖLFLEX® FD 90

black conductor

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
8 AWG (10 mm²)						
0026601	1	0.354	9.0	65	118	S2111
6 AWG (16 mm²)						
0026604	1	0.413	10.5	103	161	S2113
4 AWG (25 mm²)						
0026608	1	0.465	11.8	161	243	S2116
2 AWG (35 mm²)						
0026611	1	0.559	14.2	226	324	S2121
1 AWG (50 mm²)						
0026614	1	0.638	16.2	323	444	S2121
2/0 AWG (70 mm²)						
0026617	1	0.720	18.3	452	603	S2129
3/0 AWG (95 mm²)						
0026620	1	0.780	19.8	613	792	S2129
4/0 AWG (120 mm²)						
0026623	1	0.921	23.4	774	1022	S2129
250 KCMIL (150 mm²)						
0026626	1	0.988	25.1	968	1169	S2136
350 KCMIL (185 mm²)						
0026629	1	1.106	28.1	1193	1549	S2136
450 KCMIL (240 mm²)						
0026635	1	1.244	31.6	1548	1978	S2248
500 KCMIL (300 mm²)						
0026641	1	1.319	33.5	1935	2382	S2248

green/yellow conductor

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
8 AWG (10 mm²)						
0026600	1	0.354	9.0	65	118	S2111
6 AWG (16 mm²)						
0026603	1	0.413	10.5	103	161	S2113
4 AWG (25 mm²)						
0026607	1	0.465	11.8	161	243	S2116
2 AWG (35 mm²)						
0026610	1	0.559	14.2	226	324	S2121
1 AWG (50 mm²)						
0026613	1	0.638	16.2	323	444	S2121
2/0 AWG (70 mm²)						
0026616	1	0.720	18.3	452	603	S2129
3/0 AWG (95 mm²)						
0026619	1	0.780	19.8	613	792	S2129
4/0 AWG (120 mm²)						
0026622	1	0.921	23.4	774	1022	S2129
250 KCMIL (150 mm²)						
0026625	1	0.988	25.1	968	1169	S2136
350 KCMIL (185 mm²)						
0026628	1	1.106	28.1	1193	1549	S2136
450 KCMIL (240 mm²)						
0026634	1	1.244	31.6	1548	1978	S2248
500 KCMIL (300 mm²)						
0026640	1	1.319	33.5	1935	2382	S2248

ÖLFLEX® FD 90 CY

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
8 AWG (10 mm²)						
0026651	1	0.382	9.7	86	153	53112230
6 AWG (16 mm²)						
0026653	1	0.441	11.2	125	200	53112240
4 AWG (25 mm²)						
0026655	1	0.492	12.5	173	276	53112240
2 AWG (35 mm²)						
0026657	1	0.594	15.1	269	408	53112250
1 AWG (50 mm²)						
0026659	1	0.673	17.1	373	543	53112260
2/0 AWG (70 mm²)						
0026661	1	0.764	19.4	521	726	53112260

* SKINTOP® MS-SC with metric thread.

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
3/0 AWG (95 mm²)						
0026663	1	0.823	20.9	691	929	53112260
4/0 AWG (120 mm²)						
0026665	1	0.965	24.5	862	1177	53112270
250 KCMIL (150 mm²)						
0026667	1	1.031	26.2	948	1293	53112270
350 KCMIL (185 mm²)						
0026669	1	1.150	29.2	1300	1755	53112270
450 KCMIL (240 mm²)						
0026671	1	1.295	32.9	1697	2266	53112670*
500 KCMIL (300 mm²)						
0026673	1	1.370	34.8	2103	2759	53112670*

ÖLFLEX® CHAIN 809 SC/809 SC CY Highly flexible single-conductor cable with PVC jacket



ÖLFLEX® CHAIN 809 SC is a flexible 600V single-conductor cable for continuous flex applications. It is designed with fine wire stranding and specially formulated PVC compounds that are resistant to most mineral oils and water-based coolants. ÖLFLEX® CHAIN 809 SC CY with tinned copper braid shielding is used for applications where EMI emissions need to be suppressed. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

Power chains or moving machine parts; wiring electric and electronic equipment in switch cabinets; specially designed for power circuits of servo motors driven by frequency converters; test systems in the automotive industry; vehicles and stationary fuel cell systems.

Approvals



Unshielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated black or green/yellow PVC

Jacket: specially formulated PVC; black

Shielded construction

Conductors: finely stranded bare copper

Insulation: specially formulated black PVC

Shielding: tinned copper braid

Jacket: specially formulated PVC; black

Application advantage

- Suitable for light & ordinary duty in power chain applications
- North American UL/CSA & European market approvals
- Suitable for dry or damp interior use
- Available in larger conductor sizes for power applications
- CSA FT1 flame retardant

Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-02	MECH.	MP-01

Complete the installation	
SKINTOP® strain relief	page 492
EPIC® connectors	page 284

ÖLFLEX® CONNECT solution	
ÖLFLEX® CONNECT CHAIN	page 617

Technical data

Minimum bend radius:
- for installation: 4 x cable diameter
- for flexible use: 10 x cable diameter

Temperature range:
- for continuous flexing: 0°C to +90°C
- for flexible use: -40°C to +90°C

Nominal voltage:
- UL/CSA: 600V
- IEC U₀/U: 600/1000V

Test voltage: 4000V

Conductor stranding: Class 5 fine wire

Approvals:
UL: AWM 10107
Attributes: NFPA 79
Canada: cRU AWM II AB FT1
Additional: CE & RoHS
based on VDE 0250/0285

ÖLFLEX® CHAIN 809 SC

black conductor

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
10 AWG (6 mm²)						
1062901	1	0.291	7.4	36	68	S2109
8 AWG (10 mm²)						
1062903	1	0.354	9	65	106	S2111
6 AWG (16 mm²)						
1062905	1	0.390	9.9	103	146	S2113
4 AWG (25 mm²)						
1062907	1	0.445	11.3	161	207	S2113
2 AWG (35 mm²)						
1062909	1	0.516	13.1	226	287	S2116
1 AWG (50 mm²)						
1062911	1	0.626	15.9	323	411	S2121
2/0 AWG (70 mm²)						
1062913	1	0.693	17.6	452	524	S2129
3/0 AWG (95 mm²)						
1062915	1	0.780	19.8	613	683	S2129
4/0 AWG (120 mm²)						
1062917	1	0.906	23	774	872	S2129
250 KCMIL (150 mm²)						
1062919	1	0.976	24.8	968	1075	S2136
350 KCMIL (185 mm²)						
1062921	1	1.067	27.1	1193	1326	S2136
450 KCMIL (240 mm²)						
1062923	1	1.205	30.6	1548	1628	S2136

green/yellow conductor

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
10 AWG (6 mm²)						
1062900	1	0.291	7.4	36	68	S2109
8 AWG (10 mm²)						
1062902	1	0.354	9	65	106	S2111
6 AWG (16 mm²)						
1062904	1	0.390	9.9	103	146	S2113
4 AWG (25 mm²)						
1062906	1	0.445	11.3	161	207	S2113
2 AWG (35 mm²)						
1062908	1	0.516	13.1	226	287	S2116
1 AWG (50 mm²)						
1062910	1	0.626	15.9	323	411	S2121
2/0 AWG (70 mm²)						
1062912	1	0.693	17.6	452	524	S2129
3/0 AWG (95 mm²)						
1062914	1	0.780	19.8	613	683	S2129
4/0 AWG (120 mm²)						
1062916	1	0.906	23	774	872	S2129
250 KCMIL (150 mm²)						
1062918	1	0.976	24.8	968	1075	S2136
350 KCMIL (185 mm²)						
1062920	1	1.067	27.1	1193	1326	S2136
450 KCMIL (240 mm²)						
1062922	1	1.205	30.6	1548	1628	S2136

ÖLFLEX® CHAIN 809 SC CY

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
10 AWG (6 mm ²)						
1062940	1	0.319	8.1	51	85	53112220
8 AWG (10 mm ²)						
1062941	1	0.382	9.7	82	128	53112230
6 AWG (16 mm ²)						
1062942	1	0.417	10.6	121	168	53112230
4 AWG (25 mm ²)						
1062943	1	0.472	12	180	236	53112240
2 AWG (35 mm ²)						
1062944	1	0.583	14.8	264	349	53112250
1 AWG (50 mm ²)						
1062945	1	0.661	16.8	366	462	53112250
2/0 AWG (70 mm ²)						
1062946	1	0.728	18.5	515	596	53112260

* SKINTOP® MS-SC with metric thread

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
3/0 AWG (95 mm²)						
1062947	1	0.823	20.9	686	764	53112260
4/0 AWG (120 mm²)						
1062948	1	0.949	24.1	856	971	53112270
250 KCMIL (150 mm²)						
1062949	1	1.028	26.1	1072	1203	53112270
350 KCMIL (185 mm²)						
1062950	1	1.118	28.4	1306	1465	53112270
450 KCMIL (240 mm²)						
1062951	1	1.256	31.9	1694	1797	53112670*
500 KCMIL (300 mm²)						
1062952	1	1.319	33.5	2097	2220	53112670*

ÖLFLEX® FD AUTO-X

Heavy duty continuous flex control cable

LAPP KABEL STUTTGART ÖLFLEX® FD AUTO-X

ÖLFLEX® FD AUTO-X is a flexible oil- and UV-resistant multi-conductor control cable designed for continuous flexing industrial applications. It has worldwide approvals, including UL Type TC-ER, CSA AWM, and CE. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

Cable tracks; power chains; gantry robots; pick and place units; conveyor systems; machine tools; continuous flexing applications

Approvals



Cable attributes		page 648	
OIL	OR-03	FLAME	FR-03
MOTION	CF-02	MECH.	MP-03

Complete the installation	
SKINTOP® strain relief page 492	EPIC® connectors page 284

ÖLFLEX® CONNECT solution	
ÖLFLEX® CONNECT CHAIN page 617	

Technical data

	Minimum bend radius:			Color code*:	
	- for continuous flexing:	10 x cable diameter		- 3c:	blue with white numbers, plus green/ yellow ground
	Temperature range:			- 4c & higher (blue):	no. 2 conductor is white/blue
	- for continuous flexing:	-5°C to +90°C		* Optional colors for conductors are available upon request.	
	- for stationary use:	-40°C to +105°C		Colors include red, orange, yellow, and black. Minimums may apply.	
	- UL TC-ER:	-25°C to +90°C			
	Nominal voltage:			Approvals:	UL: TC-ER per UL 1277 WTTC per UL 2277 AWM 20626
	- UL TC:	600V		Attributes:	UL Oil Res I/II 75°C wet; 90°C dry
	- UL WTTC:	1000V			-40°C cold bend; -25°C cold impact
	Test voltage:	2000V			NFPA 79
	Conductor stranding:	Class M fine wire		NEC:	Class 1 Division 2 per NEC Articles 501, 336
				Canada:	CSA AWM I/II A/B FT4 c(UL) CIC/TC FT4
				Additional:	CE & RoHS

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
18 AWG (1 mm²)						
251803XB	3	0.309	7.8	16	55	S2111
251805XB	5	0.358	9.1	26	85	S2111
251807XB	7	0.425	10.8	36	110	S2113
251811XB	11	0.489	12.4	58	145	S2116
251812XB	12	0.489	12.4	64	160	S2116
251825XB	25	0.720	18.3	134	322	S2129
251833XB	33	0.748	19.0	175	385	S2129
251842XB	42	0.908	23.1	222	495	S2129
251849XB	49	0.942	23.9	259	595	S2129
251865XB	65	1.075	27.3	343	860	S2136

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
16 AWG (1.5 mm²)						
251603XB	3	0.335	8.5	26	71	S2111
251607XB	7	0.464	11.8	58	126	S2116
251611XB	11	0.569	14.5	94	203	S2121
251612XB	12	0.569	14.5	103	218	S2121
251619XB	19	0.698	17.7	162	284	S2129
251625XB	25	0.798	20.3	213	397	S2129
251633XB	33	0.877	22.3	280	509	S2129
251642XB	42	0.977	24.8	381	628	S2136
251649XB	49	1.043	26.5	418	760	S2136
251665XB	65	1.191	30.3	547	890	S2136

Replace the 'B' at the end of the part number with 'R' for red conductors, 'O' for orange conductors, 'Y' for yellow conductors, 'BK' for black conductors

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

80 Quick select chart

81 ÖLFLEX® ROBOT F1/F1 (C)

Robotic cable for flexing & torsion motion with UL & c(UL) AWM

83 ÖLFLEX® ROBOT 900 P/900 DP

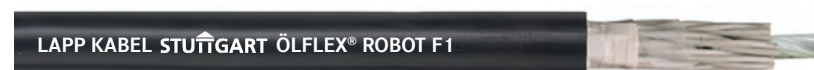
Robotic cable for flexing & torsion motion

Quick select chart

Product	Jacket material	Temperature range		Nominal voltage	Max. torsion twist	Torsion cycles	Page
		low	high				
ÖLFLEX® ROBOT F1	PUR	-40°C	80°C	AWM: 600V or 1000V	± 360°/m	5 million	81
ÖLFLEX® ROBOT F1 (C)					± 180°/m		
ÖLFLEX® ROBOT 900 P	PUR	-40°C	80°C	IEC: 300/500V	± 360°/m	5 million	83
ÖLFLEX® ROBOT 900 DP					± 180°/m		

ÖLFLEX® ROBOT F1/F1 (C)

Robotic cable for flexing & torsion motion with UL & c(UL) AWM



ÖLFLEX® ROBOT F1 is designed to transmit control and monitoring signals as well as power supply in environments where combined twisting and bending stresses occur. ÖLFLEX® ROBOT F1 (C) with copper shield is designed for use where EMI emissions need to be suppressed.

Recommended applications

Multi-axis articulated robots with twisting and bending motion; automated handling equipment in cable tracks or moving machine parts

Approvals



Cable attributes		page 649	
OIL	OR-05	FLAME	FR-02
MOTION	TCF-01	MECH.	MP-05

Unshielded construction

Conductors: finely stranded bare copper

Insulation: TPE; conductors or pairs twisted into bundles or layers

Jacket: polyurethane; black

Shielded construction

Conductors: finely stranded bare copper

Insulation: TPE; conductors or pairs twisted into bundles or layers

Shielding: tinned copper spiral shield

Jacket: polyurethane; black

Application advantage

- UL AWM approval for USA and Canada
- Specially formulated PUR jacket protects against the harshest of industrial plant environments
- Maximum twist of $\pm 360^\circ/\text{m}$ unshielded for wide variety of robot applications

Complete the installation



SKINTOP®
strain relief
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EPIC®
connectors
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Technical data



Minimum bend radius:

- unshielded: 10 x cable diameter
- shielded: 10 x cable diameter



Maximum torsion (twist):

- unshielded: $\pm 360^\circ/\text{m}$
- shielded: $\pm 180^\circ/\text{m}$



Temperature range:

-40°C to +80°C



Nominal voltage:

- UL/CSA:
 - up to 16 AWG: 600V
 - 14 AWG & larger: 1000V
- IEC:
 - up to 22 AWG: 250V
 - 20 - 14 AWG: 300/500V



Conductor stranding:

extra fine wire



Color code:

- up to 22 AWG: DIN 47100: chart 8, page 682
- 20 AWG & larger: white conductors with black numbers, plus green/yellow ground



Approvals:

UL: AWM 20940
Attributes: NFPA 79
Canada: cRU AWM I/II A/B
Additional: CE & RoHS

ÖLFLEX® ROBOT F1

Part number	Number of conductors incl. ground*	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	lbs/mft	lbs/mft	PG thread
24 AWG (0.25 mm ²)						
0029590	7	0.264	6.7	11	42	S2109
0029591	12	0.354	9.0	20	82	S2111
0029592	18	0.417	10.6	30	105	S2113
0029593	25	0.492	12.5	40	138	S2116
22 AWG (0.34 mm ²)						
0029594*	2	0.181	4.6	5	26	S2107
0029596	4	0.205	5.2	10	32	S2107
0029599	12	0.370	9.4	27	87	S2111
0029600	18	0.441	11.2	40	114	S2113
0029601	25	0.516	13.1	56	148	S2116
20 AWG (0.5 mm ²)						
0029608	18	0.484	12.3	56	136	S2116
0029609	25	0.598	15.2	80	191	S2121

*2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
18 AWG (1 mm²)						
0029612	4	0.283	7.2	26	58	S2111
0029614	7	0.362	9.2	44	95	S2111
0029615	12	0.488	12.4	74	159	S2116
0029616	14	0.520	13.2	86	173	S2116
0029617	16 + 1pr	0.606	15.4	128	233	S2121
0029618	18	0.634	16.1	114	235	S2121
0029619	23 + 1pr	0.709	18.0	168	310	S2129
0029620	25	0.701	17.8	161	274	S2129
16 AWG (1.5 mm²)						
0029624	4	0.323	8.2	38	77	S2111
0029627	7	0.413	10.5	68	126	S2113
0029629	12	0.563	14.3	114	198	S2121
0029631	25	0.776	19.7	242	444	S2129
10 AWG (6 mm²)						
0029641	4	0.524	13.3	148	222	S2116

ÖLFLEX® ROBOT F1 (C)

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
24 AWG (0.5 mm²)						
0029653	3pr	0.315	8.0	26	67	53112220
0029654	25	0.543	13.8	77	188	53112250
22 AWG (0.34 mm²)						
0029655	2	0.205	5.2	12	36	53112210
0029656	3	0.213	5.4	13	38	53112210

*2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
0029657	4	0.260	6.6	19	48	53112210
0029658	5pr	0.402	10.2	46	106	53112230
16 AWG (1.5 mm²)						
0029689	12	0.606	15.4	155	255	53112250
0029690	18	0.728	18.5	228	370	53112260

ÖLFLEX® ROBOT 900 P/900 DP

Robotic cable for flexing & torsion motion

LAPP KABEL STUTTGART ÖLFLEX® ROBOT 900 P

LAPP KABEL STUTTGART ÖLFLEX® ROBOT 900 DP

ÖLFLEX® ROBOT 900 P is a multi-conductor control and signal monitoring cable. It is designed to withstand the extreme demands of twisting and bending stresses in robotic applications. ÖLFLEX® ROBOT 900 DP has a tinned copper spiral shield and is designed for use where EMI emissions need to be suppressed.

Recommended applications

Multi-axis articulated robots with twisting and bending motion; automated handling equipment; cable tracks or moving machine parts.

Approvals



Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	T-01	MECH.	MP-05

Unshielded construction

Conductors: finely stranded bare copper

Insulation: TPE; conductors twisted in layers with low-friction core wrap

Jacket: polyurethane; black

Shielded construction

Conductors: finely stranded bare copper

Insulation: TPE; conductors twisted in layers with low-friction core wrap

Shielding: tinned copper spiral shield

Jacket: polyurethane; black

Application advantage

- Designed for applications where combined twisting and bending occur
- Specially formulated PUR jacket protects against the harshest of industrial plant environments
- Maximum twist of $\pm 360^\circ/\text{m}$ (unshielded) for wide variety of robot applications

Complete the installation



SKINTOP® strain relief
page 492



EPIC® connectors
page 284

Technical data

Minimum bend radius:

- unshielded: 15 x cable diameter
- shielded: 15 x cable diameter

Maximum torsion (twist):

- unshielded: $\pm 360^\circ/\text{m}$
- shielded: $\pm 180^\circ/\text{m}$

Temperature range:

- for flexible use: -40°C to $+80^\circ\text{C}$

Nominal voltage:

- up to 22 AWG: 48V AC
- 20 AWG & larger: 300/500V

Test voltage:

- up to 22 AWG: 1500V
- 20 AWG & larger: 3000V



Conductor stranding: extra fine wire



Color code:
- up to 22 AWG: DIN 47100: chart 8, page 682
- 20 AWG & larger: black with white numbers, plus green/yellow ground



Approvals: CE & RoHS
based on VDE 0281/0282 & 0812

ÖLFLEX® ROBOT 900 P

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
24 AWG (0.25 mm ²)						
0028110	7	0.244	6.2	11	32	S2107
0028116	25	0.402	10.2	40	95	S2113
20 AWG (0.5 mm ²)						
0028145	18	0.441	11.2	58	81	S2113
0028146	25	0.524	13.3	81	171	S2116
19 AWG (0.75 mm ²)						
0028160	4	0.260	6.6	19	42	S2109
0028164	14	0.441	11.2	68	134	S2113
18 AWG (1 mm ²)						
0028170*	2	0.244	6.2	13	32	S2107
0028171	3	0.256	6.5	19	41	S2109
0028172	4	0.276	7.0	26	51	S2111
0028174	7	0.366	9.3	45	88	S2111
0028176	12	0.453	11.5	77	145	S2113
0028185	16 + 1pr	0.630	16.0	131	253	S2121

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
0028178	18	0.520	13.2	116	193	S2116
0028186	23 + 1 pr	0.681	17.3	176	316	S2129
0028180	25	0.646	16.4	161	291	S2121
0028190	34	0.783	19.9	219	384	S2129
0028191	41	0.878	22.3	264	474	S2129
16 AWG (1.5 mm²)						
0028198	18	0.622	15.8	174	300	S2121
14 AWG (2.5 mm²)						
0028181	3	0.366	9.3	48	91	S2111
0028182	4	0.398	10.1	65	115	S2113
6 AWG (10 mm²)						
0028400	3	0.843	21.4	310	484	S2129
4 AWG (25 mm²)						
0028187	3	1.031	26.2	484	791	S2136
2 AWG (35 mm²)						
0028189	3	1.134	28.8	677	1047	S2136

ÖLFLEX® ROBOT 900 DP

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
26 AWG (0.14 mm²)						
0028100	12	0.264	6.7	29	46	53112210
0028105	3pr	0.244	6.2	11	30	53112210
24 AWG (0.25 mm²)						
0028126	25	0.437	11.1	70	123	53112230

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread
22 AWG (0.34 mm²)						
0028135	4	0.224	5.7	14	31	53112210
0028136	5pr	0.358	9.1	43	77	53112220
16 AWG (1.5 mm²)						
0028195	12	0.551	14.0	174	265	53112250

86 Quick select chart

87 ÖLFLEX® HEAT 180 MS/180 C MS

High temperature silicone control cable with North American approvals

89 ÖLFLEX® HEAT 180 SiHF

High temperature silicone control cable

90 ÖLFLEX® HEAT 180 H05SS-F EWKF

High temperature tear-resistant silicone control cable

91 ÖLFLEX® HEAT 180 SiF A

High temperature single-conductor silicone cable with North American approvals

92 ÖLFLEX® HEAT 125 MC/125 C MC

Highly flame retardant high temperature multi-conductor control cable

94 ÖLFLEX® HEAT 125 SC

Highly flame retardant high temperature single-conductor cable

Quick select chart

Product	Shield	AWG range	Conductor count	Temperature range	Color	Key feature	Page
ÖLFLEX® HEAT 180 MS	no	20 - 8 AWG	2, 3, 4, 5, 7, 12, 18, 25	UL/CSA: -50°C to +150°C IEC: -50°C to +180°C	black		87
ÖLFLEX® HEAT 180 C MS	yes						
ÖLFLEX® HEAT 180 SiHF	no	18 - 6 AWG	2, 3, 4, 5, 7, 12, 16, 20, 24	IEC: -50°C to +180°C	red	European standard	89
ÖLFLEX® HEAT 180 H05SS-F EWKF	no	18 - 10 AWG	2, 3, 4, 5	IEC: -50°C to +180°C	black	tear resistant	90
ÖLFLEX® HEAT 180 SiF A	no	24 - 3/0 AWG	1	UL/CSA: -50°C to +150°C IEC: -50°C to +180°C	various options		91
ÖLFLEX® HEAT 125 MC	no	20 - 8 AWG	2, 3, 4, 5, 7, 12	IEC: -55°C to +125°C up to +145°C (short term)	black	highly flame retardant	92
ÖLFLEX® HEAT 125 C MC	yes						
ÖLFLEX® HEAT 125 SC	no	20 AWG - 450 KCMIL	1	IEC: -55°C to +125°C up to +145°C (short term)	various options	highly flame retardant	94

ÖLFLEX® HEAT 180 MS/180 C MS

High temperature silicone control cable with North American approvals

LAPP KABEL STUTTGART ÖLFLEX® HEAT 180 MS

LAPP KABEL STUTTGART ÖLFLEX® HEAT 180 C MS

ÖLFLEX® HEAT 180 MS is a high temperature silicone cable with North American approvals. It has a temperature rating of 180°C and is halogen-free. ÖLFLEX® HEAT 180 C MS is a shielded version available with an overall tinned copper braid. This is recommended when electrical interference needs to be suppressed.

Recommended applications

Foundries; steel mills; glass factories; furnaces; commercial baking equipment; other high-temperature applications

Approvals



Cable attributes		page 648	
OIL	OR-02	FLAME	FR-02
MOTION	FL-01	MECH.	MP-01

Unshielded construction

Conductors: finely stranded tinned copper

Insulation: silicone

Jacket: silicone; black

Shielded construction

Conductors: finely stranded tinned copper

Insulation: silicone

Shielding: tinned copper braid (85% coverage); plastic foil wrap

Jacket: silicone; black

Application advantage

- Rated for use up to 180°C and can handle rapid increases in heat
- Excellent low temperature rating of -50°C
- Passes FT1 vertical flame test
- Halogen-free & UV-resistant jacket
- Resistant to various oils, alcohols, vegetable & animal fats, and chemical substances

Complete the installation



SKINDICHT® CN
page 530



EPIC®
connectors
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Technical data

	Minimum bend radius:			Conductor stranding:	Class 5 fine wire
	- unshielded:	4 x cable diameter			
	- shielded:	6 x cable diameter			
	Temperature range:			Color code:	
	- UL:	-50°C to +150°C		- up to 5c:	VDE 0293-308: chart 6, page 681
	- VDE:	-50°C to +180°C		- 6c & higher:	black with white numbers, plus green/yellow ground
	Nominal voltage:	600V		Approvals:	UL: AWM 4476
				Attributes:	NFPA 79
				Canada:	cRU AWM II A/B FT1
				Additional:	CE & RoHS
	Test voltage:	2000V			

ÖLFLEX® HEAT 180 MS

Part number	Number of conductors incl. ground*	Nominal outer diameter		Copper weight	Approx. weight	SKINDICHT® CN
		in	mm	lbs/mft	lbs/mft	PG thread
20 AWG (0.5 mm²)						
0046600	2	0.292	7.4	7	45	52032520
0046601	3	0.307	7.8	10	52	52032520
00466023	4	0.335	8.5	14	62	52032520
00466033	5	0.362	9.2	17	74	52032525
0046604	7	0.390	9.9	24	88	52032525
18 AWG (1 mm²)						
0046612	2	0.323	8.2	13	58	52032520
0046613	3	0.343	8.7	20	68	52032520
00466143	4	0.370	9.4	26	83	52032525
00466153	5	0.406	10.3	33	99	52032525
0046616	7	0.437	11.1	46	121	52032540
0046617	12	0.587	14.9	78	214	52032560
16 AWG (1.5 mm²)						
0046618	2	0.347	8.8	20	70	52032520
0046619	3	0.366	9.3	30	84	52032525
00466203	4	0.398	10.1	39	103	52032525
00466213	5	0.437	11.1	49	124	52032540

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® CN PG thread
0046622	7	0.473	12.0	69	153	52032540
0046623	12	0.634	16.1	117	272	52032560
0046625	18	0.741	18.8	175	381	52032560
0046626	25	0.902	22.9	242	562	52032570
14 AWG (2.5 mm²)						
0046628	2	0.378	9.6	33	91	52032525
0046629	3	0.402	10.2	49	111	52032525
00466303	4	0.437	11.1	65	137	52032540
00466313	5	0.481	12.2	81	167	52032540
12 AWG (4 mm²)						
0046633	3	0.453	11.5	78	165	52032540
00466343	4	0.496	12.6	104	206	52032540
00466353	5	0.559	14.2	130	261	52032560
10 AWG (6 mm²)						
0046636	3	0.587	14.9	116	246	52032560
00466373	4	0.646	16.4	155	308	52032560
00466383	5	0.709	18.0	194	378	52032560

ÖLFLEX® HEAT 180 C MS

Part number	Number of conductors incl. ground*	Nominal outer diameter		Copper weight	Approx. weight	SKINDICHT® CN
		in	mm	lbs/mft	lbs/mft	PG thread
20 AWG (0.5 mm²)						
0046701	3	0.339	8.6	30	67	52032520
0046702	4	0.366	9.3	38	82	52032525
0046703	5	0.394	10.0	41	92	52032525
18 AWG (1 mm²)						
0046708	2	0.355	9.0	33	70	52032520
0046709	3	0.374	9.5	44	88	52032525
0046710	4	0.402	10.2	51	102	52032525
0046711	5	0.433	11.0	62	122	52032525
0046712	7	0.469	11.9	80	153	52032540
16 AWG (1.5 mm²)						
0046716	2	0.378	9.6	44	85	52032525
0046717	3	0.398	10.1	54	102	52032525
0046718	4	0.429	10.9	68	125	52032525
0046719	5	0.465	11.8	83	149	52032540
0046720	7	0.504	12.8	107	189	52032540

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® CN PG thread
0046721	12	0.666	16.9	165	290	52032560
0046723	18	0.772	19.6	233	403	52032570
0046724	25	0.942	23.9	334	560	52032570
14 AWG (2.5 mm²)						
0046728	3	0.433	11.0	78	132	52032525
0046729	4	0.469	11.9	99	164	52032540
0046730	5	0.508	12.9	120	196	52032540
12 AWG (4 mm²)						
0046734	3	0.485	12.3	112	175	52032540
0046735	4	0.528	13.4	143	218	52032540
0046736	5	0.587	14.9	173	261	52032560
10 AWG (6 mm²)						
0046740	4	0.678	17.2	204	324	52032560
0046741	5	0.737	18.7	248	390	52032560
8 AWG (10 mm²)						
0046742	4	0.898	22.8	342	539	52032570

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.

