

Connectors By Application

Which Connector To Pick?

- Application type (power, signal, data)
- Number of contacts required
- Size of wire to be terminated
- Outside diameter of the cable being used
- Application voltage
- Application current



	Connector Type	Application			Number of Contacts	Rated Voltage	Rated Current	Termination Type*	Wire Range (AWG)	IP/NEMA Rating	Approvals
		Power	Control/Signal	Data							
RECTANGULAR	HBE	✓	✓		6, 10, 16, 24, 32, 48 (+PE)	600V	16A	SC, CR, CC	20 - 14, 20 - 12	IP65, NEMA 4, 4X, 12	UL SF DVE
	HA	✓	✓		3, 4, 10, 16, 32, 48, 64 (+PE)	600V	10A, 14A	SC	20 - 14	IP65, NEMA 4, 12	UL SF DVE
	HQ	✓	✓		5 (+PE)	600V	16A	CR	20 - 12	IP65, NEMA 4, 12	UL SF DVE
	STA		✓		6, 14, 20, 40	48V	10A	SC, SOL	20 - 16	IP65, NEMA 4, 12	UL SF DVE
	HEE	✓	✓		10, 18, 32, 46, 64, 92 (+PE)	600V	16A	CR	20 - 12	IP65, NEMA 4, 4X, 12	UL SF DVE
	HBS	✓			6, 12 (+PE)	600V	35A	SC	20 - 10	IP65, NEMA 4, 4X, 12	UL SF DVE
	HBVE	✓			3, 6, 10 (+PE)	600V	16A	SC	20 - 14	IP65, NEMA 4, 4X, 12	UL SF DVE
	HD		✓		7, 8, 15, 25, 40, 50, 64, 80, 128 (+PE)	600V	10A	CR	26 - 14	IP65, NEMA 4, 4X, 12	UL SF DVE
	HDD		✓		24, 42, 72, 108, 144, 216 (+PE)	600V	8.5A	CR	26 - 14	IP65, NEMA 4, 4X, 12	UL SF DVE
	MC	✓	✓	✓	2 - 280, Data Bus (+PE), Pneumatic	30V - 1000V	1A - 82A	SC, CR, CC, HO	28 - 4	IP65, NEMA 4, 4X, 12	UL SF DVE
	MP	✓	✓		4/0, 4/2, 4/8 (+PE)	600V	16A, 80A	SC	12 - 6, 20 - 14	IP65, NEMA 4, 4X, 12	UL SF DVE
CIRCULAR	LS1	✓			5+PE, 3+PE+4	600V	26A, 27A	CR	20 - 12, 24 - 18	IP67, IP68	c UL US DVE
	M23	✓	✓		6, 7, 8+1, 9, 12, 16, 17	50V, 100V, 150V	7A, 14A	CR, SOL	18 - 14, 26 - 18	IP67, IP68	c UL US DVE
PIN & SLEEVE	MULTIMAX	✓			1+N+PE, 2+PE, 3+PE, 3+N+PE	125V - 600V	16A - 32A	SC	16 - 12, 12 - 8	IP44	c UL US
	CEE	✓			1+N+PE, 2+PE, 3+PE, 3+N+PE	125V - 500V	16A - 125A	SC	16 - 12, 12 - 8, 10 - 6, 4 - 1	IP67	c UL US
	ULYSSE	✓			1+N+PE, 2+PE, 3+PE, 3+N+PE	125V - 500V	16A - 63A	SC	16 - 12, 12 - 8, 10 - 6	IP66, IP67	c UL US
	ALUPRES	✓			1+N+PE, 2+PE, 2+N+PE, 3+PE, 3+N+PE	125V - 500V	16A - 63A	SC	6 - 12, 12 - 8, 10 - 6	IP67, IP55	c UL US

* Termination type: SC = Screw, CR = Crimp, CC = Cage Clamp, SOL = Solder, HO = Hose

