



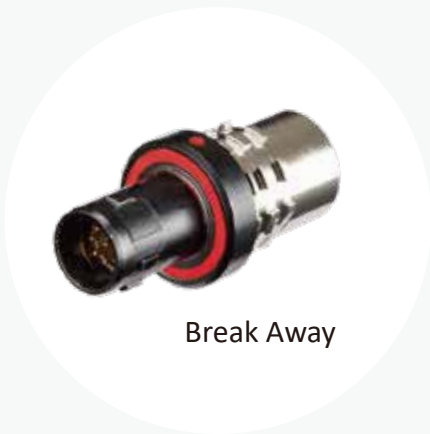
FLOS & FLOS+

Product Catalogue



Q-FLEX

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Break Away



Push Pull

**Intermateable With Specific Series
Of Fischer, Lemo, ODU, Souriau**

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IP50 / 66 /
67 / 68



Data
Transmission



Harsh
Environment



Quick
Installation



Fully
Shielded



Corrosion
Resistant



RoHS
Compliant



UL 94V-0

PRODUCT SELECTION GUIDE

Circular (Ceres, X-Lok, M)

	Mating Style						Materials	No. of Contacts	Contacts		Operating Voltage (AC/DC)	Nominal Current	Applicable Wires (AWG)	Mating Cycles (Pin Contact)	High Speed		Salt Spray (Connector Mated)
	2 Points Lock	3 Points Lock	Push Lock	Push Pull	Screw Thread	Others			Gold Plated	Silver Plated					Cat. 5e	Cat. 6A	
Ceres Series																	
Mini	•				•		B	2-6	•		250V	2A-5A	26-24	2,000			500h
Standard	•				•		B	2-12	•		250-600V	2A-10A 5A+2A 10A+5A	26-20	2,000			500h
Middle	•	•			•		P	2-18	•	•	250-600V	2A-20A 5A+2A 10A+2A 10A+5A	24-14	2,000			500h
Large	•				•		B	2-22	•	•	250-600V	2A-20A 20A+2A 20A+5A	26-16	2,000			500h
Macro	•						P	31	•		200V	5A	26	2,000			500h
PLD			•				P	2-4	•		250V	5A	26-20	2,000			500h
MAB	•						P	4	•		250V	10A	20	2,000			500h
GBD		•					P	8	•		250V	10A+5A	24-20	2,000			500h
X-LOK Series																	
Mini / LED			•				B	2-33	•		30-630V	0.5A-16A 5A-10A	32-14	1,000	•	•	500h
Standard			•				P	2-8	•		300-600V	10A+5A	26-16	1,000			500h
Middle			•				P	2-12	•	•	300-600V	5A-20A 10A+5A	26-12	1,000			500h
Large			•				B	2-100	•	•	60V (0.5A) 300-600V	0.5A-20A 20A+5A 50A	32-26	1,000			500h
Macro			•				P	4-31	•	•	300-600V	50A+5A	22-8	1,000			500h
M Series																	
M5					•		M	3-4	•		60V	1A	26	1,000			48h
Guided M8 / LED					•	Snap-in	B	2-6	•		30-60V	1.5A-3A 3A+1.5A	24-22	1,000			48h
M8 / LED					•	Snap-in	B	3-13	•		30-60V	0.5A-3A	32-22	1,000			48h
M10.5					•		M	2-5	•		30V	2A	24	1,000			48h
M12 A / LED			•	•			B	3-28	•		30-250V	0.5A-4A	30-22	1,000	•		48h
M12 B / LED			•	•			B	5	•		60V	4A	26-22	1,000			48h
M12 D / LED			•	•			B	4	•		250V	4A	26-22	1,000	•		48h
M12 I			•	•			B	5	•		60V	4A	22	1,000			48h
M12 K / LED			•	•			B	3-5	•		630V	12A, 16A	14	1,000			48h
M12 L / LED			•	•			B	2-5	•		63V	16A	14	1,000			48h
M12 M / LED			•	•			B	3-6	•		630V	8A	16	1,000			48h
M12 S			•	•			B	3-4	•		630V	12A	16	1,000			48h
M12 T			•	•			B	2-4	•		63V	12A	16	1,000			48h
M12 X			•	•			M	8	•		30-60V	0.5A	26	1,000		•	48h
M23					•		M	6	•		600V	28A	14-12	1,000			48h

Remarks:
Materials: P (Plastic), M (Metal), B (Both)
Assemble Style: R0 (Receptacle), RW (Receptacle With Wires), RP (Receptacle With Pigtail), RC (Receptacle With Overmolded Cable), OC (Overmolded With Cables), FI (Field Installable)
Vibration: (1) 10-500 Hz @Amplitude 0.35mm; (2) 10-55Hz @Amplitude 1.52mm
Operation Temperature & IP Rating: R0 (Receptacle), RW (Receptacle With Wires), OC (Overmolded With Cables), FI (Field Installable)

PRODUCT SELECTION GUIDE

(R0) Receptacle					(FI) Field Installable							UV Resistant	UL 94V-0	Vibration	EMI Option	ROHS 2.0 & REACH	Standard / Compliant	Certifications	Operating Temperature & IP Rating
Solder	Crimp	SMT	PCB 180	PCB 90	RW	RC	Solder	Crimp	Screw In	Push In	IDC								
•			•			•							•	•	(2)	•	•		
•			•	•		•		•	•				•	•	(2)	•	•	UL1977	◦ RO: -40°C - 105°C, IP67 (Unmated)
•			•			•		•	•				•	•	(2)		•	UL1977	◦ RW: -20°C - 85°C, IP67 (Unmated)
•			•			•		•	•	•			•	•	(2)	•	•	UL1977	◦ OC: -20°C - 85°C, IP67 (Mated)
•			•			•		•					•	•	(2)		•	UL1977	◦ FI: -40°C - 105°C, IP67 (Mated)
•			•			•		•					•	•	(2)		•		
•			•			•		•					•	•	(2)		•		
•	•		•			•		•					•	•	(2)		•		
•			•	•		•		•	•	•	•		•	•	(2)	•	•	CSA, UL1977, UL2238, UL50e	◦ RO & RW: -40°C - 105°C, IP68 (Unmated) ◦ OC & FI: -40°C ~ 105°C, IP68 (Mated)
•			•	•		•		•	•	•	•		•	•	(1)		•	IEC 61076-2-105	
•		•	•	•		•		•	•	•	•		•	•	(1)	•	•		
•		•	•	•		•		•	•	•	•		•	•	(1)	•	•	IEC 61076-2-104	UL1977, UL2238
•			•			•		•	•	•	•		•	94-HB	(1)		•		
•		•	•	•		•		•	•	•	•		•	•	(1)	•	•	IEC 61076-2-101	UL1977, UL2238, UL1863
•		•	•	•		•		•	•	•	•		•	•	(1)	•	•	IEC 61076-2-101	UL1977, UL2238
•		•	•	•		•		•	•	•	•		•	•	(1)	•	•	IEC 61076-2-101	UL1977, UL2238, UL1863
•			•			•		•					•	94-HB	(1)		•		
•		•	•	•		•		•	•	•	•		•	•	(1)		•	IEC 61076-2-111	UL1977, UL2237
•		•	•	•		•		•	•	•	•		•	•	(1)		•	IEC 61076-2-111	UL1977, UL2238
•		•	•	•		•		•	•	•	•		•	•	(1)	•	•	IEC 61076-2-111	
•		•	•	•		•		•	•	•	•		•	•	(1)		•	IEC 61076-2-111	UL1977, UL2237
•		•	•	•		•		•	•	•	•		•	•	(1)	•	•	IEC 61076-2-111	UL1977, UL2238
•		•	•	•		•		•	•	•	•		•	•	(1)	•	•	IEC 61076-2-109	UL1863
•	•		•			•		•					•	•	(1)	•	•		

PRODUCT SELECTION GUIDE

Circular (FLOS, Power, RBL, DeepTronica)

	Mating Style						Materials	No. of Contacts	Contacts		Operating Voltage (AC/DC)	Nominal Current	Applicable Wires (AWG)	Mating Cycles (Pin Contact)	Salt Spray (Connector Mated)
	2 Points Lock	3 Points Lock	Push Lock	Push Pull	Screw Thread	Others			Gold Plated	Silver Plated					
FLOS Series															
B				•			M	2-32	•		160-700V	1.5A-25A	28-16	5,000	144h
K				•			M	2-32	•		160-700V	1.5A-25A	28-16	5,000	144h
K (FLOS+)				•			M	2-32	•		160-700V	1.5A-25A	28-16	5,000	1000h
C				•			M	2-19	•		160-700V	1.5A-20A	28-16	3,000	144h
S				•			M	1	•		260-1000V	15A	28-16	3,000	144h
Y				•		Break Away	M	2-26	•		260-1000V	5A-14A	28-16	5,000	96h
P				•			P	2-14	•		200-400V	2A-10A	28-16	2,000	
N				•			M	2-19	•		200-800V	5A-22A	28-16	3,000	144h
Power Series															
PWE					•		P	5-7	•		277V	8A	20-17	500	500h
PWF					•		P	2-4	•		277V	12A	18-15	500	500h
PWG					•		P	4	•		277V	16A	18-14	500	500h
PWC	•	•					P	3	•		277V	20A	14-12	500	500h
PWCU	•	•					P	4 & 12	•		277V	20A+2A	14-12, 24-22	500	500h
PWH		•			•		P	3, 5	•		660V (AC) 1000V (DC)	25A	12	500	500h
PWL		•					P	3	•		300V	30A	14-8	500	500h
PWM		•					P	2	•		600V	50A	9-8	500	720h
PWMU		•					P	2+2, 2+4	•		600V	50A+2A	9-8, 22-20	500	720h
PWN		•					P	2	•		600V	70A	8-6	500	720h
PWNU		•					P	2+2, 2+4	•		600V	70A + 2A	8-6, 22-20	500	720h
PWP		•					P	2 & 3	•		600V	80A	4	500	720h
PWPD		•					P	2+2, 2+4, 3+2, 3+4	•		600V	80A+5A	4, 20	500	720h
PWX		•					P	9 (30A) 14 (30A+5A) 5 (50A) 12 (50A+5A) 4 (80A) 7 (80A+5A)	•		300-600V	30A, 30A+5A 50A, 50A+5A 80A, 80A+5A	22-20, 14-8, 9-8, 4	500	720h
RBL Series															
Middle			With Latch				P	2-9	•		300V	5A-10A 10A+5A	20-16	250	48h
Large			With Latch				P	2-18	•		300V	5A-20A 20A+5A	24-12	250	48h
DeepTronica															
Bathypelagic (4,000 m)				•			B								
Abyssopelagic (6,000 m)				•			B	1-27			200V-1000V	2A-50A	22-8	500-1,000	1000h
Hadopelagic (11,000 m)				•			B								

Remarks:
Materials: P (Plastic), M (Metal), B (Both)
Assemble Style: RO (Receptacle), RW (Receptacle With Wires), RP (Receptacle With Pigtail), RC (Receptacle With Overmolded Cable), OC (Overmolded With Cables), FI (Field Installable)
Vibration: (1) 10-500 Hz @Amplitude 0.35mm; (2) 10-55Hz @Amplitude 1.52mm
Operation Temperature & IP Rating: RO (Receptacle), RW (Receptacle With Wires), OC (Overmolded With Cables), FI (Field Installable)

PRODUCT SELECTION GUIDE

Circular (HS-Lok, NMEA 2000, Mini, Heavy Duty Shielded)

	Mating Style						Materials	No. of Contacts	Contacts		Operating Voltage (AC/DC)	Nominal Current	Applicable Wires (AWG)	Mating Cycles (Pin Contact)	Salt Spray (Connector, Mated)
	2 Points Lock	3 Points Lock	Push Lock	Push Pull	Screw Thread	Others			Gold Plated	Silver Plated					
HS-Lok Series															
Q8				•			B	2-6	•		100V (DC), 300V, 300V (AC) + 100V (DC)	2A, 5A, 5A+2A	24-20	2,000	500h
NMEA 2000															
Lite (Micro)				•	•		B	5	•		60V	4A	16*1P+20*1P, 18*1P+22*1P, 22*1P+24*1P	Push Pull 500, Screw Thread 1,000	Metal: 48h, Plastic: 1,000h
Heavy (Mini)					•		M	4-5	•		600V	8A	15*1P+18*1P, 16*1P+18*1P	1,000	
7/8" Mini															
7/8" Mini					•		M	2, 2+PE, 4, 4+PE, 6	•		600V	8A-13A	16	1,000	48h
Heavy Duty Shielded															
Heavy Duty Shielded					*		M	2-14	•		50-300V	5A-40A	22-8	1,000	48h / 500h

Remarks:
Materials: P (Plastic), M (Metal), B (Both)
Assemble Style: R0 (Receptacle), RW (Receptacle With Wires), RP (Receptacle With Pigtail), RC (Receptacle With Overmolded Cable), OC (Overmolded With Cables), FI (Field Installable)
Vibration: (1) 10-500 Hz @Amplitude 0.35mm; (2) 10-55Hz @Amplitude 1.52mm
Operation Temperature & IP Rating: R0 (Receptacle), RW (Receptacle With Wires), OC (Overmolded With Cables), FI (Field Installable)

PRODUCT SELECTION GUIDE

(RO) Receptacle				(FI) Field Installable					OC	UV Resistant	UL 94V-0	Vibration	EMI Option	ROHS 2.0 & REACH	Certifications	IP Rating	Operating Temperature
Solder	PCB 180	PCB 90	RW	Solder	Crimp	Screw In	Push In	IDC									
•				•					•	•	(2)		•	UL2238, UL50e	RO: IP68 (Unmated) OC: IP68 (Mated) FI: IP68 (Mated)	◦ RO: -40°C - 105°C ◦ OC: -40°C - 105°C ◦ FI: -40°C - 105°C	
•	•		•	•		•	•		•		(1)		•	NMEA 2000	RO: IP68 (Unmated) RW: IP68 (Unmated) OC: IP68 (Mated)	◦ RO: -40°C - 105°C ◦ RW: -20°C - 85°C ◦ OC: -20°C - 85°C	
•	•					•	•		•		94-HB	(1)	•	NMEA 2000	FI: IP67 (Mated)	◦ FI: -40°C - 105°C	
•	•		•	•	•	•			•		(1)		•		RO: IP68 (Unmated) RW: IP68 (Unmated) OC: IP68 (Mated) FI: IP67 (Mated)	◦ RO: -40°C - 105°C ◦ OC: -40°C - 105°C ◦ FI: -40°C - 105°C	
•				•					•	•	94-HB	(1)	•		RO: IP68 (Unmated) OC: IP68 (Mated) FI: IP68 (Mated)	◦ RO: -40°C - 105°C ◦ RW: -20°C - 85°C ◦ OC: -20°C - 85°C ◦ FI: -40°C - 105°C	