If not otherwise specified, all values relating to the product are nominal values.

Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® HEAT 180 SiHF

High temperature silicone control cable

LAPP KABEL STUTTGART ÖLFLEX® HEAT 180 SiHF

LAPP KABEL STUTTGART ÖLFLEX® HEAT 180 SiHF

ÖLFLEX® HEAT 180 SiHF is a high temperature silicone cable. It has a temperature rating of 180°C and is halogen-free.

Recommended applications

Foundries; steel mills; glass factories; furnaces; commercial baking equipment; other high-temperature applications

Approvals



Cable attributes		page 648	
OIL	OR-02	FLAME	FR-01
MOTION	FL-01	MECH.	MP-01

Construction

Conductors: finely stranded tinned copper

Insulation: silicone

Jacket: silicone; red-brown

Application advantage

- Rated for use up to 180°C and can handle rapid increases in heat
- Excellent low temperature rating of -50°C
- Halogen-free
- Fine stranding for improved flexibility

Complete the installation



SKINDICHT® CN
page 530



EPIC®
connectors
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Technical data

Minimum bend radius: 4 x cable diameter

Temperature range: -50°C to +180°C

Nominal voltage: 300/500V

Test voltage: 2000V

Conductor stranding: Class 5 fine wire

Color code:
- up to 5c: VDE 0293-308: chart 6, page 681
- 6c & higher: black with white numbers,
plus green/yellow ground

Approvals: CE & RoHS

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® CN PG thread
18 AWG (1 mm²)						
0046007	2	0.260	6.6	13	44	52032520
0046008	3	0.276	7.0	20	53	52032520
00460093	4	0.311	7.9	26	68	52032520
00460103	5	0.347	8.8	33	85	52032520
0046012	7	0.374	9.5	46	105	52032525
16 AWG (1.5 mm²)						
0046013	2	0.299	7.6	20	60	52032520
0046014	3	0.315	8.0	29	73	52032520
00460153	4	0.347	8.8	39	90	52032520
00460163	5	0.378	9.6	49	110	52032525
0046018	7	0.410	10.4	68	136	52032525
0046039	12	0.552	14.0	117	242	52032560
0046040	16	0.638	16.2	155	321	52032560
0046041	20	0.690	17.5	194	386	52032560
0046042	24	0.780	19.8	233	484	52032570
14 AWG (2.5 mm²)						
0046019	2	0.347	8.8	33	86	52032520
0046020	3	0.382	9.7	49	112	52032525
00460213	4	0.418	10.6	65	138	52032525
00460223	5	0.457	11.6	81	169	52032540
0046024	7	0.496	12.6	113	210	52032540

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter		Copper weight	Approx. weight	SKINDICHT® CN PG thread
12 AWG (4 mm²)						
0046025	2	0.426	10.8	52	132	52032525
0046026	3	0.453	11.5	78	162	52032540
00460273	4	0.496	12.6	104	202	52032540
00460283	5	0.552	14.0	130	251	52032560
0046030	7	0.615	15.6	181	327	52032560
10 AWG (6 mm²)						
0046031	2	0.489	12.4	78	180	52032540
0046032	3	0.520	13.2	117	224	52032540
00460333	4	0.579	14.7	155	286	52032560
00460343	5	0.654	16.6	194	362	52032560
0046036	7	0.733	18.6	271	474	52032560
8 AWG (10 mm²)						
00460373	4	0.764	19.4	259	475	52032570
00460453	5	0.851	21.6	323	590	52032570
6 AWG (16 mm²)						
00460383	4	0.843	21.4	413	675	52032570

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® HEAT 180 H05SS-F EWKF

High temperature tear-resistant silicone control cable

LAPP KABEL STUTTGART ÖLFLEX® HEAT 180 H05SS-F EWKF

ÖLFLEX® HEAT 180 H05SS-F EWKF is a high temperature tear-resistant silicone control cable with <HAR> approval. It has a high temperature rating of 180°C, is halogen-free, and is designed for applications where high temperatures and mechanical abuse can cause other cables to deteriorate.

Recommended applications

Foundries; steel mills; glass factories; furnaces; commercial baking equipment; other high-temperature applications with mechanical abuse

Approvals



Cable attributes		page 648	
OIL	OR-02	FLAME	FR-01
MOTION	FL-01	MECH.	MP-01

Construction

Conductors: finely stranded tinned copper

Insulation: silicone

Jacket: silicone; black

Application advantage

- Rated for use up to 180°C and can handle rapid increases in temperature
- Tear-resistant jacket
- Excellent low temperature rating of -50°C
- Halogen-free and UV resistant

Complete the installation



SKINDICHT® CN
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EPIC®
connectors
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Technical data

Minimum bend radius:	4 x cable diameter	Conductor stranding:	Class 5 fine wire
Temperature range:	-50°C to +180°C	Color code:	VDE 0293-308: chart 6, page 681
Nominal voltage:	300/500V	Approvals:	<HAR> H05SS-F CE & RoHS
Test voltage:	2000V		

Part number	Number of conductors incl. ground*	Nominal outer diameter		Copper weight	Approx. weight	SKINDICHT® CN
		in	mm	lbs/mft	lbs/mft	PG thread
18 AWG (1 mm²)						
0046904	2	0.268	6.8	13	42	52032520
0046905	3	0.284	7.2	20	54	52032520
00469063	4	0.311	7.9	26	66	52032520
00469073	5	0.347	8.8	33	81	52032520
16 AWG (1.5 mm²)						
0046908	2	0.331	8.4	20	56	52032520
0046909	3	0.351	8.9	29	69	52032520
00469103	4	0.390	9.9	39	86	52032525
00469113	5	0.429	10.9	49	103	52032525

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter		Copper weight	Approx. weight	SKINDICHT® CN
		in	mm	lbs/mft	lbs/mft	PG thread
14 AWG (2.5 mm²)						
0046912	2	0.386	9.8	33	95	52032525
0046913	3	0.410	10.4	49	106	52032525
00469143	4	0.457	11.6	65	131	52032540
00469153	5	0.508	12.9	81	162	52032540
12 AWG (4 mm²)						
0046916	3	0.485	12.3	78	161	52032540
00469173	4	0.540	13.7	104	210	52032540
10 AWG (6 mm²)						
0046919	3	0.552	14.0	117	232	52032560
00469203	4	0.615	15.6	155	303	52032560

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® HEAT 180 SiF A

High temperature single-conductor silicone cable with North American approvals

LAPP KABEL STUTTGART ÖLFLEX® HEAT 180 SiF A

LAPP KABEL STUTTGART ÖLFLEX® HEAT 180 SiF A

ÖLFLEX® HEAT 180 SiF A is a silicone single-core cable for extended temperatures with North American approvals. It has a temperature rating of 180°C and is halogen-free.

Recommended applications

Thermal and heating elements; lighting technology; switchboards and cabinets; other high-temperature appliances

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-01	MECH.	MP-01

Construction

Conductors: finely stranded tinned copper

Insulation: silicone

Application advantage

- Resistant to a multitude of oils, alcohols, and vegetable & animal fats
- Halogen-free and flame retardant

Complete the installation



SKINDICHT® CN
page 530



EPIC®
connectors
page 284

Technical data

Minimum bend radius: 6 x cable diameter

Temperature range:
- UL: -50°C to +150°C
- IEC: -50°C to +180°C

Nominal voltage:
- UL: 1000V
- IEC: 600/1000V

Test voltage: 3000V

Conductor stranding: Class 5 fine wire

Color code:

50: green/yellow*	62: gray
52: black*	64: violet
54: blue*	66: dark blue
56: brown*	68: orange
58: red*	70: yellow
60: white*	72: green

* color codes are different for 6 AWG & larger: see below

Approvals:
UL: AWM 3644
Canada: cRU AWM FT2
Additional: CE & RoHS

Part number	Nominal outer diameter		Copper weight	Approx. weight
	in	mm	lbs/mft	lbs/mft
24 AWG (0.25 mm²)				
1249..0	0.087	2.2	2	5
20 AWG (0.5 mm²)				
1249..2	0.095	2.4	3	7
19 AWG (0.75 mm²)				
1249..3	0.106	2.7	5	9
18 AWG (1 mm²)				
1249..4	0.110	2.8	6	12
16 AWG (1.5 mm²)				
1249..5	0.122	3.1	10	15
14 AWG (2.5 mm²)				
1249..6	0.138	3.5	16	22
12 AWG (4 mm²)				
1249..7	0.162	4.1	26	33
10 AWG (6 mm²)				
1249..8	0.217	5.5	39	53

Part number	Nominal outer diameter		Copper weight	Approx. weight
	in	mm	lbs/mft	lbs/mft
8 AWG (10 mm²)				
1249..9	0.299	7.6	65	89
6 AWG (16 mm²)				
1249..0*	0.331	8.4	103	129
4 AWG (25 mm²)				
1249..1*	0.386	9.8	161	194
2 AWG (35 mm²)				
1249..2*	0.429	10.9	226	259
1 AWG (50 mm²)				
1249..3*	0.532	13.5	323	375
2/0 AWG (70 mm²)				
1249..4*	0.611	15.5	452	521
3/0 AWG (95 mm²)				
1249..5*	0.690	17.5	613	675

For LAPP part number, add the double digit color code (see above) to the part number in the table, e.g.: 16 AWG green/yellow = 4726501

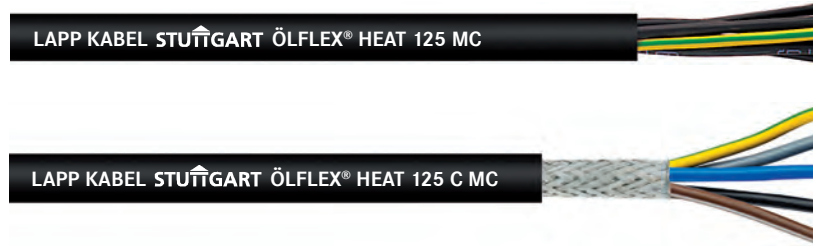
* Color codes are different for cables 6 AWG & larger: 51 – green/yellow; 53 – black; 55 – blue; 57 – brown; 59 – red; 61 – white.

Violet, dark blue, orange, yellow & green are only available up to 14 AWG; gray to 10 AWG; brown to 6 AWG; green/yellow, blue & white to 4 AWG; red to 1 AWG

If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® HEAT 125 MC/125 C MC

Highly flame retardant high temperature multi-conductor control cable



The ÖLFLEX® HEAT 125 MC series are heat resistant, highly flame retardant, halogen-free multi-conductor cables with a cross-linked polyolefin copolymer compound. Cables are available in both shielded and non-shielded versions.

Unshielded construction

Conductors: finely stranded tinned copper

Insulation: cross-linked polyolefin copolymer

Jacket: cross-linked polyolefin copolymer; black

Shielded construction

Conductors: finely stranded tinned copper

Insulation: cross-linked polyolefin copolymer

Shielding: tinned copper braid

Jacket: cross-linked polyolefin copolymer; black

Recommended applications

Lighting equipment; heating appliances; switch gear cabinets; other high-temperature and outdoor appliances

Approvals



Application advantage

- Resistant to humidity, ozone & UV
- Highly flame retardant
- Abrasion and notch resistant
- Halogen-free
- DNV-GL type-approved product

Cable attributes		page 648	
	OIL	OR-01	FLAME FR-03
	MOTION	FL-01	MECH. MP-01

Complete the installation	
	SKINDICHT® CN page 530
	EPIC® connectors page 284

Technical data

	Minimum bend radius:			Color code:	
	- for stationary use:	4 x cable diameter		- ÖLFLEX® HEAT 125 MC:	
	- shielded:	5 x cable diameter		- up to 5c:	VDE 0293-308: chart 6, page 681
				- 6c & higher:	black with white numbers, plus green/yellow ground
	Temperature range:	-55 °C to +125 °C		- ÖLFLEX® HEAT C 125 MC:	VDE 0293-308: chart 6, page 681 or
		short term up to 145 °C			black with white numbers, plus green/yellow ground
	Nominal voltage:			Approvals:	CE & RoHS
		- up to 18 AWG:			DNV-GL certified
		- 16 AWG & larger:			
	Test voltage:	4000V			
	Conductor stranding:	Class 5 fine wire			

ÖLFLEX® HEAT 125 MC

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® CN PG thread
20 AWG (0.5 mm²)						
1024300	2	0.236	6.0	6	26	52032525
1024301	3	0.248	6.3	10	31	52032525
19 AWG (0.75 mm²)						
1024307	2	0.252	6.4	10	27	52032525
1024308	3	0.268	6.8	15	36	52032525
1024309	4	0.292	7.4	19	46	52032525
1024310	5	0.327	8.3	24	58	52032525
1024311	7	0.355	9.0	34	85	52032525
18 AWG (1 mm²)						
1024315	2	0.260	6.6	13	34	52032525
1024316	3	0.276	7.0	19	45	52032525
1024317	4	0.307	7.8	26	58	52032525
1024318	5	0.339	8.6	32	72	52032525
1024319	7	0.374	9.5	45	102	52032525
1024320	12	0.504	12.8	77	149	52032540

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® CN PG thread
16 AWG (1.5 mm²)						
1024323	2	0.299	7.6	19	48	52032525
1024324	3	0.327	8.3	29	65	52032525
1024325	4	0.355	9.0	39	83	52032525
1024326	5	0.398	10.1	48	105	52032525
1024327	7	0.441	11.2	68	151	52032525
1024328	12	0.595	15.1	116	212	52032525
14 AWG (2.5 mm²)						
1024333	2	0.355	9.0	32	69	52032525
1024334	3	0.386	9.8	48	97	52032525
1024335	4	0.426	10.8	65	127	52032525
1024336	5	0.469	11.9	81	158	52032540
1024337	7	0.520	13.2	113	231	52032540
12 AWG (4 mm²)						
1024341	4	0.500	12.7	103	185	52032540
1024342	5	0.552	14.0	129	224	52032540
10 AWG (6 mm²)						
1024346	4	0.556	14.1	155	229	52032540
1024347	5	0.623	15.8	194	290	52032560

ÖLFLEX® HEAT 125 C MC

color-coded

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® CN PG thread
20 AWG (0.5 mm²)						
1024400	2	0.268	6.8	28	30	52032525
1024401	3	0.280	7.1	31	40	52032525
19 AWG (0.75 mm²)						
1024407	2	0.284	7.2	31	53	52032525
1024408	3	0.299	7.6	39	65	52032525
1024409	4	0.331	8.4	43	78	52032525
1024410	5	0.359	9.1	52	93	52032525
18 AWG (1 mm²)						
1024415	2	0.292	7.4	38	60	52032525
1024416	3	0.315	8.0	44	70	52032525
1024417	4	0.339	8.6	52	87	52032525
1024418	5	0.378	9.6	60	103	52032525
16 AWG (1.5 mm²)						
1024423	2	0.339	8.6	44	77	52032525
1024424	3	0.359	9.1	56	89	52032525
1024425	4	0.394	10.0	67	110	52032525
1024426	5	0.437	11.1	84	134	52032525
14 AWG (2.5 mm²)						
1024433	2	0.394	10.0	75	106	52032525
1024434	3	0.422	10.7	98	133	52032525
1024435	4	0.457	11.6	112	159	52032525
1024436	5	0.508	12.9	134	193	52032540
12 AWG (4 mm²)						
1024441	4	0.540	13.7	159	213	52032540
10 AWG (6 mm²)						
1024446	4	0.595	15.1	214	271	52032560
8 AWG (10 mm²)						
1024451	4	0.760	19.3	375	450	52032560

* 2c cable does not include ground

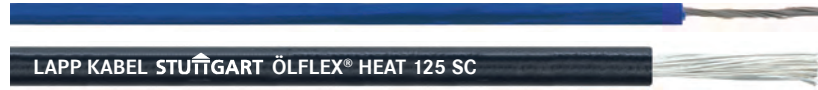
black with white numbers

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® CN PG thread
19 AWG (0.75 mm²)						
1024480	2*	0.284	7.2	31	53	52032525
1024481	3*	0.299	7.6	39	65	52032525
1024482	4*	0.331	8.4	43	78	52032525
1024411	7	0.394	10.0	69	125	52032525
1024483	7*	0.394	10.0	69	125	52032525
1024412	12	0.528	13.4	119	147	52032540
18 AWG (1 mm²)						
1024484	2*	0.292	7.4	38	60	52032525
1024485	3*	0.315	8.0	44	70	52032525
1024419	7	0.406	10.3	76	142	52032525
1024420	12	0.552	14.0	126	179	52032540
16 AWG (1.5 mm²)						
1024486	2*	0.339	8.6	44	77	52032525
1024487	4*	0.394	10.0	67	110	52032525
1024427	7	0.473	12.0	100	183	52032540
1024488	7*	0.473	12.0	100	183	52032540
1024428	12	0.642	16.3	121	249	52032560
14 AWG (2.5 mm²)						
1024489	3*	0.422	10.7	98	133	52032525
1024490	4*	0.457	11.6	112	159	52032525
1024437	7	0.567	14.4	194	259	52032540
1024438	12	0.760	19.3	321	382	52032560

* Cable does not include ground

ÖLFLEX® HEAT 125 SC

Highly flame retardant high temperature single-conductor cable



ÖLFLEX® HEAT 125 SC are heat-resistant halogen-free single conductors, insulated with a cross-linked LSZH polyolefin copolymer compound with excellent fire characteristics and a wide temperature range.

Recommended applications

Internal wiring of lamps; heating appliances; switchboards and cabinets; other high temperature appliances

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-03
MOTION	FL-01	MECH.	MP-01

Construction

Conductors: finely stranded tinned copper

Insulation: cross-linked polyolefin copolymer

Application advantage

- Highly flame retardant
- Halogen-free
- Minimizes damage to equipment caused by the formation of toxic acid fumes in fires
- Abrasion and notch-resistant
- DNV-GL type-approved product

Complete the installation



SKINDICHT® CN
page 530



EPIC®
connectors
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Technical data

Minimum bend radius: 4 x cable diameter

Temperature range: -55°C to +125°C
- short term: up to 145°C

Nominal voltage:
- H05Z-K: 300/500V
- H07Z-K: 450/750V

Test voltage: 3500V

Conductor stranding: Class 5 fine wire

Color code:

000: green/yellow	007: violet
001: black	009: orange
002: blue	104: red
003: brown	105: white
005: yellow	106: grey
006: green	114: dark blue

Approvals: H05Z-K & H07Z-K acc. to
EN 50525-3-41
CE & RoHS
DNV-GL certified

Part number	Standard	Nominal outer diameter		Copper weight	Approx. weight
		in	mm	lbs/mft	lbs/mft
H05Z-K					
20 AWG (0.5 mm²)					
1232..	H05Z-K	0.087	2.2	3	5
19 AWG (0.75 mm²)					
1233..	H05Z-K	0.095	2.4	11	7
18 AWG (1 mm²)					
1234..	H05Z-K	0.099	2.5	6	9
H07Z-K					
16 AWG (1.5 mm²)					
1235..	H07Z-K	0.118	3.0	10	14
14 AWG (2.5 mm²)					
1236..	H07Z-K	0.142	3.6	16	22
12 AWG (4 mm²)					
1237..	H07Z-K	0.169	4.3	26	33
10 AWG (6 mm²)					
1238..	H07Z-K	0.189	4.8	39	45
8 AWG (10 mm²)					
1239..	H07Z-K	0.244	6.2	65	75
6 AWG (16 mm²)					
1240..	H07Z-K	0.284	7.2	103	116

Part number	Standard	Nominal outer diameter inmm		Copper weight lbs/mft	Approx. weight lbs/mft
4 AWG (25 mm²)					
1241..	H07Z-K	0.351	8.9	161	176
2 AWG (35 mm²)					
1242..	H07Z-K	0.398	10.1	226	243
1 AWG (50 mm²)					
1243..	H07Z-K	0.493	12.5	226	243
2/0 AWG (70 mm²)					
1244..	H07Z-K	0.559	14.2	452	477
3/0 AWG (95 mm²)					
1245..	H07Z-K	0.654	16.6	613	630
4/0 AWG (120 mm²)					
1246..	H07Z-K	0.717	18.2	774	779
250 KCMIL (150 mm²)					
1247..	H07Z-K	0.812	20.6	968	972
350 KCMIL (185 mm²)					
1248..	H07Z-K	0.887	22.5	1193	1203
450 KCMIL (240 mm²)					
1249..	H07Z-K	1.040	26.4	1548	1558

For LAPP part number, add the double digit color code (see above) to the part number in the table, e.g.: 16 AWG H07Z-K green/yellow = 12350000

Violet, yellow & green are only available up to 14 AWG; white to 12 AWG; orange to 12 AWG (but not 18 AWG); grey & dark blue to 10 AWG; brown to 8 AWG; blue to 6 AWG; green/yellow to 2/0 AWG and 250 KCMIL

If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

96 Quick select chart

VFD cable

- 98 **ÖLFLEX® VFD 2XL**
Flexible VFD cable; 600V/1000V/2000V; UL & c(UL) TC-ER approval
- 99 **ÖLFLEX® VFD 2XL SYMMETRICAL** 
Symmetrical 2kV motor supply cable for large HP VFD drives; UL & c(UL) TC approval
- 100 **ÖLFLEX® VFD 2XL with Signal**
Flexible VFD cable with a control pair; 600V/1000V/2000V; UL & c(UL) TC-ER approval
- 101 **ÖLFLEX® VFD SLIM**
Reduced-diameter VFD cable; 600V/1000V; UL & c(UL) TC-ER approval
- 102 **ÖLFLEX® VFD with Signal**
Flexible VFD cable with a control pair; 600V/1000V; UL & c(UL) TC-ER approval
- 103 **ÖLFLEX® FD VFD**
Continuous flex VFD cable; 600V/1000V; UL & c(UL) TC-ER approval
- 104 **ÖLFLEX® SDP TC**
Severe duty power cable; bus drop cable; 600V/1000V; UL & c(UL) TC approval

Servo & VFD cable

- 105 **ÖLFLEX® SERVO 9YSLCY-JB**
Flexible low capacitance, double-shielded, large-gauge motor cable for servo & VFD applications
- 106 **ÖLFLEX® SERVO 2YSLCY-JB**
Flexible low capacitance, double-shielded, large-gauge motor cable for servo & VFD applications

Servo cable

- 107 **ÖLFLEX® SERVO 719/719 CY** 
Flexible servo cable for stationary applications; unshielded & shielded
- 109 **ÖLFLEX® SERVO 7TCE** 
Flexible tray-rated servo cable; 600/1000V; UL TC-ER approval
- 111 **ÖLFLEX® SERVO FD 7TCE** 
Continuous flex tray-rated servo cable; 600/1000V; UL TC approval
- 113 **ÖLFLEX® SERVO FD 796 CP**
High-acceleration continuous flex servo cable with PUR jacket; shielded
- 115 **ÖLFLEX® SERVO FD 798 CP**
High-acceleration continuous flex encoder & resolver cable
- 117 **ÖLFLEX® SERVO FD 7DSL**
Continuous flex hybrid cable: one connection between drive, motor & feedback systems
- 118 **ÖLFLEX® SERVO 7DSL**
Flexible hybrid cable: one connection between drive, motor & feedback system
- 119 **Servo cable according to SIEMENS® standard 6FX 8PLUS**
Continuous flex servo cable with PUR jacket; shielded
- 121 **Servo cable according to SIEMENS® standard 6FX 5008**
Flexible servo cable for stationary applications
- 123 **Servo cable according to INDRAMAT® standard INK**
Continuous flex servo cable with PUR jacket; shielded

Quick select chart

Product name	AWG range	Jacket material	Nominal voltage	Stationary temperature range		
				low	high	
VFD cable						
ÖLFLEX® VFD 2XL	16 - 2 AWG	TPE	600/2000V	-40°C	+105°C	
ÖLFLEX® VFD 2XL SYMMETRICAL	1 AWG - 500 KCMIL	TPE	600/2000V	-40°C	+105°C	
ÖLFLEX® VFD 2XL with Signal	16 - 2 AWG	TPE	600/2000V	-40°C	+105°C	
ÖLFLEX® VFD SLIM	18 - 2 AWG	PVC	600/1000V	-40°C	+105°C	
ÖLFLEX® VFD with Signal	16 - 4 AWG	PVC	600/1000V	-40°C	+105°C	
ÖLFLEX® FD VFD	14 - 10 AWG	PVC	600/1000V	-40°C cont. flex: -5°C	+105°C cont. flex: +90°C	
ÖLFLEX® SDP TC	14 - 1 AWG	TPE	600/1000V	-40°C	+105°C	

Product name	AWG range		Application	Jacket		
	power	signal pairs		material	color	
Servo & VFD cable						
ÖLFLEX® SERVO 9YSLCY-JB	1 AWG - 450 KCMIL	—	power	PVC	transparent, black	
ÖLFLEX® SERVO 2YSLCY-JB	1 AWG - 350 KCMIL	—	power	PVC	transparent, black	
Servo cable						
ÖLFLEX® SERVO 719/719 CY	19 - 1 AWG	22 - 16 AWG	power	PVC	orange	
ÖLFLEX® SERVO 7TCE	18 - 10 AWG	18 - 16 AWG	power	TPE	orange	
ÖLFLEX® SERVO FD 7TCE	18 - 10 AWG	18 - 16 AWG	power	TPE	orange	
ÖLFLEX® SERVO FD 796 CP	16 - 1 AWG	19 - 14 AWG	power	PUR	orange	
ÖLFLEX® SERVO FD 798 CP	26 - 18 AWG	—	feedback	PUR	green	
ÖLFLEX® SERVO FD 7DSL	16 - 12 AWG	22 or 18 AWG	power & feedback	PUR	orange	
ÖLFLEX® SERVO 7DSL	16 - 12 AWG	22 or 18 AWG	power & feedback	PVC	orange	
Servo cable according to SIEMENS® standard 6FX 8PLUS	16 - 1 AWG	26 - 16 AWG	power & feedback	PUR	orange, green	
Servo cable according to SIEMENS® standard 6FX 5008	16 - 1 AWG	16 AWG	power & feedback	PVC	orange, green	
Servo cable according to INDRAMAT® standard INK	19 - 4 AWG	19 - 16 AWG	power & feedback	PUR	orange	

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	Nominal voltage	Temperature range			ÖLFLEX® CONNECT SERVO	Approvals	Page
		stationary	flexible	high (IEC)			
	1000V	-40°C to +80°C	-5°C to +80°C	+80°C	no		105
	1000V	-40°C to +70°C	-5°C to +70°C	+70°C	no		106
	600/1000V	-40°C to +80°C	-5°C to +80°C	+80°C	yes		107
	600/1000V	-40°C to +105°C	-25°C to +90°C	—	yes		109
	600/1000V	-40°C to +105°C	-25°C to +90°C	—	yes		111
	600/1000V	-50°C to +80°C	-40°C to +80°C (continuous flex)	+90°C	yes		113
	30V	-50°C to +80°C	-40°C to +80°C (continuous flex)	+90°C	yes		115
	600/1000V	-50°C to +80°C	-40°C to +80°C (continuous flex)	+90°C	yes		117
	600/1000V	-40°C to +80°C	-5°C to +80°C	+80°C	yes		118
	power/control: 1000V signal: 30V	-50°C to +80°C	-20°C to +60°C (continuous flex)	+80°C/60°C	yes		119
	power/control: 1000V signal: 30V	-20°C to +80°C	0°C to +60°C	+80°C/60°C	yes		121
	power/control: 1000V signal: 300V	-50°C to +80°C	-30°C to +80°C (continuous flex)	+80°C	yes		123

ÖLFLEX® VFD 2XL

Flexible VFD cable; 600V/1000V/2000V; UL & c(UL) TC-ER approval



ÖLFLEX® VFD 2XL is a robust oil- and UV-resistant shielded motor cable for VFD drives. The XLPE (plus) insulation with enhanced electrical properties can withstand twice the dielectric voltage test, provides extended performance, and is suitable for 2kV applications.

Recommended applications

VFD drive and motor connections; pumps; compressors; conveyors; elevators; extruders; presses; HVAC; on/off, slow down/speed up applications

Approvals



Cable attributes		page 648	
OIL	OR-03	FLAME	FR-03
MOTION	FL-01	MECH.	MP-03

Construction

Conductors: finely stranded tinned copper

Insulation: XLPE (plus)

Shielding: barrier tape; triple layer foil tape (100% coverage); tinned copper braid (85% coverage); tinned copper drain wire

Jacket: specially formulated thermoplastic elastomer (TPE); black

Application advantage

- One cable for applications up to 2kV
- Low capacitance design
- Industrial grade phthalate-free jacket designed for harsh environments
- UL TC-ER & c(UL) CIC/TC approved
- Reduces space and weight in tray
- No conduit required due to TC-ER rating

Complete the installation



Technical data

Minimum bend radius:	7.5 x cable diameter	Color code:	black with white numbers, plus green/yellow ground
Temperature range:	- UL/CSA TC: -25°C to +90°C - for stationary use: -40°C to +105°C - for flexible use: -25°C to +105°C	Approvals:	- UL: TC-ER per UL 1277 - Attributes: UL Oil Res I/II 90°C wet or dry -40°C cold bend; -25°C cold impact sunlight resistant direct burial NFPA 79 - NEC: Class 1 Division 2 per NEC Article 501 - Canada: c(UL) CIC/TC FT4 cRU AWM I/II A/B FT4 - Additional: CE (50V - 1kV) & RoHS
Nominal voltage:	- UL TC: 600V/2000V - UL Flexible Motor Supply: 1000V - c(UL) CIC/TC: 600V - cRU AWM: 1000V		
Test voltage:	6000V		
Conductor stranding:	- 16 - 6 AWG: Class 5 fine wire - 4 - 2 AWG: Class K fine wire		

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread	SKINTOP® MS-M BRUSH metric thread
16 AWG (1.5 mm²)							
700700	4 + drain	0.509	12.9	70	160	53112240	53112676
14 AWG (2.5 mm²)							
700701	4 + drain	0.582	14.8	100	196	53112250	53112676
12 AWG (4 mm²)							
700702	4 + drain	0.656	16.7	144	258	53112250	53112677
10 AWG (6 mm²)							
700703	4 + drain	0.707	18.0	199	320	53112260	53112677

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread	SKINTOP® MS-M BRUSH metric thread
8 AWG (10 mm²)						
700704	4 + drain	0.887	22.5	298	575	53112260 53112678
6 AWG (16 mm²)						
700705	4	1.022	25.9	518	885	53112270 53112678
4 AWG (21 mm²)						
700706	4	1.158	29.4	642	1055	53112270 53112679
2 AWG (33.7 mm²)						
700707	4	1.332	33.8	980	1460	— 53112679

ÖLFLEX® VFD 2XL SYMMETRICAL

Symmetrical 2kV motor supply cable for large HP VFD drives; UL & c(UL) TC approval



LAPP KABEL STUTTGART ÖLFLEX® VFD SYMMETRICAL



ÖLFLEX® VFD 2XL SYMMETRICAL is a robust oil- & UV-resistant large AWG 2kV VFD cable designed with three symmetrical grounds and a helical copper tape shield. It is resistant to a wide range of disinfecting solutions used in the food, beverage, chemical and related industries.