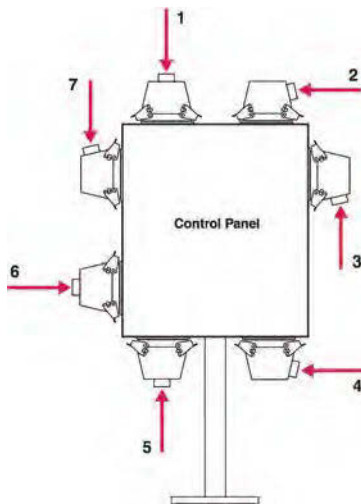
Connectors By Cable Type

Cable		Rectangular											Circular		Pin & Sleeve
		HBE	HA	HQ	STA	HEE	HBS	HBVE	HD	HDD	Mod.	MP	LS1	M23	
ÖLFLEX® 190	# cond.	3 – 41	3 – 41	3 – 5	3 – 34	7 – 50	3 – 12	5 – 12	5 – 50	25 – 41	4 – 50	4 – 8	3 – 6	3 – 17	3 – 5
	AWG	12 – 20	14 – 20	12 – 20	16 – 20	12 – 20	10 – 20	14 – 20	14 – 20	14 – 20	4 – 26	6 – 12	14 – 20	14 – 20	2 – 18
	OD (in.)	6.7 – 28	6.7 – 28	6.7 – 12.6	6.7 – 23.8	8.4 – 28	6.7 – 18.9	7.8 – 16	7.8 – 27.7	7.8 – 28	7.2 – 27.8	10.6 – 24.3	7.8 – 10.7	7.2 – 12.4	8 – 36.1
ÖLFLEX® TRAY II / TRAY II CY	# cond.	3 – 41	3 – 41	3 – 5	3 – 34	7 – 61	3 – 12	5 – 12	5 – 61	25 – 61	4 – 61	3 – 8	3 – 6	3 – 12	3 – 5
	AWG	12 – 18	14 – 18	12 – 18	16 – 18	12 – 18	10 – 18	14 – 18	14 – 18	14 – 18	4 – 26	6 – 12	14 – 18	14 – 18	1 – 18
	OD (in.)	7.5 – 25	7.5 – 25	7.5 – 12.8	7.5 – 23	9.5 – 27.6	7.5 – 18.2	8.8 – 16.9	8.8 – 27.6	16.9 – 27.6	8.3 – 27.6	10.7 – 24.9	8.2 – 11.6	7.5 – 12.1	8.1 – 35.6
ÖLFLEX® TC 600 / 600 S	# cond.	3 – 37	3 – 37	3 – 5	3 – 37	7 – 37	3 – 12	5 – 12	3 – 37	19 – 37	3 – 37	3 – 8	3 – 6	3 – 12	3 – 5
	AWG	12 – 18	14 – 18	12 – 18	16 – 18	12 – 18	10 – 18	14 – 18	14 – 18	14 – 18	4 – 18	6 – 12	14 – 18	14 – 18	6 – 16
	OD (in.)	7.3 – 24.5	7.3 – 24.5	7.3 – 11.7	7.3 – 20.9	9.2 – 24.5	7.3 – 17.4	8.5 – 15.4	7.3 – 20.9	14.5 – 20.9	7.3 – 25.6	9.8 – 18.9	7.9 – 10.4	7.3 – 11.8	8.9 – 18.9
ÖLFLEX® VFD SLIM	# cond.	4	4	4	–	–	4	4	–	–	4	4	4	–	–
	AWG	12 – 18	14 – 18	12 – 18	–	–	10 – 18	14 – 18	–	–	6 – 18	6 – 12	14 – 18	–	–
	OD (in.)	10 – 14.8	10 – 13.1	7.3 – 11.7	–	–	10 – 17.7	10 – 13.1	–	–	10 – 25.5	14.8 – 25.5	10 – 13.1	–	–
ÖLFLEX® VFD with Signal	# cond.	4+2	4+2	–	–	–	4+2	4+2	–	–	4+2	4+2	4+2	–	–
	AWG	12 – 16	14 – 16	–	–	–	10 – 16	14 – 16	–	–	6 – 16	6 – 12	14 – 16	–	–
	OD (in.)	13.2 – 16.8	13.2 – 15.2	–	–	–	13.2 – 18.9	13.2 – 15.2	–	–	13.2 – 16.1	16.1 – 26.1	13.2 – 15.2	–	–
ÖLFLEX® CONTROL TM / TM CY	# cond.	3 – 25	3 – 25	3 – 5	3 – 19	7 – 25	3 – 12	5 – 12	5 – 25	18 – 25	3 – 25	–	3 – 5	3 – 12	–
	AWG	12 – 18	14 – 18	12 – 18	16 – 18	12 – 18	10 – 16	14 – 18	14 – 18	14 – 18	10 – 18	–	14 – 18	14 – 18	–
	OD (in.)	7.4 – 22.9	7.4 – 22.9	7.4 – 12.6	7.4 – 17.1	9.3 – 22.9	7.4 – 18	8.6 – 16.7	8.6 – 22.9	14.7 – 22.9	7.4 – 22.9	–	8 – 11.5	7.4 – 12.8	–
ÖLFLEX® SERVO FD 796 CP	# cond.	4, 4+2pr	4, 4+2pr	4, 4+2pr	–	–	4	4	4	–	4	4	4	–	–
	AWG	12 – 16	14 – 16	12 – 16	–	–	10 – 18	14 – 18	14 – 18	–	6 – 18	6 – 12	14 – 18	–	–
	OD (in.)	9.2 – 16.3	9.2 – 14.6	9.2 – 12	–	–	10 – 17.7	10 – 13.1	10 – 13.1	–	10 – 25.5	14.8 – 25.5	10 – 13.1	–	–
ÖLFLEX® FD 890 / 890 CY	# cond.	3 – 48	5 – 32	3 – 5	3 – 34	7 – 50	3 – 12	5 – 12	5 – 50	18 – 34	3 – 50	4 – 8	3 – 6	7 – 12	3 – 5
	AWG	12 – 20	14 – 20	12 – 20	16 – 20	12 – 20	10 – 20	14 – 20	14 – 20	14 – 20	4 – 20	6 – 12	14 – 20	16 – 20	2 – 18
	OD (in.)	6.7 – 27.8	8.2 – 23.5	6.7 – 13.5	6.7 – 23.5	9.7 – 27.8	6.7 – 21.8	8.2 – 18	8.2 – 27.8	13.7 – 27.1	7.2 – 27.8	13.5 – 27.1	8.2 – 14	9.7 – 13.4	8.3 – 31.8
ÖLFLEX® FD 855 P / 855 CP	# cond.	3 – 41	3 – 41	3 – 5	3 – 40	7 – 41	3 – 12	5 – 12	5 – 41	18 – 41	3 – 41	–	3 – 6	7 – 17	–
	AWG	14 – 20	14 – 20	14 – 20	16 – 20	14 – 20	14 – 20	14 – 20	14 – 20	14 – 20	14 – 20	–	14 – 20	18 – 20	–
	OD (in.)	6.5 – 26.5	6.5 – 26.5	6.5 – 12.8	6.5 – 22.4	7.7 – 26.5	6.5 – 18	6.6 – 18	6.6 – 26.5	10.9 – 26.5	6.5 – 26.5	–	7.6 – 12.8	7.1 – 13.4	–
UNITRONIC® 300 / 300 S	# cond.	3 – 25	3 – 25	3 – 5	3 – 20	7 – 25	–	3 – 10	6 – 25	15 – 25	3 – 25	–	–	3 – 15	–
	AWG	16 – 20	16 – 20	16 – 20	16 – 20	16 – 20	–	16 – 20	16 – 24	16 – 24	16 – 20	–	–	16 – 20	–
	OD (in.)	6.5 – 18.5	6.5 – 18.5	6.5 – 10.5	6.5 – 16.6	8.4 – 18.5	–	6.5 – 13	7.8 – 18.5	7.2 – 18.5	6.5 – 18.5	–	–	7.1 – 13.3	–