PRODUCT SELECTION GUIDE

Other IO (RJ45, USB, D-Sub, SSL, HDMI, DVI)

	Mating Style					Materials	No. of Contacts	Gold Plated	Operating Voltage (AC/DC)	Nominal Current	Applicable Wires (AWG)	Mating Cycles (Pin Contact)	High Speed	
	2 Points Lock	3 Points Lock	Push Lock	Screw Thread	Others								Cat. 5e	Cat. 6A
RJ45 Series														
Middle		•		•		B	8		44-57V (DC)	Max. 1.5A	24	750	•	•
Large / I-Adaptor	•	•		•		P	8		44-57V (DC)	Max. 1.5A	24	750	•	
ODVA	•					P	8		44-57V (DC)	Max. 1.5A	24	750	•	
Self-Closing Cover						P	8		44-57V (DC)	Max. 1.5A		750	•	•
USB Series														
Mini USB Type B				•		P		•	30V	1.5A	28*1P + 28*3C	5,000		
Type A	•			•		B		•	30V	USB 2.0: 1.5A USB 3.2Gen1:	28*1P + 24*2C	1,500		
Type B	•			•		B		•	30V	USB 2.0: 1.5A	28*1P + 24*2C	1,500		
Micro USB Swift						M		•	30V (AC) 5V (DC)	1 & 5 Pin: 1.8A 2, 3 & 4 Pin: 1A		10,000		
Micro USB Swift-MU					Snap-in	P		•	30V (AC) 5V (DC)	1 & 5 Pin: 1.8A 2, 3 & 4 Pin: 1A	28	10,000		
Type C Swift-LP						M		•	30V (DC)	Up To 5A	32*1P + 24*1C + 28*1D	10,000		
Type C Swift-LA					Snap-in	P		•	30V (DC)	Up To 3A	32*1P + 24*1C + 28*1D	10,000		
Type C Swift-GG				•		B		•	30V (DC)	Up To 5A	32*1P + 24*1C + 28*1D	10,000		
Type C Swift-XL			•			P		•	30V (DC)	Up To 3A	32*1P + 24*1C + 28*1D	10,000		
D-SUB Series														
Standard				•	Automated Latch	M	9, 15, 25, 37, 50*	•	125V (DC)	5A	24	500		
High Density				•	Automated Latch	M	15, 26, 44, 62*, 78*	•	125V (DC)	2A	26	500		
SSL Series														
SSL1.1			•			P	2-6	•	100V	3A	22	100		
SSL1.2			•			P	2-4	•	250V	5A	22-18	30		
SSL1.3						P	1	•	500V	5A		10		
SSL2.1						P	2	•	600V	12A		20		
SSL2.3						P	2	•	500V	3A		100		
HDMI Series														
Circular				•		P	19	•	30V (AC)	0.5A	26	500		
Rectangular			•		With Latch	P	19	•	30V (AC)	0.5A	26	500		
Mini-HDMI				•		P	19	•	30V (AC)	0.5A	30	500		
DVI Series														
DDD						M	25	•	40V (AC)	1.5A	28	100		
DDS						M	19	•	40V (AC)	1.5A	28	100		
DID						M	29	•	40V (AC)	1.5A	28	100		
DIS						M	23	•	40V (AC)	1.5A	28	100		

Remarks:
Materials: P (Plastic), M (Metal), B (Both)
Assemble Style: RO (Receptacle), RW (Receptacle With Wires), RP (Receptacle With Pigtail), RC (Receptacle With Overmolded Cable), OC (Overmolded With Cables), FI (Field Installable)
Vibration: (1) 10-500 Hz @Amplitude 0.35mm; (2) 10-55Hz @Amplitude 1.52mm
Operation Temperature & IP Rating: RO (Receptacle), RW (Receptacle With Wires), OC (Overmolded With Cables), FI (Field Installable)

PRODUCT SELECTION GUIDE

High Speed			Salt Spray (Connector, Mated)	RO	RW	RP	OC	FI	UV Resistant	UL 94V-0	Vibration	EMI Option	ROHS 2.0 & REACH	Standard / Compliant / Certifications	Operating Temperature & IP Rating
USB 2.0	USB 3.2 Gen1	USB 3.2 Gen2													
			48h	PCB 90 & 180, Jack 90 & 180			•	•	•	•	(2)	•	•	TIA/EIA-568, IEC 60603-7	◦ RO : -40°C - 105°C, IP67 (Unmated)
			48h	PCB180, Jack 90 & 180			•	•	•	•	(2)	•	•	TIA/EIA-568, IEC 60603-7	◦ RP : -20°C - 85°C, IP67 (Unmated) ◦ OC : -20°C - 85°C, IP67P (Mated)
			48h	Jack 180			•	•	•	•	(2)	•	•	TIA/EIA-568, IEC 60603-7	◦ FI : -40°C - 105°C, IP67 (Mated)
			48h	•					•	•	(2)	•	•	TIA/EIA-568, IEC 60603-7	-40°C - 105°C, IP67 (Unmated)
•			48h	•	•					94V-HB	(2)	•	•		◦ RO : -40°C - 105°C, IP67 (Unmated)
•	•		48h	Type 1 & 2, Jack, PCB 180	•		•			•	(2)	•	•		◦ RW : -20°C - 85°C, IP67 (Unmated)
•			48h	Type 1 & 2, Jack, PCB 180	•		•			•	(2)	•	•		◦ OC : -20°C - 85°C, IP67P (Mated)
•			48h	•						•	(2)	•	•		◦ FI : -40°C - 105°C, IP67 (Mated)
•			48h				•			•	(2)	•	•		-30°C - 80°C, IP67/IP68 (Unmated)
•			48h							•	(2)	•	•		-40°C - 80°C, IP67 (Mated)
		•	48h	•						•	(2)	•	•		-40°C - 85°C, IP67 (Unmated)
•	•		48h	•			•			•	(2)	•	•		◦ RO : -40°C - 85°C, IP68 (Unmated)
	•	•	48h	•						•	(2)	•	•		◦ OC : -20°C - 85°C, IP67 (Mated)
	•		48h	•			•			•	(2)	•	•		◦ RO : -40°C - 85°C, IP67 (Unmated)
	•		48h	•						•	(2)	•	•		◦ OC : -20°C - 85°C, IP67 (Mated)
			8h	Solder, PCB 90& 180			•				(2)	•	•		◦ RO : -40°C - 105°C, IP68 (Unmated)
			8h	Solder, PCB 90& 180			•				(2)	•	•		◦ OC : -20°C - 85°C, IP67P (Mated)
															◦ FI : -40°C - 105°C, IP67 (Mated)
				•			•			•	(2)		•	CSA C22.2, UL1977	-40°C - 105°C, Non-IP
				•			•	•		•	(2)		•	CSA C22.2, UL1977, cUL UL2238+UL50e	-40°C - 105°C, IP68 (Mated)
				•						•	(2)		•	CSA, UL1977	-40°C - 105°C, Non-IP
				•						•	(2)		•	CSA, UL1977	-40°C - 105°C, Non-IP
				•						•	(2)		•		-40°C - 105°C, Non-IP
			48h	•			•			94V-HB	(2)	•	•		◦ RO : -20°C - 85°C, IP67 (Unmated)
			48h	•			•			94V-1	(2)	•	•		◦ OC : -20°C - 85°C, IP67P (Mated)
			48h	•			•			•	(2)	•	•		
			8h	•							(2)		•		
			8h	•							(2)		•		◦ RO : -40°C - 105°C, IP68 (Unmated)
			8h	•							(2)		•		◦ OC : -20°C - 85°C, IP67P (Mated)
			8h	•							(2)		•		

PRODUCT SELECTION GUIDE

Other IO (Fiber, ZConnect, RF)

	Mating Style			Materials	No. of Contacts	Gold Plated	Operating Voltage (AC/DC)	Nominal Current	Applicable Wires (AWG)	Mating Cycles (Pin Contact)	High Speed	
	2 Points Lock	3 Points Lock	Push Lock								Screw Thread	Others
Fiber Optic Series												
LC		•										
SC		•										
ZConnect Series												
FPC / FFC / WTB				Quick Plug	B	40, 36, 20, 18, 12	•	120V	1A		10	
RF Series												
SMA Type					M	1	•	335 Volts RMS At Sea Level		1.13mm, 1.32mm, 1.37mm, RG178	500	
N Type					M	1	•	1,000 Volts RMS At Sea Level		1.13mm, 1.32mm, 1.37mm, RG142, RG178, G58 A/U	500	

Other (Cable Joiner, Cable Gland, Protective Vent, LED)

	Mating Style		Materials	No. of Contacts	Contacts				Operating Voltage (AC/DC)	Nominal Current	Applicable Wires (AWG)	Salt Spray (Connector, Mated)	Receptacle
	Push Lock With Latch	Screw Thread			Gold Plated	Nickel Plated	Thermo plastic	SUS316L					
Cable Joiner Series													
M20		•	P	None, 4	•				10A	22-16			
M32	•		P	None, 4	•				15A-30A	16-10			
FICX I Tube (11)		•	P	2-5		•		450V (Non-UL) 600V (UL)	10A-30A	20-12			
FICX I Tube (12)		•	P	2-5		•		450V (Non-UL) 600V (UL)	8A-20A	18-12			
FICX XI Tube (13)		•	P	2-5		•		450V (Non-UL) 600V (UL)	8A-20A	18-12			
FICX T Tube (T2)		•	P	2-5		•		450V (Non-UL) 600V (UL)	10A-20A	20-12			
Cable Gland Series													
Cable Gland		•	B									•	
Protective Vent													
M6 Plastic		•	P								1,000h	•	
M12 Snap-in		•	P								1,000h	•	
M12 Stainless		•	M				•				1,000h	•	
M12 Plastic		•	P				•				1,000h	•	
M12 Metal		•	M			•					48h	•	
LED Light Guide													
Ø3mm			B					4V				•	
Ø5mm			M					4V				•	

Remarks:
Materials: P (Plastic), M (Metal), B (Both)
Assemble Style: R0 (Receptacle), RW (Receptacle With Wires), RP (Receptacle With Pigtail), RC (Receptacle With Overmolded Cable), OC (Overmolded With Cables), FI (Field Installable)
Vibration: (1) 10-500 Hz @Amplitude 0.35mm; (2) 10-55Hz @Amplitude 1.52mm
Operation Temperature & IP Rating: R0 (Receptacle), RW (Receptacle With Wires), OC (Overmolded With Cables), FI (Field Installable)

PRODUCT SELECTION GUIDE

USB 2.0	High Speed		Salt Spray (Connector, Mated)	RO	RW	RP	OC	FI	UV Resistant	UL 94V-0	Vibration	EMI Option	ROHS 2.0 & REACH	Standard / Compliant / Certifications	Operating Temperature & IP Rating
	USB 3.2 Gen1	USB 3.2 Gen2													
			48h	•				•	•						-40°C - 105°C, IP67 (Mated)
			48h	•				•	•						-40°C - 105°C, IP67 (Mated)
			48h						•				•		-40°C - 110°C, Non-IP
			48h	•								•	•	MIL-C-39012	-40°C - 105°C, IP68 (Unmated)
			48h	•								•	•	MIL-C-39012	-40°C - 105°C, IP68 (Unmated)

Field Installable	UV Resistant	UL 94V-0	Vibration	ROHS 2.0 & REACH	Certifications	IP Rating	Operating Temperature
•	•	94V-2		•		IP67	-40°C - 105°C
•	•	•		•	UL6703A	IP67	-40°C - 105°C
•	•	•		•	CSA, UL2238, UL50e	IP68 (Mated)	-40°C - 105°C
•	•	•		•	CSA, UL2238, UL50e	IP68 (Mated)	-40°C - 105°C
•	•	•		•	CSA, UL2238, UL50e	IP68 (Mated)	-40°C - 105°C
•	•	•		•	CSA, UL2238, UL50e	IP68 (Mated)	-40°C - 105°C
•		94V-0 94V-2	(2)	•		IP67 (Mated) IP68 (Mated)	• RO: -20°C - 105°C • FI: -20°C - 105°C
	•	•		•		IP66, IP68	-40°C - 125°C
	•	•		•		IP68, IP69K	-40°C - 125°C
	•	•		•		IP68, IP69K	-40°C - 125°C
	•	•		•		IP68, IP69K	-40°C - 125°C
	•	•		•		IP68, IP69K	-40°C - 125°C
						IP67	• Red & Green: -30°C - 80°C • Others: -40°C - 80°C
						IP67	• Red & Green: -30°C - 80°C • Others: -40°C - 80°C