Recommended applications

VFD drive & motor connections for large HP applications; pumps; compressors; conveyors; elevators; extruders; HVAC; large presses; on/off, slow down/speed up applications

Approvals



Cable attributes		page 648
OIL	OR-03	FLAME FR-03
MOTION	FL-01	MECH. MP-03

Complete the installation



SKINTOP®
MS-M BRUSH
page 524

Construction

Conductors: bare stranded copper

Insulation: XLPE (plus) + 3 bare stranded copper grounds

Shielding: helical copper tape (100% coverage)

Jacket: specially formulated thermoplastic elastomer (TPE); black

Application advantage

- 100% copper tape shield for EMI & RFI protection
- Low capacitance design
- UL TC-ER & c(UL) CIC/TC approved (CIC/TC approval depending on AWG)
- 3 ground design for optimal electrical performance
- Industrial grade phthalate-free jacket designed for harsh environments
- Flexible for easier routing
- Resistant to a wide range of disinfecting solutions used in the food, beverage, chemical and related industries, according to ECOLAB® PM 40-1 test procedure

Technical data

Minimum bend radius:	15 x cable diameter	Conductor stranding:	Class B stranded wire
Temperature range:		Color code:	black with white numbers: 1, 2, 3, plus 3 bare symmetrical grounds
	- UL/CSA TC: -25°C to +90°C	Approvals:	UL: TC-ER per UL 1277 WTTC per UL 2277
	- for stationary use: -40°C to +105°C		Attributes: UL Oil Res I/II 90°C wet or dry -40°C cold bend; -25°C cold impact sunlight resistant direct burial NFPA 79
	- for flexible use: -25°C to +105°C		NEC: Class 1 Division 2 per NEC Article 501
Nominal voltage:			Canada: c(UL) CIC/TC FT4 (1-4/0 AWG only) cRU AWM I/II A/B FT4
	- UL TC: 600/2000V		Additional: CE (50V-1kV) & RoHS
	- UL WTTC: 1000V		
	- UL Flexible Motor Supply: 1000V		
	- c(UL) CIC/TC: 600V		
	- cRU AWM: 1000V		
Test voltage:	6000V		

Part number	3 symmetrical grounds	Nominal outer diameter in	mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-M BRUSH metric thread
1 AWG (42.4 mm²)						
700720	8 AWG	1.328	33.7	1024	1427	53112679
1/0 AWG (53.7 mm²)						
700721	6 AWG	1.396	35.5	1332	1836	53112680
2/0 AWG (67.5 mm²)						
700722	6 AWG	1.502	38.2	1592	2137	53112680
3/0 AWG (85.1 mm²)						
700723	5 AWG	1.616	41.0	1995	2609	53112680

Part number	3 symmetrical grounds	Nominal outer diameter in	mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-M BRUSH metric thread
4/0 AWG (107.2 mm²)						
700724	4 AWG	1.801	45.7	2485	3254	53112681
250 KCMIL (126.7 mm²)						
700725	2 AWG	1.996	50.7	3099	3988	53112681
350 KCMIL (177.6 mm²)						
700726	2 AWG	2.229	56.6	4051	5106	53112501
500 KCMIL (253.7 mm²)						
700727	1 AWG	2.468	62.7	5641	6886	53112500

ECOLAB® is a registered trademark of Ecolab, Inc.

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.

If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® VFD 2XL with Signal

Flexible VFD cable with a control pair; 600V/1000V/2000V; UL & c(UL) TC-ER approval

LAPP KABEL STUTTGART ÖLFLEX® VFD 2XL with Signal



ÖLFLEX® VFD 2XL with Signal is a robust oil- and UV-resistant shielded motor cable for VFD drives, with a pair for brake or temperature sensor. The XLPE (plus) insulation with enhanced electrical properties can withstand twice the dielectric voltage test, provides extended performance, and is suitable for 2kV applications.

Recommended applications

VFD drive and motor connections; pumps; compressors; conveyors; elevators; extruders; presses; HVAC; on/off, slow down/speed up applications

Approvals



Cable attributes page 648

	OIL	OR-03		FLAME	FR-03
	MOTION	FL-01		MECH.	MP-03

Construction

Conductors: finely stranded tinned copper

Insulation: XLPE (plus)

Shielding: barrier tape; triple layer foil tape (100% coverage); tinned copper braid (85% coverage)

Jacket: specially formulated thermoplastic elastomer (TPE); black

Application Advantage

- One cable for applications up to 2kV
- Low capacitance design
- Industrial grade phthalate-free jacket designed for harsh environments
- UL TC-ER & c(UL) CIC/TC approved
- Reduces space and weight in tray
- No conduit required due to TC-ER rating

Complete the installation



SKINTOP®
MS-SC
page 522



EPIC®
ULTRA HB
page 404

Technical data

Minimum bend radius: 7.5 x cable diameter

Temperature range:
 - UL/CSA TC: -25°C to +90°C
 - for stationary use: -40°C to +105°C
 - for flexible use: -25°C to +105°C

Nominal voltage:
 - UL TC: 600V/2000V
 - UL Flexible Motor Supply: 1000V
 - c(UL) CIC/TC: 600V
 - cRU AWM: 1000V

Test voltage: 6000V

Conductor stranding:
 - 16 - 6 AWG: Class 5 fine wire
 - 4 - 2 AWG: Class K fine wire

Color code: black with white numbers, plus green/yellow ground and one black pair with white numbers

Approvals:
 UL: TC-ER per UL 1277
 Attributes: UL Oil Res I/II
 90°C wet or dry
 -40°C cold bend; -25°C cold impact
 sunlight resistant
 direct burial
 NFPA 79
 NEC: Class 1 Division 2 per NEC Article 501
 Canada: c(UL) CIC/TC FT4
 cRU AWM I/II A/B FT4
 Additional: CE (50V - 1kV) & RoHS

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread	SKINTOP® MS-M BRUSH metric thread
16 AWG (1.5 mm²)							
700710	4 + (18 AWG)	0.652	16.6	91	200	53112250	53112677
14 AWG (2.5 mm²)							
700711	4 + (18 AWG)	0.687	17.4	132	252	53112250	53112677
12 AWG (4 mm²)							
700712	4 + (18 AWG)	0.752	19.1	160	294	53112260	53112677
10 AWG (6 mm²)							
700713	4 + (18 AWG)	0.798	20.3	215	354	53112260	53112677

() = shielded pair

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread	SKINTOP® MS-M BRUSH metric thread
8 AWG (10 mm²)							
700714	4 + (14 AWG)	0.986	25.0	334	690	53112270	53112678
6 AWG (16 mm²)							
700715	4 + (14 AWG)	1.112	28.2	504	905	53112270	53112679
4 AWG (21 mm²)							
700716	4 + (14 AWG)	1.259	32.0	667	1125	—	53112679
2 AWG (33.7 mm²)							
700717	4 + (14 AWG)	1.403	35.6	1027	1580	—	53112680

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ÖLFLEX® VFD SLIM

Reduced-diameter VFD cable; 600V/1000V; UL & c(UL) TC-ER approval

LAPP KABEL STUTTGART ÖLFLEX® VFD SLIM

ÖLFLEX® VFD SLIM is a reduced-diameter shielded motor cable for VFD drives. It is designed with the LAPP Surge Guard insulation system, which includes a semiconductive layer made to withstand nonlinear power distortions associated with VFD drives and to disperse increases in voltage caused by wave reflection, spikes, in-rush current, and harmonics. It is resistant to a wide range of disinfecting solutions used in the food, beverage, chemical and related industries.

Recommended applications

VFD drive and motor applications; web presses; HVAC; conveyors; on/off, slow down/speed up applications

Approvals



Cable attributes		page 648	
OIL	OR-03	FLAME	FR-03
MOTION	FL-01	MECH.	MP-03

Construction

Conductors: finely stranded tinned copper

Insulation: LAPP Surge Guard insulation system

Shielding: barrier tape; triple layer foil tape (100% coverage); tinned copper braid (85% coverage)

Jacket: specially formulated thermoplastic polymer; black

Application Advantage

- LAPP Surge Guard insulation protection
- UL TC-ER & c(UL) CIC/TC approved
- Double shielded for extra protection
- Resistant to a wide range of disinfecting solutions used in the food, beverage, chemical and related industries, according to ECOLAB® PM 40-1 test procedure

Complete the installation



SKINTOP®
MS-SC
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EPIC®
ULTRA HB
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Technical data

Minimum bend radius:	7.5 x cable diameter	Color code:	black with white numbers, plus green/yellow ground
Temperature range:		Approvals:	UL: TC-ER per UL 1277 MTW per UL 1063 WTTC per UL 2277 AWM 20886 Attributes: UL Oil Res I/II 75°C wet; 90°C dry -40°C cold bend; -25° cold impact sunlight resistant Submersible pump (14 AWG & larger) direct burial NFPA 79 NEC: Class 1 Division 2 per NEC Article 501 Canada: c(UL) CIC/TC FT4 CSA AWM I/II A/B 1000V FT4 Additional: MSHA P-07KA050013-MSHA CE & RoHS
Nominal voltage:	- UL/CSA TC: 600V - UL WTTC: 1000V - UL Flexible Motor Supply: 1000V - UL/CSA AWM: 1000V		
Test voltage:	2000V		
Peak voltage:	7500V		
Conductor stranding:	- 18 - 6 AWG: Class 5 fine wire* - 4 - 2 AWG: Class K fine wire * 18 AWG meets only Class 5 cross section and DC resistance		

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread	SKINTOP® MS-M BRUSH metric thread	
18 AWG (1 mm²)							
761804	4	0.394	10.0	53	112	53112230	—
16 AWG (1.5 mm²)							
761604	4 + drain	0.465	11.8	73	154	53112240	53112676
14 AWG (2.5 mm²)							
761404	4	0.514	13.1	100	194	53112240	53112676
12 AWG (4 mm²)							
761204	4	0.583	14.8	139	254	53112250	53112676
10 AWG (6 mm²)							
761004	4	0.697	17.7	195	346	53112260	53112677

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread	SKINTOP® MS-M BRUSH metric thread
8 AWG (10 mm²)							
760804	4	0.829	21.1	326	596	53112260	53112678
6 AWG (16 mm²)							
760604	4	1.002	25.5	494	785	53112270	53112678
4 AWG (21 mm²)							
760404	4	1.186	30.1	648	965	53112270	53112679
2 AWG (33.7 mm²)							
760204	4	1.395	35.4	985	1339	—	53112680

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ÖLFLEX® VFD with Signal

Flexible VFD cable with a control pair; 600V/1000V; UL & c(UL) TC-ER approval

LAPP KABEL STUTTGART ÖLFLEX® VFD with Signal



ÖLFLEX® VFD with Signal is an extremely oil- and UV-resistant shielded motor power cable for VFD drives, with an additional pair for brake or temperature sensor. It is designed with LAPP Surge Guard insulation, which includes a semiconductive layer made to withstand nonlinear power distortions associated with VFD drives and to disperse increases in voltage. It is resistant to a wide range of disinfecting solutions used in the food, beverage, chemical and related industries.

Recommended applications

VFD drive and motor connections with temperature sensors or brake mechanisms; web presses; HVAC; on/off, slow down/speed up applications

Approvals



Cable attributes page 648

OIL	OR-03	FLAME	FR-03
MOTION	FL-01	MECH.	MP-03

Construction

Conductors: finely stranded tinned copper

Insulation: LAPP Surge Guard insulation system

Shielding: barrier tape; triple layer foil tape (100% coverage); tinned copper braid (85% coverage)

Jacket: specially formulated thermoplastic polymer; black

Application advantage

- LAPP Surge Guard insulation system
- UL TC-ER & c(UL) CIC TC approved
- Double-shielded for extra protection
- Contains pair for brake or temperature sensor
- Resistant to a wide range of disinfecting solutions used in the food, beverage, chemical and related industries, according to ECOLAB® PM 40-1 test procedure

Complete the installation



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MS-SC
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ULTRA HB
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Technical data

Minimum bend radius:	7.5 x cable diameter	Color code:	black with white numbers, plus green/yellow ground and one black pair with white numbers
Temperature range:		Approvals:	
- UL/CSA TC:	-25°C to +90°C	UL:	TC-ER per UL 1277
- for stationary use:	-40°C to +105°C		MTW per UL 1063
- for flexible use:	-25°C to +105°C		WTTC per UL 2277
Nominal voltage:			AWM 20886
- UL/CSA TC:	600V	Attributes:	UL Oil Res I/II
- UL WTTC:	1000V		75°C wet; 90°C dry
- UL Flexible Motor Supply:	1000V		-40°C cold bend; -25°C cold impact
- UL/CSA AWM:	1000V		sunlight resistant
Test voltage:	2000V	NEC:	Class 1 Division 2 per NEC Article 501
Peak voltage:	7500V	Canada:	c(UL) CIC/TC FT4
Conductor stranding:		Additional:	CSA AWM I/II A/B 1000V FT4
- 16-6 AWG:	Class 5 fine wire		MSHA P-07-KA050011-MSHA
- 4 AWG:	Class K fine wire		CE & RoHS

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread	SKINTOP® MS-M BRUSH metric thread
16 AWG (1.5 mm²)							
7416048	4 + (18 AWG)	0.519	13.2	88	180	53112240	53112676
14 AWG (2.5 mm²)							
7414048	4 + (18 AWG)	0.573	14.6	118	216	53112250	53112676
7414044	4 + (14 AWG)	0.600	15.2	141	254	53112250	53112676
12 AWG (4 mm²)							
7412048	4 + (18 AWG)	0.632	16.1	162	286	53112250	53112677
7412044	4 + (14 AWG)	0.662	16.8	187	326	53112250	53112677

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread	SKINTOP® MS-M BRUSH metric thread
10 AWG (6 mm²)							
7410044	4 + (14 AWG)	0.745	18.9	260	406	53112260	53112677
8 AWG (10 mm²)							
7408044	4 + (14 AWG)	0.896	22.8	375	617	53112260	53112678
6 AWG (16 mm²)							
7406044	4 + (14 AWG)	1.026	26.1	472	848	53112270	53112678
4 AWG (21 mm²)							
7404044	4 + (14 AWG)	1.324	33.6	643	1251	—	53112679

() = shielded pair

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ÖLFLEX® FD VFD

Continuous flex VFD cable; 600V/1000V; UL & c(UL) TC-ER approval

LAPP KABEL STUTTGART ÖLFLEX® FD VFD

ÖLFLEX® FD VFD is a shielded continuous flex motor supply cable. It is designed with the LAPP Surge Guard insulation system, which includes a semiconductive layer made to withstand nonlinear power distortions associated with VFD drives in industrial applications. It is resistant to a wide range of disinfecting solutions used in the food, beverage, chemical and related industries. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

VFD drives and motor connections in continuous flex applications; plastic extrusion; on/off, slow down/speed up applications

Approvals



Cable attributes		page 648	
OIL	OR-03	FLAME	FR-03
MOTION	CF-02	MECH.	MP-03

Construction

Conductors: finely stranded bare copper

Insulation: LAPP Surge Guard insulation system

Shielding: barrier tape; triple layer foil tape (100% coverage); tinned copper braid (85% coverage)

Lacket: specially formulated thermoplastic polymer; black

Application advantage

- Continuous flex rated for cable chain applications
- Double-shielded for extra protection
- UL TC-ER & c(UL) CIC/TC approval
- Resistant to a wide range of disinfecting solutions used in the food, beverage, chemical and related industries, according to ECOLAB® PM 40-1 test procedure

Complete the installation



SKINTOP®
MS-SC
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EPIC®
ULTRA HB
page 404

Technical data

	Minimum bend radius:		Color code:	black with white numbers, plus green/yellow ground
	- for flexible use:	5 x cable diameter		
	- for continuous flexing:	7.5 x cable diameter		
	Temperature range:			Approvals:
	- for continuous flexing:	-5°C to +90°C		
	- for stationary use:	-40°C to +105°C		UL: TC-ER per UL 1277
	- UL/CSA:	-25°C to +90°C		MTW per UL 1063
	Nominal voltage:			WTTC per UL 2277
	- UL/CSA TC:	600V		AWM 20886
	- UL WTTC:	1000V		Attributes: UL Oil Res I/II
	- UL Flexible Motor Supply:	1000V		75°C wet; 90°C dry
	- UL/CSA AWM:	1000V		-40°C cold bend; -25°C cold impact
	Test voltage:	2000V		sunlight resistant
	Peak voltage:	7500V		direct burial
	Conductor stranding:	Class M fine wire		NFPA 79
				NEC: Class 1 Division 2 per NEC Article 501
				Canada: c(UL) CIC/TC FT4
				CSA AWM I/II A/B 1000V FT4
				Additional: CE & RoHS

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread	SKINTOP® MS-M BRUSH metric thread
14 AWG (2.5 mm²)						
771404	4	0.500	12.7	84	133	53112240
12 AWG (4 mm²)						
771204	4	0.575	14.6	122	180	53112250

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-SC PG thread	SKINTOP® MS-M BRUSH metric thread
10 AWG (6 mm²)						
771004	4	0.690	17.5	180	271	53112260

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ÖLFLEX® SDP TC

Severe duty power cable; bus drop cable; 600V/1000V; UL & c(UL) TC approval

LAPP KABEL STUTTGART ÖLFLEX® SDP TC



ÖLFLEX® SDP TC is a motor supply cable with Bus Drop approval. It is designed with more flexible stranding and a pressure-extruded jacket, which makes routing easier. ÖLFLEX® SDP TC is also UL TC-ER and c(UL) CIC/TC approved for tray applications.

Recommended applications

Motor connections in industrial environments; automotive machinery; machine tool; food & beverage industry

Approvals



Cable attributes		page 648	
OIL	OR-03	FLAME	FR-03
MOTION	FL-01	MECH.	MP-03

Construction

Conductors: finely stranded bare copper

Insulation: specially blended PVC/nylon

Jacket: specially formulated thermoplastic elastomer (TPE); orange

Application advantage

- UL TC-ER & c(UL) CIC TC approved
- UL Oil Res I/II
- Bus Drop approval

Complete the installation



SKINTOP® strain relief
page 492



EPIC® ULTRA HB
page 404

Technical data

Minimum bend radius:	5 x cable diameter	Approvals:	UL: TC-ER per UL 1277 WTTC per UL 2277 bus drop cable AWM 20626
Temperature range:	-25°C to +90°C - for stationary use: -40°C to +105°C - for flexible use: -25°C to +90°C	Attributes:	UL Oil Res I/II 75°C wet; 90°C dry -40°C cold bend; -25°C cold impact sunlight resistant direct burial NFPA 79 bus drop approval
Nominal voltage:	- UL/CSA TC: 600V - UL WTTC: 1000V	NEC:	Class 1 Division 2 per NEC Article 501
Test voltage:	2000V	Canada:	c(UL) CIC/TC FT4 CSA AWM I/II A/B FT4
Conductor stranding:	- 14-6 AWG: Class 5 fine wire - 4-2 AWG: Class K fine wire	Additional:	CE & RoHS
Color code:	black with white numbers, plus green/yellow ground		

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	lbs/mft	lbs/mft	PG thread
14 AWG (2.5 mm²)						
781404	4	0.406	10.3	65	126	S2113
12 AWG (4 mm²)						
781204	4	0.474	12.0	104	171	S2116
10 AWG (6 mm²)						
781004	4	0.584	14.8	156	257	S2121
8 AWG (10 mm²)						
780804	4	0.708	18.0	258	427	S2129

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
6 AWG (16 mm²)						
780604	4	0.883	22.4	413	586	S2129
4 AWG (21 mm²)						
780404	4	1.093	27.8	551	871	S2136
2 AWG (33.7 mm²)						
780204	4	1.282	32.6	876	1283	S2248
1 AWG (42.3 mm²)						
780104	4	1.407	35.7	1064	3891	S2142

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ÖLFLEX® SERVO 9YSLCY-JB

Flexible low capacitance, double-shielded, large-gauge motor cable for servo & VFD applications



ÖLFLEX® SERVO 9YSLCY-JB is a highly flexible power cable for large horsepower motors and VFD drives. It has a double shield with polypropylene-insulated conductors for optimal low-loss power transmission when compared to PVC.

Recommended applications

Motor connections for large motors and drives; textile; paper; chemical; machine tool; heavy industry; conveying technology

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-01	MECH.	MP-02

Construction

Conductors: finely stranded bare copper

Insulation: polypropylene

Shielding: overall foil and tinned copper braid

Jacket: PVC; transparent or black

Application advantage

- Flexible for easier routing
- UL & CSA AWM approved
- Black-jacketed version: 3 symmetrical grounds for improved EMC performance

Complete the installation



SKINTOP®
MS-M BRUSH
page 524



EPIC®
ULTRA HB
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Technical data

Minimum bend radius:	4 x cable diameter	Color code:	VDE 0293-308: chart 6, page 681 black, brown, gray, plus 1 or 3 green/yellow ground(s)
Temperature range:	- for stationary use (UL/CSA): -40°C to +80°C - for flexible use (UL/CSA): -5°C to +80°C	Approvals:	UL: AWM 2570 Attributes: VW-1 NFPA 79 Canada: cRU AWM I/II A/B 1000V FT1 Additional: based on VDE 0276, 0250, 0207 CE & RoHS
Nominal voltage:	1000V		
Test voltage:	4000V		
Conductor stranding:	Class 5 fine wire		

three power conductors + one ground, transparent jacket

Part number	Size of ground	Nominal outer diameter in	Nominal outer diameter mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-M BRUSH metric thread
1 AWG (50 mm²)						
0037008	1 AWG	1.344	34.1	1482	1982	53112679
2/0 AWG (70 mm²)						
0037009	2/0 AWG	1.611	40.9	2017	2654	53112680
3/0 AWG (95 mm²)						
0037010	3/0 AWG	1.789	45.4	2691	3562	53112681
4/0 AWG (120 mm²)						
0037011	4/0 AWG	1.962	49.8	3433	4435	53112681
250 KCMIL (150 mm²)						
0037012	250 KCMIL	2.210	56.1	4183	4733	53112501
350 KCMIL (185 mm²)						
0037013	350 KCMIL	2.419	61.4	5086	5634	53112501
450 KCMIL (240 mm²)						
0037014	450 KCMIL	2.675	68.0	6680	8165	53112503

three power conductors + three grounds, black jacket

Part number	Size of ground	Nominal outer diameter in	Nominal outer diameter mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-M BRUSH metric thread
1 AWG (50 mm²)						
0037023	8 AWG	1.225	31.1	1449	1612	53112679
2/0 AWG (70 mm²)						
0037024	8 AWG	1.462	37.1	2003	2054	53112680
3/0 AWG (95 mm²)						
0037025	6 AWG	1.576	40.0	2656	2797	53112680
4/0 AWG (120 mm²)						
0037026	6 AWG	1.678	42.6	3250	3410	53112680
250 KCMIL (150 mm²)						
0037027	4 AWG	1.970	50.0	3637	4118	53112681
350 KCMIL (185 mm²)						
0037028	2 AWG	2.191	55.6	4756	5255	53112501

ÖLFLEX® SERVO 2YSLCY-JB

Flexible low capacitance, double-shielded, large-gauge motor cable for servo & VFD applications



ÖLFLEX® SERVO 2YSLCY-JB is a highly flexible power cable for large horsepower motors and VFD drives. It has a double shield with polyethylene-insulated conductors for optimal low-loss power transmission when compared to PVC.

Recommended applications

Motor connections for large motors and drives; textile; paper; chemical; machine tool; heavy industry; conveying technology

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-01	MECH.	MP-01

Construction

Conductors: finely stranded bare copper

Insulation: polyethylene

Shielding: overall foil and tinned copper braid

Jacket: PVC; transparent or black

Application advantage

- Flexible for easier routing
- For large power drive systems
- Black jacketed version: 3 symmetrical grounds for improved EMC performance

Complete the installation



SKINTOP®
MS-M BRUSH
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EPIC®
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Technical data

Minimum bend radius:	4 x cable diameter	Conductor stranding:	Class 5 fine wire
Temperature range:		Color code:	VDE 0293-308: chart 6, page 681 black, brown, gray, plus 1 or 3 green/yellow ground(s)
	- for stationary use: -40°C to +70°C		
	- for flexible use: -5°C to +70°C		
Nominal voltage:	1000V	Approvals:	CE & RoHS
Test voltage:	4000V		

three conductors + one ground, transparent jacket

Part number	Size of ground	Nominal outer diameter in	mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-M BRUSH metric thread
1 AWG (50 mm²)						
0036433	1 AWG	1.411	35.8	1576	1982	53112680
2/0 AWG (70 mm²)						
0036434	2/0 AWG	1.588	40.3	2148	2654	53112680
3/0 AWG (95 mm²)						
0036435	3/0 AWG	1.832	46.5	2900	3562	53112681
4/0 AWG (120 mm²)						
0036436	4/0 AWG	2.096	53.2	3652	4435	53112681
250 KCMIL (150 mm²)						
0036437	250 KCMIL	2.258	57.3	4296	4733	53112501
350 KCMIL (185 mm²)						
0036438	350 KCMIL	2.455	62.3	5132	5634	53112500

three conductors + three grounds, black jacket

Part number	Size of ground	Nominal outer diameter in	mm	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS-M BRUSH metric thread
1 AWG (50 mm²)						
0036447	8 AWG	1.284	32.6	1449	1612	53112679
2/0 AWG (70 mm²)						
0036448	6 AWG	1.434	36.4	1929	2054	53112680
3/0 AWG (95 mm²)						
0036449	6 AWG	1.655	42.0	2656	2797	53112680
4/0 AWG (120 mm²)						
0036450	6 AWG	1.883	47.8	3250	3410	53442681
250 KCMIL (150 mm²)						
0036451	4 AWG	2.033	51.6	3636	4118	53112681

If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® SERVO 719/719 CY

Flexible servo cable for stationary applications; unshielded & shielded



ÖLFLEX® SERVO 719/719 CY is a flexible, low-capacitance, oil resistant servo cable which is suitable for servo motor systems of well-known drive manufacturers. It is available with signal pairs for brake and temperature monitoring requirements. ÖLFLEX® SERVO 719 CY is a shielded version for EMI and RFI protection.