Note: Cable ODs shown are with standard PG glands. SKINTOP® strain relief and accessory fittings can be used to expand the OD range.



Choose Your Connector Housing Connector Configuration



Top vs Side Entry

There is no right or wrong entry configuration. The goal is to match the hood entry to the installation environment as closely as possible. Choose your housing by answering these two questions:

- Where are you mounting the connector?
- Where is the cable coming from?

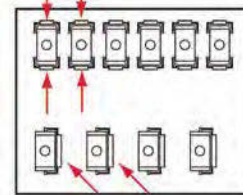
Example	Hood Entry Location	Connector Mounting Location on Panel	Cable Entry Direction
1	Top	Top	Vertical down from above
2	Side	Top	Horizontal from side
3	Side	Side	Vertical up from below
4	Side	Bottom	Horizontal from side
5	Top	Bottom	Vertical up from below
6	Top	Side	Horizontal from side
7	Side	Side	Vertical down from above

Single vs Double Lever

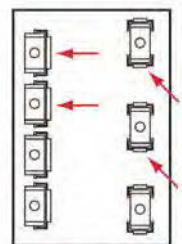
Both lever configurations are IP65 rated. Although either configuration can be used, the key is to choose a lever type that allows the connectors to be mounted as closely together as possible while providing the maximum access possible to the locking levers.

For connectors mounted horizontally side-by-side, a double lever configuration is preferred. For connectors mounted vertically top-to-bottom, a single lever configuration is preferred.

Connectors Mounted Horizontally Side-By-Side



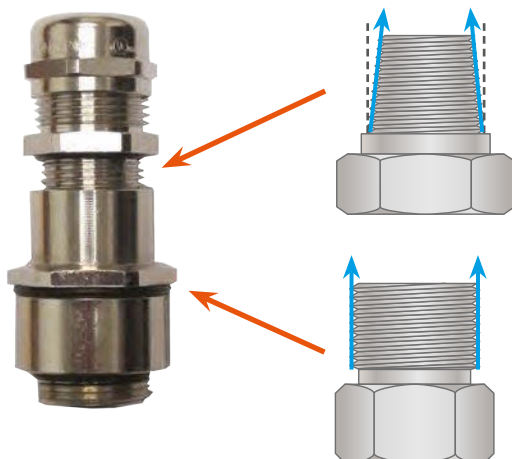
Connectors Mounted Vertically Top-To-Bottom



PG, Metric, or NPT Threaded Entry

When adding a strain relief or other accessory to the entry of a connector housing, it is always recommended to use straight thread fittings with an O-ring — either PG or metric. This allows the fitting to screw completely into the connector housing and create a watertight seal by compressing the O-ring.

Fittings with tapered threads — like NPT — are popular for their vibration resistance. However, due to their design they will only engage for 3 or 4 threads until they lock up. This provides a nice tight connection, but thread sealant compound or tape is required to create a watertight seal.



Tapered thread

Ridge wrapped around a cone

- NPT threads
- Difference in diameter prevents threads from fitting completely together, providing a tight fit, but not a seal
- Sealant compound must be applied to seal the thread connection

Straight thread

Ridge wrapped around a cylinder

- PG & Metric threads
- Allows two pieces to screw completely into one another
- Connection is sealed by compressing an O-ring