Served Markets & Applications

Applications	Ceres	X-Lok	M series	FLOS & FLOS+	Power	RBL	Deep Tronica	HS-Lok	NMEA 2000	7/8" Mini	Heavy Duty Shielded	RJ45	USB	SSL	HDMI	DVI	Fiber Optics	Zconnect	RF	Cable Joiner	Cable Gland	Vent	LED Light Guide	D-Sub
LED Lighting																								
Architectural Lighting	•	•	•		•	•		•		•		•		•				•		•	•	•		
Outdoor LED Displays	•	•	•	•	•	•				•		•		•				•		•	•	•		
Outdoor Signage	•	•			•	•				•		•		•				•		•	•	•		
Entertainment Lighting & Systems	•	•			•	•		•		•		•		•				•		•	•	•		
Smart City, Street Lighting	•	•			•	•				•		•		•				•		•	•	•		
Tunnel Lighting	•	•	•		•	•				•		•		•				•		•	•	•		
Parking Lighting	•	•			•	•		•		•		•		•				•		•	•	•		
Cruise & Shipyards Lighting	•	•	•		•	•		•	•	•		•		•				•		•	•	•		
High Speed Train & EV Bus	•	•			•	•		•		•	•		•		•			•		•	•	•		
Commercial Lighting	•	•	•		•	•		•		•		•		•				•		•	•	•		
Refrigeration Lighting	•	•	•		•	•		•		•		•		•				•		•	•	•		
Horticulture Lighting	•	•	•		•	•				•		•		•				•		•	•	•		
Warehouse Lighting	•	•			•	•				•		•		•				•		•	•	•		
Emergency Lighting	•	•	•		•	•		•		•		•		•				•		•	•	•		
UV and Sanitary Lighting	•	•	•		•	•		•		•		•		•				•		•	•	•		
Li-Fi	•	•			•	•				•		•		•				•	•	•	•	•		
Hospital Surgical Lighting & Room	•	•	•		•	•		•		•		•		•				•		•	•	•		
ATEX Lighting	•	•			•	•		•				•		•				•		•	•	•		
Underwater / Submerged Lighting	•	•			•	•								•				•					•	
Marine																								
Multi-Function Display	•	•	•	•	•	•			•	•	•	•	•		•	•		•	•			•	•	•
Outboard Motors	•	•	•		•	•			•	•	•	•						•			•			
Bilge Pump	•	•	•		•	•			•	•	•	•						•			•			
Heater	•	•	•		•	•		•	•	•	•	•						•		•	•	•		
HVAC (Heating Ventilation Air Conditioning)	•	•	•		•	•		•	•	•	•	•						•		•	•	•		
Fridge	•	•	•		•	•		•	•	•	•	•						•			•			
Docking System	•	•	•		•	•	•		•	•	•	•						•			•			
Windlass	•	•	•		•	•			•	•	•	•						•			•			
Sensors	•	•	•		•	•			•	•	•	•						•			•			
RADAR	•	•	•		•	•		•	•	•	•	•	•					•			•			
Antenna	•	•	•		•	•		•	•	•	•	•						•	•					
USB Charger	•	•	•		•	•		•	•	•	•	•	•					•		•	•	•		
Audio System	•	•	•		•	•		•	•	•	•	•	•					•		•	•	•		
Lighting System	•	•	•		•	•		•	•	•	•	•	•	•				•		•	•	•		•
CCTV	•	•	•		•	•		•	•	•	•	•	•					•			•			
Power Controller	•	•	•		•	•			•	•	•	•						•		•	•	•		•
Autopilot System	•	•	•		•	•			•	•	•	•						•		•	•	•		•
Automatic Identification System	•	•	•		•	•		•	•	•	•	•						•		•	•	•		•
GPS, Beacon & Lifebuoy	•	•	•		•	•		•	•	•	•	•						•		•	•	•		
Sonar / Transducer	•	•	•		•	•			•	•	•	•						•			•			
Fish-Finders	•	•	•		•	•			•	•	•	•						•			•			
Chartplotter	•	•	•		•	•			•	•	•	•						•			•			•
Sailing Instruments	•	•	•		•	•			•	•	•	•						•			•			•
Shipyards & Cruise	•	•	•		•	•			•	•	•	•						•			•			•
Drilling Systems							•																	
Seaport							•																	
Submarine							•																	
ROVs							•																	
Marine Renewable Energy							•																	
ROTV							•																	
Buoys							•																	
Underwater Vehicles							•																	
Underwater Equipment							•																	
Diving							•																	
Broadband Wireless Access																								
General Small Cells	•	•	•		•	•		•	•	•	•	•	•				•	•	•	•	•	•	•	•
RRH (Remote Radio Head)	•	•	•		•	•		•	•	•	•	•	•				•	•	•	•	•	•	•	•
Wireless Mobile Backhaul	•	•	•		•	•		•	•	•	•	•	•				•	•	•	•	•	•	•	•
High Capacity Mobile Subscriber Unit	•	•	•		•	•		•	•	•	•	•	•				•	•	•	•	•	•	•	•
Outdoor Base Station Unit	•	•	•		•	•		•	•	•	•	•	•				•	•	•	•	•	•	•	•
Outdoor LTE	•	•	•		•	•		•	•	•	•	•	•				•	•	•	•	•	•	•	•
Outdoor AP	•	•	•		•	•		•	•	•	•	•	•				•	•	•	•	•	•	•	•
Subscriber Station	•	•	•		•	•		•	•	•	•	•	•				•	•	•	•	•	•	•	•
Outdoor Wireless Mesh Router	•	•	•		•	•		•	•	•	•	•	•				•	•	•	•	•	•	•	•
Base Station Power Supply	•	•		•	•	•		•	•	•	•	•					•	•	•	•	•	•	•	•
Communication System																		•						
Outdoor Wireless Mesh Router	•	•			•	•		•	•	•	•	•					•	•	•	•	•	•	•	•

Served Markets & Applications

Applications	Ceres	X-Lok	M series	FLOS & FLOS+	Power	RBL	Deep Tronica	HS-Lok	NMEA 2000	7/8" Mini	Heavy Duty Shielded	RJ45	USB	SSL	HDMI	DVI	Fiber Optics	Zconnect	RF	Cable Joiner	Cable Gland	Vent	LED Light Guide	D-Sub	
Industrial Automation																									
Robotic Arm			•	•				•		•	•							•							
Industrial Server / Network	•	•	•	•	•			•		•	•	•	•		•	•	•	•	•			•	•	•	•
Industrial Forklifts (Truck)	•	•	•	•	•	•		•		•	•	•	•		•	•					•	•			•
AVI (Automatic visual inspection)	•	•	•	•	•			•		•	•														
Data Communication System	•	•	•	•	•	•		•		•	•	•	•		•	•			•	•			•	•	•
Industrial Control Center	•	•	•	•	•	•		•		•	•	•	•		•	•						•	•	•	•
Packaging Center	•	•	•	•	•			•		•	•														
Conveyors	•	•	•	•	•			•		•	•														
Sensors			•							•	•								•						
Power Distribution	•	•	•	•	•	•				•	•								•						
Actuators	•	•	•							•	•														
Motor Drives	•	•	•		•	•				•	•														
Industrial PC & Displays	•	•	•	•	•			•		•	•	•	•		•	•				•	•		•	•	•
Machine Tools	•	•	•	•	•	•				•	•														
Switches		•	•							•	•	•	•												•
Production Equipment	•	•	•	•	•	•				•	•	•	•									•	•	•	•
Renewable Energy																									
PV / DC Inverter	•	•	•		•	•				•	•	•							•		•	•	•	•	•
Micro Inverter																									
CSP & CPV	•	•	•		•	•				•	•														
Heliostat	•	•	•		•	•				•	•														
PV Trackers	•	•	•		•	•				•	•														
PV ICS (Integrated Control Systems)					•	•				•	•	•													
Portable Energy	•	•	•		•	•		•		•	•	•	•												
Communication System	•	•	•	•	•	•				•	•	•	•		•	•	•					•	•	•	•
PDC (Power Distribution Control)	•	•	•	•	•	•				•	•	•													
Wind Turbine	•	•	•	•	•	•				•	•	•													
Energy Storage System	•	•	•	•	•	•				•	•	•													
Tidal Power Generation System	•	•	•	•	•	•				•	•														
Heavy Equipment																									
Electronic Toll System	•	•	•	•	•	•		•		•	•	•	•		•	•						•	•	•	•
Automotive Diagnostics	•	•	•	•	•	•		•		•	•	•	•	•	•	•									
Agriculture Electronic Equipment	•	•	•	•	•	•		•		•	•	•	•		•	•						•	•		•
Lidar & Radar	•	•	•	•	•					•	•	•	•		•	•									
ADAS (Advanced Driver Assistance Systems)	•	•	•	•	•	•		•		•	•	•	•		•	•						•	•		•
Telematics & Tracking	•	•	•		•	•		•		•	•	•	•		•	•					•	•	•	•	•
Camera & Monitoring	•	•	•	•	•	•		•		•	•	•	•		•	•									
Control System	•	•	•	•	•	•		•		•	•	•	•		•	•									
Display	•	•	•	•	•	•		•		•	•	•	•		•	•									
GPS System	•	•	•	•	•	•		•		•	•	•	•		•	•									
Lighting	•	•	•		•	•				•	•			•							•	•			
Measurement Systems	•	•	•	•	•	•		•		•	•	•	•		•	•									•
Sensors		•	•	•	•			•		•	•														
Automated Meter Reading																									
Water Meter	•	•	•	•				•				•	•									•	•	•	•
Electricity Meter	•	•	•	•				•				•	•									•	•	•	•
Gas Meter	•	•	•	•				•				•	•									•	•	•	•
Alarm System	•	•	•	•				•				•	•									•	•	•	•
Military Drone	•	•	•	•				•														•	•	•	•
Vehicle Tracking	•	•	•	•				•				•	•									•	•	•	•
Telemetry	•	•	•	•				•				•	•									•	•	•	•
Sewage	•	•	•	•	•	•		•				•	•									•	•	•	•
Rugged IT																									
Telemetry		•	•	•				•				•	•									•	•		
Rugged & Military VR and AR		•	•	•				•					•									•	•		
Rugged Notebook				•								•	•		•	•						•	•		•
Night Vision Goggle			•	•				•				•										•	•		
Miniature Camera												•										•	•		
Rugged Tablet												•			•	•						•	•		
Communication Devices				•								•	•		•	•						•	•		•

Served Markets & Applications

Applications	Ceres	X-Lok	M series	FLOS & FLOS+	Power	RBL	Deep Tronica	HS-Lok	NMEA 2000	7/8" Mini	Heavy Duty Shielded	RJ45	USB	SSL	HDMI	DVI	Fiber Optics	Zconnect	RF	Cable Joiner	Cable Gland	Vent	LED Light Guide	D-Sub
Test Equipments																								
Air Flow Measurement	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Gas Detectors	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Precision Surveying	•	•	•	•	•	•		•		•	•	•	•		•	•		•	•			•		•
Earthquake Monitoring	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Humidity Measurement	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Leak Detectors	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Light Measuring	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Sound Measuring	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Water Measurement	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Weighing Devices	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Weigh Modules	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Heavy-duty Scales	•	•	•	•	•	•		•		•	•	•	•			•	•	•	•			•		•
Floor Scales	•	•	•	•	•	•		•		•	•	•	•		•	•		•	•			•		•
Wet Area Weighing	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Dosing Systems	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
In-Motion Weighing	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Borescope	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Image Measurement	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Timers / Timer Display	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Laser Marking System	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Digital Microscopes	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Hybrid Electric Vehicles																								
Electric Wheelchair	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Electrical and Electronic Speed Control	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Electrical and Electronic Brake System	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Throttle Controller	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Battery Module	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Motor Module	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Gear Shift Module	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Controller Unit	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Charge Plug / Inlet	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Charging Station	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Home Charge Platform	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Hoverboard	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Electric Scooter	•	•	•	•	•	•		•		•	•	•	•					•	•			•		
Railway Mass Transit																								
Infotainment Systems	•	•	•	•	•	•		•		•	•	•	•		•	•		•	•			•	•	•
In-Vehicle Information System	•	•	•	•	•	•		•		•	•	•	•		•	•		•	•			•	•	•
Indication Display	•	•	•	•	•	•		•		•	•	•	•		•	•		•	•			•	•	•
Navigation/GPS	•	•	•	•	•	•		•		•	•	•	•		•	•		•	•			•	•	•
HVAC (Heating Ventilation Air Conditioning)	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
Fuel Leakage Detector	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
Broadcasting System	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
Vehicle Monitoring	•	•	•	•	•	•		•		•	•	•	•		•	•		•	•			•	•	•
Cleaning Control	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
Speedometer	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
Interior Lighting	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
Mobile Devices																								
DRC (Drone Remote Controller)	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
Altimeter	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
Barcode Reader	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
GPS Safety Guard	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
Portable Lamp	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
Gesture Measurement	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•
Wearables	•	•	•	•	•	•		•		•	•	•	•					•	•			•	•	•

Served Markets & Applications

Applications	Ceres	X-Lok	M series	FLOS & FLOS+	Power	RBL	Deep Tronica	HS-Lok	NMEA 2000	7/8" Mini	Heavy Duty Shielded	RJ45	USB	SSL	HDMI	DVI	Fiber Optics	Zconnect	RF	Cable Joiner	Cable Gland	Vent	LED Light Guide	D-Sub	
Transportation																									
Vehicle Camera	•	•	•	•		•		•					•		•			•			•	•			
Switch			•									•	•					•							•
Dome Vehicle Camera	•	•	•			•												•				•	•		
RFID Reader																		•	•						
Bus GPS	•	•	•	•		•		•				•	•		•	•		•	•						
Displayer	•	•	•	•		•												•							
Outdoor Speaker	•	•	•	•		•												•							
Automotive Winches																		•							
Vehicle Charger	•	•	•			•												•							
Wifi Router												•						•							
Fleet Management	•	•	•	•		•												•							
Digital Video Surveillance System	•	•	•	•	•	•				•	•	•						•						•	
Medical Equipment																									
Medical Displays				•	•							•	•		•	•		•				•			•
Mobile Nursing Carts	•	•			•	•		•		•	•				•	•		•			•	•			•
Non-invasive Devices	•	•		•	•	•		•		•	•	•	•		•	•		•			•	•			•
Electrical Beds	•	•	•		•	•				•	•							•			•	•			•
Charges	•	•			•	•				•	•							•			•	•			•
Wheelchair Lift	•	•			•	•				•	•							•			•	•			•
Wheelchair Stair Lift	•	•			•	•				•	•							•			•	•			•
Rehabilitation System	•	•			•	•				•	•							•			•	•			•
Automotive Diagnostics																									
Auto Crash Notification	•	•	•	•	•	•		•		•	•	•	•					•	•						•
Vehicle Tracking	•	•	•		•	•		•		•	•		•					•	•				•		•
Vehicle Health Alert & Roadside Assistance	•	•	•	•	•	•		•		•	•	•	•					•	•						•
Remote Vehicle Diagnostics	•	•	•	•	•	•		•		•	•	•	•	•	•	•		•	•				•	•	•
UAV																									
Commercial Drone	•	•	•	•	•	•		•		•	•	•	•		•	•		•	•		•	•	•	•	•
Military Drone	•	•	•	•	•	•		•		•	•	•	•		•	•		•	•		•	•	•	•	•
Consumer Drone	•	•	•	•	•	•		•		•	•	•	•		•	•		•	•		•	•	•	•	•
Lifts & Materials Handling																									
Forklift	•	•	•	•	•	•		•		•	•	•	•		•	•		•			•	•	•	•	•
Industrial Lift	•	•	•	•	•	•		•		•	•	•	•		•	•		•			•	•	•	•	•
Materials Handling	•	•	•	•	•	•		•		•	•	•	•		•	•		•			•	•	•	•	•
Remote Video Response Center																									
Encoders	•	•	•	•	•			•		•	•	•	•		•	•		•	•			•	•	•	•
Monitoring Station	•	•	•		•	•				•	•	•	•		•	•		•			•				•
CCTV/Dome/IP Camera	•	•	•	•	•			•		•	•	•	•		•	•		•	•	•		•	•	•	•
Remote Control	•	•			•			•				•	•					•			•				•
Junction Box	•	•			•							•	•		•	•		•			•	•			•
Automatic LPRS (License Plate Recognition System)	•	•	•	•	•			•		•	•	•	•		•	•		•	•	•	•	•	•	•	•
Fingerprint ID												•						•							
Alarm System	•	•	•	•	•			•				•	•		•	•		•	•	•	•	•	•	•	•
Sensor			•															•							
Autonomous																									
GPS	•	•	•	•				•		•	•	•	•		•	•		•	•						
Lidar	•	•	•	•				•		•	•	•	•		•	•		•			•	•			
Radar Sensors	•	•	•	•				•		•	•							•	•						
Video Cameras	•	•	•	•				•		•	•		•		•	•		•			•	•			
Central Computer	•	•	•	•				•		•	•	•	•		•	•		•							
Inertial Measurement Unit	•	•	•	•				•		•	•							•							
Inertial Navigation Systems	•	•	•	•				•		•	•							•	•			•			
Commercial Military																									
Commercial Military				•														•							