Recommended applications

Power drive systems in automation engineering; connecting cable between servo controller and motor assemblies; pick & place machinery; machine tools; transfer lines; fixed or stationary applications

Approvals



Cable attributes		page 648	
OIL	OR-02	FLAME	FR-02
MOTION	FL-02	MECH.	MP-02

Unshielded construction

Conductors: finely stranded bare copper

Insulation: polypropylene

Pairs: individually shielded control pairs, twisted together

Jacket: specially formulated PVC; black

Shielded construction

Conductors: finely stranded bare copper

Insulation: polypropylene

Pairs: individually shielded control pairs, twisted together

Shielding: tinned copper braid (85% coverage)

Jacket: specially formulated PVC; orange

Application advantage

- Replaces ÖLFLEX® SERVO 700 CY and 709 CY servo cables
- Multi-standard approval reduces part numbers and cost
- Longer cable installation lengths due to low capacitance design

Complete the installation



EPIC®
POWER LS1
page 441

Technical data

Minimum bend radius:

- for flexible use: 15 x cable diameter
- for stationary use: 6 x cable diameter

Temperature range:

- for flexible use: -5°C to +80°C
- for stationary use: -40°C to +80°C

Nominal voltage:

- UL/CSA: 1000V
- IEC U₀/U: 600/1000V

Test voltage:

4000V

Conductor stranding:

Class 5 fine wire

Color code:

- power conductors: black with white letters:
U/L1/C/L+; V/L2; W/L3/D/L-
plus green/yellow ground
- 1 pair: black & white
- 2 pair: black with white numbers: 5, 6, 7, 8
- 22 AWG pairs: white/brown, green/yellow

Approvals:

UL: AWM 2570
Attributes: NFPA 79
Canada: cRU AWM I/II A/B FT1
Additional: CE & RoHS

ÖLFLEX® SERVO 719

Part number	Conductor description			Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft	EPIC® POWER LS1* configuration
	power conductors	+	control pairs	in	mm			
Power conductors + 1 control pair								
1020060	16 AWG/4c	+	(19 AWG/1pr)	0.378	9.7	56	119	3+PE+4
1020065	16 AWG/4c	+	(16 AWG/1pr)	0.421	10.8	73	144	3+PE+4
1020061	16 AWG/5c	+	(19 AWG/1pr)	0.413	10.6	66	136	3+PE+4
1020062	16 AWG/7c	+	(19 AWG/1pr)	0.449	11.5	85	162	3+PE+4
1020063	14 AWG/4c	+	(19 AWG/1pr)	0.433	11.1	82	160	3+PE+4
1020066	14 AWG/4c	+	(16 AWG/1pr)	0.476	12.2	99	185	3+PE+4
1020064	14 AWG/7c	+	(19 AWG/1pr)	0.495	12.7	130	218	3+PE+4
1020067	12 AWG/4c	+	(16 AWG/1pr)	0.542	13.9	137	242	3+PE+4
1020068	10 AWG/4c	+	(16 AWG/1pr)	0.628	16.1	189	321	—
1020069	8 AWG/4c	+	(16 AWG/1pr)	0.710	18.2	292	439	—
Power conductors + 2 control pairs								
1020071	19 AWG/4c	+	2 x (22 AWG/1pr)	0.351	9.0	42	81	3+PE+4
1020072	16 AWG/4c	+	2 x (19 AWG/1pr)	0.452	11.6	75	136	3+PE+4
1020073	14 AWG/4c	+	2 x (18 AWG/1pr)	0.530	13.6	108	192	3+PE+4
1020074	12 AWG/4c	+	2 x (18 AWG/1pr)	0.597	15.3	146	253	3+PE+4
1020075	12 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.605	15.5	160	266	3+PE+4
1020076	10 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.679	17.4	211	344	—

() = shielded

* Check connection on motor prior to selecting EPIC® POWER LS1 connector type

ÖLFLEX® SERVO 719 CY

Part number	Conductor description			Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft	EPIC® POWER LS1* configuration
	power conductors	+	control pairs	in	mm			
4 power conductors + 0 control pairs								
1020010	16 AWG/4c	—		0.331	8.4	56	87	5+PE
1020011	14 AWG/4c	—		0.390	9.9	84	128	5+PE
1020012	12 AWG/4c	—		0.461	11.7	128	183	5+PE
1020013	10 AWG/4c	—		0.540	13.7	195	265	—
1020014	8 AWG/4c	—		0.658	16.7	304	390	—
1020015	6 AWG/4c	—		0.792	20.1	485	594	—
1020016	4 AWG/4c	—		0.957	24.3	739	906	—
1020017	2 AWG/4c	—		1.091	27.7	1040	1236	—
1020018	1 AWG/4c	—		1.328	33.7	1445	1777	—
4 power conductors + 1 control pair								
1020019	16 AWG/4c	+	(16 AWG/1pr)	0.453	11.5	98	163	3+PE+4
1020020	14 AWG/4c	+	(16 AWG/1pr)	0.508	12.9	127	206	3+PE+4
1020021	12 AWG/4c	+	(16 AWG/1pr)	0.591	15.0	182	282	3+PE+4
1020022	10 AWG/4c	+	(16 AWG/1pr)	0.670	17.0	236	355	—
1020023	8 AWG/4c	+	(16 AWG/1pr)	0.768	19.5	363	505	—
4 power conductors + 2 control pairs								
1020024	19 AWG/4c	+	2 x (22 AWG/1pr)	0.382	9.7	67	110	3+PE+4
1020025	16 AWG/4c	+	2 x (19 AWG/1pr)	0.485	12.3	101	165	3+PE+4
1020026	14 AWG/4c	+	2 x (18 AWG/1pr)	0.579	14.7	150	240	3+PE+4
1020027	12 AWG/4c	+	2 x (18 AWG/1pr)	0.646	16.4	194	304	3+PE+4
1020028	12 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.654	16.6	206	315	3+PE+4
1020029	10 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.729	18.5	283	415	—
1020030	8 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.871	22.1	395	573	—
1020031	6 AWG/4c	+	2 x (16 AWG/1pr)	0.985	25.0	589	781	—
1020032	4 AWG/4c	+	2 x (16 AWG/1pr)	1.131	28.7	825	1068	—

() = shielded

* Check connection on motor prior to selecting EPIC® POWER LS1 connector type

ÖLFLEX® SERVO 7TCE

Flexible tray-rated servo cable; 600/1000V; UL TC-ER approval



LAPP KABEL STUTTGART ÖLFLEX® SERVO 7TCE



ÖLFLEX® SERVO 7TCE is a highly flexible and oil resistant servo cable suitable for mounting either in equipment or in cable tray, eliminating the need for two different types of cable in a single run. A longer cable connection is possible between the drive and the motor due to its low-capacitance design. This one cable solution is ideal for installing power to servo motor systems.

Construction

Conductors: finely stranded bare copper

Insulation: XLPE

Pairs: one pair: shielded with foil & tinned copper braid (85% coverage) • two Pairs: individually shielded with foil, drain wire, tinned copper braid (85% coverage); twisted together

Shielding: overall tinned copper braid (85% coverage)

Jacket: specially formulated thermoplastic elastomer (TPE); orange

Recommended applications

Motor connections between servo controller and motors on industrial machinery; in tray applications and moving machine parts; assembly handling and production lines with North American and European approvals

Approvals



Application Advantage

- Tray rated cable for servo applications
- Low capacitance design
- UL TC-ER & c(UL) CIC approvals
- Oil & UV resistant; flame retardant
- Resistant to a wide range of disinfecting solutions used in the food, beverage, chemical and related industries, according to ECOLAB® PM 40-1 test procedure

Cable attributes		page 648	
OIL	OR-03	FLAME	FR-03
MOTION	FL-02	MECH.	MP-03

Complete the installation	
	EPIC® POWER LS1 page 441

ÖLFLEX® CONNECT solution	
	ÖLFLEX® CONNECT SERVO page 607

Technical data

Minimum bend radius:	6 x cable diameter	Approvals:	UL: TC-ER per UL 1277 Flexible Motor Supply 1000V
Temperature range:		Attributes:	UL Oil Res I/II -40°C cold bend; -25°C cold impact UV resistant direct burial NFA 79
	- for stationary use: -40°C to +105°C	NEC:	Class 1 Division 2 per NEC Article 501
	- UL TC: -25°C to +90°C	Canada:	c(UL) CIC FT4 (18 - 14 AWG) cRU AWM II A/B FT4
Nominal voltage:		Additional:	CE & RoHS
	- UL TC-ER: 600V		
	- UL Flexible Motor Supply: 1000V		
	- VDE U ₀ /U: 600/1000V		
Test voltage:	2000V		
Conductor stranding:	Class 5 fine wire		
Color code:			
	- power conductors: black conductors with white letters: U/L1/C/L+; V/L2; W/L3/D/L- plus green/yellow ground		
	- 1 pair: black & white		
	- 2 pair: black with white numbers: 5, 6, 7, 8		

ÖLFLEX® SERVO 7TCE

Part number	Conductor description			Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft	EPIC® POWER LS1* configuration
	power conductors	+	control pairs	in	mm			
4 power conductors								
700730	16 AWG/4c	—		0.385	9.78	59	96	5+PE
700731	14 AWG/4c	—		0.433	11.00	89	134	5+PE
700732	12 AWG/4c	—		0.504	12.80	134	192	5+PE
700733	10 AWG/4c	—		0.555	14.10	189	251	—
4 power conductors + 1 control pair								
700734	16 AWG/4c	+	(16 AWG/1pr)	0.494	12.55	99	161	3+PE+4
700735	14 AWG/4c	+	(16 AWG/1pr)	0.524	13.31	128	202	3+PE+4
700736	12 AWG/4c	+	(16 AWG/1pr)	0.620	15.75	174	290	3+PE+4
700737	10 AWG/4c	+	(16 AWG/1pr)	0.669	17.00	238	333	—
4 power conductors + 2 control pairs								
700738	18 AWG/4c	+	2 x (18 AWG/1pr)	0.520	13.21	112	186	3+PE+4
700739	16 AWG/4c	+	2 x (18 AWG/1pr)	0.547	13.89	126	211	3+PE+4
700740	14 AWG/4c	+	2 x (18 AWG/1pr)	0.610	15.49	154	260	3+PE+4
700741	12 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.669	17.00	219	327	3+PE+4
700742	10 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.712	18.08	275	386	—

() = shielded

* Check connection on motor prior to selecting EPIC® POWER LS1 connector type

ÖLFLEX® SERVO FD 7TCE

Continuous flex tray-rated servo cable; 600/1000V; UL TC-ER approval



LAPP KABEL STUTTGART ÖLFLEX® SERVO FD 7TCE



ÖLFLEX® SERVO FD 7TCE is a continuous flex and oil resistant servo cable suitable for mounting either in equipment or in cable tray, eliminating the need for two different types of cable in a single run. A longer cable connection is possible between the drive and the motor due to its low-capacitance design. This one cable solution is ideal for installing power to servo motor systems.

Recommended applications

Motor connections between servo controller and motors on industrial machinery; in tray applications and cable tracks or moving machine parts; assembly handling; production lines and robotic systems with North American and European approvals

Approvals



Construction

Conductors: finely stranded bare copper

Insulation: EPR

Pairs: one pair: shielded with foil & tinned copper braid (85% coverage) • two pairs: individually shielded with foil, drain wire, tinned copper braid (85% coverage)

Shielding: overall wrapping; overall tinned copper braid (85% coverage)

Jacket: specially formulated thermoplastic elastomer (TPE); orange

Application advantage

- Tray rated cable for servo applications
- Low capacitance design
- UL TC-ER & c(UL) CIC approvals
- Oil & UV resistant; flame retardant

Cable attributes		page 648	
OIL	OR-03	FLAME	FR-03
MOTION	CF-02	MECH.	MP-03

Complete the installation	
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ÖLFLEX® CONNECT solution	
	ÖLFLEX® CONNECT SERVO page 607

Technical data

	Minimum bend radius:			Color code:	
	- for continuous flexing:	7.5 x cable diameter		- power:	black conductors with white letters: U/L1/C/L+; V/L2; W/L3/D/L- plus green/yellow ground
	- for stationary use:	5 x cable diameter			
	Temperature range:			- 1 pair:	black & white
	- for continuous flexing:	-5°C to +90°C		- 2 pair:	black with white numbers: 5, 6, 7, 8
	- for stationary use:	-40°C to +105°C			
	- UL TC:	-25°C to +90°C		Approvals:	UL: TC-ER per UL 1277 Flexible Motor Supply 1000V
	Nominal voltage:		Attributes: UL Oil Res I/II -40°C cold bend; -25°C cold impact UV resistant direct burial NFPA 79 NEC: Class 1 Division 2 per NEC Article 501 Canada: c(UL) CIC FT4 (18 - 14 AWG) cRU AWM II A/B FT4 Additional: CE & RoHS		
	- UL TC-ER:	600V			
	- UL Flexible Motor Supply:	1000V			
	- VDE U ₀ /U:	600/1000V			
	Test voltage:	4000V			
	Conductor stranding:	Class 6 super fine wire			

ÖLFLEX® SERVO FD 7TCE

Part number	Conductor description			Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft	EPIC® POWER LS1* configuration
	power conductors	+	control pairs	in	mm			
4 power conductors								
700750	16 AWG/4c		—	0.400	10.2	61	117	5+PE
700751	14 AWG/4c		—	0.448	11.4	95	154	5+PE
700752	12 AWG/4c		—	0.514	13.1	135	214	5+PE
700753	10 AWG/4c		—	0.590	15.0	190	289	—
4 power conductors + 1 control pair								
700754	16 AWG/4c	+	(16 AWG/1pr)	0.500	12.7	97	174	3+PE+4
700755	14 AWG/4c	+	(16 AWG/1pr)	0.543	13.8	134	239	3+PE+4
700756	12 AWG/4c	+	(16 AWG/1pr)	0.635	16.1	184	300	3+PE+4
700757	10 AWG/4c	+	(16 AWG/1pr)	0.674	17.1	232	360	—
4 power conductors + 2 control pairs								
700758	18 AWG/4c	+	2 x (18 AWG/1pr)	0.523	13.3	102	188	3+PE+4
700759	16 AWG/4c	+	2 x (18 AWG/1pr)	0.584	14.8	128	238	3+PE+4
700760	14 AWG/4c	+	2 x (18 AWG/1pr)	0.625	15.9	153	275	3+PE+4
700761	12 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.705	17.9	214	352	—
700762	10 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.741	18.8	262	411	—

() = shielded

* Check connection on motor prior to selecting EPIC® POWER LS1 connector type

ÖLFLEX® SERVO FD 796 CP

High-acceleration continuous flex servo cable with PUR jacket; shielded

LAPP KABEL STUTTGART ÖLFLEX® SERVO FD 796 CP

ÖLFLEX® SERVO FD 796 CP is specially designed, manufactured, and tested by LAPP for usage in modern high-acceleration cable chain applications as well as over long travel lengths. It replaces seven ÖLFLEX® SERVO FD cables: 755 CP, 755 CP DESINA, 781 CP, 785 CP, 785 CP DESINA, 790 CP & 795 CP. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

Motor connections between servo controllers and motors on industrial machinery; in cable chains or moving machine parts; assembly handling; production lines and robotic systems with North American and European approvals

Approvals



Construction

Conductors: extra fine bare copper

Pairs: one pair: shielded with tinned copper braid; non-woven wrapping • two pairs: shielded with foil, drain wire, tinned copper braid; non-woven wrapping twisted together

Insulation: polypropylene

Shielding: overall non woven wrapping; tinned copper braid (85% coverage)

Jacket: polyurethane; orange

Application advantage

- High dynamic performance in cable chains:
 - Acceleration up to 50 m/s²
 - Travel speed up to 5 m/s
 - Travel lengths up to 100 m
- Abrasion-, cut-, and oil-resistant; halogen-free, flame-retardant, and flexible at low temperatures

Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	CF-04A	MECH.	MP-05

Complete the installation	
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ÖLFLEX® CONNECT solution	
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Technical data

Minimum bend radius: - for continuous flexing: - 16 - 6 AWG: 7.5 x cable diameter - 4 - 1 AWG: 10 x cable diameter - for stationary use: 4 x cable diameter	Conductor stranding: Class 6 super fine wire
Temperature range: - for continuous flexing: -40°C to +80°C - for stationary use: -50°C to +80°C	Color code: - power conductors: black conductors with white letters: U/L1/C/L+; V/L2; W/L3/D/L- plus green/yellow ground black & white black with white numbers: 5, 6, 7, 8
Nominal voltage: - UL/CSA: 1000V - IEC U ₀ /U: 600/1000V	Approvals: UL: AWM 20234 Attributes: NFPA 79 Canada: cRU AWM I/II A/B FT1 Additional: VDE Reg. no 8591 CE & RoHS
Test voltage: 4000V	

ÖLFLEX® SERVO FD 796 CP

Part number	Conductor description			Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft	EPIC® POWER LS1* configuration
	power conductors	+	control pairs	in	mm			
4 power conductors								
0027950	16 AWG/4c	—		0.362	9.2	53	94	5+PE
0027951	14 AWG/4c	—		0.418	10.6	87	132	5+PE
0027952	12 AWG/4c	—		0.469	11.9	125	180	5+PE
0027953	10 AWG/4c	—		0.567	14.4	199	267	—
0027954	8 AWG/4c	—		0.693	17.6	302	397	—
0027955	6 AWG/4c	—		0.867	22.0	481	642	—
0027956	4 AWG/4c	—		0.993	25.2	721	898	—
0027957	2 AWG/4c	—		1.131	28.7	995	1189	—
0027958	1 AWG/4c	—		1.316	33.4	1421	1658	—
4 power conductors + 1 control pair								
0027959	16 AWG/4c	+	(16 AWG/1pr)	0.473	12.0	91	175	3+PE+4
0027960	14 AWG/4c	+	(16 AWG/1pr)	0.544	13.8	126	214	3+PE+4
0027961	12 AWG/4c	+	(16 AWG/1pr)	0.587	14.9	158	259	3+PE+4
0027962	10 AWG/4c	+	(16 AWG/1pr)	0.670	17.0	221	327	—
0027963	8 AWG/4c	+	(16 AWG/1pr)	0.764	19.4	346	471	—
0027964	6 AWG/4c	+	(16 AWG/1pr)	0.938	23.8	509	704	—
0027965	4 AWG/4c	+	(16 AWG/1pr)	1.064	27.0	771	1030	—
0027966	2 AWG/4c	+	(16 AWG/1pr)	1.229	31.2	1034	1409	—
0027967	1 AWG/4c	+	(16 AWG/1pr)	1.367	34.7	1466	1829	—
4 power conductors + 2 control pairs								
0027969	16 AWG/4c	+	2 x (19 AWG/1pr)	0.481	12.2	107	210	3+PE+4
0027970	14 AWG/4c	+	2 x (18 AWG/1pr)	0.575	14.6	139	265	3+PE+4
0027971	12 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.642	16.3	231	326	3+PE+4
0027972	10 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.713	18.1	293	395	—
0027973	8 AWG/4c	+	(18 AWG/1pr) + (16 AWG/1pr)	0.859	21.8	410	550	—
0027974	6 AWG/4c	+	2 x (16 AWG/1pr)	1.005	25.5	538	763	—
0027975	4 AWG/4c	+	2 x (16 AWG/1pr)	1.139	28.9	798	1048	—
0027976	2 AWG/4c	+	2 x (16 AWG/1pr)	1.237	31.4	1067	1406	—
0027977	1 AWG/4c	+	2 x (14 AWG/1pr)	1.450	36.8	1718	1962	—

() = shielded

* Check connection on motor prior to selecting EPIC® POWER LS1 connector type

ÖLFLEX® SERVO FD 798 CP

High-acceleration continuous flex encoder & resolver cable

LAPP KABEL STUTTGART ÖLFLEX® SERVO FD 798 CP



ÖLFLEX® SERVO FD 798 CP is specially designed, manufactured, and tested by LAPP for usage in modern high-acceleration cable chain applications as well as over long travel lengths. It replaces four ÖLFLEX® SERVO FD encoder/resolver cables: 760 CP/CP DESINA & 770 CP/CP DESINA. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

Connecting cable between servo controller and encoder/resolver; connecting cable between servo controller and speed generators, cable chains, and machine parts; transfer lines and production lines

Approvals



Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	CF-04A	MECH.	MP-05

Complete the installation



EPIC®
SIGNAL M23
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ÖLFLEX® CONNECT solution



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Technical data

Minimum bend radius:

- for continuous flexing: 7.5 x cable diameter
- for installation: 4 x cable diameter

Temperature range:

- for stationary use: -50°C to +80°C
- for continuous flexing: -40°C to +80°C

Nominal voltage:

30V

Test voltage:

- conductor/conductor: 1500V
- conductor/shield: 750V

Conductor stranding:

extra fine wire

Color code:

see following color chart

Approvals:

UL: AWM 20236
Attributes: VW-1
Canada: CSA AWM I/II A/B FT1
Additional: RoHS
MUD acc. to IEC 61892-4 Annex D

Part number	Conductor description			Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft	EPIC® SIGNAL M23 # of contacts
	power conductors	+	control pairs	in	mm			
Power conductors + control pairs								
0036910	20 AWG/4c	+	22 AWG/4pr	0.350	8.9	53	84	12
0036911	2 x (20 AWG/1c)	+	3 x (26 AWG/1pr)	0.350	8.9	47	81	8+1
0036912	26 AWG/4c	+	3 x (26 AWG/1pr) + 20 AWG/1pr	0.346	8.8	46	74	12
0036913	26 AWG/4c + 24 AWG/4c	+	3 x (26 AWG/1pr) + 20 AWG/1pr	0.370	9.4	54	87	16
0036914	20 AWG/9c		—	0.346	8.8	48	74	9
0036915	18 AWG/2c	+	24 AWG/4pr	0.346	8.8	42	73	12
0036916	20 AWG/2c	+	24 AWG/6pr	0.406	10.3	45	81	16
0036917	26 AWG/10c	+	20 AWG/1pr	0.303	7.7	28	55	12
0036918	26 AWG/10c + 20 AWG/4c		—	0.319	8.1	36	66	16
0036920	20 AWG/4c	+	26 AWG/4pr	0.323	8.2	34	64	12
0036921	—		24 AWG/4pr	0.299	7.6	26	50	9
0036923	—		26 AWG/8pr	0.307	7.8	34	57	16
0036924	—		26 AWG/4pr	0.252	6.4	20	35	8+1
0036926	24 AWG/12c		—	0.272	6.9	30	49	12
0036927	20 AWG/2c	+	24 AWG/4pr	0.335	8.5	42	66	12
0036928	20 AWG/4c + (26 AWG/4c)	+	26 AWG/2pr + 2 x (26 AWG/1pr)	0.358	9.1	53	91	16
0036929	20 AWG/2c	+	2 x (24 AWG/1pr)	0.343	8.7	31	66	6
0036930	20 AWG/2c	+	24 AWG/2pr	0.287	7.3	26	48	6

() = shielded

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® SERVO FD 798 CP

color code chart

Part number	Power conductors		Control pairs	
	Size	Color code & shielding	Size	Color code & shielding
0036910	20 AWG 4c	blue/white • black/white red/white • yellow/white	22 AWG 4pr	black & brown • red & orange yellow & green • blue & violet
0036911	20 AWG 2c	white • brown <u>indiv. shield</u> ; wrapped with tinned copper wires <u>covering</u> : polyolefin	26 AWG 3pr	yellow & green • red & blue • gray & pink <u>indiv. pair shield</u> ; drain wire of tinned copper wire strands <u>overall shield</u> ; tinned copper wires <u>covering</u> : polyolefin
0036912	26 AWG 4c	4-conductor bundle: gray • blue • white/yellow • white/black	26 AWG 3pr	yellow & green • black & brown • red & orange <u>pair shield</u> ; drain wire of tinned copper wire strands, wrapped with tinned copper wires
			20 AWG 1pr	brown/red & brown/blue
0036913	26 AWG 4c	4-conductor bundle: gray • blue • white/yellow • white/black	26 AWG 3pr	yellow & green • black & brown • red & orange <u>pair shield</u> ; drain wire of tinned copper wire strands, wrapped with tinned copper wires
	24 AWG 4c	4-conductor bundle: brown/yellow • brown/gray • green/black • green/red	20 AWG 1pr	brown/red & brown/blue
0036914*	20 AWG 9c	blue • white • red • pink • green yellow • brown • black • gray		—
0036915*	18 AWG 2c	white • brown	24 AWG 4pr	brown & green • gray & pink blue & violet • red & black
0036916*	20 AWG 2c	white • brown	24 AWG 6pr	white & brown • green & yellow • gray & pink blue & red • black & violet • gray/pink & red/blue
0036917	26 AWG 10c	white • brown • green • yellow • gray pink • blue • red • black • violet	20 AWG 1pr	white & brown
0036918	26 AWG 10c	white • brown • green • yellow • gray pink • blue • red • black • violet		—
	20 AWG 4c	white • brown • blue • black		
0036920	20 AWG 4c	white • blue • white/green • brown/green	26 AWG 4pr	red & black • brown & green yellow & violet • gray & pink
0036921		—	24 AWG 4pr	white & brown • green & yellow gray & pink • blue & red
0036923		—	26 AWG 8pr	white/yellow & white/green • white/red & white/orange white/black & white/brown • gray & white • blue & violet yellow & green • red & orange • black & brown
0036924		—	26 AWG 4pr	black & brown • red & orange yellow & green • blue & violet
0036926	26 AWG 12c	black • brown • red • orange • yellow • green • blue • violet • gray • white • white/black • white/brown		—
0036927*	20 AWG 2c	white • brown	24 AWG 4pr	brown & green • gray & pink blue & violet • red & black
0036928	26 AWG 4c	4-conductor bundle: white • brown • green • yellow <u>shield</u> ; wrapped with tinned copper wires	26 AWG 2pr	blue & red • gray & pink
	20 AWG 4c	white • brown • green • yellow	26 AWG 2pr	white & brown • green & yellow <u>pair shield</u> ; wrapped with tinned copper wires
0036929*	20 AWG 2c	pink • gray	24 AWG 2pr	white & brown • green & yellow <u>pair shield</u> ; aluminum-laminated foil, wrapped with tinned copper wires
0036930*	20 AWG 2c	white • brown	24 AWG 2pr	red & black • gray & pink

* Contains tinned copper drain wire under overall shield.

All designs have an overall tinned copper braid shield (85% coverage)

ÖLFLEX® SERVO FD 7DSL

Continuous flex hybrid cable: one connection between drive, motor & feedback systems

LAPP KABEL STUTTGART ÖLFLEX® SERVO FD 7DSL



ÖLFLEX® SERVO FD 7DSL is a specially designed continuous flexing hybrid cable suitable for Hiperface DSL® motor-feedback systems. It is EMC compliant. For fixed or stationary applications, ÖLFLEX® SERVO 7DSL is the right cable. For bending cycles and operation parameters, see www.lappusa.com/cf-rating

Recommended applications

Power drive systems in automation engineering, connecting cable between servo controller and motor, assemblies, pick & place machinery, machine tools, transfer lines, cable chain applications

Approvals



Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	CF-04	MECH.	MP-05

Construction

Conductors: super fine stranded bare copper • signal pair: tinned copper

Insulation: polypropylene

Pairs: signal pair: shielded with foil tape and tinned copper braid (85% coverage) • control pair: shielded with tinned copper braid (85% coverage)

Shielding: overall non-woven wrapping; tinned copper braid (85% coverage)

Jacket: polyurethane; orange

Application advantage

- Only one cable needed for power and feedback circuits
- Available with or without additional control pair
- Low capacitance design
- Suitable for damp, wet, or dry areas
- Oil resistant and flame retardant
- Halogen-free and UV-resistant jacket

ÖLFLEX® CONNECT solution



ÖLFLEX® CONNECT SERVO
page 607

Technical data

	Minimum bend radius:			Test voltage:	
	- for continuous flexing:	7.5 x cable diameter		- power & control:	4000V
	- for stationary use:	5 x cable diameter		- signal pair:	1000V
	Temperature range:			Color code:	
	- for continuous flexing:	-40°C to +80°C		- power conductors:	black with white letters: U/L1/C/L+; V/L2; W/L3/D/L- plus green/yellow ground
	- for stationary use:	-50°C to +80°C		- signal pair:	white & blue
	Conductor stranding:			- control pair (optional):	black with white numbers: 5, 6
	- signal pair:	Class 6 super fine wire 19 strand			
	- control pair (optional):	Class 6 super fine wire			
	Nominal voltage:			Approvals:	
	- power & control:			UL:	AWM 21223
	- UL:	1000V		Attributes:	NFPA 79
	- IEC U ₀ /U:	600/1000V		Canada:	cRU AWM I/II A/B FT1
	- signal pair:	300V (not for power)		Additional:	based on VDE specifications CE & RoHS

Part number	Conductor description			Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft
	power conductors	+	control pairs	in	mm		
4 power conductors + 1 control pair							
1023275	16 AWG/4c	+	(22 AWG/1pr)	0.441	11.2	115	128
1023276	14 AWG/4c	+	(22 AWG/1pr)	0.496	12.6	160	263
1023277	12 AWG/4c	+	(22 AWG/1pr)	0.551	14.0	218	313
4 power conductors + 2 control pairs							
1023278	16 AWG/4c	+	(18 AWG/1pr) + (22 AWG/1pr)	0.520	13.2	152	256
1023279	14 AWG/4c	+	(18 AWG/1pr) + (22 AWG/1pr)	0.551	14.0	185	393
1023280	12 AWG/4c	+	(18 AWG/1pr) + (22 AWG/1pr)	0.622	15.8	268	407

() = shielded pair

Hiperface DSL® is a registered trademark of SICK AG.

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.

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ÖLFLEX® SERVO 7DSL

Flexible hybrid cable: one connection between drive, motor & feedback system

LAPP KABEL STUTTGART ÖLFLEX® SERVO 7DSL



ÖLFLEX® SERVO 7DSL is a specially designed hybrid cable suitable for fixed or stationary installations in Hiperface DSL® motor-feedback systems. It is EMC compliant. For continuous flexing installations, ÖLFLEX® SERVO FD 7DSL is the right cable.

Recommended applications

Power drive systems in automation engineering, connecting cable between servo controller and motor, assemblies, pick & place machinery, machine tools, transfer lines, fixed or stationary applications

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-01	MECH.	MP-02

Construction

Conductors: finely stranded bare copper • signal pair: tinned copper

Insulation: polypropylene

Pairs: signal pair: shielded with foil tape and tinned copper braid (85% coverage) • control pair: shielded with tinned copper braid (85% coverage)

Shielding: overall non-woven wrapping; tinned copper braid (85% coverage)

Jacket: specially formulated PVC; orange

Application advantage

- Only one cable needed for power and feedback circuits
- Available with or without additional control pair
- Low capacitance design
- Suitable for damp, wet, or dry areas
- Oil and flame resistant

ÖLFLEX® CONNECT solution



ÖLFLEX® CONNECT SERVO
page 607

Technical data

Minimum bend radius:	5 x cable diameter
Temperature range:	-40°C to +80°C
Conductor stranding:	Class 5 fine wire
- signal pair:	7 strand
- control pair (optional):	Class 5 fine wire
Nominal voltage:	
- power & control:	
- UL:	1000V
- IEC U ₀ /U:	600/1000V
- signal pair:	300V (not for power)

Test voltage:	
- power & control:	4000V
- signal pair:	1000V
Color code:	
- power conductors:	black with white letters: U/L1/C/L+; V/L2; W/L3/D/L- plus green/yellow ground
- signal pair:	white & blue
- control pair (optional):	black with white numbers: 5, 6

Approvals:	UL: AWM 2570
	Attributes: NFPA 79
	Canada: cRU AWM I/II A/B FT1
	Additional: based on VDE specifications
	CE & RoHS

Part number	Conductor description			Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft
	power conductors	+	control pairs	in	mm		
4 power conductors + 1 control pair							
1023290	16 AWG/4c	+	(22 AWG/1pr)	0.441	11.2	74	130
1023291	14 AWG/4c	+	(22 AWG/1pr)	0.496	12.6	99	170
1023292	12 AWG/4c	+	(22 AWG/1pr)	0.551	14.0	140	223
4 power conductors + 2 control pairs							
1023293	16 AWG/4c	+	(18 AWG/1pr) + (22 AWG/1pr)	0.520	13.2	94	168
1023294	14 AWG/4c	+	(18 AWG/1pr) + (22 AWG/1pr)	0.551	14.0	124	191
1023295	12 AWG/4c	+	(18 AWG/1pr) + (22 AWG/1pr)	0.622	15.8	166	262

() = shielded pair

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Servo cable according to SIEMENS® standard 6FX 8PLUS

Continuous flex servo cable with PUR jacket; shielded



Servo cables according to SIEMENS® standard 6FX 8PLUS are continuous flexing, oil-resistant, UL, CSA, VDE & CE rated power supply, feedback and signal cables for signal transmission or motor connections. They are designed for dynamic performance in cable chains. Servo cable according to SIEMENS® standard 6FX 8PLUS replaces SIEMENS® standard 6FX 7008 and 8008.