Key Features

- Intermateable With Specific Series Of Fischer, Lemo, ODU, Souriau
- Easy Auto-latching Plug, Fast & Secure
- Reliable Connection For Power / Data / Signal Transmission
- Metal Shell For 360° EMI Shielding
- Flexibility & Capability Of Customization
- Push-Pull locking and Break-Away Function

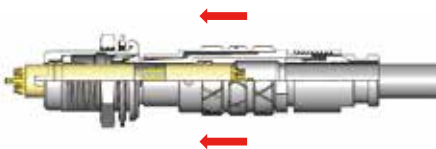
Cross Reference



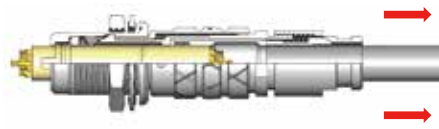
Fischer's Series	/	/	/	Core Series	/	/	Core Series P***
Lemo's Series	B Series	K Series	K Series	/	S Series	/	REDEL P
ODU's Series	L Series***	K Series***	/	F Series***	/	AMC Y Series	MEDI SNAP P
Souriau Series	JBX***	JKX***	JKX***	/	JAX***	/	JMX***

* Coming Soon *** NOT Intermateable

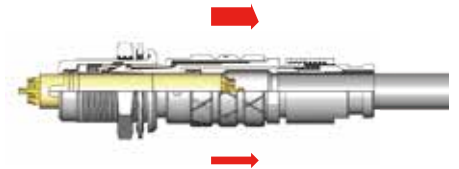
Locking Principle



ALTW Push-pull locking system allows connectors to be mated quickly and securely.



Once mated, the connection is fully locked against pulling cable or back nut accidentally.



By pulling the sleeve, the locking latches will be released easily to unlock.

FLOS & FLOS+ Markets / Applications



Renewable Energy

- Communication System
- PDC (Power Distribution Control)
- Tidal Power Generation System
- Wind Turbine



Automated Meter Reading

- Electricity Meter
- Gas Meter
- Sewage
- Telemetry
- Water Meter
- Alarm System
- Military Drone
- Vehicle Tracking



Remote Video Response Center

- Alarm System
- Automatic LPRS (License Plate Recognition System)
- CCTV / Dome / IP Camera
- Encoders



Medical

- Medical Displays
- Non-invasive Devices



Test Equipment

- Air Flow Measurement
- Borescope
- Digital Microscopes
- Dosing Systems
- Earthquake Monitoring
- Sound Measuring
- Timers / Timer Display

- Floor Scales
- Gas Detectors
- Heavy-duty Scales
- Humidity Measurement
- Image Measurement
- Weigh Modules
- Weighing Devices

- In-Motion Weighing
- Laser Marking System
- Leak Detectors
- Light Measuring
- Precision Surveying
- Water Measurement
- Wet Area Weighing



Industrial Automation

- Industrial PC & Displays
- Industrial Robots
- Machine Tools
- Packaging
- Power

- Communication System
- Conveyors
- Industrial Control
- Industrial Forklifts
- Industrial Network

- AVI (Automatic visual inspection)



Railway Mass Transit

- Infotainment Systems
- Interior Lighting
- In-Vehicle Information
- Speedometer
- Vehicle Monitoring

- Broadcasting System
- Cleaning Control
- Fuel Leakage Detector
- HVAC (Heating Ventilation Air Conditioning)
- Indication Display



Heavy Equipment

- Display
- Electronic Toll System
- Lidar & Radar
- Measurement Systems
- Sensors

- Automotive Diagnostics
- Camera & Monitoring
- Control System
- Agriculture Electronic Equipment
- GPS System

- ADAS (Advanced Driver Assistance Systems)



Hybrid Electric Vehicles

- Electric Scooter
- Electric Wheelchair
- Motor Module
- Throttle Controller
- Electrical and Electronic Brake System
- Electrical and Electronic Speed Control

- Hoverboard
- Controller Unit



UAV

- Commercial Drone
- Consumer Drone
- Military Drone



Transportation

- Vehicle Camera
- Fleet Management
- Bus GPS
- Displayer
- Outdoor Speaker
- Digital Video Surveillance System



Lifts & Materials Handling

- Forklift
- Industrial Lift
- Materials Handling



Mobile Devices

- Altimeter
- Barcode Reader
- DRC (Drone Remote Controller)



LED

- Outdoor LED Displays



Automotive Diagnostics

- Auto Crash Notification
- Remote Vehicle Diagnostics
- Vehicle Health Alert & Roadside Assistance



Rugged IT

- Communication Devices
- Night Vision Goggle
- Rugged & Military VR and AR
- Rugged Notebook
- Telemetry



Commercial Military

- Tank
- Aircraft
- Warship
- Military
- Dismounted Soldier
- Software Defined Radios



Autonomous

- GPS
- Lidar
- Radar Sensors
- Video Cameras
- Central Computer
- Inertial Measurement Unit
- Inertial Navigation Systems

Product Range Overview

Sub-Series Name	B	K	K (FLOS+)
Mating Style	Push Pull	Push Pull	Push Pull
Plastic Version	-	-	-
Metal Version	✓	✓	✓
No. of Contacts	2 ~ 32	2 ~ 32	2 ~ 32
Plating of Contacts	Gold Plated	Gold Plated	Gold Plated
Operating Voltage (AC/DC)	160V ~ 700V	160V ~ 700V	160V ~ 700V
Nominal Current	1.5A ~ 25A	1.5A ~ 25A	1.5A ~ 25A
Operating Temperature	<ul style="list-style-type: none"> • Receptacle: -40°C ~ 125°C • Overmolded with Cable: -20°C ~ 85°C • Field Serviceable/Installable: -40°C ~ 125°C 		
Fasten Style of Nut	Front & Rear	Front & Rear	Front & Rear
Receptacle	✓	✓	✓
Overmolded With Cable	✓	✓	✓
Field Serviceable/Installable	✓	✓	✓
Accessories	✓	✓	✓
Applicable Wire Gauge	16AWG ~ 28AWG (1.50 ~ 0.08mm ²)	16AWG ~ 28AWG (1.50 ~ 0.08mm ²)	16AWG ~ 28AWG (1.50 ~ 0.08mm ²)
Mating Cycles (Pin Contact)	5,000 Cycles	5,000 Cycles	5,000 Cycles
IP Rating	IP50 (Mated)	<ul style="list-style-type: none"> • Receptacle & Overmolded With Cable : IP68 (Mated, 1.5M / 24h) • Field Serviceable/Installable : IP68 (Mated By Applying O-ring & Potting Material, 1.5M / 24h) 	<ul style="list-style-type: none"> • Receptacle : IP68 (Unmated, 1.5M / 24h) • Overmolded With Cable : IP68 (Mated, 1.5M / 24h) • Field Serviceable/Installable : IP68 (Mated, 1.5M / 24h)
Salt Spray (Connector, Mated)	144h	144h	1,000h
UV Resistant	-	-	-
Flammability Rating	UL94V-0	UL94V-0	UL94V-0
Vibration	Frequency Range 10 ~ 2000Hz / Amplitude 1.5mm		
EMI Option	✓	✓	✓
RoHS 2.0 Compliant	✓	✓	✓
REACH Compliant	✓	✓	✓

Product Range Overview

Sub-Series Name	C	S	Y	P	N
Mating Style	Push Pull	Push Pull	Push Pull / Break Away	Push Pull	Push Pull
Plastic Version	-	-	-	✓	-
Metal Version	✓	✓	✓	-	✓
No. of Contacts	2 ~19	1	2~26	2 ~ 14	2 ~19
Plating of Contacts	Gold Plated	Gold Plated	Gold Plated	Gold Plated	Gold Plated
Operating Voltage	160V ~ 700V	260V ~ 1,000V	260V ~ 1,000V	200V ~ 400V	200V ~ 800V
Nominal Current	1.5A ~ 20A	15A	5A~14A	2A ~ 10A	5A ~ 22A
Operating Temperature	<ul style="list-style-type: none"> • Receptacle : -40°C ~ 125°C • Overmolded with Cable : -20°C ~ 85°C • Field Serviceable / Installable : -40°C ~ 125°C 				
Fasten Style of Nut	Front & Rear	Front	Front	Front & Rear	Front & Rear
Receptacle	✓	✓	✓	✓	✓
Overmolded With Cable	✓	✓	✓	✓	✓
Field Serviceable/Installable	✓	✓	✓	✓	✓
Accessories	✓	✓	✓	✓	✓
Applicable Wire Gauge	-	-	-	-	-
Mating Cycles (Pin Contact)	3,000 Cycles	3,000 Cycles	5,000 Cycles	2,000 Cycles	3,000 Cycles
IP Rating	IP68 (Mated, 1.5M / 24h)	IP50 (Mated)	IP68 (Mated, 1.5M / 24h)	IP50 / IP66 (Mated)	IP68 (Mated, 1.5M / 24h)
Salt Spray (Connector, Mated)	144h	144h	96h	-	144h
UV Resistant	-	-	-	✓	-
Flammability Rating	UL94V-0	UL94V-0	UL94V-0	UL94V-0	UL94V-0
Vibration	Frequency Range 10~55Hz / Amplitude 1.52mm				
EMI Option	✓	✓	✓	✓	✓
RoHS 2.0 Compliant	✓	✓	✓	✓	✓
REACH Compliant	✓	✓	✓	✓	✓

Ordering Information FLOS B Series

Example

FLB	B	-	02	EG	F	S	-	G	C	P	-	001
XXX	X	-	XX	XX	X	X	-	X	X	X	-	XXX
1	2		3	4	5	6		7	8		9	10

Series / Sub-Series

(FLB) FLOS B Series

Size (See Table For Explanation At The Bottom)

- (A) 00
- (B) 0
- (C) 1
- (D) 2

Number Of Contacts

2 ~ 19 Contacts
e.g. (02) = 2 Contacts

Connector Style

> For Receptacle

- (EG) 180° Female Panel With Hexagonal Nut (Rear Fasten)
- (EC) 180° Female Panel With Hexagonal Nut & Slotted Nut (Both Side Fasten)
- (EE) 180° Female Panel With Slotted Nut (Front Fasten)
- (EN) 180° Female Panel With Earthing Tag & Hexagonal Nut (Rear Fasten)*
- (EX) 90° Female Panel for PCB Board with Hexagonal Nut and Slotted Nut *
- (EH) 180° Female Panel with Hexagonal Nut (Rear Fasten)*

> For Overmolded with Cable

- (FM) 180° Male Overmolded
- (RM) 90° Male Overmolded
- (PM) 180° Female Overmolded

> For Field Serviceable/Installable

- (FG) 180° Male Field Serviceable/Installable
- (FH) 90° Male Field Serviceable/Installable
- (PH) 180° Female Field Serviceable/Installable

*Upon Request

Connector & Contact Gender

- (F) Female Connector, Female Contact
- (M) Male Connector, Male Contact
- (C) Hybrid Style *

*Upon Request

Assembly Style

> For Receptacle & Overmolded With Cable & Field Serviceable/Installable

- (S) Solder Type
- (P) 180° PCB Type
- (R) 90° PCB Type
- (C) Crimp Type *

Keying

- (G) 1 KEY 0°
- (A) 2 KEY 30°
- (B) 2 KEY 60° / 45°
- (C) 2 KEY 90° / 60°

*Upon Request

Housing Material & Surface Plating

- (C) Copper Alloy / Chrome
- (S) Copper Alloy / Black Chrome *
- (K) Copper Alloy / Black Chrome (Gray) *
- (R) Aluminum Alloy / Chrome *

*Upon Request

Insulation Material

- (P) PPS
- (K) PEEK *

*Upon Request

More Information

> For Receptacle

(001), (002).....
For Different Versions

> For Overmolded With Cable

(□) + (■) Cable Type + Cable Length
e.g. (A01) = UL2464, PVC + 1M

- (□) Cable Type
- (A) PVC
- (B) PU
- (E) Cat. 5e

(■) Cable Length
From 1M ~ 99M
e.g. (01) = 1M

> For Field Serviceable/Installable

(□) + (■) Back Nut + Cable O.D.
e.g. (201) = Back Nut For Bend Relief + Cable O.D 2.2 ~ 3.2mm

- (□) Back Nut
- (1) Standard Back Nut
- (2) Back Nut For Bend Relief

(■) Cable O.D.
e.g. (01) = 2.2 ~ 3.2mm
(See Table For Explanation At The Bottom)

B Series (Unit:mm)		
Size	Panel Cut-out	Thread Size
(A) 00	6.3	M7*0.5
(B) 0	8.2	M9*0.6
(C) 1	10.5	M12*1.0
(D) 2	13.5	M15*1.0