Recommended applications

Power drive systems; sensor leads for signal transmission and motor connections; connections between servo controllers, encoders/resolvers, and motors; assembly lines; all machines utilizing servo motors

Approvals



Construction

Conductors: signal cables: tinned copper • power cables: bare copper

Pairs: twisted together; shielded with tinned copper braid and non-woven wrap

Insulation: polypropylene

Shielding: tinned copper braid; non-woven wrap

Jacket: feedback/signal: polyurethane; green • servo/motor: polyurethane; orange

Application advantage

- High dynamic performance in cable chains:
 - Acceleration up to 50 m/s²
 - Travel speed up to 5 m/s
 - Travel lengths up to 100 m
- Abrasion-, cut- and oil-resistant; halogen-free, flame-retardant, and flexible at low temperatures

Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	CF-04	MECH.	MP-05

Complete the installation	
EPIC® POWER LS1 page 441	EPIC® SIGNAL M23 page 446

ÖLFLEX® CONNECT solution	
ÖLFLEX® CONNECT SERVO page 607	

Technical data

	Minimum bend radius:			Conductor stranding:	Class 6 super fine wire
	- power cable:				
	- for continuous flexing:				
	- 16 - 6 AWG:	7.5 x cable diameter			Color code:
	- 4 - 1 AWG:	10 x cable diameter		- feedback/signal cables:	see following color chart
	- for stationary use:	4 x cable diameter		- motor/servo cables:	black with white letters:
	- signal cable:			- 16 - 14 AWG:	V/L2; U/L1/C/L+; W/L3/D/L- plus green/yellow ground
	- for continuous flexing:	8 x cable diameter		- 12 - 1 AWG:	U/L1/C/L+; V/L2; W/L3/D/L- plus green/yellow ground
	- for stationary use:	4 x cable diameter		- control pair:	black & white
	Temperature range:			Approvals:	UL: AWM 21223
	- for continuous flexing:	-20°C to +60°C			AWM 20236 (sensor leads)
	- for stationary use:	-50°C to +80°C			Canada: CSA AWM I/II A/B 1kV 80°C FT1
	Nominal voltage:				Additional: based on VDE specifications
	- signal conductors:	30V			CE & RoHS
	- power/control conductors:	1000V			
	Test voltage:				
	- signal conductors:	500V			
	- power conductors:	4000V			

Servo cable according to SIEMENS® standard 6FX 8PLUS

color code: feedback/signal cable

Part number	Conductor description	Color code
00277101	26 AWG/8pr	white/yellow & white/green white/red & white/orange white/black & white/brown gray & white • blue & violet yellow & green • red & orange • black & brown
00277111	22 AWG/4pr	brown & black • red & orange yellow & green • blue & violet
	20 AWG/4c	white/blue • white/black white/red • white/yellow
00277121	26 AWG/3pr	yellow & green • black & brown • red & orange
	20 AWG/2c	black • red
00277131	26 AWG/3pr	yellow & green • black & brown • red & orange
	26 AWG/4c	gray • blue • white/yellow • white/black
	20 AWG/1pr	brown/red & brown/blue

Part number	Conductor description	Color code
00277141	26 AWG/3pr	yellow & green • black & brown • red & orange
	26 AWG/4c	gray • blue • white/yellow • white/black
	26 AWG/4c	brown/yellow • brown/gray green/black • green/red
	20 AWG/2c	brown/red • brown/blue
00277151	26 AWG/4pr	black & brown • red & orange yellow & green • blue & violet
00277161	26 AWG/2pr	red & orange • black & brown
00277171	26 AWG/12c	black • brown • red orange • yellow • green • blue violet • gray • white • white/black • white/brown

Part number	Conductor description	SIEMENS® part number	Nominal outer diameter		Copper weight	Approx. weight	EPIC® POWER LS1* configuration	EPIC® SIGNAL M23 # of contacts
			in	mm	lbs/mft	lbs/mft		
Feedback/signal cable								
00277101	26 AWG/8pr	6FX8008-1BD11	0.307	7.8	36	57	—	16
00277111	22 AWG/4pr + 20 AWG/4c	6FX8008-1BD21	0.350	8.9	52	81	—	12
00277121	3 x (26 AWG/1pr) + 2 x (20 AWG/1c)	6FX8008-1BD31	0.350	8.9	46	76	—	9
00277131	3 x (26 AWG/1pr) + 26 AWG/4c + 20 AWG/1pr	6FX8008-1BD41	0.346	8.8	44	68	—	12
00277141	3 x (26 AWG/1pr) + 26 AWG/4c + 20 AWG/2c + 26 AWG/4c	6FX8008-1BD51	0.370	9.4	58	93	—	16
00277151	26 AWG/4pr	6FX8008-1BD61	0.252	6.4	23	36	—	8+1
00277161	26 AWG/2pr	6FX8008-1BD71	0.197	5.0	16	24	—	6
00277171	26 AWG/12c	6FX8008-1BD81	0.272	6.9	32	51	—	12
00277992	26 AWG/2pr + 21 AWG/1pr	6FX8008-2DC00	0.283	7.2	26	50	—	6
Motor cable								
0027784	16 AWG/4c	6FX8008-1BB11-Plus	0.359	9.1	61	101	5+PE	—
0027785	14 AWG/4c	6FX8008-1BB21-Plus	0.418	10.6	89	148	5+PE	—
0027786	12 AWG/4c	6FX8008-1BB31-Plus	0.469	11.9	138	202	5+PE	—
0027787	10 AWG/4c	6FX8008-1BB41-Plus	0.571	14.5	212	302	—	—
0027788	8 AWG/4c	6FX8008-1BB51-Plus	0.690	17.5	328	444	—	—
0027789	6 AWG/4c	6FX8008-1BB61-Plus	0.851	21.6	517	679	—	—
Servo cable								
0027790	16 AWG/4c + (16 AWG/1pr)	6FX8008-1BA11-Plus	0.457	11.6	98	155	3+PE+4	—
0027791	14 AWG/4c + (16 AWG/1pr)	6FX8008-1BA21-Plus	0.528	13.4	126	202	3+PE+4	—
0027792	12 AWG/4c + (16 AWG/1pr)	6FX8008-1BA31-Plus	0.583	14.8	174	255	3+PE+4	—
0027793	10 AWG/4c + (16 AWG/1pr)	6FX8008-1BA41-Plus	0.662	16.8	245	356	—	—
0027794	8 AWG/4c + (16 AWG/1pr)	6FX8008-1BA51-Plus	0.764	19.4	376	514	—	—
0027795	6 AWG/4c + (16 AWG/1pr)	6FX8008-1BA61-Plus	0.910	23.1	548	732	—	—
0027796	4 AWG/4c + (16 AWG/1pr)	6FX8008-1BA25-Plus	1.048	26.6	784	1028	—	—
0027797	2 AWG/4c + (16 AWG/1pr)	6FX8008-1BA35-Plus	1.217	30.9	1044	1371	—	—
0027798	1 AWG/4c + (16 AWG/1pr)	6FX8008-1BA50-Plus	1.340	34.0	1470	1855	—	—

() = shielded

* Check connection on motor prior to selecting EPIC® POWER LS1 connector type

Servo cable according to SIEMENS® standard 6FX 5008

Flexible servo cable for stationary applications



Servo cables according to SIEMENS® standard 6FX 5008 are flexible, oil-resistant, UL, CSA, VDE & CE rated power supply, feedback and signal cables for signal transmission or motor connections.

Construction

Conductors: finely stranded bare copper

Insulation: 16 - 10 AWG: polypropylene • 8 AWG & larger: PVC

Pairs: shielded with tinned copper braid (not all feedback pairs are shielded)

Shielding: overall tinned copper braid

Jacket: feedback/signal: green PVC • servo/motor: orange PVC

Recommended applications

Sensor leads for signal transmission and motor connections; servo and power drive systems for food & beverage, automotive, packaging, and other industries

Application advantage

- Built in accordance with SIEMENS® standard 6FX 5008
- Colored jackets in accordance with DESINA®
- All cables have an overall shield for EMI & RFI protection
- Oil-resistant jacket
- Cables can be provided as a complete assembly: call factory for price and delivery information

Approvals



Cable attributes		page 648	
OIL	OR-02	FLAME	FR-02
MOTION	FL-01	MECH.	MP-02

Complete the installation	
EPIC® POWER LS1 page 441	EPIC® SIGNAL M23 page 446

ÖLFLEX® CONNECT solution	
ÖLFLEX® CONNECT SERVO page 607	

Technical data

Minimum bend radius:	5 x cable diameter	Conductor stranding:	Class 5 fine wire
Temperature range:		Color code:	
- for flexible use:	0°C to +60°C	- feedback/signal cables:	see following color chart
- for stationary use:	-20°C to +80°C	- motor/servo cables:	black with white letters: U/L1/C/L+; V/L2; W/L3/D/L- plus green/yellow ground
Nominal voltage:		Approvals:	
- UL/CSA:		UL:	AWM 2570 (motor) AWM 2502 (signal)
- power conductors:	1000V	Canada:	CSA AWM II A/B FT1
- control conductors:	1000V	Additional:	based on VDE specifications
- feedback/signal cond.:	30V		CE & RoHS
Test voltage:			
- power conductors:	4000V		
- control conductors:	2000V		
- feedback/signal cond.:	500V		

Servo cable according to SIEMENS® standard 6FX 5008

color code: feedback/signal cable

Part number	Conductor description	Color code
0025724	22 AWG/4pr	brown & black • red & orange yellow & green • blue & violet
	20 AWG/4c	blue/white • black/white red/white • yellow/white
0025725	26 AWG/3pr	yellow & green • black & brown • red & orange
	26 AWG/4c	gray • blue • white/yellow • white/black
	20 AWG/1pr	brown/red & brown/blue

Part number	Conductor description	Color code
0025726	26 AWG/3pr	yellow & green • black & brown • red & orange
	26 AWG/4c	gray • blue • white/yellow • white/black
	24 AWG/4c	brown/yellow • brown/gray green/black • green/red
	20 AWG/1pr	brown/red & brown/blue

Part number	Conductor description	SIEMENS® part number	Nominal outer diameter		Copper weight	Approx. weight	EPIC® POWER LS1* configuration	EPIC® SIGNAL M23 # of contacts
			in	mm	lbs/mft	lbs/mft		
feedback/signal cables								
0025724	22 AWG/4 pr + 20 AWG/4c	6FX5008-1BD21	0.354	9.0	51	81	—	12
0025725	3 x (26 AWG/1pr) + 26 AWG/4c + 20 AWG/1pr	6FX5008-1BD41	0.350	8.9	42	67	—	12
0025726	3 x (26 AWG/1pr) + 26 AWG/4c + 20 AWG/1pr + 24 AWG/4c	6FX5008-1BD51	0.374	9.5	46	93	—	16
motor cables								
00257001	16 AWG/4c	6FX5008-1BB11LC	0.315	8.0	59	88	5+PE	—
00257011	14 AWG/4c	6FX5008-1BB21LC	0.378	9.6	89	147	5+PE	—
00257021	12 AWG/4c	6FX5008-1BB31LC	0.433	11.0	131	210	5+PE	—
00257031	10 AWG/4c	6FX5008-1BB41LC	0.516	13.1	188	255	—	—
0025704	8 AWG/4c	6FX5008-1BB51	0.760	19.3	299	417	—	—
0025705	6 AWG/4c	6FX5008-1BB61	0.918	23.3	480	712	—	—
0025706	4 AWG/4c	6FX5008-1BB25	1.060	26.9	746	1102	—	—
0025707	2 AWG/4c	6FX5008-1BB35	1.194	30.3	1035	1552	—	—
0025708	1 AWG/4c	6FX5008-1BB50	1.438	36.5	1451	2177	—	—
servo cables								
00257151	16 AWG/4c + (16 AWG/1pr)	6FX5008-1BA11LC	0.410	10.4	101	167	3+PE+4	—
00257161	14 AWG/4c + (16 AWG/1pr)	6FX5008-1BA21LC	0.473	12.0	130	208	3+PE+4	—
00257171	12 AWG/4c + (16 AWG/1pr)	6FX5008-1BA31LC	0.536	13.6	183	299	3+PE+4	—
00257181	10 AWG/4c + (16 AWG/1pr)	6FX5008-1BA41LC	0.615	15.6	236	379	—	—
0025719	8 AWG/4c + (16 AWG/1pr)	6FX5008-1BA51	0.827	21.0	360	542	—	—

() = shielded

* Check connection on motor prior to selecting EPIC® POWER LS1 connector type

Servo cable according to INDRAMAT® standard INK

Continuous flex servo cable with PUR jacket; shielded



Servo cables according to INDRAMAT® standard INK are highly flexible, oil-resistant, and are UL, CSA, and CE rated. Power cables with pairs and feedback/signal cables are in accordance to INDRAMAT standards.

Construction

Conductors: finely stranded bare copper

Insulation: pairs & power conductors: TPE

Pairs: shielded with foil and tinned copper (not all feedback pairs are shielded)

Shielding: tinned copper braid

Jacket: polyurethane; orange

Recommended applications

Motor connections for servo motors; machine tools; food & beverage, automotive, and packaging industries for continuous flexing cable chain

Application advantage

- Built in accordance with INDRAMAT® standards
- Overall shield for EMI & RFI protection
- Abrasion-, oil-, and cut-resistant, halogen-free jacket
- Cables can be provided as a complete assembly

Approvals



Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	CF-02	MECH.	MP-05

Complete the installation	
EPIC® POWER LS1 page 441	EPIC® SIGNAL M23 page 446

ÖLFLEX® CONNECT solution	
ÖLFLEX® CONNECT SERVO page 607	

Technical data

Minimum bend radius: - feedback/signal cables: 10 x cable diameter - servo/motor cables: 7.5 x cable diameter	Conductor stranding: Class 6 super fine wire
Temperature range: - for continuous flexing: -30°C to +80°C - for stationary use: -50°C to +80°C	Color code: - feedback cables: see following color chart - power conductors: black with white numbers: 1, 2, 3 plus green/yellow ground - control pairs: black with white numbers: 5/6, 7/8
Nominal voltage: - feedback/signal cond.: 300V - power/control conductors: 1000V	Approvals: UL: AWM 20234 (servo/motor) AWM 20236 (signal) Canada: CSA AWM I/II A/B FT1 Additional: CE & RoHS

Servo cable according to INDRAMAT® standard INK

color code: feedback/signal cable

Part number	Conductor description	Color code
7072400	24 AWG/4pr	brown & green • gray & pink blue & violet • red & black
	18 AWG/2c	white • brown
7072401	24 AWG/4pr	brown & green • gray & pink blue & violet • red & black
	20 AWG/2c	white • brown
7072402	20 AWG/9c	green • brown • gray yellow • black • blue red • white • pink

Part number	Conductor description	Color code
7072414	26 AWG/4c	yellow/black • blue/black green/black • red/black
	26 AWG/4pr	red & black • brown & green yellow & violet • gray & pink
	18 AWG/4c	white • brown/green white/green • blue
7072415*	2 x (24 AWG/1pr)	white & brown • green & yellow
	20 AWG/2c	pink • gray
7072416*	24 AWG/2pr	red & black • gray & pink
	20 AWG/2c	white • brown

Part number	Conductor description	INDRAMAT® part number	Nominal outer diameter		Copper weight	Approx. weight	EPIC® POWER LS1* configuration	EPIC® SIGNAL M23 # of contacts
			in	mm	lbs/mft	lbs/mft		
Feedback/signal cables								
7072400	24 AWG/4pr + 18 AWG/2c	INK-0209	0.347	8.8	50	81	—	12
7072401	24 AWG/4pr + 20 AWG/2c	INK-0448	0.335	8.5	47	67	—	12
7072402	20 AWG/9c	INK-0208	0.347	8.8	50	85	—	9
7072414	18 AWG/4c + 26 AWG/4pr + (26 AWG/4c)	INK-0532	0.382	9.7	54	94	—	16
7072415	2 x (24 AWG/1pr) + 20 AWG/2c	INK-0234	0.343	8.7	31	60	—	6
7072416	24 AWG/2pr + 20 AWG/2c	INK-0750	0.299	7.6	24	62	—	9
Servo/motor cables								
7072417	19 AWG/4c + 20 AWG/1pr	INK-0670	0.394	10.0	49	89	3+PE+4	—
7072403	18 AWG/4c + 2 x (19 AWG/1pr)	INK-0653	0.453	11.5	114	152	3+PE+4	—
7072404	16 AWG/4c + 2 x (19 AWG/1pr)	INK-0650	0.481	12.2	127	180	3+PE+4	—
7072405	14 AWG/4c + 2 x (18 AWG/1pr)	INK-0602	0.595	15.1	142	215	3+PE+4	—
7072406	12 AWG/4c + (18 AWG/1pr) + (16 AWG/1pr)	INK-0603	0.630	16.0	206	316	3+PE+4	—
7072407	10 AWG/4c + (18 AWG/1pr) + (16 AWG/1pr)	INK-0604	0.741	18.8	246	403	—	—
7072408	8 AWG/4c + (18 AWG/1pr) + (16 AWG/1pr)	INK-0605	0.867	22.0	380	571	—	—
7072409	6 AWG/4c + 2 x (16 AWG/1pr)	INK-0606	0.993	25.2	563	685	—	—
7072410	4 AWG/4c + 2 x (16 AWG/1pr)	INK-0607	1.103	28.0	827	954	—	—

() = shielded

* Check connection on motor prior to selecting EPIC® POWER LS1 connector type

126 Quick select chart

127 Harmonized European cable

Harmonized hook-up wire

128 Multi-standard <HAR> hook-up wire

H05V-K: UL AWM Style 1007 & 1569, UL/CSA • H07V-K: UL AWM Style 1015, UL MTW 1063, CSA

129 <HAR> hook-up wire

Type H05V-K & H07V-K

130 Halogen-free <HAR> hook-up wire

Type H05Z-K & H07Z-K

Harmonized cordage

131 ÖLFLEX® POWER QUAD II

Oil-resistant PVC cordage with <HAR> & SJTO approvals for global use

132 H05VV-F cordage

Flexible European cordage with PVC jacket & <HAR> approval

133 ÖLFLEX® POWER IX

Heavy duty neoprene cordage with <HAR> and SOOW approvals for global use

134 H07RN-F cordage

Heavy duty flexible neoprene European cordage with <HAR> approval

135 H07RN-F enhanced cordage

Heavy duty halogen-free rubber European cordage with <HAR> approval

Quick select chart

Product	Material insulation/jacket	Approval	Description	Page
Harmonized hook-up wire				
Multi-standard <HAR> hook-up wire, H05V-K	PVC	H05V-K	<HAR> • 500V • 70°C • IEC 60332.1.2 Flame	128
		UL 1007	UL AWM • 300V • 80°C • VW-1	
		UL 1569	UL AWM • 300V • 105°C • VW-1	
Multi-standard <HAR> hook-up wire, H07V-K	PVC	H07V-K	<HAR> • 750V • 70°C • IEC 60332.1.2 Flame	128
		UL 1015	UL AWM • 600V • 105°C • VW-1	
		UL 1063	UL MTW • 600V • 90°C • VW-1	
<HAR> hook-up wire	PVC	H05V-K	<HAR> • 500V • 70°C • IEC 60332.1.2 Flame	129
		H07V-K	<HAR> • 750V • 70°C • IEC 60332.1.2 Flame	
Halogen-free <HAR> hook-up wire	halogen-free	H05Z-K	<HAR> • 500V • 90°C • IEC 60332.1.2 Flame	130
		H07Z-K	<HAR> • 750V • 90°C • IEC 60332.1.2 Flame	
Harmonized cordage				
ÖLFLEX® POWER QUAD II	PVC / PVC	UL/CSA SJTO, H05VV-F	<HAR> • service cord • oil resistant 300V • 90°C • FT1	131
H05VV-F cordage	PVC / PVC	H05VV-F	<HAR> • 500V • 70°C • IEC 60332.1.2 Flame	132
ÖLFLEX® POWER IX	rubber / neoprene	UL/CSA SOOW, H07RN-F	<HAR> • service cord oil & weather resistant • 600V • 90°C • FT2	133
H07RN-F cordage	rubber / neoprene	H07RN-F	<HAR> • 750V • 60°C • IEC 60332.1.2 Flame	134
H07RN-F enhanced cordage	rubber / rubber	H07RN-F	<HAR> • 750V • 90°C IEC 60332.1.2 Flame • halogen-free	135

Harmonized European cable

LAPP's harmonized and CE-conforming cables are utilized on electronic and electrical equipment intended for use in Europe.

The development and implementation of common standards for the European marketplace facilitates export trade to European countries. An international safety standards agency called CENELEC (European Committee for Electrotechnical Standardization) was formed to develop electrical standards that would be universally acceptable to all CENELEC member nations.

CENELEC members are national organizations entrusted with electrotechnical standardization, recognized both at National and European level as being able to represent all standardization interests in their country. Only one organization per country may be member of CENELEC. For more information see www.cenelec.eu

The electrical standards are classified as Harmonization Documents. LAPP's <HAR> cordage and hook-up wire conforms to the EN 50525 series European standards.

In order to identify a harmonized wire or cable, one of the following identification methods are required: (1) Printed letters <HAR> on either the overall jacket or the insulation, or (2) printed tape or identification threads.

Recommended applications as defined in the Harmonization Documents are as follows:

- **PVC cord (H05VV-F)**

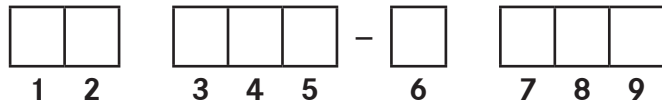
For use in offices, domestic premises and household appliances. Permitted for cooking and heating applications, provided cable does not contact hot parts and is not subjected to radiation. NOT SUITABLE FOR OUTDOOR USE.

- **Rubber cord (H05RR-F / H07RN-F)**

For use when cable is subjected to mechanical stress in dry or damp areas. May be used as power supply cable for portable motors, appliances, domestic electric and electrical tools, and agricultural and utility water equipment. May be installed on plaster or directly on structural parts of heavy machinery.

The CE symbol (CE) identifies a product that conforms to a European Directive developed by the European Union. This compliance is necessary for exporting certain cable types to countries within the European community.

Harmonized wire coding system



1 Basic type

- H harmonized type
- A national type

2 Working voltage

- 03 300V
- 05 300/500V
- 07 450/750V

3 Insulation

- V PVC
- R rubber
- S silicone rubber
- Z halogen-free

4 Sheath-cladding

- V PVC
- R rubber
- N chloroprene rubber
- J glass-filament braiding
- T textile braiding

5 Special features

- H ribbon cable, separable
- H2 ribbon cable, non-separable

6 Conductor types

- U single wire
- R multi wire
- K fine wire for stationary use
- F fine wire for flexible use
- H super fine wire
- Y tinsel strand

7 Number of conductors

8 Protective conductor

- X without protective conductor
- G with protective conductor

9 Conductor cross-section

area specified in mm²

Multi-standard <HAR> hook-up wire

H05V-K: UL AWM Style 1007 & 1569, UL/CSA • H07V-K: UL AWM Style 1015, UL MTW 1063, CSA



This internationally approved hook-up wire was designed to meet North American and European market requirements. It passes <HAR> H05V-K, <HAR> H07V-K, UL AWM, UL MTW (16 AWG & larger), CSA TEW & CE.

Recommended applications

Panel and machine wiring for domestic and export usage; internal wiring of devices, electrical, and medical equipment

Approvals



Construction

Conductors: finely stranded tinned copper

Insulation: PVC

Application advantage

- Only one inventory vs. two for domestic and export consumption
- 13 standard color options
- UL MTW (16 AWG & larger)
- Available in large cardboard barrels for easy pull (16 AWG & larger)
- Embossed cable marking available upon request

Cable attributes				page 648	
	OIL	OR-02		FLAME	FR-02
	MOTION	FL-02		MECH.	MP-01

Technical data

Temperature range:

- <HAR>/IEC: -40°C to +70°C
- UL/CSA: -40°C to +105°C

Nominal voltage:

- H05V-K:
 - <HAR>/IEC: 300/500V
 - UL/CSA: 300V
- H07V-K:
 - <HAR>/IEC: 450/750V
 - UL/CSA: 600V

Test voltage:

- H05V-K: 2000V
- H07V-K: 2500V

Conductor stranding:

Class 5 fine wire

Color code:

- | | |
|------------------|---------------|
| 00: green/yellow | 07: violet |
| 01: black | 08: pink |
| 02: blue | 09: orange |
| 03: brown | 10: yellow* |
| 04: red | 11: green* |
| 05: white | 14: dark blue |
| 06: gray | |

* No <HAR> for yellow or green wires ≥ 16 AWG

Approvals:

- H05V-K:
 - UL: AWM 1007 & 1569
 - Canada: CSA AWM I A/B
 - Additional: <HAR> H05V-K
 - CE & RoHS
- H07V-K:
 - UL: MTW per UL 1063
 - AWM 1015
 - Canada: TEW
 - Additional: <HAR> H07V-K
 - CE & RoHS

Part number	Standard	Maximum outer diameter		Copper weight	Approx. weight
		in	mm	lbs/mft	lbs/mft
H05V-K					
22 AWG (0.5 mm²)					
41804..	H05V-K	0.098	2.5	3	6
20 AWG (0.75 mm²)					
41805..	H05V-K	0.102	2.6	5	8
18 AWG (1 mm²)					
41806..	H05V-K	0.110	2.8	6	10
H07V-K					
16 AWG (1.5 mm²)					
41604..	H07V-K	0.134	3.4	10	15
14 AWG (2.5 mm²)					
41605..	H07V-K	0.157	4.0	16	25
12 AWG (4 mm²)					
41606..	H07V-K	0.181	4.6	26	30
10 AWG (6 mm²)					
41607..	H07V-K	0.201	5.1	39	48

Part number	Standard	Maximum outer diameter		Copper weight	Approx. weight
		in	mm	lbs/mft	lbs/mft
8 AWG (10 mm²)					
41608..	H07V-K	0.268	6.8	65	81
6 AWG (16 mm²)					
41609..*	H07V-K	0.354	9.0	103	126
4 AWG (25 mm²)					
41610..	H07V-K	0.402	10.2	161	195
2 AWG (35 mm²)					
41611..	H07V-K	0.461	11.7	226	268
1 AWG (50 mm²)					
41612..	H07V-K	0.547	13.9	323	376
2/0 AWG (70 mm²)					
41613..	H07V-K	0.630	16.0	452	521
3/0 AWG (95 mm²)					
41614..	H07V-K	0.717	18.2	613	693
4/0 AWG (120 mm²)					
41615..	H07V-K	0.780	19.8	774	864

* No <HAR> approval available for 6 AWG (X07V-K)

For LAPP part number, add the double digit color code (see above) to the part number prefix in the table; e.g.: 16 AWG H07V-K green/yellow = 4160400

If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

<HAR> hook-up wire

Type H05V-K & H07V-K



This hook-up wire is <HAR> approved and conforms to European standards. It can be used to wire electronic and electrical equipment for export to Europe.

Recommended applications

Panel & machine wiring for export usage; electronic & medical equipment; wire bundling; MRO replacement or European equipment and machinery

Approvals



Construction

Conductors: finely stranded bare copper

Insulation: PVC

Application advantage

- 14 standard color options
- <HAR> approval
- Large AWG range: 22 AWG to 480 KCMIL
- Flexible stranding vs. solid core and 7-strand
- Embossed cable marking available upon request

Cable attributes		page 648	
	OIL	OR-02	FLAME FR-02
	MOTION	FL-02	MECH. MP-01

Technical data

Temperature range:
- for stationary use: -30°C to +80°C

Nominal voltage:
- H05V-K: 300/500V
- H07V-K: 450/750V

Test voltage:
- H05V-K: 2000V
- H07V-K: 2500V

Conductor stranding: Class 5 fine wire

Color code:

00: green/yellow	07: violet
01: black	08: pink
02: blue	09: orange
03: brown	10: transparent*
04: red	11: yellow*
05: white	12: green*
06: gray	14: dark blue

* No <HAR> for transparent, yellow, or green wires ≥ 16 AWG

Approvals: <HAR> H05V-K & H07V-K
CE & RoHS

Part number	Standard	Outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft
H05V-K				
22 AWG (0.5 mm²)				
4510..1	H05V-K	0.083 - 0.099	2.1 - 2.5	3 6
20 AWG (0.75 mm²)				
4510..2	H05V-K	0.087 - 0.106	2.2 - 2.7	5 8
18 AWG (1 mm²)				
4510..3	H05V-K	0.095 - 0.110	2.4 - 2.8	6 10
H07V-K				
16 AWG (1.5 mm²)				
4520..1	H07V-K	0.110 - 0.134	2.8 - 3.4	10 15
14 AWG (2.5 mm²)				
4520..2	H07V-K	0.134 - 0.161	3.4 - 4.1	16 25
12 AWG (4 mm²)				
4520..3	H07V-K	0.154 - 0.189	3.9 - 4.8	26 30
10 AWG (6 mm²)				
4520..4	H07V-K	0.173 - 0.209	4.4 - 5.3	39 48
8 AWG (10 mm²)				
4520..5	H07V-K	0.224 - 0.268	5.7 - 6.8	65 81
6 AWG (16 mm²)				
4520..6	H07V-K	0.264 - 0.319	6.7 - 8.1	103 126

Part number	Standard	Outer diameter in mm	Copper weight lbs/mft	Approx. weight lbs/mft
4 AWG (25 mm²)				
4521..1	H07V-K	0.331 - 0.402	8.4 - 10.2	161 195
2 AWG (35 mm²)				
4521..2	H07V-K	0.382 - 0.461	9.7 - 11.7	226 268
1 AWG (50 mm²)				
4521..3	H07V-K	0.453 - 0.547	11.5 - 13.9	323 376
2/0 AWG (70 mm²)				
4521..4	H07V-K	0.520 - 0.630	13.2 - 16.0	452 521
3/0 AWG (95 mm²)				
4521..5	H07V-K	0.594 - 0.717	15.1 - 18.2	613 693
4/0 AWG (120 mm²)				
4521..6	H07V-K	0.657 - 0.795	16.7 - 20.2	774 864
300 KCMIL (150 mm²)				
4521..7	H07V-K	0.732 - 0.886	18.6 - 22.5	968 1050
370 KCMIL (185 mm²)				
4521..8	H07V-K	0.811 - 0.980	20.6 - 24.9	1193 1287
480 KCMIL (240 mm²)				
4521..9	H07V-K	0.925 - 1.118	23.5 - 28.4	1548 1714

For LAPP part number, add the double digit color code (see above) to the part number prefix in the table; e.g.: 16 AWG H07V-K green/yellow = 4520001

Halogen-free <HAR> hook-up wire

Type H05Z-K & H07Z-K



Recommended applications

Wiring devices, switch gear cabinets, and distribution boxes; in tubes on, in, or under plaster; closed installation ducts; dry rooms; areas where human safety and damage to electronic components are a concern

Approvals



Construction

Conductors: finely stranded bare copper

Insulation: cross-linked, halogen-free

Application advantage

- Low smoke, zero halogen (LSZH)
- Flame retardant
- 13 standard color options
- Embossed cable marking available upon request

Cable attributes		page 648	
	OIL	OR-01	FLAME
	MOTION	FL-02	MECH.
			FR-02
			MP-01

Technical data

Temperature range: -15°C to +90°C

Nominal voltage:
 - H05Z-K: 300/500V
 - H07Z-K: 450/750V

Test voltage:
 - H05Z-K: 2000V
 - H07Z-K: 2500V

Conductor stranding: Class 5 fine wire

Color code:

00: green/yellow	07: violet
01: black	08: pink
02: blue	09: orange
03: brown	11: yellow*
04: red	12: green*
05: white	14: dark blue
06: gray	

* No <HAR> for yellow or green wires ≥ 16 AWG

Approvals: Attributes: low smoke/low smoke density acc. to IEC 61034 flame retardant acc. to IEC 60332.1.2
 Additional: <HAR> H05Z-K & H07Z-K CE & RoHS

Part number	Standard	Outer diameter		Copper weight	Approx. weight
		in	mm	lbs/mft	lbs/mft
H05Z-K					
22 AWG (0.5 mm²)					
4725..1	H05Z-K	0.083 - 0.102	2.1 - 2.6	3	6
20 AWG (0.75 mm²)					
4725..2	H05Z-K	0.087 - 0.110	2.2 - 2.8	5	7
18 AWG (1 mm²)					
4725..3	H05Z-K	0.094 - 0.114	2.4 - 2.9	6	9
H07Z-K					
16 AWG (1.5 mm²)					
4726..1	H07Z-K	0.110 - 0.138	2.8 - 3.5	10	13
14 AWG (2.5 mm²)					
4726..2	H07Z-K	0.134 - 0.169	3.4 - 4.3	16	22
12 AWG (4 mm²)					
4726..3	H07Z-K	0.154 - 0.193	3.9 - 4.9	26	30
10 AWG (6 mm²)					
4726..4	H07Z-K	0.173 - 0.217	4.4 - 5.5	39	44

Part number	Standard	Outer diameter		Copper weight	Approx. weight
		in	mm	lbs/mft	lbs/mft
8 AWG (10 mm²)					
4726..5	H07Z-K	0.224 - 0.280	5.7 - 7.1	65	74
6 AWG (16 mm²)					
4726..6	H07Z-K	0.264 - 0.331	6.7 - 8.4	103	114
4 AWG (25 mm²)					
4726..7	H07Z-K	0.331 - 0.417	8.4 - 10.6	161	195
2 AWG (35 mm²)					
4726..8	H07Z-K	0.382 - 0.476	9.7 - 12.1	226	255
1 AWG (50 mm²)					
4726..9	H07Z-K	0.453 - 0.567	11.5 - 14.4	323	356
2/0 AWG (70 mm²)					
4727..1	H07Z-K	0.520 - 0.654	13.2 - 16.6	452	504
3/0 AWG (95 mm²)					
4727..2	H07Z-K	0.594 - 0.740	15.1 - 18.8	613	672

For LAPP part number, add the double digit color code (see above) to the part number in the table, e.g.: 16 AWG H07Z-K green/yellow = 4726001

ÖLFLEX® POWER QUAD II

Oil-resistant PVC cordage with <HAR> & SJTO approvals for global use

LAPP KABEL STUTTGART ÖLFLEX® POWER QUAD II



ÖLFLEX® POWER QUAD II is a PVC cordage with UL/CSA SJTO and <HAR> H05VV-F approval. It has a very oil-resistant jacket and an international color code. ÖLFLEX® POWER QUAD II can be used in European, American, Asian, and Canadian cordage applications; one cable does the work of four.

Recommended applications

Power cordage for domestic machinery; portable tools; data processing; control systems; commercial appliances

Approvals



Cable attributes		page 648	
OIL	OR-04	FLAME	FR-02
MOTION	FL-02	MECH.	MP-02

Construction

Conductors: finely stranded bare copper

Insulation: specially formulated PVC

Jacket: PVC; black

Application advantage

- International approvals: UL, CSA, <HAR> & CE
- One cable does the job of four, reducing inventory
- One specification for easy and safe installation
- Oil-resistant PVC jacket meets UL Oil Res I/II
- UV-resistant jacket

Complete the installation



SKINTOP® strain relief
page 492



EPIC® pin & sleeve
page 465

Technical data

Minimum bend radius: 4 x cable diameter

Temperature range:
 - UL/CSA SJTO: -25°C to +90°C
 - <HAR> H05VV-F: -30°C to +70°C

Nominal voltage:
 - UL/CSA SJTO: 300V
 - <HAR> H05VV-F: 500V

Test voltage: 2000V

Conductor stranding: Class 5 fine wire

Color code: VDE 0293-308: chart 6, page 681

Approvals:
 UL: SJTO per UL 62
 AWM 21098
 Attributes: UL Oil Res I/II
 sunlight resistant
 -25°C cold bend
 Canada: cUL SJTO
 cRU AWM I/II A/B FT1
 Additional: <HAR> H05VV-F
 CE & RoHS

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
18 AWG (17 AWG/1.00 mm²)**						
311802	2	0.265	6.7	13	44	S2109
311803	3	0.283	7.2	19	53	S2111
311804	4	0.304	7.7	25	66	S2111
311805	5	0.348	8.8	32	93	S2111
16 AWG (15 AWG/1.50 mm²)**						
311602	2	0.305	7.7	19	62	S2111
311603	3	0.332	8.4	28	73	S2111
311604	4	0.364	9.2	37	84	S2111
311605	5	0.405	10.3	46	99	S2113

* 2c cable does not include ground

** AWG in parentheses will be written on cable legend per the latest UL 62 requirements

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
14 AWG (13 AWG/2.50 mm²)**						
311403	3	0.407	10.3	45	101	S2113
311404	4	0.447	11.4	60	130	S2113
311405	5	0.496	12.6	75	150	S2116

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
 If not otherwise specified, all values relating to the product are nominal values.
 Photographs are not to scale and are not true representations of the products in question.

H05VV-F cordage

Flexible European cordage with PVC jacket & <HAR> approval



H05VV-F is a PVC cordage that meets <HAR> H05VV-F approval. It is designed for power supply use on European equipment.

Recommended applications

Power cordage for European machinery; portable tools; data processing; control systems; commercial appliances; MRO repair for European machinery

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-01
MOTION	FL-01	MECH.	MP-01

Construction

Conductors: finely stranded bare copper

Insulation: PVC

Jacket: PVC; black

Application advantage

- Meets <HAR> directives for power cordage
- MRO replacement cable for European machinery
- UV-resistant jacket

Complete the installation



SKINTOP® strain relief
page 492



EPIC® pin & sleeve
page 465

Technical data

Minimum bend radius:	5 x cable diameter	Conductor stranding:	Class 5 fine wire
Temperature range:	-30°C to +70°C	Color code:	VDE 0293-308: chart 6, page 681
Nominal voltage:	300/500V	Approvals:	<HAR> H05VV-F CE & RoHS
Test voltage:	3000V		

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
19 AWG (0.75 mm²)						
1601103	2	0.252	6.4	10	35	S1109
1601102	3	0.268	6.8	15	42	S1109
16011263	4	0.291	7.4	20	50	S1111
18 AWG (1 mm²)						
1601109	3	0.283	7.2	20	50	S1111
16011193	4	0.307	7.8	26	62	S1111
16011293	5	0.346	8.8	33	76	S1111

* 2c cable does not include ground

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
16 AWG (1.5 mm²)						
1601114	2	0.303	7.7	19	57	S1111
1601111	3	0.335	8.5	29	71	S1111
16011163	4	0.374	9.5	39	90	S1111
16011233	5	0.417	10.6	49	112	S1113
14 AWG (2.5 mm²)						
1601121	2	0.366	9.3	33	85	S1111
1601125	3	0.394	10.0	49	106	S1113
16011353	4	0.433	11.0	65	132	S1113
16011123	5	0.484	12.3	81	163	S1116

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® POWER IX

Heavy duty neoprene cordage with <HAR> and SOOW approvals for global use

LAPP KABEL STUTTGART ÖLFLEX® POWER IX



ÖLFLEX® POWER IX is a neoprene cordage with UL/CSA SOOW and <HAR> H07RN-F approval. It has an international color code and a jacket which is resistant to oil, chemicals, and abrasion. This allows it to be used in European, American, Asian, and Canadian applications; one cable does the work of four.

Recommended applications

Power cordage for domestic and exported machinery; portable tools; data processing; control systems; commercial appliances

Approvals



<HAR>



Cable attributes		page 648	
OIL	OR-02	FLAME	FR-01
MOTION	FL-02	MECH.	MP-02

Construction

Conductors: finely stranded bare copper

Insulation: rubber

Jacket: neoprene; black

Application advantage

- International approvals: UL, CSA, <HAR> & CE
- One cable does the job of four, reducing inventory
- One specification for easy and safe installation
- Oil-, chemical-, and abrasion-resistant jacket
- Ideal for high-stress applications in dry and damp environments
- UV-resistant jacket for outdoor use

Complete the installation



SKINTOP® strain relief
page 492



EPIC® pin & sleeve
page 465

Technical data

Minimum bend radius:	7.5 x cable diameter	Conductor stranding:	Class 5 fine wire
Temperature range:		Color code:	VDE 0293-308: chart 6, page 681
	- UL/CSA SOOW: -40°C to +90°C	Approvals:	UL: SOOW per UL 62
	- <HAR> H07RN-F: -25°C to +60°C		Attributes: -40°C cold bend sunlight resistant
Nominal voltage:			Canada: c(UL) SOOW
	- UL/CSA: 600V		Additional: <HAR> H07RN-F
	- <HAR> H07RN-F: 450/750V		CE & RoHS
Test voltage:	2000V		

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® SL PG thread
18 AWG (17 AWG/1.00 mm²)*						
321803	3	0.380	9.7	19	84	S2113
321804	4	0.410	10.4	26	96	S2113
14 AWG (13 AWG/2.50 mm²)*						
321404	4	0.590	15.0	65	216	S2121
12 AWG (11 AWG/4 mm²)*						
321204	4	0.689	17.5	103	300	S2121
321205	5	0.740	18.8	129	355	S2129

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	lbs/mft	lbs/mft	PG thread
10 AWG (9 AWG/6 mm²)*						
321003	3	0.693	17.6	123	304	S2121
321004	4	0.752	19.1	164	366	S2129
321005	5	0.815	20.7	205	442	S2129
8 AWG (7 AWG/10 mm²)*						
320803	3	0.914	23.2	197	537	S2129
320804	4	1.031	26.2	263	652	S2136

* AWG in parentheses will be written on cable legend per the latest UL 62 requirements

H07RN-F cordage

Heavy duty flexible neoprene European cordage with <HAR> approval

<HAR> H07RN-F

H07RN-F is a neoprene cordage that meets <HAR> H07RN-F approval. It has an international color code and a jacket which is resistant to oil, chemicals, and abrasion.

Recommended applications

Power cordage for European machinery; portable tools; data processing; control systems; commercial appliances; MRO replacement for European machinery

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-01
MOTION	FL-01	MECH.	MP-02

Construction

Conductors: finely stranded bare copper

Insulation: rubber

Jacket: neoprene; black

Application advantage

- Oil-, chemical-, and abrasion-resistant jacket
- Ideal for high-stress applications in dry and damp environments
- MRO replacement for European machinery
- UV-resistant jacket for outdoor use

Complete the installation



SKINTOP®
strain relief
page 492



EPIC®
pin & sleeve
page 465

Technical data

Minimum bend radius: 8 x cable diameter

Temperature range: -25°C to +60°C

Nominal voltage: 450/750V

Test voltage: 2500V

Conductor stranding: Class 5 fine wire

Color code: VDE 0293-308: chart 6, page 681

Approvals: <HAR> H07RN-F
CE & RoHS

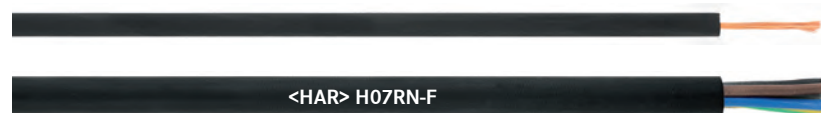
Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft
		in	mm		
18 AWG (1 mm²)					
1600117	3	0.327 - 0.421	8.3 - 10.7	20	87
16 AWG (1.5 mm²)					
1600103	3	0.362 - 0.469	9.2 - 11.9	29	111
16001233	4	0.402 - 0.516	10.2 - 13.1	39	134
16001043	5	0.441 - 0.567	11.2 - 14.4	49	161
14 AWG (2.5 mm²)					
1600118	3	0.429 - 0.551	10.9 - 14.0	49	158
16001053	4	0.476 - 0.610	12.1 - 15.5	65	195
16001293	5	0.524 - 0.669	13.3 - 17.0	81	198
12 AWG (4 mm²)					
1600119	3	0.500 - 0.638	12.7 - 16.2	77	215
16001063	4	0.551 - 0.705	14.0 - 17.9	104	265
16001303	5	0.614 - 0.783	15.6 - 19.9	130	326
10 AWG (6 mm²)					
1600120	3	0.555 - 0.709	14.1 - 18.0	117	242
16001073	4	0.618 - 0.787	15.7 - 20.0	155	319
16001313	5	0.689 - 0.874	17.5 - 22.2	194	511

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft
		in	mm		
8 AWG (10 mm²)					
1600121	3	0.752 - 0.953	19.1 - 24.2	194	591
16001083	4	0.823 - 1.043	20.9 - 26.5	259	712
16001093	5	0.902 - 1.146	22.9 - 29.1	323	874
6 AWG (16 mm²)					
16001103	4	0.937 - 1.185	23.8 - 30.1	413	904
16001113	5	1.039 - 1.311	26.4 - 33.3	517	1129
4 AWG (25 mm²)					
16001123	4	1.138 - 1.441	28.9 - 36.6	646	1341
16001133	5	1.260 - 1.591	32.0 - 40.4	807	1660
2 AWG (35 mm²)					
16001143	4	1.280 - 1.618	32.5 - 41.1	904	1777
1 AWG (50 mm²)					
16001153	4	1.484 - 1.870	37.7 - 47.5	1291	2443
2/0 AWG (70 mm²)					
16001163	4	1.681 - 2.126	42.7 - 54.0	1807	3246
3/0 AWG (95 mm²)					
16001283	4	1.906 - 2.402	48.4 - 61.0	2452	4247

If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

H07RN-F enhanced cordage

Heavy duty halogen-free rubber European cordage with <HAR> approval



H07RN-F enhanced cordage is a low smoke, halogen free cordage that meets <HAR> H07RN-F approval. It is highly flexible with a better temperature range than H07RN-F. It has an international color code and a jacket which is resistant to oil, chemicals, and abrasion.

Construction

Conductors: finely stranded bare copper

Insulation: specially formulated rubber

Jacket: specially formulated rubber; black

Recommended applications

Power cordage for European machinery; portable tools; data processing; control systems; commercial appliances; MRO replacement for European machinery

Application advantage

- Oil-, chemical-, and abrasion-resistant jacket
- MRO replacement for European machinery
- AD8 submersible
- Low smoke, zero halogen (LSZH)
- Meets torsion requirements for wind turbine applications

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	WT-02	MECH.	MP-01

Complete the installation	
SKINTOP® strain relief page 492	EPIC® pin & sleeve page 465

Technical data

Minimum bend radius:	4 x cable diameter	Conductor stranding:	Class 5 fine wire
Temperature range:		Color code:	
- for stationary use:	-50°C to +90°C	- up to 5c:	VDE 0293-308: chart 6, page 681
- for flexible use:	-40°C to +90°C	- more than 5c:	black with white numbers, plus green/yellow ground
Nominal voltage:	450/750V	Approvals:	<HAR> H07RN-F CE & RoHS
Test voltage:	2500V		

H07RN-F enhanced cordage

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft
		in	mm		
18 AWG (1 mm²)					
4533027	3	0.327 - 0.422	8.3 - 10.7	19	94
4533061	4	0.362 - 0.469	9.2 - 11.9	26	108
4533091	5	0.402 - 0.516	10.2 - 13.1	32	134
16 AWG (1.5 mm²)					
4533029	3	0.362 - 0.469	9.2 - 11.9	29	116
4533063	4	0.402 - 0.516	10.2 - 13.1	39	134
4533093	5	0.441 - 0.567	11.2 - 14.4	48	168
4533111	7	0.579 - 0.736	14.7 - 18.7	68	289
4533113	12	0.693 - 0.882	17.6 - 22.4	116	417
14 AWG (2.5 mm²)					
4533031	3	0.429 - 0.552	10.9 - 14.0	48	151
4533065	4	0.476 - 0.611	12.1 - 15.5	65	192
4533095	5	0.524 - 0.670	13.3 - 17.0	81	232
4533115	12	0.811 - 1.031	20.6 - 26.2	194	571
12 AWG (4 mm²)					
4533033	3	0.500 - 0.638	12.7 - 16.2	77	218
4533067	4	0.551 - 0.705	14.0 - 17.9	103	265
4533097	5	0.614 - 0.784	15.6 - 19.9	129	326
10 AWG (6 mm²)					
4533035	3	0.555 - 0.709	14.1 - 18.0	116	279
4533069	4	0.618 - 0.788	15.7 - 20.0	155	360
4533099	5	0.689 - 0.875	17.5 - 22.2	194	435
8 AWG (10 mm²)					
4533004	1	0.374 - 0.469	9.5 - 11.9	65	129
4533037	3	0.752 - 0.953	19.1 - 24.2	194	478
4533071	4	0.823 - 1.044	20.9 - 26.5	258	618
6 AWG (16 mm²)					
4533005	1	0.425 - 0.528	10.8 - 13.4	103	176
4533039	3	0.858 - 1.087	21.8 - 27.6	310	665
4533073	4	0.937 - 1.186	23.8 - 30.1	413	867
4 AWG (25 mm²)					
4533006	1	0.500 - 0.623	12.7 - 15.8	161	252
4533041	3	1.028 - 1.300	26.1 - 33.0	484	937
4533075	4	1.138 - 1.442	28.9 - 36.6	645	1297
4533101	5	1.260 - 1.591	32.0 - 40.4	806	1680

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight lbs/mft	Approx. weight lbs/mft
		in	mm		
2 AWG (35 mm²)					
4533007	1	0.563 - 0.705	14.3 - 17.9	226	331
4533043	3	1.154 - 1.462	29.3 - 37.1	677	1220
4533077	4	1.280 - 1.619	32.5 - 41.1	903	1660
4533103	5	1.406 - 1.776	35.7 - 45.1	1129	2184
1 AWG (50 mm²)					
4533008	1	0.650 - 0.812	16.5 - 20.6	323	454
4533045	3	1.343 - 1.690	34.1 - 42.9	968	1660
4533079	4	1.484 - 1.872	37.7 - 47.5	1290	2231
4533105	5	1.646 - 2.087	41.8 - 53.0	1613	2962
2/0 AWG (70 mm²)					
4533009	1	0.732 - 0.918	18.6 - 23.3	452	614
4533081	4	1.681 - 2.126	42.7 - 54.0	1806	2970
4533107	5	1.870 - 1.895	47.5 - 60.0	2258	3940
3/0 AWG (95 mm²)					
4533010	1	0.819 - 1.024	20.8 - 26.0	613	806
4533083	4	1.906 - 2.403	48.4 - 61.0	2451	3864
4533109	5	2.126 - 2.638	54.0 - 67.0	3064	5065
4/0 AWG (120 mm²)					
4533011	1	0.898 - 1.126	22.8 - 28.6	774	995
4533085	4	2.087 - 2.600	53.0 - 66.0	3097	4697
250 KCMIL (150 mm²)					
4533012	1	0.992 - 1.237	25.2 - 31.4	968	1232
4533087	4	2.283 - 2.876	58.0 - 73.0	3871	5813
350 KCMIL (185 mm²)					
4533013	1	1.087 - 1.355	27.6 - 34.4	1193	1472
4533089	4	2.520 - 3.152	64.0 - 80.0	4774	6576
450 KCMIL (240 mm²)					
4533014	1	1.205 - 1.509	30.6 - 38.3	1548	1868
600 KCMIL (300 mm²)					
4533015	1	1.319 - 1.650	33.5 - 41.9	1935	2224
750 KCMIL (400 mm²)					
4533016	1	1.472 - 1.843	37.4 - 46.8	2580	2903
1000 KCMIL (500 mm²)					
4533017	1	1.626 - 2.047	41.3 - 52.0	3226	3590

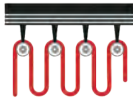
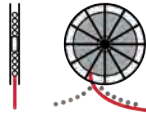
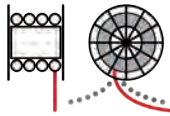
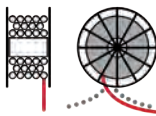
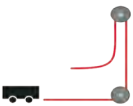
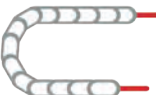
- 138 Quick select chart
- 139 Crane cable installation instructions
- 140 Lift cable installation instructions

Lift & crane cable

- 141 **ÖLFLEX® CRANE NSHTÖU**
Reelable cable for low to medium mechanical stress
- 142 **ÖLFLEX® CRANE**
Highly flexible weather-proof rubber cable with supporting element
- 143 **ÖLFLEX® CRANE PUR**
Reelable PUR cable for low, medium & high mechanical stress
- 144 **ÖLFLEX® CRANE 2S**
PVC cable with external steel supporting elements
- 145 **ÖLFLEX® FLAT**
Flat festoon cable with PVC jacket; UL/CSA approval
- 146 **ÖLFLEX® CRANE F**
Flat festoon weather-proof rubber cable
- 147 **ÖLFLEX® LIFT F**
Flat festoon cable with PVC jacket

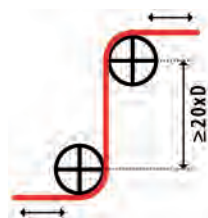
Quick select chart

- ✓ Main application
✓ Possible application

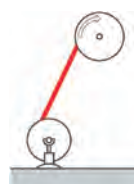
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		141	142	143	144	145	146	147
		ÖLFLEX® CRANE NSHTÖU	ÖLFLEX® CRANE	ÖLFLEX® CRANE PUR	ÖLFLEX® CRANE 2S	ÖLFLEX® FLAT	ÖLFLEX® CRANE F	ÖLFLEX® LIFT F
✓ Main application								
✓ Possible application								
Application	Diagram							
Cable trailer systems			✓			✓	✓	✓
Reeling, light stress (monospiral configuration: stacked)		✓		✓				
Reeling, moderate stress (multispiral configuration: single layer)		✓		✓				
Reeling, heavy stress (multispiral configuration: multilayer)				✓				
Vertical reeling				✓				
Reel storage (horizontal)				✓				
Reel storage (vertical)				✓				
Re-routing under tensile load				✓				
Push-button control unit				✓	✓			
Drag chain		✓	✓	✓		✓	✓	✓
Lift						✓	✓	✓

Crane cable installation instructions

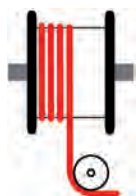
1. Whenever possible, the delivery reel should be transported to the installation site. Avoid rolling the reel. If the reel cannot be mounted directly onto the equipment, the cable should be unreeled with the aid of idle pulleys and a drag rope.
2. During unreeeling, the cable must be taken only from revolving reels and only from the top while ensuring that tension is maintained and the cable is neither deflected nor dragged over sharp edges.
3. Before installation, the cable must be laid out and stretched. If this is not possible, it is essential to keep the distance between the delivery reel and the equipment reels as long as possible. Avoid S-bends or other deflections when the cable is laid in position.
7. For cables with an outer diameter up to 21.5 mm, the inner bending diameter should not be less than 10 x the cable diameter. For cable diameters larger than 21.5 mm, the bending diameter should not be less than 12.5 x the cable diameter.
8. S-bends in the cable must be avoided. However, if this is not possible, the center spacing must be as shown below:



INCORRECT:
reels too close



INCORRECT:
cable is deflected



4. The cable must be spooled onto the equipment reel without twisting. It is equally important to avoid twisting when making connections.
5. It is essential to use properly sized clamps (length 4 x cable diameter) for fastening the cable ends in order to prevent crushing. The length of cable left unreeled before the fastening point must be at least 40 x diameter, but it is advisable to use a compensating pulley here also.
6. At least two coils must remain on the equipment reel when the cable has run out.
9. The maximum permissible reeling speed is 2 m/s with a maximum acceleration of 0.4 m/s².
10. The stationary continuous tensile stress should not exceed 15 N/mm² of the total copper cross section and the dynamic peak tensile stress may not exceed 25 N/mm². For cables with large outer diameters, use guide pulleys to minimize friction when changing direction, as shown below:
11. The actual current rating in continuous operation is limited by:
 - The conductor cross section (see Table 1)
 - The ambient temperature (see Table 2)
 - The number of layers spooled on the reel (see Table 3)
 The maximum permissible current on the installed cable is obtained from the following formula: $I = I_{\max} \times f_1 \times f_2$

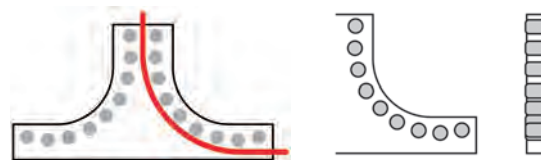


Table 1

Conductor cross-section (mm ²)	$I_{\max}$
1.5	18A
2.5	26A
4	34A
6	44A
10	61A
16	82A
25	108A
35	135A

Table 2

Ambient temperature (°C)	f_1
≤ 30	1.00
31 - 35	0.91
36 - 40	0.82
41 - 45	0.71
46 - 50	0.58
51 - 55	0.41

Table 3

Number of layers	f_2
1	0.80
2	0.68
3	0.58
4	0.60
5	0.48
6	0.46

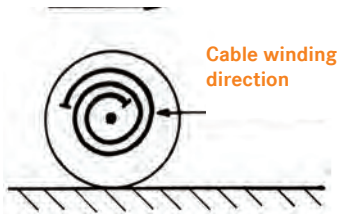
Lift cable installation instructions

A: General information

1. The cables must be free of twists when being installed, and this should be done at temperatures of at least +5 °C. See VDE 0298-4: Table 1, on previous page.
2. The inner bending radius of the cable must not be less than 20 x cable outer diameter.
3. The maximum suspension length depends on the supporting element in the cable in each case (see product catalog page), and may only be exceeded by max. 10% of the specified value.
4. The delivery drum must be transported to (or as close as possible to) the installation location. If possible, avoid rolling the drum. If the drum must be rolled, only move the drum in the specified direction (see fig. 1).

fig. 1

Direction for rolling drum



B: Suspending the cables

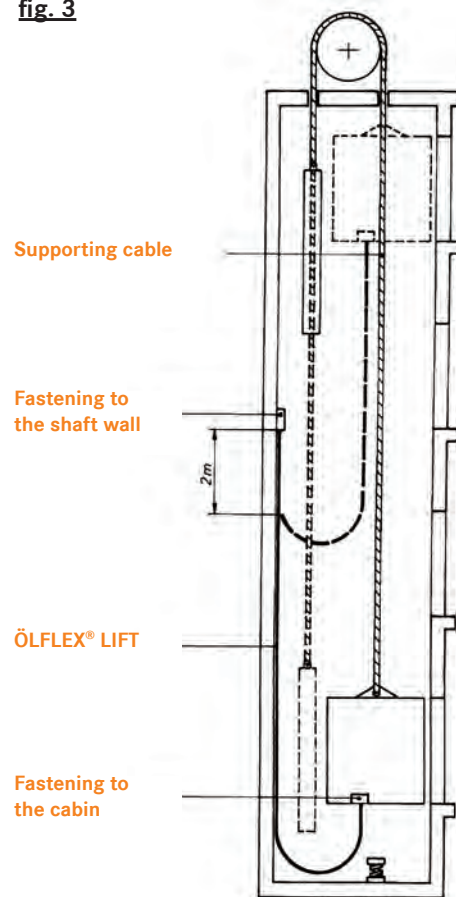
1. When pulling the cables into the shaft, unreel them tangentially from the drum. Unreeling the cable axially from the drum will result in the cable twisting and will affect the core stranding, which may in turn cause malfunctions (see fig. 2).
2. To ensure the cable is fitted without twists, allow the cable to briefly hang freely in the shaft. The best way to do this is to pull the control cable into the lift shaft from the bottom of the shaft.
3. The gap between the lift cabin and bottom of the shaft must be sufficiently large, and must be used in full for the cable loop height (see fig. 3).

fig. 2



5. It is essential that sufficiently large clamps are used to secure the cables (e.g., LAPP cable wedge clamps type EKK or DKK). For suspension lengths greater than 50 m, the supporting element must also be damped separately.
6. The fastening point on the shaft wall must be at least 2 m above the center of the travel distance (see fig. 3).
7. If the cable does not run smoothly, i.e. if the cable leaves the max. gradient line during operation, rotate the control cable slightly at one of the fastening points until the cable runs smoothly again.
8. If several control cables need to be installed for the lift unit, we recommend suspending the individual cables such that the height of the various loops differs by approx. 15 cm (stepped suspension).

fig. 3



ÖLFLEX® CRANE NSHTÖU

Reelable cable for low to medium mechanical stress

LAPP KABEL STUTTGART ÖLFLEX® CRANE NSHTÖU

LAPP KABEL STUTTGART ÖLFLEX® CRANE NSHTÖU

ÖLFLEX® CRANE NSHTÖU pendant and reel cable is constructed with a reinforced neoprene jacket and is designed for use wherever cable operation requires frequent reeling and unreeling on pulleys, drums, or rollers under tensile load.