B Series Cable O.D. Range (Unit:mm)							
Code	(A) 00	Code	(B) 0	Code	(C) 1	Code	(D) 2
(20)	1.4 ~ 2.2	(01)	2.2 ~ 3.2	(02)	2.7 ~ 3.2	(11)	5.3 ~ 6.2
(21)	2.3 ~ 2.7	(04)	3.3 ~ 4.2	(04)	3.3 ~ 4.2	(14)	6.3 ~ 7.2
(22)	2.8 ~ 3.5	(07)	4.3 ~ 5.2	(07)	4.3 ~ 5.2	(16)	7.3 ~ 8.2
				(11)	5.3 ~ 6.2	(19)	8.3 ~ 9.2
				(14)	6.3 ~ 7.2		

Ordering Information FLOS B Series Double Ended

Example

FLB B 02 - G C P FM - FM A001
 XXX X XX - X X X XX - X XXXX

1 2 3 4 5 6 7 8 9

Series / Sub-Series

(FLB) FLOS B Series

Size

- (A) 00
- (B) 0
- (C) 1
- (D) 2

Number Of Contacts

2 ~ 19 Contacts

e.g. (02) = 2 Contacts

Keying

- (G) 1 KEY 0°
- (A) 2 KEY 30°
- (B) 2 KEY 60° / 45°
- (C) 2 KEY 90° / 60°

Housing Material & Surface Plating

- (C) Copper Alloy / Chrome
- (S) Copper Alloy / Black Chrome*
- (K) Copper Alloy / Black Chrome (Gray)*
- (R) Aluminum Alloy / Chrome * *Upon Request

Insulation Material

- (P) PPS
- (K) PEEK * *Upon Request

Connector Style For Connector 1

> FLO Series

- (FM) 180° Male Overmolded
- (RM) 90° Male Overmolded
- (PM) 180° Female Overmolded

Connector Style For Connector 2

> FLO Series

- (FM) 180° Male Overmolded
- (RM) 90° Male Overmolded
- (PM) 180° Female Overmolded

More Information

> For Overmolded With Cable

(□) + (■) Cable Type + Cable Length
 e.g. (A001) = UL2464, PVC + 1M

(□) Cable Type































- (A) PVC
- (B) PU
- (E) Cat. 5e

(■) Cable Length

From 0.5M ~ 99M

e.g. (A05) = 0.5M, (001) = 1M...(099) = 99M

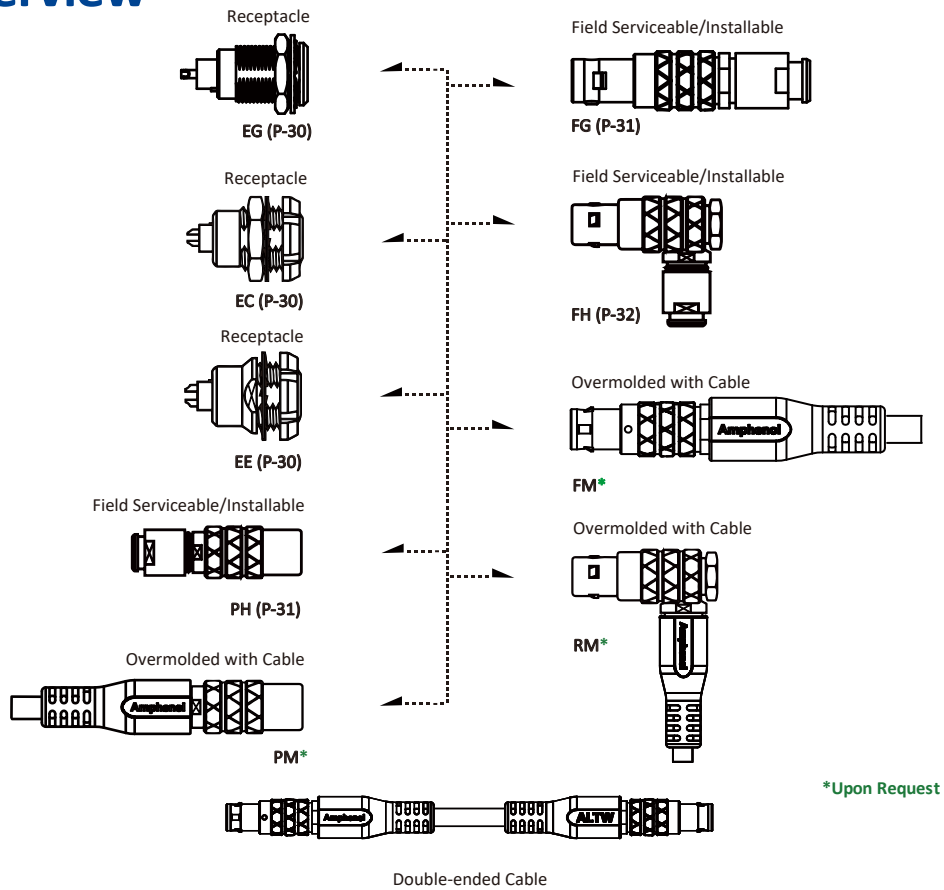
Contact Configuration FLOS B Series

Size	00 (A)						0 (B)					
Connector Type	Receptacle			Field Serviceable/Installable Overmolded With Cable			Receptacle			Field Serviceable/Installable Overmolded With Cable		
	Female			Male		Female	Female			Male		Female
Contact	EG	EC	EE	FG	FH	PH	EG	EC	EE	FG	FH	PH
2 Pin												
	3.5A / 300V			3.5A / 300V			10A / 400V			10A / 400V		
3 Pin												
	3A / 250V			3A / 250V			8A / 400V			8A / 400V		
4 Pin												
	2A / 200V			2A / 200V			7A / 250V			7A / 250V		
5 Pin												
							6.5A / 250V			6.5A / 250V		
6 Pin												
							2.5A / 250V			2.5A / 250V		
7 Pin												
							2.5A / 250V			2.5A / 250V		
8 Pin												
9 Pin												
							2A / 150V			2A / 150V		
10 Pin												
12 Pin												
14 Pin												
16 Pin												
18 Pin												
19 Pin												
26 Pin												
32 Pin												

Contact Configuration FLOS B Series

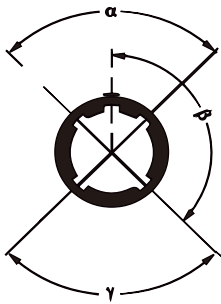
Size	1 (C)						2 (D)					
Connector Type	Receptacle			Field Serviceable/Installable Overmolded With Cable			Receptacle			Field Serviceable/Installable/ Overmolded With Cable		
	Female			Male		Female	Female			Male		Female
Contact	EG	EC	EE	FG	FH	PH	EG	EC	EE	FG	FH	PH
2 Pin												
	15A / 500V			15A / 500V			25A / 700V			25A / 700V		
3 Pin												
	12A / 400V			12A / 400V			17A / 650V			17A / 650V		
4 Pin												
	10A / 400V			10A / 400V			15A / 600V			15A / 600V		
5 Pin												
	9A / 400V			9A / 400V			14A / 550V			14A / 550V		
6 Pin												
	7A / 300V			7A / 300V			12A / 450V			12A / 450V		
7 Pin												
	7A / 300V			7A / 300V			11A / 450V			11A / 450V		
8 Pin												
	5A / 250V			5A / 250V			10A / 400V			10A / 400V		
9 Pin												
	2.5A / 250V			2.5A / 250V			8A / 400V			8A / 400V		
10 Pin												
	7A / 400V			7A / 400V			7A / 400V			7A / 400V		
12 Pin												
	2A / 200V			2A / 200V			6.5A / 350V			6.5A / 350V		
14 Pin												
	1.5A / 200V			1.5A / 200V			6A / 300V			6A / 300V		
16 Pin												
	5.5A / 250V			5.5A / 250V			5.5A / 250V			5.5A / 250V		
18 Pin												
	5A / 250V			5A / 250V			2A / 200V			2A / 200V		
19 Pin												
	2A / 200V			2A / 200V			1.5A / 200V			1.5A / 200V		
26 Pin												
	1.5A / 200V			1.5A / 200V			1.5A / 200V			1.5A / 200V		
32 Pin												

Range Overview



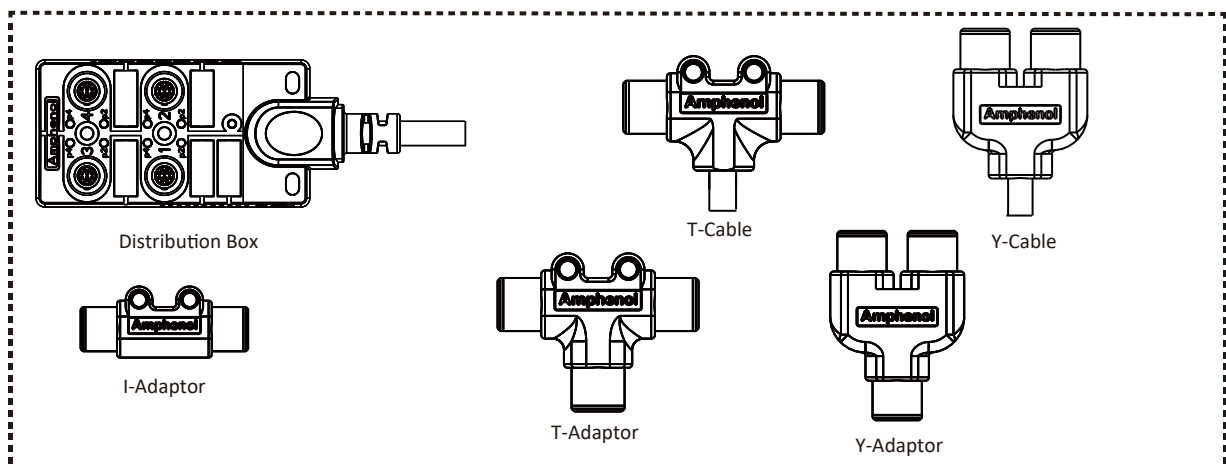
Alignment Keying

Front View of Receptacle

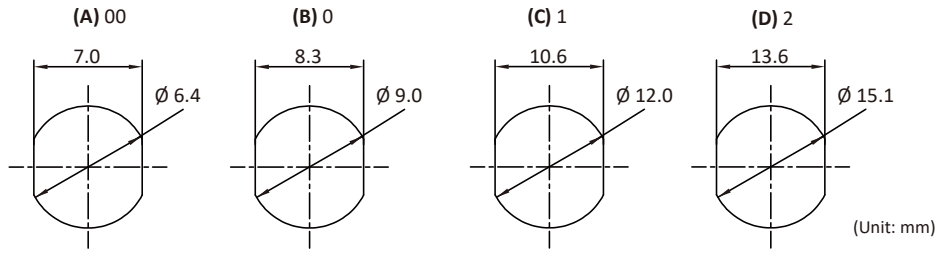


Code	Number of Keys	Angles	Series			Code	Number of Keys	Angles	Series	
			00	0B	1B				2B	3B
G	1	-	0°	0°	0°	G	1	-	0°	0°
A	2	α	30°	30°	30°	A	2	α	30°	30°
B	2		60°	60°	60°	B	2		45°	45°
C	2		-	90°	90°	C	2		60°	60°
D	2	β	-	135°	135°	D	2	β	95°	95°
E	2		-	145°	145°	E	2		120°	120°
F	2		-	155°	155°	F	2		145°	145°
J	2	γ	45°	45°	45°	J	2	γ	37.5°	37.5°

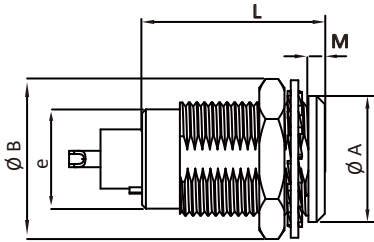
Customization - Upon Request



Panel Cut Out



EG Straight Female Panel with Hexagonal Nut (Rear Fasten)

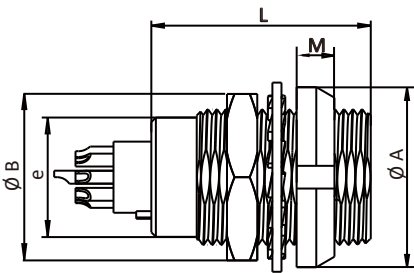


Mated With:
FG (P-31), FH (P-32), FM*, RM*

- Part Number: FLB ②-③ EGFS-⑦⑧⑨-001
- Operating Temperature: -40°C ~ 125°C
- Nut Torque Value: 4 ~ 6 kgf.cm
- ⑧ Housing Material & Surface Plating: C, S, K, R (P-25)
- ⑨ Insulation Material: (P) PPS / (K) PEEK
- Gender: Female
- Assembly Style: Solder
- ⑦ Keying: G, A, B, C

② Size	Dimension (Unit: mm)					③ Contact	Recommended Panel Thickness
	A	B	e	L	M		
(A) 00	8.0	10.2	M7*0.5	12.1	1.0	2 ~ 4	6.0mm
(B) 0	10.0	12.4	M9*0.6	14.5	1.2	2 ~ 9	6.0mm
(C) 1	14.0	15.8	M12*1.0	16.5	1.5	2 ~ 16	7.0mm
(D) 2	18.0	19.2	M15*1.0	18.5	1.8	2 ~ 19	7.0mm

EC Straight Female Panel with Hexagonal Nut & Slotted Nut (Both Side Fasten)

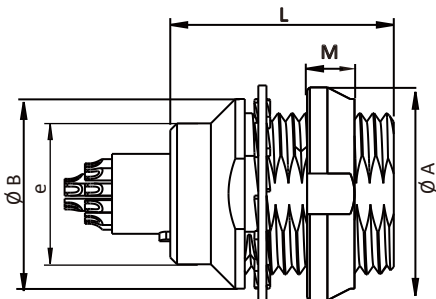


Mated With:
FG (P-31), FH (P-32), FM*, RM*

- Part Number: FLB ②-③ ECFS-⑦⑧⑨-001
- Operating Temperature: -40°C ~ 125°C
- Nut Torque Value: 4 ~ 6 kgf.cm
- ⑧ Housing Material & Surface Plating: C, S, K, R (P-25)
- ⑨ Insulation Material: (P) PPS / (K) PEEK
- Gender: Female
- Assembly Style: Solder
- ⑦ Keying: G, A, B, C

② Size	Dimension (Unit: mm)					③ Contact	Recommended Panel Thickness
	A	B	e	L	M		
(A) 00	10.0	10.2	M7*0.5	12.1	2.5	2 ~ 4	4.0mm
(B) 0	12.0	12.4	M9*0.6	14.5	2.5	2 ~ 9	5.0mm
(C) 1	16.0	15.8	M12*1.0	16.5	3.5	2 ~ 16	6.0mm
(D) 2	20.0	19.2	M15*1.0	18.5	3.5	2 ~ 19	4.5mm

EE Straight Female Panel with Slotted Nut (Front Fasten)



Mated With:
FG (P-31), FH (P-32), FM*, RM*

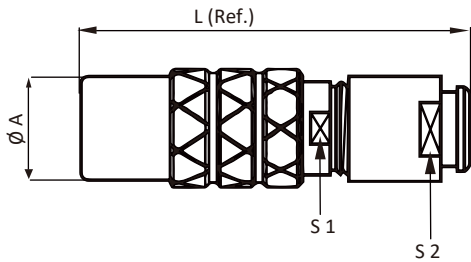
- Part Number: FLB ②-③ EEFS-⑦⑧⑨-CP-001
- Operating Temperature: -40°C ~ 125°C
- Nut Torque Value: 4 ~ 6 kgf.cm
- ⑧ Housing Material & Surface Plating: C, S, K, R (P-25)
- ⑨ Insulation Material: (P) PPS / (K) PEEK
- Gender: Female
- Assembly Style: Solder
- ⑦ Keying: G, A, B, C

② Size	Dimension (Unit: mm)					③ Contact	Recommended Panel Thickness
	A	B	e	L	M		
(A) 00	10.0	9.5	M7*0.5	12.1	2.5	2 ~ 4	2.0mm
(B) 0	12.0	12.5	M9*0.6	14.5	2.5	2 ~ 9	2.5mm
(C) 1	16.0	16.0	M12*1.0	16.5	3.5	2 ~ 16	6.0mm
(D) 2	20.0	20.0	M15*1.0	18.5	3.5	2 ~ 19	4.0mm

Recommended Wire AWG (Solder)							
③ Contact	(A) 00	③ Contact	(B) 0	③ Contact	(C) 1	③ Contact	(D) 2
2 ~ 4	28AWG (0.09mm ²)	2 ~ 5	22AWG (0.34mm ²)	2 ~ 3	20AWG (0.5mm ²)	2	16AWG (1.5mm ²)
				4 ~ 8	22AWG (0.34mm ²)	3	18AWG (1.0mm ²)
		6 ~ 9	28AWG (0.09mm ²)	9 ~ 16	28AWG (0.09mm ²)	4 ~ 7	22AWG (0.34mm ²)
						8 ~ 19	28AWG (0.09mm ²)

Recommended Cable O.D. (Unit: mm) (For Field Serviceable/Installable)							
⑩	(A) 00	⑩	(B) 0	⑩	(C) 1	⑩	(D) 2
(20)	1.4 ~ 2.2	(01)	2.2 ~ 3.2	(02)	2.7 ~ 3.2	(11)	5.3 ~ 6.2
(21)	2.3 ~ 2.7	(04)	3.3 ~ 4.2	(04)	3.3 ~ 4.2	(14)	6.3 ~ 7.2
(22)	2.8 ~ 3.5	(07)	4.3 ~ 5.2	(07)	4.3 ~ 5.2	(16)	7.3 ~ 8.2
				(11)	5.3 ~ 6.2	(19)	8.3 ~ 9.2
				(14)	6.3 ~ 7.2		

PH Straight Female Field Serviceable/Installable, PM Overmolded With Cable

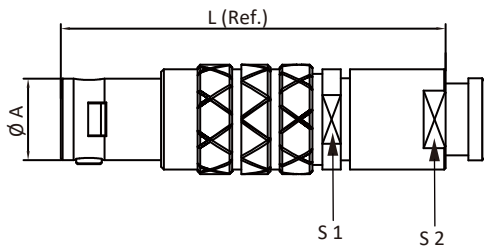


Mated With:
FG (P-31), FH (P-32), FM*, RM*

② Size	Dimension (Unit: mm)				③ Contact
	A	L (Ref.)	S1	S2	
(A) 00	6.8	36.1	5.5	6.0	2 ~ 4
(B) 0	9.5	37.0	8.0	8.0	2 ~ 9
(C) 1	12.5	44.8	10.0	9.0	2 ~ 16
(D) 2	16.5	47.0	13.0	12.0	2 ~ 19

- Part Number:
Field Serviceable/Installable: FLB ②-③ PHFS-⑦⑧⑨-2⑩
Overmolded: FLB ②-③ PMFS-⑦⑧⑨-A⑩
- Gender: Female
- Assembly Style: Solder
- ⑦ Keying: G, A, B, C
- ⑧ Housing Material & Surface Plating: C, S, K, R (P-25)
- ⑨ Insulation Material: (P) PPS / (K) PEEK
- Operating Temperature:
Field Serviceable/Installable: -40°C ~ 125°C
Overmolded: -20°C ~ 85°C
- Cable Type: PVC, Black
- ⑩ Cable Length: From 1M ~ 99M
e.g. (01) = 1M, (99) = 99M

FG Straight Male Field Serviceable/Installable, FM Overmolded With Cable

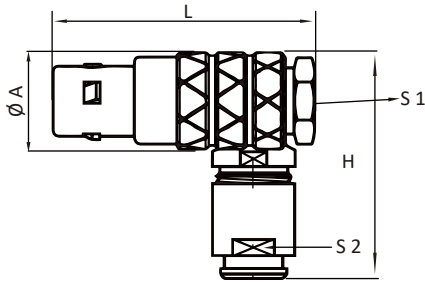


Mated With:
FG (P-31), EC (P-30), PH (P-31), PM*

② Size	Dimension (Unit: mm)				③ Contact
	A	L (Ref.)	S1	S2	
(A) 00	6.8	36.1	5.5	6.0	2 ~ 4
(B) 0	9.5	37.0	8.0	8.0	2 ~ 9
(C) 1	12.5	44.8	10.0	9.0	2 ~ 16
(D) 2	16.5	47.0	13.0	12.0	2 ~ 19

- Part Number:
Field Serviceable/Installable: FLB ②-③ FGMS-⑦⑧⑨-2⑩
Overmolded: FLB ②-③ FMMS-⑦⑧⑨-A⑩
- Gender: Female
- Assembly Style: Solder
- ⑦ Keying: G, A, B, C
- ⑧ Housing Material & Surface Plating: C, S, K, R (P-25)
- ⑨ Insulation Material: (P) PPS / (K) PEEK
- Operating Temperature:
Field Installable: -40°C ~ 125°C
Overmolded: -20°C ~ 85°C
- Cable Type: PVC, Black
- ⑩ Cable Length: From 1M ~ 99M
e.g. (01) = 1M, (99) = 99M

FH Right Angle Male Field Serviceable/Installable, RM Overmolded With Cable

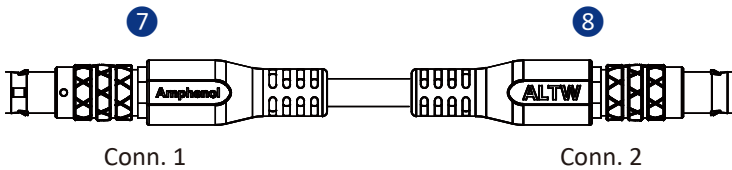


- Part Number:
 Field Serviceable/Installable: FLB ②-③ FHMS-⑦ ⑧ ⑨-2 ⑩
 Overmolded: FLB ②-③ RMMS-⑦ ⑧ ⑨-A ⑩
- Gender: Female
- Assembly Style: Solder
- ⑦ Keying: G, A, B, C
- ⑧ Housing Material & Surface Plating: C, S, K, R (P-25)
- ⑨ Insulation Material: (P) PPS / (K) PEEK
- Operating Temperature:
 Field Serviceable/Installable: -40°C ~ 125°C
 Overmolded: -20°C ~ 85°C
- Cable Type: PVC, Black
- ⑩ Cable Length: From 1M ~ 99M
 e.g. (01) = 1M, (99) = 99M

Mated With:
 FG (P-31), EC (P-30), EE (P-30), PH (P-31), PM*

② Size	Dimension (Unit: mm)					③ Contact
	A	L (Ref.)	H (Ref.)	S1	S2	
(A) 00	10.9	26.5	23.5	10.0	7.0	2 ~ 4
(B) 0	11.0	30.1	26.7	11.0	9.0	2 ~ 9
(C) 1	13.5	36.1	31.5	14.0	12.0	2 ~ 16
(D) 2	16.5	41.7	35.0	17.0	14.0	2 ~ 19

Double End Cable



- Part Number: FLB ②-③ ④ ⑤ ⑥-⑦-⑧-A ⑨
- Assembly Style: Solder
- ④ Keying: G, A, B, C
- ⑤ Housing Material & Surface Plating: C, S, K, R (P-26)
- ⑥ Insulation Material: (P) PPS / (K) PEEK
- Operating Temperature: -20°C ~ 85°C
- Cable Type: PVC, Black
- ⑨ Cable Length: From 0.5M ~ 99M
 e.g. (A05) = 0.5M, (001) = 1M

PM ⑦ & ⑧



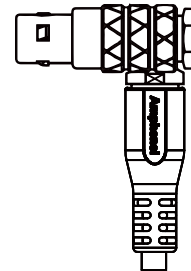
Dimension (Unit: mm)		
② Size	A	L (Ref.)
(A) 00	6.8	36.1
(B) 0	9.5	37.0
(C) 1	12.5	44.8
(D) 2	16.5	47.0

FM ⑦ & ⑧



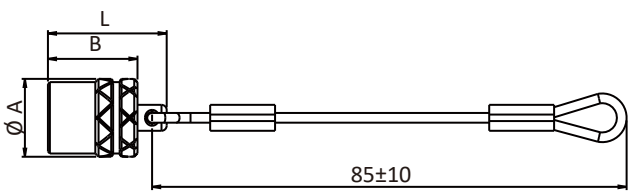
Dimension (Unit: mm)		
② Size	A	L (Ref.)
(A) 00	6.8	36.1
(B) 0	9.5	37.0
(C) 1	12.5	44.8
(D) 2	16.5	47.0

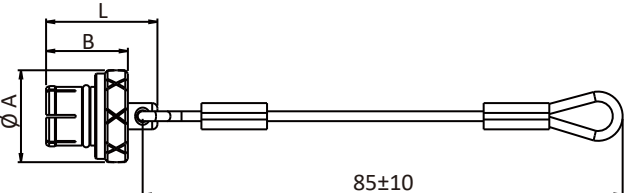
RM ⑦ & ⑧



Dimension (Unit: mm)				③ Contact
② Size	A	L (Ref.)	H (Ref.)	
(A) 00	10.9	26.5	23.5	2 ~ 4
(B) 0	11.0	30.1	26.7	2 ~ 9
(C) 1	13.5	36.1	31.5	2 ~ 16
(D) 2	16.5	41.7	35.0	2 ~ 19

Cap

With Steel Line 	Dimension (Unit: mm)			Mating Pair (Gender)	Part Number	IP Rating	
	Size	A	B				L
(Unit: mm)	(B) 0	10.0	10.5	15.0	Female	CAP-DLBFQME2	IP50
	(C) 1	14.0	12.5	17.0	Female	CAP-DLBFQME3	
	(D) 2	18.0	14.0	20.0	Female	CAP-DLBFQME4	

With Steel Line 	Dimension (Unit: mm)			Mating Pair (Gender)	Part Number	IP Rating	
	Size	A	B				L
(Unit: mm)	(B) 0	10.6	12.5	16.5	Male	CAP-DLBMQCE2	IP50
	(C) 1	12.0	13.8	18.3	Male	CAP-DLBMQCE3	
	(D) 2	15.0	15.0	20.0	Male	CAP-DLBMQCE4	

- Increase Over 50% of Cable Assembly Outputs In Over 50% Less Time
- Eliminate Epoxy and Glue Production Process and Fallouts To Achieve IP68
- Fewer Parts To Manage And Stock
- More Productivities And Fewer Manpower



IP68 Protection



Harsh Environment



Quick Installation



Fully Shielded



Corrosion Resistant



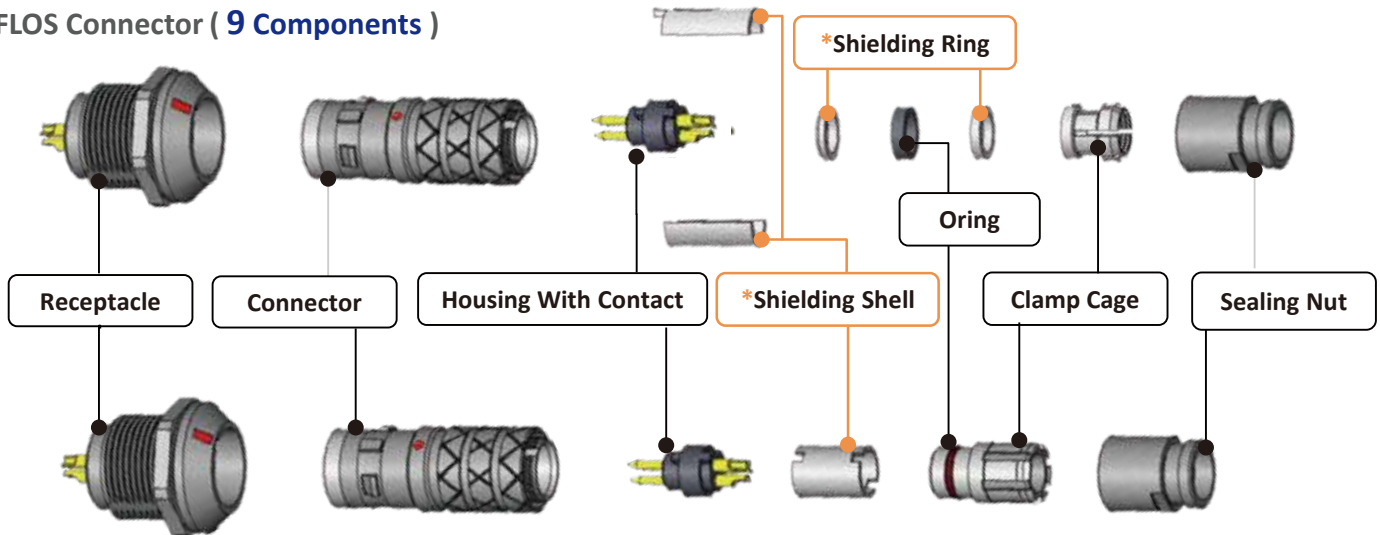
RoHS Compliant



UL 94V-0


Comparison

FLOS Connector (9 Components)