Recommended applications

Hoists; transport and conveyor systems; dry or damp interiors, outdoors, or in industrial water; reeling/unreeling during operation without fixing

Cable attributes		page 648	
 OIL	OR-01	 FLAME	FR-01
 MOTION	FL-02	 MECH.	MP-02

Construction

Conductors: stranded tinned copper

Insulation: rubber

Jacket: reinforced rubber with integrated support braid; black

Application advantage

- Rugged jacket is resistant to mechanical abuse and chemicals
- Weather-resistant black polychloroprene jacket
- Designed for crucial bending radius
- Reinforced jacket for added strength

Approvals



Complete the installation



SKINTOP®
strain relief
page 492



EPIC®
connectors
page 284

Technical data

 Minimum bend radius:	see installation instructions, page 139	 Conductor stranding:	Class 5 fine wire
 Temperature range:	-25°C to +80°C	 Color code:	
		- up to 5c:	VDE 0293-308: chart 6, page 681
		- 6c & higher:	black with white numbers, plus green/yellow ground
 Nominal voltage:	600/1000V	 Approvals:	<VDE> NSHTÖU cable type certification acc. to VDE 0250-814 CE & RoHS
 Test voltage:	4000V		

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread
16 AWG (1.5 mm²)						
0043006	3	0.551	14.0	30	128	52015740
00430053	4	0.583	14.8	39	148	52015750
00430073	5	0.618	15.7	54	175	52015750
0043008	7	0.717	18.2	77	255	52015760
0043009	12	0.941	23.9	132	484	52015760
0043010	18	0.941	23.9	182	517	52015760
0043011	24	1.067	27.1	263	672	52015765
0043012	30	1.189	30.2	290	887	52015765
14 AWG (2.5 mm²)						
0043013	3	0.610	15.5	50	168	52015750
00430303	4	0.665	16.9	67	222	52015750
00430143	5	0.709	18.0	83	262	52015760
0043015	7	0.811	20.6	121	343	52015760
0043016	12	1.079	27.4	207	652	52015765
0043017	18	1.079	27.4	303	739	52015765
0043018	24	1.244	31.6	414	974	52015833
0043019	30	1.429	36.3	518	1310	52015766
12 AWG (4 mm²)						
00430203	4	0.724	18.4	106	296	52015760
00430333	5	0.772	19.6	148	349	52015760

* SKINTOP® MS with metric thread

Part number	Number of conductors incl. ground	Nominal outer diameter		Copper weight	Approx. weight	SKINTOP® MS PG thread
		in	mm	lbs/mft	lbs/mft	
10 AWG (6 mm ²)						
00430213	4	0.780	19.8	162	356	52015760
00430343	5	0.854	21.7	213	464	52015760
8 AWG (10 mm ²)						
00430223	4	0.921	23.4	271	558	52015760
00430003	5	0.992	25.2	343	672	52015765
6 AWG (16 mm ²)						
00430233	4	1.004	25.5	431	786	52015765
00430323	5	1.083	27.5	516	941	52015765
4 AWG (25 mm ²)						
00430243	4	1.283	32.6	675	1230	52015833
2 AWG (35 mm ²)						
00430253	4	1.370	34.8	948	1532	52015833
1 AWG (50 mm ²)						
00430263	4	1.598	40.6	1351	2164	52015767
2/0 AWG (70 mm ²)						
00430283	4	1.764	44.8	1806	2822	53112070*
3/0 AWG (95 mm ²)						
00430293	4	2.016	51.2	2451	3716	53112080*

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.
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ÖLFLEX® CRANE

Highly flexible weather-proof rubber cable with supporting element

LAPP KABEL STUTTGART ÖLFLEX® CRANE

LAPP KABEL STUTTGART ÖLFLEX® CRANE

ÖLFLEX® CRANE is a small-diameter pendant control cable. Thanks to its extremely durable and flexible jacket, this cable can be used on machinery and equipment that is permanently exposed to harsh outdoor environments. The internal supporting element provides strain relief.

Recommended applications

Machinery & equipment that is exposed to harsh weather conditions; conveying & hoisting equipment; construction machinery; shipyard machinery; in industrial or sea water; cables up to 24c can be used in cable tracks

Cable attributes		page 648	
 OIL	OR-01	 FLAME	FR-02
 MOTION	FL-02	 MECH.	MP-02

Complete the installation	
 SKINTOP® strain relief page 492	 EPIC® connectors page 284

Construction

Conductors: stranded bare copper wire

Insulation: rubber; conductors twisted in layers around central supporting element

Jacket: rubber; black

Application advantage

- Weather-resistant for harsh environmental conditions
- Very flexible, due to extra-fine wire conductor design
- Supporting element provides strain relief
- Flame retardant

Approvals



Technical data

 Minimum bend radius:		 Conductor stranding:	
- for flexible use:	12.5 x cable diameter	- 18 AWG:	0.15 mm wire diameter
		- 16 AWG & larger:	0.20 mm wire diameter
 Temperature range:		 Color code:	
- for flexible use:	-25°C to +80°C	- up to 5c:	VDE 0293-308: chart 6, page 681
- for stationary use:	-40°C to +80°C	- 6c & higher:	black with white numbers, plus green/yellow ground
 Nominal voltage:	300/500V	 Approvals:	based on VDE 0250 CE & RoHS
 Test voltage:	3000V		

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm	Tension lbs	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread
18 AWG (1 mm²)						
0039001	2	0.291	7.4	67	13	60 52015720
0039002	3	0.327	8.3	67	20	71 52015720
00390033	4	0.350	8.9	67	27	85 52015720
00390043	5	0.409	10.4	67	32	100 52015730
0039107	7	0.508	12.9	67	46	138 52015740
0039109	9	0.567	14.4	67	61	189 52015750
0039054	12	0.728	18.5	81	83	284 52015760
0039116	16	0.705	17.9	108	111	274 52015760
0039055	18	0.756	19.2	121	124	303 52015760
0039120	20	0.807	20.5	135	138	356 52015760
0039056	24	0.870	22.1	162	166	434 52015760
0039057	36	1.028	26.1	243	249	580 52015765
0039148	48	1.165	29.6	324	310	821 52015765
16 AWG (1.5 mm²)						
0039017	2	0.315	8.0	67	20	73 52015720
0039018	3	0.343	8.7	67	30	86 52015720
00390193	4	0.390	9.9	67	40	106 52015730
00390203	5	0.429	10.9	67	50	126 52015730
0039061	7	0.551	14.0	71	69	175 52015750
0039208	8	0.598	15.2	81	82	202 52015750
0039209	9	0.626	15.9	91	93	252 52015750
0039210	10	0.669	17.0	101	103	287 52015750
0039058	12	0.783	19.9	121	124	374 52015760
0039059	18	0.823	20.9	182	186	409 52015760
0039060	24	0.921	23.4	243	249	554 52015760

Part number	Number of conductors incl. ground*	Nominal outer diameter in mm	Tension lbs	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread
14 AWG (2.5 mm²)						
0039034	2	0.382	9.7	67	33	97 52015730
0039035	3	0.402	10.2	67	50	116 52015730
00390363	4	0.457	11.6	67	66	147 52015730
00390373	5	0.488	12.4	84	81	174 52015740
0039307	7	0.654	16.6	118	115	254 52015750
0039309	9	0.744	18.9	152	154	348 52015760
0039312	12	0.917	23.3	202	207	517 52015760
0039316	16	0.898	22.8	270	276	503 52015760
0039318	18	0.961	24.4	304	290	562 52015760
0039324	24	1.122	28.5	405	387	796 52015765
0039336	36	1.307	33.2	607	581	1098 52015833
12 AWG (4 mm²)						
00390463	4	0.598	15.2	108	106	206 52015750
00390473	5	0.661	16.8	135	132	265 52015750
10 AWG (6 mm²)						
00390483	4	0.661	16.8	162	159	275 52015750
00390493	5	0.756	19.2	202	198	355 52015760
8 AWG (10 mm²)						
00390503	4	0.858	21.8	270	264	469 52015760
00390513	5	0.969	24.6	337	330	573 52015765
6 AWG (16 mm²)						
00390523	4	1.000	25.4	432	423	655 52015765
00390533	5	1.102	28.0	540	529	824 52015765

* 2c cable does not include ground

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® CRANE PUR

Reelable PUR cable for low, medium & high mechanical stress

LAPP KABEL STUTTGART ÖLFLEX® CRANE PUR

LAPP KABEL STUTTGART ÖLFLEX® CRANE PUR

ÖLFLEX® CRANE PUR is a halogen-free pendant cable with a PUR jacket. It is designed with a smaller outer diameter to save space and weight. The central supporting element absorbs tensile loads, allowing reeling, unreeling, and deflection for free-hanging cables, even over large distances. The integrated support braid prevents undesirable cable twists and corkscrews.

Recommended applications

Hoists; transport and conveyor systems; reeling/unreeling guided by roller trains; dry or damp interiors, outdoors, or in industrial water

Cable attributes		page 648	
 OIL	OR-05	 FLAME	FR-02
 MOTION	FL-02	 MECH.	MP-05

Construction

Conductors: stranded bare copper wire

Insulation: TPE compound

Jacket: polyurethane with integrated support element; yellow

Application advantage

- Cost-saving due to use of smaller drums, guide rollers, and drive engines
- Good oil, chemical, thermal & mechanical resistance
- Halogen-free and flame retardant

Approvals



Complete the installation



SKINTOP® strain relief
page 492



EPIC® connectors
page 284

Technical data

 **Minimum bend radius:** 7.5 x cable diameter

 **Temperature range:**
- for flexible use: -40°C to +80°C

 **Nominal voltage:** 600/1000V

 **Test voltage:** 4000V

 **Conductor stranding:** Class 6 super fine wire

 **Color code:**
- up to 5c: VDE 0293-308: chart 6, page 681
- 6c & higher: black with white numbers, plus green/yellow ground

 **Approvals:** CE & RoHS

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Tension lbs	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread
16 AWG (1.5 mm²)							
0045207	4	0.429	10.9	112	39	114	52015730
0045209	5	0.457	11.6	225	48	132	52015730
0045210	7	0.508	12.9	562	68	161	52015740
0045211	12	0.693	17.6	562	116	269	52015760
0045212	18	0.689	17.5	562	174	341	52015760
0045213	24	0.815	20.7	562	232	452	52015760
0045215	30	1.280	32.5	674	290	1028	52015833
0045214	36	1.236	31.4	674	348	679	52015833
14 AWG (2.5 mm²)							
0045216	4	0.480	12.2	112	65	153	52015740
0045218	5	0.520	13.2	450	81	184	52015740
0045220	7	0.606	15.4	674	113	241	52015750
0045221	12	0.850	21.6	674	194	416	52015760
0045222	18	0.846	21.5	674	290	533	52015760
0045223	24	1.004	25.5	674	387	755	52015765
0045224	30	1.366	34.7	674	484	1103	52015833

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Tension lbs	Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread
12 AWG (4 mm²)							
0045225	4	0.563	14.3	225	103	229	52015750
0045227	5	0.610	15.5	450	129	276	52015750
10 AWG (6 mm²)							
0045228	4	0.654	16.6	337	155	307	52015750
0045229	5	0.697	17.7	450	194	362	52015760
8 AWG (10 mm²)							
0045230	4	0.756	19.2	450	258	453	52015760
0045237	5	0.850	21.6	562	323	554	52015760
6 AWG (16 mm²)							
0045231	4	0.874	22.2	562	413	649	52015760
0045238	5	1.008	25.6	787	516	821	52015765
4 AWG (25 mm²)							
0045232	4	1.087	27.6	787	645	1012	52015765
2 AWG (35 mm²)							
0045233	4	1.220	31.0	1012	903	1347	52015833
1 AWG (50 mm²)							
0045234	4	1.421	36.1	1349	1290	1907	52015766

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ÖLFLEX® CRANE 2S

PVC cable with external steel supporting elements



ÖLFLEX® CRANE 2S is a cold-flexible PVC-jacketed power and control cable with two opposite supporting elements for flexible use. It is designed for use in dry, damp, or wet rooms. Outdoor use is possible. This cable is widely resistant to oils and acids at room temperature.

Recommended applications

Connection of movable control panels & consoles; self-supporting shaft cable; suitable for outdoor applications; NOT suitable for lift applications

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-02	MECH.	MP-02

Construction

Conductors: stranded bare copper wire

Insulation: PVC; special wrapping to improve sliding movement between jacket and cores

Jacket: PVC with two external steel support elements; black

Application advantage

- Steel support elements absorb tensile forces during operation
- Tensile strength of 472 lbs (2100 N) per supporting element
- Flexible at low temperatures
- Flame retardant acc. to IEC 60332.1.2

Complete the installation



SKINTOP®
strain relief
page 492

Technical data

Minimum bend radius:	20 x cable diameter	Conductor stranding:	Class 6 super fine wire
Temperature range: - for flexible use:	-15°C to +70°C	Color code:	black with white numbers, plus green/yellow ground
Nominal voltage:	300/500V	Approvals:	based on VDE 0250 CE & RoHS
Test voltage:	3000V		

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread
16 AWG (1.5 mm²)						
0027503	8	0.579	14.7	77	250	52015750

Part number	Number of conductors incl. ground	Nominal outer diameter in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINTOP® MS PG thread
0027504	12	0.638	16.2	116	295	52015750
0027505	20	0.791	20.1	194	453	52015760

ÖLFLEX® FLAT

Flat festoon cable with PVC jacket; UL/CSA approval



ÖLFLEX® FLAT* is a UL/CSA approved PVC festoon power and control cable. The specially formulated PVC compound is UV-resistant and allows continuous festooning over a wide temperature range for both indoor and outdoor applications. *Trade product, no LAPP product.

Recommended applications

Overhead cranes; material handling systems; supply lines for moving machine parts

Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-02	MECH.	MP-01

Construction

Conductors: stranded bare copper wire

Insulation: PVC

Jacket: PVC; black or yellow

Shielded version: individually shielded conductors; tinned copper braid (90% coverage)

Application advantage

- Flat construction allows cables to be stacked for applications where space is limited
- Meets North American approvals

Approvals



Complete the installation			
	SKINDICHT® SVF page 529		EPIC® connectors page 284

Technical data

	Temperature range:			Color code:	ICEA-NEMA (K-2): chart 10, page 683
	- for flexible use:	-10°C to +70°C			
	- for stationary use:	-40°C to +105°C			
	Rated voltage:	600V		Approvals:	UL: Listed Festoon Cable
				Canada: Certified Festoon Cable	
				Additional: RoHS	

Part number		Number of conductors	Nominal outer diameter (height × width)		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® SVF
black jacket	yellow jacket		in	mm			
16 AWG: unshielded							
811261	811234	8	0.200 x 1.110	5.1 x 28.2	64	180	52005500
811262	811232	12	0.200 x 1.605	5.1 x 40.8	96	270	52005520
16 AWG: shielded							
811358	—	4	0.225 x 0.700	5.7 x 17.8	69	160	52005490
811357	—	8	0.270 x 1.450	6.9 x 36.8	138	220	52005510
14 AWG							
811259	811269	4	0.240 x 0.690	6.1 x 17.5	51	120	52005490
811263	811233	8	0.240 x 1.334	6.1 x 33.9	103	220	52005510
811267	811272	12	0.240 x 1.950	6.1 x 49.5	155	340	52005530
12 AWG							
811264	811235	4	0.230 x 0.711	5.8 x 18.0	83	160	52005490
811273	811236	8	0.230 x 1.340	5.8 x 34.0	166	320	52005510
10 AWG							
811266	811237	4	0.270 x 0.880	6.9 x 22.4	132	240	52005500
8 AWG							
811270	811238	4	0.365 x 1.190	9.3 x 30.2	212	420	52005510
6 AWG							
811271	811239	4	0.430 x 1.450	10.9 x 36.8	333	600	52005510
4 AWG							
811279	811280	4	0.486 x 1.656	12.3 x 42.1	560	750	—
2 AWG							
811274	811240	4	0.559 x 1.959	14.2 x 49.8	852	1270	—

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ÖLFLEX® CRANE F

Flat festoon weather-proof rubber cable

LAPP KABEL STUTTGART ÖLFLEX® CRANE F

ÖLFLEX® CRANE F is a flexible oil-resistant festoon, power, and control cable. The flat design allows space-saving installation and a smaller bending radius.

Recommended applications

Overhead crane & material handling systems; shipyards; waste water treatment plants; steel mills; high rack warehouses; indoor and outdoor use

Approvals



Cable attributes		page 648	
OIL	OR-01	FLAME	FR-02
MOTION	FL-02	MECH.	MP-01

Construction

Conductors: stranded bare copper

Insulation: rubber

Jacket: rubber compound; black

Application advantage

- Weather- and UV-resistant jacket for extreme environmental conditions
- Flame-retardant jacket
- May be used in continuous flex applications over a wide temperature range
- Flat construction allows cables to be stacked for a space-saving installation

Complete the installation



SKINDICHT® SVF
page 529



EPIC® connectors
page 284

Technical data

Minimum bend radius:	10 x cable height
Temperature range: - for flexible use:	-25°C to +90°C
Nominal voltage:	300/500V
Test voltage:	3000V

Conductor stranding:	
- 16 - 4 AWG:	Class 6 fine wire
- 2 AWG & larger:	Class 5 fine wire
Color code:	
- up to 5c:	VDE 0293-308: chart 6, page 681
- 6c & higher:	black with white numbers, plus green/yellow ground
Approvals:	based on VDE 0250 (NGFLGÖU) CE & RoHS

Part number	Number of conductors incl. ground	Nominal outer diameter (height x width) inmm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® SVF PG thread
16 AWG (1.5 mm²)						
0041041	4	0.244 x 0.690	6.2 x 17.5	39	134	52005490
0041042	5	0.244 x 0.847	6.2 x 21.5	48	161	52005500
0041043	7	0.244 x 1.143	6.2 x 29.0	68	242	52005500
0041044	8	0.244 x 1.241	6.2 x 31.5	77	249	52005510
0041045	10	0.256 x 1.576	6.5 x 40.0	97	349	52005510
0041046	12	0.256 x 1.852	6.5 x 47.0	116	417	52005530
14 AWG (2.5 mm²)						
0041047	4	0.296 x 0.827	7.5 x 21.0	65	188	52005490
0041048	5	0.296 x 1.064	7.5 x 27.0	81	269	52005500
0041049	7	0.296 x 1.379	7.5 x 35.0	113	349	52005510
0041050	8	0.296 x 1.537	7.5 x 39.0	129	370	52005510
0041051	12	0.315 x 2.206	8.0 x 56.0	194	538	—
12 AWG (4 mm²)						
0041052	4	0.355 x 1.024	9.0 x 26.0	103	276	52005500
0041053	7	0.355 x 1.655	9.0 x 42.0	181	470	52005520
10 AWG (6 mm²)						
0041054	4	0.374 x 1.143	9.5 x 29.0	155	403	52005500
0041055	5	0.374 x 1.379	9.5 x 35.0	194	437	52005510
0041056	7	0.374 x 1.655	9.5 x 42.0	271	571	52005520

Part number	Number of conductors incl. ground	Nominal outer diameter (height x width) in mm		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® SVF PG thread
8 AWG (10 mm²)						
0041057	4	0.433 x 1.300	11.0 x 33.0	258	538	52005510
0041058	5	0.433 x 1.734	11.0 x 44.0	323	672	52005520
6 AWG (16 mm²)						
0041059	4	0.512 x 1.497	13.0 x 38.0	413	773	—
4 AWG (25 mm²)						
0041060	4	0.591 x 1.950	15.0 x 49.5	645	1142	—
2 AWG (35 mm²)						
0041061	4	0.670 x 2.167	17.0 x 55.0	903	1478	—
1/0 AWG (50 mm²)						
0041062	4	0.749 x 2.482	19.0 x 63.0	1290	2016	—
2/0 AWG (70 mm²)						
0041063	4	0.867 x 2.797	22.0 x 71.0	1806	2688	—

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section. If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.

ÖLFLEX® LIFT F

Flat festoon cable with PVC jacket

LAPP KABEL STUTTGART ÖLFLEX® LIFT F

LAPP KABEL STUTTGART ÖLFLEX® LIFT F

ÖLFLEX® LIFT F is a flat control cable with special cold-resistant PVC insulation and black PVC jacket. According to VDE definition, this cable can also be used as an elevator control cable.

Recommended applications

Conveyor systems; hoists; cable trolleys; supply lines for moving machine parts; cable tracks; lift applications

Cable attributes		page 648	
 OIL	OR-01	 FLAME	FR-02
 MOTION	FL-02	 MECH.	MP-01

Complete the installation	
 SKINDICHT® SVF	page 529
 EPIC® connectors	page 284

Construction

Conductors: finely stranded bare copper

Insulation: PVC

Jacket: PVC; black

Application advantage

- Flame-retardant jacket
- Improved flexibility due to finely stranded conductors
- Meets requirements of the harmonized PVC flat cable H05VVH6-F & H07VVH6-F

Approvals



Technical data

 Minimum bend radius:	10 x cable height	 Conductor stranding:	Class 5 fine wire
 Temperature range:		 Color code:	
- for flexible use:		- up to 5c:	VDE 0293-308: chart 6, page 681
- 18 AWG:	0°C to +70°C	- 6c & higher:	black with white numbers, plus green/yellow ground
- 16 AWG & larger:	-15°C to +70°C		
 Nominal voltage:		 Approvals:	
- 18 AWG:	300/500V		based on EN 50214/VDE 0283-2
- 16 AWG & larger:	450/750V		(H05VVH6-F or H07VVH6-F)
			CE & RoHS

Part number	Number of conductors incl. ground	Single wire diameter		Nominal outer diameter (height x width)		Copper weight lbs/mft	Approx. weight lbs/mft	SKINDICHT® SVF PG thread
		in	mm	in	mm			
18 AWG (1 mm²)								
0042020	12	0.008	0.21	0.185 x 1.418	4.7 x 36.0	77	263	52005510
0042021	16	0.008	0.21	0.185 x 1.911	4.7 x 48.5	103	350	—
0042022	20	0.008	0.21	0.185 x 2.325	4.7 x 59.0	129	433	—
0042023	24	0.008	0.21	0.185 x 2.817	4.7 x 71.5	155	519	—
16 AWG (1.5 mm²)								
00420013	4	0.006	0.15	0.205 x 0.611	5.2 x 15.5	39	89	52005480
00420023	5	0.006	0.15	0.205 x 0.776	5.2 x 19.7	48	114	52005490
0042003	7	0.006	0.15	0.205 x 1.064	5.2 x 27.0	68	159	52005500
0042004	8	0.006	0.15	0.205 x 1.143	5.2 x 29.0	77	179	52005500
0042005	10	0.006	0.15	0.205 x 1.438	5.2 x 36.5	97	224	52005510
0042006	12	0.006	0.15	0.205 x 1.655	5.2 x 42.0	116	284	52005520
14 AWG (2.5 mm²)								
00420073	4	0.006	0.15	0.232 x 0.749	5.9 x 19.0	65	138	52005490
00420083	5	0.006	0.15	0.232 x 0.946	5.9 x 24.0	81	173	52005500
0042009	7	0.006	0.15	0.232 x 1.281	5.9 x 32.5	113	232	52005510
0042010	8	0.006	0.15	0.232 x 1.379	5.9 x 35.0	129	262	52005510
0042050	12	0.006	0.15	0.232 x 2.069	5.9 x 52.5	194	390	—
12 AWG (4 mm²)								
00420113	4	0.006	0.15	0.268 x 0.827	6.8 x 21.0	103	230	52005490
0042012	7	0.006	0.15	0.268 x 1.497	6.8 x 38.0	181	396	52005510
10 AWG (6 mm²)								
00420133	4	0.008	0.20	0.288 x 0.946	7.3 x 24.0	155	286	52005500
8 AWG (10 mm²)								
00420143	4	0.012	0.30	0.374 x 1.202	9.5 x 30.5	258	476	52005500
6 AWG (16 mm²)								
00420153	4	0.012	0.30	0.426 x 1.379	10.8 x 35.0	413	682	52005500
4 AWG (25 mm²)								
00420163	4	0.012	0.30	0.512 x 1.655	13.0 x 42.0	645	918	—

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values. Photographs are not to scale and are not true representations of the products in question.



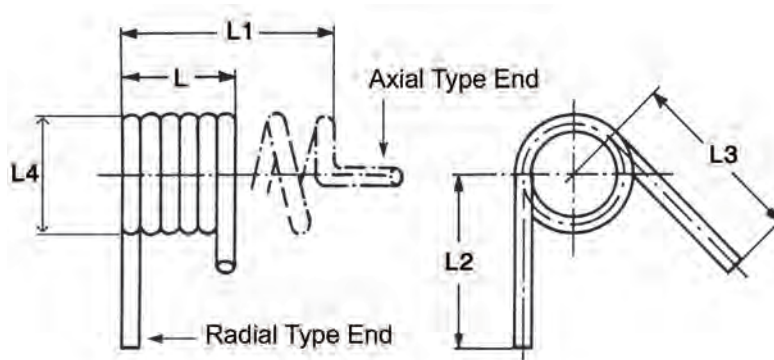
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Retractable unshielded data cable with PUR jacket
- 160 SPIRAL H07BQ-F BLACK**
Retractable power supply cable with PUR jacket

Quick select chart

Product	Jacket material	AWG range	Temperature range	Nominal voltage rating	Extension capability	Page
ÖLFLEX® SPIRAL 400 P	PUR	18 - 14 AWG	+5°C to +50°C	300/500V	x 3	152
ÖLFLEX® SPIRAL 540 P	PUR	18 - 14 AWG	-30°C to +50°C	18 AWG: 300/500V 16 - 14 AWG: 450/750V	x 3.5	154
UNITRONIC® SPIRAL	PUR	26 - 24 AWG	-5°C to +50°C	250V (not for power)	x 4	156
UNITRONIC® SPIRAL LiF2Y11Y	PUR	26 - 24 AWG	-5°C to +50°C	250V (not for power)	x 4	158
SPIRAL H07BQ-F BLACK	PUR	16 AWG	-25°C to +50°C	450/750V	x 3	160

ÖLFLEX® special-design custom coil cords

Non-standard quotation inquiry form



ÖLFLEX® cable type: ☐ 400 P ☐ 490 P ☐ 540 P ☐ 590 P ☐ 855 P ☐ Other

Cable part number: _____ AWG & number of conductors: _____

Description: _____

Retracted length (L): _____ in. Extended length (L1): _____ in.

Retracted tail length (L2): _____ in. Extended tail length (L3): _____ in.

Retracted tail type: ☐ Radial ☐ Axial Extended tail type: ☐ Radial ☐ Axial

Spiral outer diameter (L4): _____ in.

Quantity: _____ Breaks (if required): _____

Contact name: _____

Company name: _____

Phone: _____

Fax completed form to 973-660-9330 or email to sales@lappusa.com or your local LAPP representative.

ÖLFLEX® SPIRAL 400 P

Retractable control cable with PUR jacket



ÖLFLEX® SPIRAL 400 P is a retractable multi-conductor control cable with a rugged abrasion-resistant polyurethane jacket and an extension capability of up to 3 times its retracted length.