FLOS+ Connector (6 Components)

- * Shielding Shell: Combine into 1 component
- * Shielding Ring: Removed

Characteristics	FLOS+ Connector 	FLOS Connector
Waterproof (Field Serviceable/Installable)	No Glue Required For IP68	IP68 With Potting Materials (3 Times)
Waterproof (Receptacle)	Unmated IP68	Mated IP68
Assembly Efficiency	6 Components	9 Components

Ordering Information FLOS & FLOS+ K Series

Example

	FLK	B	-	02	EG	F	S	-	G	C	P	-	001
	XXX	X	-	XX	XX	X	X	-	X	X	X	-	XXX
	①	②		③	④	⑤	⑥		⑦	⑧	⑨		⑩

Series / Sub-Series
(FLK) FLOS K Series (SLK) FLOS+ K Series

Size (See Table For Explanation At The Bottom)
(B) 0
(C) 1
(D) 2

Number Of Contacts
2 ~ 19 Contacts
e.g. (02) = 2 Contacts

Connector Style
> For Receptacle
(EG) 180° Female Panel With Hexagonal Nut (Rear Fasten)
(EC) 180° Female Panel With Hexagonal Nut & Slotted Nut (Both Side Fasten)
(EE) 180° Female Panel With Slotted Nut (Front Fasten)
(EN) 180° Female Panel With Earthing Tag & Hexagonal Nut (Rear Fasten)*
(EX) 90° Female Panel for PCB Board with Hexagonal Nut and Slotted Nut*
(EH) 180° Female Panel with Hexagonal Nut (Rear Fasten)*
> For Overmolded with Cable > For Field Serviceable/Installable
(FM) 180° Male Overmolded (FG) 180° Male Field Serviceable/Installable
(RM) 90° Male Overmolded (FH) 90° Male Field Serviceable/Installable
(PM) 180° Female Overmolded (PH) 180° Female Field Serviceable/Installable *Upon Request

Connector & Contact Gender
(F) Female Connector, Female Contact
(M) Male Connector, Male Contact
(C) Hybrid Style* *Upon Request

Assembly Style
> For Receptacle & Overmolded With Cable & Field Serviceable/Installable
(S) Solder Type (R) 90° PCB Type*
(P) 180° PCB Type* (C) Crimp Type* *Upon Request

Keying
(G) 1 KEY 0° (B) 2 KEY 45°
(A) 2 KEY 30° (C) 2 KEY 60°

Housing Material & Surface Plating
(C) Copper Alloy / Chrome (K) Copper Alloy / Black Chrome (Gray)
(S) Copper Alloy / Black Chrome (R) Aluminum Alloy / Chrome* *Upon Request

Insulation Material
(P) PPS
(K) PEEK* *Upon Request

More Information

> For Receptacle

(001), (002),.....

For Different Versions

> For Overmolded With Cable

(□) + (■) Cable Type + Cable Length

e.g. (A01) = UL2464, PVC + 1M

(□) Cable Type

(A) PVC

(B) PU

(E) Cat. 5e

(■) Cable Length

From 1M ~ 99M

e.g. (01) = 1M

> For Field Serviceable/Installable

(□) + (■) Back Nut + Cable O.D.

e.g. (201) = Back Nut For Bend Relief + Cable O.D 2.2 ~ 3.2mm

(□) Back Nut

(1) Standard Back Nut

(2) Back Nut For Bend Relief

(■) Cable O.D.

e.g. (03) = 2.8 ~ 3.0mm

(See Table For Explanation At The Bottom)

Dimension (Unit:mm)					
③ Size	A	B	e	L	M
(B) 0	10.0	12.4	M9*0.6	14.5	1.2
(C) 1	14.0	15.8	M12*1.0	16.5	1.5
(D) 2	18.0	19.2	M15*1.0	18.5	1.8

Recommended Cable O.D. (Unit:mm)					
⑩	(B) 0	⑩	(C) 1	⑩	(D) 2
(03) FLKB	2.8~3.0	(06) FLKB	3.8~4.0	(15) FLKB	6.5~6.7
(205) FLKB	3.4~3.6	(08) FLKB	4.4~4.6	(17) FLKB	7.5~7.7
(06) FLKB	3.8~4.0	(10) FLKB	4.8~5.1	(18) FLKB	8.5~8.7
(09) FLKB	4.5~4.7	(12) FLKB	5.3~5.5	(26) SLKB	6.5~7.6
(22) SLKB	2.8~3.5	(13) FLKB	5.8~6.1	(27) SLKB	7.7~8.7
(23) SLKB	3.6~4.7	(23) SLKB	3.6~4.7		
		(24) SLKB	4.8~5.7		
		(25) SLKB	5.8~6.1		

Ordering Information FLOS & FLOS+ K Series Double ended

Example

FLK B - 02 G C P - FM -FM - A001
 XXX X - XX X X X - XX - XX - XXXX

1 2 3 4 5 6 7 8 9

Series / Sub-Series

(FLK) FLOS K Series (SLK) FLOS+ K Series

Size

- (A) 00
- (B) 0
- (C) 1
- (D) 2

Number Of Contacts

2 ~ 19 Contacts

e.g. (02) = 2 Contacts

Keying

- (G) 1 KEY 0°
- (A) 2 KEY 30°
- (B) 2 KEY 60° / 45°
- (C) 2 KEY 90° / 60°

Housing Material & Surface Plating

- (C) Copper Alloy / Chrome
- (S) Copper Alloy / Black Chrome
- (K) Copper Alloy / Black Chrome (Gray)
- (R) Aluminum Alloy / Chrome *

*Upon Request

Insulation Material

- (P) PPS
- (K) PEEK *

*Upon Request

Connector Style For Connector 1

> FLOS Series

- (FM) 180° Male Overmolded
- (RM) 90° Male Overmolded
- (PM) 180° Female Overmolded

Connector Style For Connector 2

> FLOS Series

- (FM) 180° Male Overmolded
- (RM) 90° Male Overmolded
- (PM) 180° Female Overmolded

More Information

> For Overmolded With Cable

(□) + (■) Cable Type + Cable Length
 e.g. (A001) = UL2464, PVC + 1M

(□) Cable Type

- (A) PVC
- (B) PU
- (E) Cat. 5e

(■) Cable Length

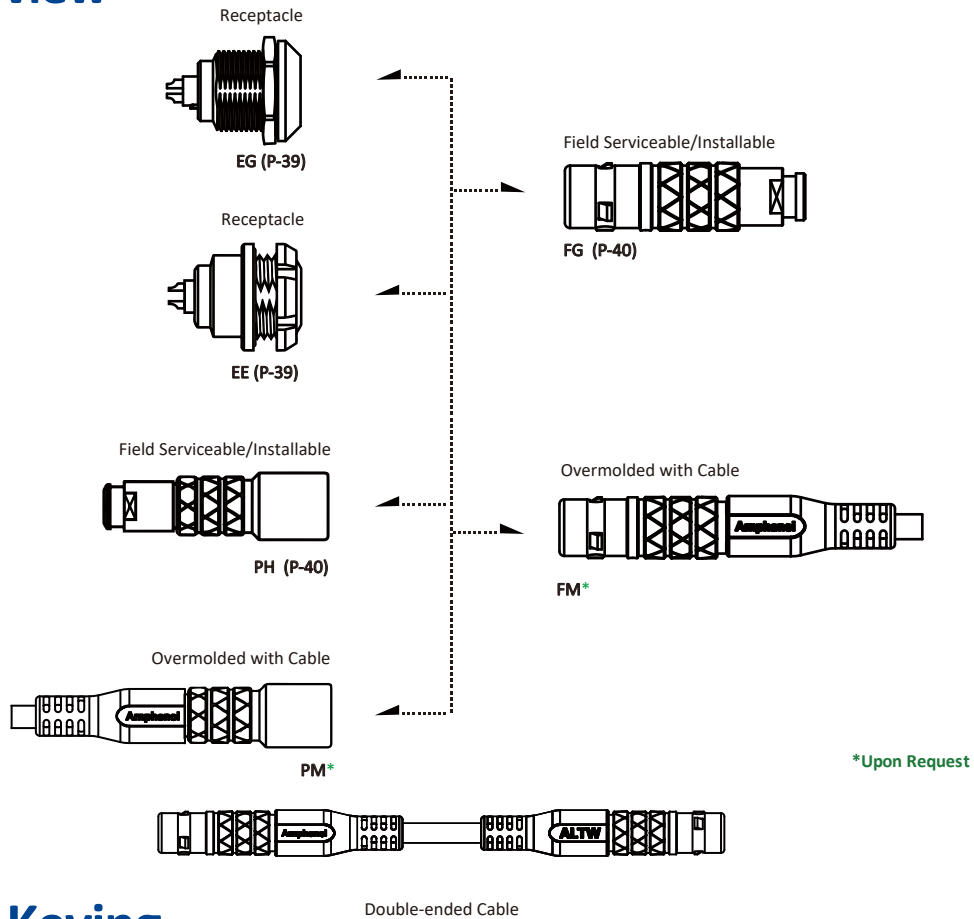
From 0.5M ~ 99M

e.g. (A05) = 0.5M, (001) = 1M...(099) = 99M

Contact Configuration FLOS & FLOS+ K Series

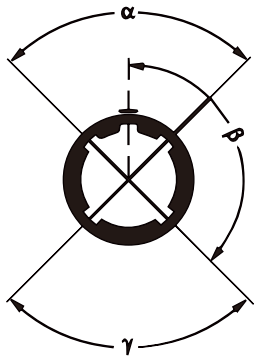
Size	0 (B)				1 (C)				2 (D)			
Connector Type	Receptacle		Field Serviceable/Installable Overmolded With Cable		Receptacle		Field Serviceable/Installable Overmolded With Cable		Receptacle		Field Serviceable/Installable Overmolded With Cable	
	Female		Male	Female	Female		Male	Female	Female		Male	Female
Contact	EG	EE	FG	PH	EG	EE	FG	PH	EG	EE	FG	PH
2 Pin												
	10A / 400V		10A / 400V		15A / 500V		15A / 500V		25A / 700V		25A / 700V	
3 Pin												
	8A / 400V		8A / 400V		12A / 400V		12A / 400V		17A / 650V		17A / 650V	
4 Pin												
	7A / 250V		7A / 250V		10A / 400V		10A / 400V		15A / 600V		15A / 600V	
5 Pin												
	6.5A / 250V		6.5A / 250V		9A / 400V		9A / 400V		14A / 550V		14A / 550V	
6 Pin												
	2.5A / 250V		2.5A / 250V		7A / 300V		7A / 300V		12A / 450V		12A / 450V	
7 Pin												
	2.5A / 250V		2.5A / 250V		7A / 300V		7A / 300V		11A / 450V		11A / 450V	
8 Pin												
					5A / 250V		5A / 250V		10A / 450V		10A / 450V	
9 Pin												
	2A / 150V		2A / 150V									
10 Pin												
					2.5A / 250V		2.5A / 250V		8A / 400V		8A / 400V	
12 Pin												
									7A / 400V		7A / 400V	
14 Pin												
					2A / 200V		2A / 200V		6.5A / 350V		6.5A / 350V	
16 Pin												
					1.5A / 200V		1.5A / 200V		6A / 300V		6A / 300V	
18 Pin												
									5.5A / 250V		5.5A / 250V	
19 Pin												
									5A / 250V		5A / 250V	
26 Pin												
									2A / 200V		2A / 200V	
32 Pin												
									1.5A / 200V		1.5A / 200V	

Range Overview



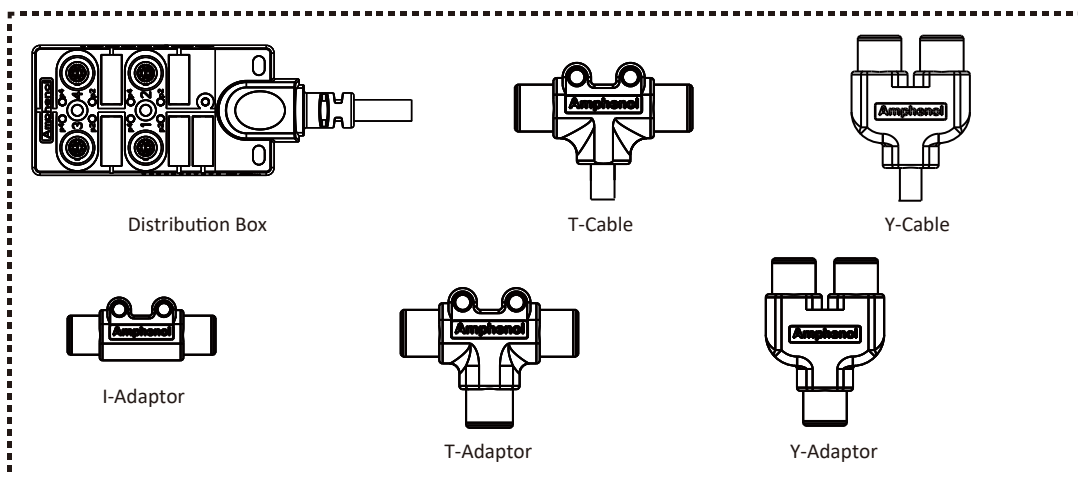
Alignment Keying

Front View of Receptacle

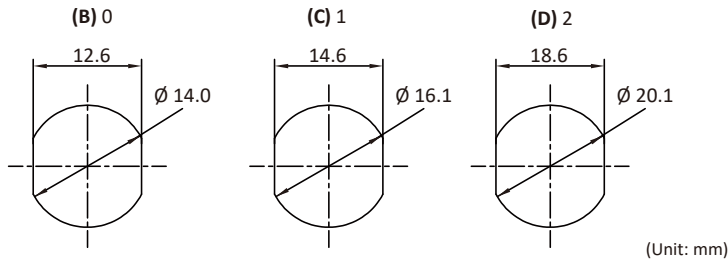


Code	Number of Keys	Angles	Series			
			0K	1K	2K	3K
G	1	-	0°	0°	0°	0°
A	2	α	30°	30°	30°	30°
B	2		45°	45°	45°	45°
C	2		60°	60°	60°	60°
D	2	γ	95°	95°	95°	95°
E	2	β	120°	120°	120°	120°
F	2		145°	145°	145°	145°