Recommended applications

Machine tool manufacturing; cranes and hoists

Approvals



Construction

Conductors: finely stranded bare copper

Insulation: PVC; dry lubricant

Jacket: specially formulated polyurethane; gray

Application advantage

- Excellent resistance to mineral oils and cutting fluids
- Highly resistant to mechanical abuse typically found in industrial applications
- Special spiral designs are available, see page 151

Cable attributes page 648

OIL	OR-05	FLAME	FR-02
MOTION	FL-02	MECH.	MP-05

Complete the installation



SKINTOP®
strain relief
page 492



EPIC®
connectors
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Technical data

Length & type of tails:	8 in (200 mm), tangential 24 in (600 mm), tangential	Conductor stranding:	Class 5 fine wire
Temperature range:	+5 °C to +50 °C	Color code:	black with white numbers, plus green/yellow ground
Nominal voltage:	300/500V	Approvals:	CE & RoHS
Test voltage:	3000V		

ÖLFLEX® SPIRAL 400 P

Part number	Number of conductors* incl. ground	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		Copper weight lbs/100 pcs.	Approx. weight lbs/100 pcs.	SKINTOP® SL PG thread
		in	mm	in	mm	in	mm	in	mm			
18 AWG (1 mm²)												
70002646	2	0.224	5.7	0.788	20	59	1500	20	500	20	48	S1107
70002647	2	0.224	5.7	0.788	20	118	3000	39	1000	36	88	S1107
70002648	2	0.224	5.7	0.788	20	177	4500	59	1500	51	121	S1107
70002649	2	0.224	5.7	0.788	20	236	6000	79	2000	61	158	S1107
70002651	3	0.236	6.0	0.827	21	59	1500	20	500	29	58	S1109
70002652	3	0.236	6.0	0.827	21	118	3000	39	1000	54	109	S1109
70002653	3	0.236	6.0	0.827	21	177	4500	59	1500	78	156	S1109
70002654	3	0.236	6.0	0.827	21	236	6000	79	2000	93	196	S1109
70002656	4	0.256	6.5	0.946	24	59	1500	20	500	39	76	S1109
70002657	4	0.256	6.5	0.946	24	118	3000	39	1000	72	134	S1109
70002658	4	0.256	6.5	0.946	24	177	4500	59	1500	111	190	S1109
70002659	4	0.256	6.5	0.946	24	236	6000	79	2000	130	257	S1109
70002661	5	0.280	7.1	0.985	25	59	1500	20	500	49	84	S1111
70002662	5	0.280	7.1	0.985	25	118	3000	39	1000	90	145	S1111
70002663	5	0.280	7.1	0.985	25	177	4500	59	1500	133	212	S1111
70002664	5	0.280	7.1	0.985	25	236	6000	79	2000	165	301	S1111
70002666	7	0.315	8.0	1.182	30	49	1250	20	500	73	119	S1111
70002667	7	0.315	8.0	1.182	30	98	2500	39	1000	125	213	S1111
70002668	7	0.315	8.0	1.182	30	148	3750	59	1500	170	320	S1111
70002669	7	0.315	8.0	1.182	30	197	5000	79	2000	260	408	S1111
70002670	12	0.414	10.5	1.4578	37	59.1	1500	19.7	500	132	215	S1113
70002671	12	0.414	10.5	1.4578	37	118.2	3000	39.4	1000	223	372	S1113
70002672	18	0.500	12.7	1.773	45	59.1	1500	19.7	500	196	287	S1116
70002673	18	0.500	12.7	1.773	45	118.2	3000	39.4	1000	309	548	S1116
16 AWG (1.5 mm²)												
70002681	2	0.248	6.3	0.906	23	59	1500	20	500	32	65	S1109
70002682	2	0.248	6.3	0.906	23	118	3000	39	1000	59	119	S1109
70002683	2	0.248	6.3	0.906	23	177	4500	59	1500	84	165	S1109
70002684	2	0.248	6.3	0.906	23	236	6000	79	2000	109	229	S1109
70002687	3	0.264	6.7	0.946	24	59	1500	20	500	47	82	S1109
70002688	3	0.264	6.7	0.946	24	118	3000	39	1000	81	143	S1109
70002689	3	0.264	6.7	0.946	24	177	4500	59	1500	110	207	S1109
70002690	3	0.264	6.7	0.946	24	236	6000	79	2000	147	280	S1109
70002699	5	0.319	8.1	1.182	30	49	1250	20	500	75	119	S1111
70002700	5	0.319	8.1	1.182	30	98	2500	39	1000	132	213	S1111
70002701	5	0.319	8.1	1.182	30	148	3750	59	1500	191	311	S1111
70002702	5	0.319	8.1	1.182	30	197	5000	79	2000	259	432	S1111
70002705	7	0.350	8.9	1.221	31	49	1250	20	500	101	143	S1111
70002706	7	0.350	8.9	1.221	31	98	2500	39	1000	179	253	S1111
70002707	7	0.350	8.9	1.221	31	148	3750	59	1500	245	394	S1111
70002708	7	0.350	8.9	1.221	31	197	5000	79	2000	332	489	S1111
70002709	12	0.473	12	1.8124	46	59.1	1500	19.7	500	214	284	S1113
70002710	12	0.473	12	1.8124	46	118.2	3000	39.4	1000	366	529	S1113
70002711	18	0.528	13.4	2.0488	52	59.1	1500	19.7	500	278	432	S1116
70002712	18	0.528	13.4	2.0488	52	118.2	3000	39.4	1000	499	740	S1116
14 AWG (2.5 mm²)												
70002716	3	0.319	8.1	1.123	29	49	1250	20	500	75	120	S1111
70002717	3	0.319	8.1	1.123	29	98	2500	39	1000	142	264	S1111
70002718	3	0.319	8.1	1.123	29	148	3750	59	1500	196	322	S1111
70002719	3	0.319	8.1	1.123	29	197	5000	79	2000	237	429	S1111
70002721	5	0.394	10.0	1.458	37	49	1250	20	500	138	202	S1113
70002722	5	0.394	10.0	1.458	37	98	2500	39	1000	236	364	S1113
70002723	5	0.394	10.0	1.458	37	148	3750	59	1500	329	540	S1113
70002724	5	0.394	10.0	1.458	37	197	5000	79	2000	437	681	S1113

* 2c cable does not include ground

ÖLFLEX® SPIRAL 540 P

Retractable power supply cable with safety yellow PUR jacket



ÖLFLEX® SPIRAL 540 P is a multi-conductor, TPE-insulated, retractable power supply cable with a yellow polyurethane outer jacket. It may be used both indoors and outdoors in wet, dry, or hot conditions. The cable has an extension capability of up to 3.5 times its retracted length.

Recommended applications

Power supply for machine tools, cranes, and hoists

Approvals



Cable attributes		page 648	
OIL	OR-05	FLAME	FR-02
MOTION	FL-02	MECH.	MP-05

Construction

Conductors: finely stranded bare copper

Insulation: TPE; dry lubricant

Jacket: flame-retardant polyurethane; yellow

Application advantage

- Highly visible safety yellow jacket
- Abrasion- and cut-resistant jacket
- Highly resistant to oils and low temperatures
- Halogen-free jacket
- Special spiral designs are available, see page 151

Complete the installation



SKINTOP®
strain relief
page 492



EPIC®
connectors
page 284

Technical data

Length & type of tails:	8 in (200 mm), tangential 24 in (600 mm), tangential	Conductor stranding:	Class 5 fine wire
Temperature range:	-30°C to +50°C	Color code:	- up to 5c: VDE 0293-308: chart 6, page 681 - 7c: black with white numbers, plus green/yellow ground
Nominal voltage:	- 18 AWG: 300/500V - 16 - 14 AWG: 450/750V	Approvals:	CE & RoHS
Test voltage:	3000V		

ÖLFLEX® SPIRAL 540 P

Part number	Number of conductors incl. ground*	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		Copper weight lbs/100 pcs.	Approx. weight lbs/100 pcs.	SKINTOP® SL PG thread
		in	mm	in	mm	in	mm	in	mm			
18 AWG (1 mm²)												
73220123	2	0.276	7.0	0.946	24	39	1000	12	300	14	38	S2111
73220124	2	0.276	7.0	0.946	24	79	2000	24	600	23	60	S2111
73220125	2	0.276	7.0	0.946	24	138	3500	39	1000	35	92	S2111
73220126	2	0.276	7.0	0.946	24	197	5000	59	1500	49	138	S2111
73220127	3	0.292	7.4	1.143	29	39	1000	12	300	24	54	S2111
73220128	3	0.292	7.4	1.143	29	79	2000	24	600	41	91	S2111
73220129	3	0.292	7.4	1.143	29	138	3500	39	1000	61	142	S2111
73220130	3	0.292	7.4	1.143	29	197	5000	59	1500	87	210	S2111
71220131	4	0.323	8.2	1.182	30	39	1000	12	300	30	63	S2111
71220132	4	0.323	8.2	1.182	30	79	2000	24	600	50	97	S2111
71220133	4	0.323	8.2	1.182	30	138	3500	39	1000	78	155	S2111
71220134	4	0.323	8.2	1.182	30	197	5000	59	1500	109	232	S2111
71220135	5	0.355	9.0	1.261	32	39	1000	12	300	36	70	S2113
71220136	5	0.355	9.0	1.261	32	79	2000	24	600	60	115	S2113
71220137	5	0.355	9.0	1.261	32	138	3500	39	1000	93	187	S2113
71220138	5	0.355	9.0	1.261	32	197	5000	59	1500	123	262	S2113
73220139	7	0.430	10.9	1.576	40	39	1000	14	350	53	114	S2113
73220140	7	0.430	10.9	1.576	40	79	2000	28	700	96	209	S2113
73220141	7	0.430	10.9	1.576	40	138	3500	47	1200	155	340	S2113
73220142	7	0.430	10.9	1.576	40	197	5000	67	1700	203	425	S2113
16 AWG (1.5 mm²)												
73220143	2	0.331	8.4	1.221	31	39	1000	12	300	23	62	S2111
73220144	2	0.331	8.4	1.221	31	79	2000	24	600	38	101	S2111
73220145	2	0.331	8.4	1.221	31	138	3500	39	1000	58	163	S2111
73220146	2	0.331	8.4	1.221	31	197	5000	59	1500	84	239	S2111
73220147	3	0.351	8.9	1.261	32	39	1000	12	300	33	69	S2113
73220148	3	0.351	8.9	1.261	32	79	2000	24	600	52	116	S2113
73220149	3	0.351	8.9	1.261	32	138	3500	39	1000	81	183	S2113
73220150	3	0.351	8.9	1.261	32	197	5000	59	1500	114	263	S2113
71220151	5	0.430	10.9	1.576	40	39	1000	14	350	63	120	S2113
71220152	5	0.430	10.9	1.576	40	79	2000	28	700	99	205	S2113
71220153	5	0.430	10.9	1.576	40	138	3500	47	1200	172	336	S2113
71220154	5	0.430	10.9	1.576	40	197	5000	67	1700	237	447	S2113
73220155	7	0.532	13.5	2.049	52	39	1000	14	350	85	185	S2121
73220156	7	0.532	13.5	2.049	52	79	2000	28	700	150	325	S2121
73220157	7	0.532	13.5	2.049	52	138	3500	47	1200	255	543	S2121
73220158	7	0.532	13.5	2.049	52	197	5000	67	1700	351	786	S2121
14 AWG (2.5 mm²)												
73220159	3	0.418	10.6	1.576	40	39	1000	14	350	61	118	S2113
73220160	3	0.418	10.6	1.576	40	79	2000	28	700	102	201	S2113
73220161	3	0.418	10.6	1.576	40	138	3500	47	1200	170	345	S2113
73220162	3	0.418	10.6	1.576	40	197	5000	67	1700	226	486	S2113
71220163	5	0.528	13.4	2.009	51	39	1000	14	350	110	187	S2116
71220164	5	0.528	13.4	2.009	51	79	2000	28	700	192	335	S2116
71220165	5	0.528	13.4	2.009	51	138	3500	47	1200	305	553	S2116
71220166	5	0.528	13.4	2.009	51	197	5000	67	1700	416	744	S2116

* 2c cable does not include ground

UNITRONIC® SPIRAL

Retractable shielded data cable with PUR jacket



UNITRONIC® SPIRAL is a shielded multi-conductor signal and data cable designed to extend 4 times its retracted length. With a polyurethane outer jacket, UNITRONIC® SPIRAL is robust for heavier duty applications.

Recommended applications

Computers; data transmission; office equipment; process, control, and instrumentation applications

Approvals



Cable attributes page 648

OIL	OR-05	FLAME	FR-02
MOTION	FL-02	MECH.	MP-01

Construction

Conductors: finely stranded bare copper

Insulation: PVC; dry lubricant

Shielding: copper spiral shield

Jacket: specially formulated polyurethane; black

Application advantage

- Overall shield prevents interference for accurate pulse transmission
- Highly flexible
- Excellent for confined areas where installation is tight
- Polyurethane jacket for extra ruggedness
- Special spiral designs are available, see page 151

Complete the installation



SKINTOP® strain relief
page 492



EPIC® connectors
page 284

Technical data

Length & type of tails:	8 in (200 mm), tangential 24 in (600 mm), tangential	Conductor stranding:	Class 6 fine wire
Temperature range:	-5°C to +50°C	Color code:	DIN 47100: chart 8, page 682
Nominal voltage:	250V (not for power applications)	Approvals:	based on VDE specifications RoHS
Test voltage:	1200V		

Part number	Number of conductors incl. ground	Nominal outer diameter in mm	Nominal spiral outer diameter in mm	Extended spiral length in mm	Retracted spiral length in mm	SKINTOP® SL PG thread
26 AWG (0.14 mm²)						
73220200	2	0.162	4.1	0.591	15	16 400 4 100 S2107
73220201	2	0.162	4.1	0.591	15	32 800 8 200 S2107
73220202	2	0.162	4.1	0.591	15	47 1200 12 300 S2107
73220203	2	0.162	4.1	0.591	15	63 1600 16 400 S2107
73220204	2	0.162	4.1	0.591	15	79 2000 20 500 S2107
73220205	3	0.169	4.3	0.709	18	16 400 4 100 S2107
73220206	3	0.169	4.3	0.709	18	32 800 8 200 S2107
73220207	3	0.169	4.3	0.709	18	47 1200 12 300 S2107
73220208	3	0.169	4.3	0.709	18	63 1600 16 400 S2107
73220209	3	0.169	4.3	0.709	18	79 2000 20 500 S2107
73220210	4	0.177	4.5	0.748	19	16 400 4 100 S2107
73220211	4	0.177	4.5	0.748	19	32 800 8 200 S2107

If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

UNITRONIC® SPIRAL

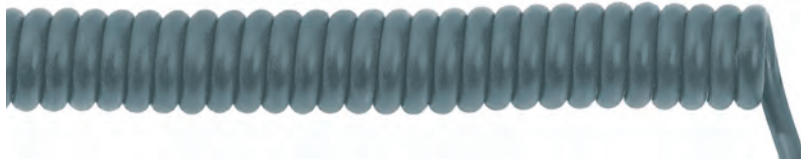
Part number	Number of conductors incl. ground	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		SKINTOP® SL PG thread
		in	mm	in	mm	in	mm	in	mm	
73220212	4	0.177	4.5	0.748	19	47	1200	12	300	S2107
73220213	4	0.177	4.5	0.748	19	63	1600	16	400	S2107
73220214	4	0.177	4.5	0.748	19	79	2000	20	500	S2107
73220215	5	0.189	4.8	0.787	20	16	400	4	100	S2107
73220216	5	0.189	4.8	0.787	20	32	800	8	200	S2107
73220217	5	0.189	4.8	0.787	20	47	1200	12	300	S2107
73220218	5	0.189	4.8	0.787	20	63	1600	16	400	S2107
73220219	5	0.189	4.8	0.787	20	79	2000	20	500	S2107
73220220	6	0.217	5.5	0.827	21	16	400	4	100	S2109
73220221	6	0.217	5.5	0.827	21	32	800	8	200	S2109
73220222	6	0.217	5.5	0.827	21	47	1200	12	300	S2109
73220223	6	0.217	5.5	0.827	21	63	1600	16	400	S2109
73220224	6	0.217	5.5	0.827	21	79	2000	20	500	S2109
73220225	7	0.232	5.9	0.906	23	16	400	4	100	S2109
73220226	7	0.232	5.9	0.906	23	31	800	8	200	S2109
73220227	7	0.232	5.9	0.906	23	47	1200	12	300	S2109
73220228	7	0.232	5.9	0.906	23	63	1600	16	400	S2109
73220229	7	0.232	5.9	0.906	23	79	2000	20	500	S2109
73220230	12	0.284	7.2	1.063	27	16	400	4	100	S2111
73220231	12	0.284	7.2	1.063	27	32	800	8	200	S2111
73220232	12	0.284	7.2	1.063	27	47	1200	12	300	S2111
73220233	12	0.284	7.2	1.063	27	63	1600	16	400	S2111
73220234	12	0.284	7.2	1.063	27	79	2000	20	500	S2111
73220235	18	0.315	8.0	1.142	29	16	400	4	100	S2111
73220236	18	0.315	8.0	1.142	29	32	800	8	200	S2111
73220237	18	0.315	8.0	1.142	29	47	1200	12	300	S2111
73220238	18	0.315	8.0	1.142	29	63	1600	16	400	S2111
73220239	18	0.315	8.0	1.142	29	79	2000	20	500	S2111
24 AWG (0.25 mm²)										
73220240	2	0.185	4.7	0.709	18	16	400	4	100	S2107
73220241	2	0.185	4.7	0.709	18	31	800	8	200	S2107
73220242	2	0.185	4.7	0.709	18	47	1200	12	300	S2107
73220243	2	0.185	4.7	0.709	18	63	1600	16	400	S2107
73220244	2	0.185	4.7	0.709	18	79	2000	20	500	S2107
73220245	3	0.209	5.3	0.748	19	16	400	4	100	S2109
73220246	3	0.209	5.3	0.748	19	31	800	8	200	S2109
73220247	3	0.209	5.3	0.748	19	47	1200	12	300	S2109
73220248	3	0.209	5.3	0.748	19	63	1600	16	400	S2109
73220249	3	0.209	5.3	0.748	19	79	2000	20	500	S2109
73220250	4	0.220	5.6	0.787	20	16	400	4	100	S2109
73220251	4	0.220	5.6	0.787	20	31	800	8	200	S2109
73220252	4	0.220	5.6	0.787	20	47	1200	12	300	S2109
73220253	4	0.220	5.6	0.787	20	63	1600	16	400	S2109
73220254	4	0.220	5.6	0.787	20	79	2000	20	500	S2109
73220255	5	0.236	6	0.827	21	16	400	4	100	S2109
73220256	5	0.236	6	0.827	21	31	800	8	200	S2109
73220257	5	0.236	6	0.827	21	47	1200	12	300	S2109
73220258	5	0.236	6	0.827	21	63	1600	16	400	S2109
73220259	5	0.236	6	0.827	21	79	2000	20	500	S2109
73220260	6	0.268	6.8	0.984	25	16	400	4	100	S2111
73220261	6	0.268	6.8	0.984	25	31	800	8	200	S2111
73220262	6	0.268	6.8	0.984	25	47	1200	12	300	S2111
73220263	6	0.268	6.8	0.984	25	63	1600	16	400	S2111
73220264	6	0.268	6.8	0.984	25	79	2000	20	500	S2111
73220265	7	0.287	7.3	1.024	26	16	400	4	100	S2111
73220266	7	0.287	7.3	1.024	26	31	800	8	200	S2111
73220267	7	0.287	7.3	1.024	26	47	1200	12	300	S2111
73220268	7	0.287	7.3	1.024	26	63	1600	16	400	S2111
73220269	7	0.287	7.3	1.024	26	79	2000	20	500	S2111
73220270	12	0.331	8.4	1.181	30	16	400	4	100	S2113
73220271	12	0.331	8.4	1.181	30	31	800	8	200	S2113
73220272	12	0.331	8.4	1.181	30	47	1200	12	300	S2113
73220273	12	0.331	8.4	1.181	30	63	1600	16	400	S2113
73220274	12	0.331	8.4	1.181	30	79	2000	20	500	S2113
73220275	18	0.374	9.5	1.220	31	16	400	4	100	S2113
73220276	18	0.374	9.5	1.220	31	31	800	8	200	S2113
73220277	18	0.374	9.5	1.220	31	47	1200	12	300	S2113
73220278	18	0.374	9.5	1.220	31	63	1600	16	400	S2113
73220279	18	0.374	9.5	1.220	31	79	2000	20	500	S2113

Custom configurations are available. Utilize the custom cable design form on page 151 or contact your LAPP sales representative.

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.

UNITRONIC® SPIRAL LiF2Y11Y

Retractable unshielded data cable with PUR jacket



UNITRONIC® SPIRAL LiF2Y11Y is an unshielded multi-conductor signal and data cable designed to extend up to 4 times its retracted length. Designed with a polyurethane outer jacket, it is robust for heavier duty applications.

Recommended applications

Electronic applications; measurement and control engineering; handling and measurement equipment; conveyor and transport systems

Approvals



Cable attributes page 648

OIL	OR-05	FLAME	FR-02
MOTION	FL-02	MECH.	MP-05

Construction

Conductors: finely stranded bare copper

Insulation: based on polyolefin

Jacket: specially formulated polyurethane, gray

Application advantage

- Abrasion- and cut-resistant jacket
- Very high flexibility
- Halogen-free and flame retardant
- Special spiral designs are available, see page 151

Complete the installation



SKINTOP®
strain relief
page 492



EPIC®
connectors
page 284

Technical data

Length & Type of Tails:	8 in (200 mm), tangential 24 in (600 mm), tangential	Conductor stranding:	Class 6 fine wire
Temperature range:	-5°C to +50°C	Color code:	DIN 47100: chart 8, page 682
Nominal voltage:	250V (not for power applications)	Approvals:	CE & RoHS
Test voltage:	1200V		

Part number	Number of conductors incl. ground	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		SKINTOP® SL
		in	mm	in	mm	in	mm	in	mm	PG thread
26 AWG (0.14 mm²)										
73220300	2	0.134	3.4	0.551	14	16	400	4	100	S1107
73220301	2	0.134	3.4	0.551	14	31	800	8	200	S1107
73220302	2	0.134	3.4	0.551	14	47	1200	12	300	S1107
73220303	2	0.134	3.4	0.551	14	63	1600	16	400	S1107
73220304	2	0.134	3.4	0.551	14	79	2000	20	500	S1107
73220305	3	0.154	3.9	0.591	15	16	400	4	100	S1107
73220306	3	0.154	3.9	0.591	15	31	800	8	200	S1107
73220307	3	0.154	3.9	0.591	15	47	1200	12	300	S1107
73220308	3	0.154	3.9	0.591	15	63	1600	16	400	S1107
73220309	3	0.154	3.9	0.591	15	79	2000	20	500	S1107
73220310	4	0.165	4.2	0.669	17	16	400	4	100	S1107
73220311	4	0.165	4.2	0.669	17	31	800	8	200	S1107

If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.

UNITRONIC® SPIRAL LiF2Y11Y

Part number	Number of conductors incl. ground	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		SKINTOP® SL PG thread
		in	mm	in	mm	in	mm	in	mm	
73220312	4	0.165	4.2	0.669	17	47	1200	12	300	S1107
73220313	4	0.165	4.2	0.669	17	63	1600	16	400	S1107
73220314	4	0.165	4.2	0.669	17	79	2000	20	500	S1107
73220315	5	0.177	4.5	0.748	19	16	400	4	100	S1107
73220316	5	0.177	4.5	0.748	19	31	800	8	200	S1107
73220317	5	0.177	4.5	0.748	19	47	1200	12	300	S1107
73220318	5	0.177	4.5	0.748	19	63	1600	16	400	S1107
73220319	5	0.177	4.5	0.748	19	79	2000	20	500	S1107
73220320	6	0.189	4.8	0.748	19	16	400	4	100	S1107
73220321	6	0.189	4.8	0.748	19	31	800	8	200	S1107
73220322	6	0.189	4.8	0.748	19	47	1200	12	300	S1107
73220323	6	0.189	4.8	0.748	19	63	1600	16	400	S1107
73220324	6	0.189	4.8	0.748	19	79	2000	20	500	S1107
73220325	7	0.201	5.1	0.787	20	16	400	4	100	S1109
73220326	7	0.201	5.1	0.787	20	31	800	8	200	S1109
73220327	7	0.201	5.1	0.787	20	47	1200	12	300	S1109
73220328	7	0.201	5.1	0.787	20	63	1600	16	400	S1109
73220329	7	0.201	5.1	0.787	20	79	2000	20	500	S1109
73220330	12	0.232	5.9	0.827	21	16	400	4	100	S1109
73220331	12	0.232	5.9	0.827	21	31	800	8	200	S1109
73220332	12	0.232	5.9	0.827	21	47	1200	12	300	S1109
73220333	12	0.232	5.9	0.827	21	63	1600	16	400	S1109
73220334	12	0.232	5.9	0.827	21	79	2000	20	500	S1109
73220335	18	0.268	6.8	1.063	27	16	400	4	100	S1109
73220336	18	0.268	6.8	1.063	27	31	800	8	200	S1109
73220337	18	0.268	6.8	1.063	27	47	1200	12	300	S1109
73220338	18	0.268	6.8	1.063	27	63	1600	16	400	S1109
73220339	18	0.268	6.8	1.063	27	79	2000	20	500	S1109
24 AWG (0.25 mm²)										
73220340	2	0.169	4.3	0.709	18	16	400	4	100	S1107
73220341	2	0.169	4.3	0.709	18	31	800	8	200	S1107
73220342	2	0.169	4.3	0.709	18	47	1200	12	300	S1107
73220343	2	0.169	4.3	0.709	18	63	1600	16	400	S1107
73220344	2	0.169	4.3	0.709	18	79	2000	20	500	S1107
73220345	3	0.177	4.5	0.748	19	16	400	4	100	S1107
73220346	3	0.177	4.5	0.748	19	31	800	8	200	S1107
73220347	3	0.177	4.5	0.748	19	47	1200	12	300	S1107
73220348	3	0.177	4.5	0.748	19	63	1600	16	400	S1107
73220349	3	0.177	4.5	0.748	19	79	2000	20	500	S1107
73220350	4	0.193	4.9	0.787	20	16	400	4	100	S1107
73220351	4	0.193	4.9	0.787	20	31	800	8	200	S1107
73220352	4	0.193	4.9	0.787	20	47	1200	12	300	S1107
73220353	4	0.193	4.9	0.787	20	63	1600	16	400	S1107
73220354	4	0.193	4.9	0.787	20	79	2000	20	500	S1107
73220355	5	0.209	5.3	0.787	20	16	400	4	100	S1109
73220356	5	0.209	5.3	0.787	20	31	800	8	200	S1109
73220357	5	0.209	5.3	0.787	20	47	1200	12	300	S1109
73220358	5	0.209	5.3	0.787	20	63	1600	16	400	S1109
73220359	5	0.209	5.3	0.787	20	79	2000	20	500	S1109
73220360	6	0.213	5.4	0.787	20	16	400	4	100	S1109
73220361	6	0.213	5.4	0.787	20	31	800	8	200	S1109
73220362	6	0.213	5.4	0.787	20	47	1200	12	300	S1109
73220363	6	0.213	5.4	0.787	20	63	1600	16	400	S1109
73220364	6	0.213	5.4	0.787	20	79	2000	20	500	S1109
73220365	7	0.240	6.1	0.827	21	16	400	4	100	S1109
73220366	7	0.240	6.1	0.827	21	31	800	8	200	S1109
73220367	7	0.240	6.1	0.827	21	47	1200	12	300	S1109
73220368	7	0.240	6.1	0.827	21	63	1600	16	400	S1109
73220369	7	0.240	6.1	0.827	21	79	2000	20	500	S1109
73220370	12	0.264	6.7	0.984	25	16	400	4	100	S1111
73220371	12	0.264	6.7	0.984	25	31	800	8	200	S1111
73220372	12	0.264	6.7	0.984	25	47	1200	12	300	S1111
73220373	12	0.264	6.7	0.984	25	63	1600	16	400	S1111
73220374	12	0.264	6.7	0.984	25	79	2000	20	500	S1111
73220375	18	0.335	8.5	1.220	31	16	400	4	100	S1111
73220376	18	0.335	8.5	1.220	31	31	800	8	200	S1111
73220377	18	0.335	8.5	1.220	31	47	1200	12	300	S1111
73220378	18	0.335	8.5	1.220	31	63	1600	16	400	S1111
73220379	18	0.335	8.5	1.220	31	79	2000	20	500	S1111

Custom configurations are available. Utilize the custom cable design form on page 151 or contact your LAPP sales representative.

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.

SPIRAL H07BQ-F BLACK

Retractable power supply cable with PUR jacket



SPIRAL H07BQ-F BLACK is a multi-conductor, rubber-insulated, retractable flexible power supply cable with a rugged black polyurethane jacket. It may be used in damp and wet environments, but not submerged.

Recommended applications

Power supply for machine tools, hand tools, cranes, and hoists

Approvals



Cable attributes				page 648
	OIL	OR-05		FLAME FR-02
	MOTION	FL-02		MECH. MP-05

Construction

Conductors: finely stranded tinned copper

Insulation: synthetic rubber; dry lubricant

Jacket: specially formulated polyurethane; black

Application advantage

- Resistant to oils, greases, and chemicals
- Weather resistant
- Resistant to mechanical stress
- Special spiral designs are available, see page 151

Complete the installation



SKINTOP®
strain relief
page 492



EPIC®
connectors
page 284

Technical data

	Length & type of tails:	8 in (200 mm), tangetial 24 in (600 mm), tangential		Conductor stranding:	Class 5 fine wire
	Minimum bend radius:	12.5 x cable diameter		Color code:	VDE 0293-308: chart 6, page 681
	Temperature range:	-25°C to +50°C		Approvals:	CE & RoHS <HAR> H07BQ-F (unspiralled cable only)* based on VDE 0282-10
	Nominal voltage:	450/750V	* <HAR> standards are not met due to the spiralling process. This is a natural and expected occurrence.		
	Test voltage:	3000V			

Part number	Number of conductors incl. ground	Nominal outer diameter		Nominal spiral outer diameter		Extended spiral length		Retracted spiral length		Copper weight	Approx. weight	SKINTOP® SL
		in	mm	in	mm	in	mm	in	mm	lbs/100 pcs.	lbs/100 pcs.	PG thread
16 AWG (1.5 mm²)												
70002750	3	0.355	9.0	1.220	31	59	1500	20	500	46	128	S2111
70002751	3	0.355	9.0	1.220	31	118	3000	39	1000	82	231	S2111
70002752	3	0.355	9.0	1.220	31	177	4500	59	1500	119	266	S2111
70002753	3	0.355	9.0	1.220	31	236	6000	79	2000	155	435	S2111
70002754	4	0.394	10.0	1.496	38	59	1500	20	500	68	182	S2113
70002755	4	0.394	10.0	1.496	38	118	3000	39	1000	121	265	S2113
70002756	4	0.394	10.0	1.496	38	177	4500	59	1500	174	466	S2113
70002757	4	0.394	10.0	1.496	38	236	6000	79	2000	228	485	S2113
70002758	5	0.433	11.0	1.575	40	59	1500	20	500	81	167	S2113
70002759	5	0.433	11.0	1.575	40	118	3000	39	1000	145	309	S2113
70002760	5	0.433	11.0	1.575	40	177	4500	59	1500	207	411	S2113
70002761	5	0.433	11.0	1.575	40	236	6000	79	2000	272	722	S2113

Recommended SKINTOP® assumes minimal OD variance. Additional configurations are available; please see our SKINTOP® section.
If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.