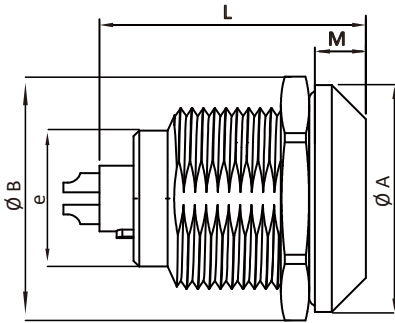
Customization - Upon Request



Panel Cut Out



EG Straight Female Panel with Hexagonal Nut (Rear Fasten)

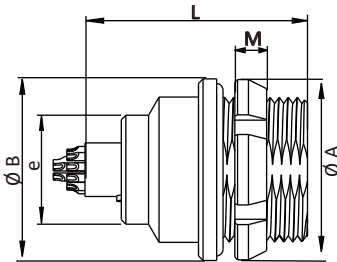


Mated With:
FG (P-40), FM*

- Part Number: ① ② - ③ EGFS- ⑦ ⑧ ⑨ -001
- Gender: Female
- Assembly Style: Solder
- ⑦ Keying: G, A, B, C
- Operating Temperature: -40°C ~ 125°C
- Nut Torque Value: 4 ~ 6 kgf.cm
- ⑧ Housing Material & Surface Plating: C, S, K, R (P-35)
- ⑨ Insulation Material: (P) PPS / (K) PEEK

② Size	Dimension (Unit: mm)					③ Contact	Recommended Panel Thickness
	A	B	e	L	M		
(B) 0	18.0	19.2	M14*1.0	21.9	4.0	2 ~ 9	6.0mm
(C) 1	20.0	21.5	M16*1.0	27.2	4.5	2 ~ 16	10.0mm
(D) 2	24.9	27.0	M20*1.0	28.9	5.0	2 ~ 19	8.0mm

EE Straight Female Panel with Slotted Nut (Front Fasten)



Mated With:
FG (P-40), FM*

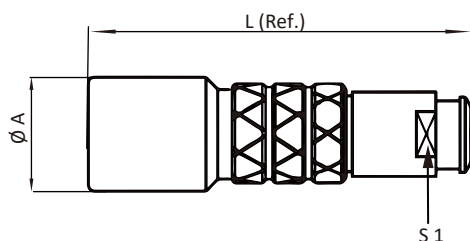
- Part Number: ① ② - ③ EEFS- ⑦ ⑧ ⑨ -001
- Gender: Female
- Assembly Style: Solder
- ⑦ Keying: G, A, B, C
- Operating Temperature: -40°C ~ 125°C
- Nut Torque Value: 4 ~ 6 kgf.cm
- ⑧ Housing Material & Surface Plating: C, S, K, R (P-35)
- ⑨ Insulation Material: (P) PPS / (K) PEEK

② Size	Dimension (Unit: mm)					③ Contact	Recommended Panel Thickness
	A	B	e	L	M		
(B) 0	18.0	18.0	M14*1.0	20.1	3.5	2 ~ 9	2.5mm
(C) 1	20.0	20.0	M16*1.0	25.1	3.5	2 ~ 16	6.0mm
(D) 2	25.0	25.0	M20*1.0	28.6	3.5	2 ~ 19	4.0mm

Recommended Wire AWG (Solder)					
③ Contact	(B) 0	③ Contact	(C) 1	③ Contact	(D) 2
2 ~ 5	22AWG (0.34mm ²)	2 ~ 3	20AWG (0.5mm ²)	2	16AWG (1.5mm ²)
		4 ~ 8	22AWG (0.34mm ²)	3	18AWG (1.0mm ²)
6 ~ 9	28AWG (0.09mm ²)	9 ~ 16	28AWG (0.09mm ²)	4 ~ 7	22AWG (0.34mm ²)
				8 ~ 19	28AWG (0.09mm ²)

Recommended Cable O.D. (Unit:mm)						
⑩	(B) 0	⑩	(C) 1	⑩	(D) 2	
(03) FLKB	2.8~3.0	(06) FLKB	3.8~4.0	(15) FLKB	6.5~6.7	
(205) FLKB	3.4~3.6	(08) FLKB	4.4~4.6	(17) FLKB	7.5~7.7	
(06) FLKB	3.8~4.0	(10) FLKB	4.8~5.1	(18) FLKB	8.5~8.7	
(09) FLKB	4.5~4.7	(12) FLKB	5.3~5.5	(26) SLKB	6.5~7.6	
(22) SLKB	2.8~3.5	(13) FLKB	5.8~6.1	(27) SLKB	7.7~8.7	
(23) SLKB	3.6~4.7	(23) SLKB	3.6~4.7			
		(24) SLKB		4.8~5.7		
		(25) SLKB		5.8~6.1		

PH Straight Female Field Serviceable/Installable, PM Overmolded With Cable

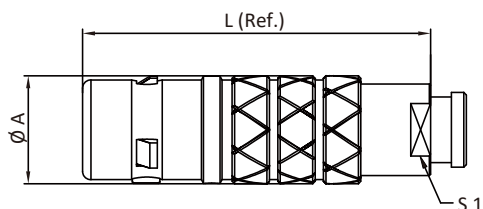


Mated With:
FG (P-40), FM*

② Size	Dimension (Unit: mm)			③ Contact
	A	L (Ref.)	S1	
(B) 0	13.0	36.5	8.0	2 ~ 9
(C) 1	14.9	46.3	9.0	2 ~ 16
(D) 2	19.0	55.8	12.0	2 ~ 19

- Part Number:
Field Serviceable/Installable: ① ② - ③ PHFS-⑦ ⑧ ⑨ - 2 ⑩
Overmolded: ① ② - ③ PMFS-⑦ ⑧ ⑨ - A ⑩
① FLK (FLOS), SLK (FLOS+)
- Gender: Female
- Assembly Style: Solder
- ⑦ Keying: G, A, B, C
- ⑧ Housing Material & Surface Plating: C, S, K, R (P-35)
- ⑨ Insulation Material: (P) PPS / (K) PEEK
- Operating Temperature:
Field Serviceable/Installable: -40°C ~ 125°C
Overmolded: -20°C ~ 85°C
- Cable Type: PVC, Black
- ⑩ Cable Length: From 1M ~ 99M
e.g. (01) = 1M, (99) = 99M

FG Straight Male Field Serviceable/Installable, FM Overmolded With Cable

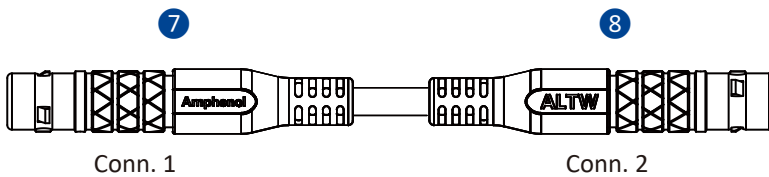


Mated With:
EG (P-39), PH (P-40), PM*

② Size	Dimension (Unit: mm)			③ Contact
	A	L (Ref.)	S1	
(B) 0	10.9	34.6	8.0	2 ~ 9
(C) 1	13.0	42.9	9.0	2 ~ 16
(D) 2	16.0	52.0	12.0	2 ~ 19

- Part Number:
Field Serviceable/Installable: ① ② - ③ FGMS-⑦ ⑧ ⑨ - 2 ⑩
Overmolded: ① ② - ③ FMMS-⑦ ⑧ ⑨ - A ⑩
① FLK (FLOS), SLK (FLOS+)
- Gender: Female
- Assembly Style: Solder
- ⑦ Keying: G, A, B, C
- ⑧ Housing Material & Surface Plating: C, S, K, R (P-35)
- ⑨ Insulation Material: (P) PPS / (K) PEEK
- Operating Temperature:
Field Serviceable/Installable: -40°C ~ 125°C
Overmolded: -20°C ~ 85°C
- Cable Type: PVC, Black
- ⑩ Cable Length: From 1M ~ 99M
e.g. (01) = 1M, (99) = 99M

Double End Cable



PM 7 & 8

FM 7 & 8



- Part Number: ① ② - ③ ④ ⑤ ⑥ - ⑦ - ⑧ - A ⑨
- ① FLK (FLOS), SLK (FLOS+)
- Assembly Style: Solder
- ④ Keying: G, A, B, C
- ⑤ Housing Material & Surface Plating: C, S, K, R (P-36)
- ⑥ Insulation Material: (P) PPS / (K) PEEK
- Operating Temperature: -20°C ~ 85°C
- Cable Type: PVC, Black
- ⑨ Cable Length: From 0.5M ~ 99M
e.g. (A05) = 0.5M, (001) = 1M

② Size	Dimension (Unit: mm)	
	A	L (Ref.)
(B) 0	13.0	36.5
(C) 1	14.9	46.3
(D) 2	19.0	55.8

② Size	Dimension (Unit: mm)		③ Contact
	A	L (Ref.)	
(B) 0	10.9	34.6	2 ~ 9
(C) 1	13.0	42.9	2 ~ 16
(D) 2	16.0	52.0	2 ~ 19

Accessories

Cap

With Steel Line	Dimension (Unit: mm)				Mating Pair (Gender)	Part Number	IP Rating
	Size	A	B	L			
 (Unit: mm)	(B) 0	15.0	15.0	20.0	Female	CAP-WLKFQME2	IP68
	(C) 1	17.0	20.0	25.1	Female	CAP-WLKFQME3	
	(D) 2	20.5	24.0	30.1	Female	CAP-WLKFQME4	

With Steel Line	Dimension (Unit: mm)				Mating Pair (Gender)	Part Number	IP Rating
	Size	A	B	L			
 (Unit: mm)	(B) 0	14.0	12.5	18.5	Male	CAP-WLKMQCE2	IP68
	(C) 1	16.0	15.5	20.5	Male	CAP-WLKMQCE3	
	(D) 2	19.5	17.5	22.5	Male	CAP-WLKMQCE4	

- Push-Pull locking or Break-Away function
- Easy handling and blind mateable
- Lightweight, small and easy handling
- Definite and secure locking condition



IP68 Protection



Harsh Environment



Quick Installation



Fully Shielded



Corrosion Resistant



RoHS Compliant



UL 94V-0

Markets / Applications



Aircraft



Warship



Software Defined Radios

Antenna GPS

Thermal Sensor

Integrated Electronics



Night Goggles

Radio / Audio Communication

Weapon Control

Battery Power / Charging



Military Equipment



Tank



Dismounted Soldier

Example

FDY	B -	02	EP	F	S -	N	U	P -	001
XXX	X -	XX	XX	X	X -	X	X	X -	XXX
1	2	3	4	5	6	7	8	9	10

Series / Sub-Series
(FDY) FLO Y Series

Size
(B) 0
(C) 1
(D) 2

Number Of Contacts
2 ~ 26 Contacts
e.g. (03) = 3 Contacts

Connector Style

> For Receptacle

(EP) 180° Male Panel With Slotted Nut (Front Fasten)*
(EE) 180° Female Panel With Slotted Nut (Front Fasten)

> For Field Serviceable/Installable

(FG) 180° Male Field Serviceable/Installable*
(PH) 180° Female Field Serviceable/Installable*
(A1) 180° Male Field Serviceable/Installable Break Away

> For Overmolded With Cable

(FM) 180° Male Overmolded Push Pull*
(PM) 180° Female Overmolded Push Pull*
(AM) 180° Male Overmolded Break Away*

*Upon Request

Connector & Contact Gender

(F) Female Connector, Female Contact
(M) Male Connector, Male Contact
(C) Hybrid Style*

*Upon Request

Assembly Style

> For Receptacle & Overmolded With Cable & Field Serviceable/Installable

(S) Solder Type
(P) 180° PCB Type
(C) Crimp Type*

*Upon Request

Keying

(N) 5 KEY / Green
(P) 5 KEY / Red*
(Q) 5 KEY / Blue
(R) 5 KEY / Brown

*Upon Request

Housing Material & Surface Plating

(U) Aluminium Alloy / Ruthenium
(D) Aluminium Alloy / Black Chrome

Insulation Material

(P) PPS*
(K) PEEK

*Upon Request

More Information

> For Receptacle

(000) FI None
(001), (002).....

For Different Versions

> For Overmolded With Cable

(□)+(■) Cable Type + Cable Length
e.g. (A01) = UL2464, PVC + 1M

(□) Cable Type
(A) PVC
(B) PU
(E) Cat. 5e

(■) Cable Length
From 1M ~ 99M
e.g. (01) = 1M

Example

FDY B - 09 R D K - FM - FM -A001
 XXX X - XX X X X - XX - XX - XXXX

1 2 3 4 5 6 7 8 9

Series / Sub-Series

(FDY) FLO+ Y Series

Size

(B) 0

(C) 1

(D) 2

Number Of Contacts

2 ~ 26 Contacts

e.g. (03) = 3 Contacts

Keying

(N) 5KEY / Green

(P) 5KEY / Red*

(Q) 5KEY / Blue

(R) 5KEY / Brown

*Upon Request

Housing Material & Surface Plating

(U) Aluminium Alloy / Ruthenium

(D) Aluminium Alloy / Black Chrome

Insulation Material

(P) PPS*

(K) PEEK

*Upon Request

Connector Style For Connector 1

> FLO Series

(FM) 180° Male Overmolded Push-Pull*

(AM) 180° Male Overmolded Break-Away*

(PM) 180° Female Overmolded*

*Upon Request

Connector Style For Connector 2

> FLO Series

(FM) 180° Male Overmolded Push-Pull*

(AM) 180° Male Overmolded Break-Away*

(PM) 180° Female Overmolded*

*Upon Request

More Information

> For Overmolded With Cable

(□) + (■) Cable Type + Cable Length

e.g. (A001) = UL2464, PVC + 1M

(□) Cable Type

(A) PVC

(B) PU

(E) Cat. 5e

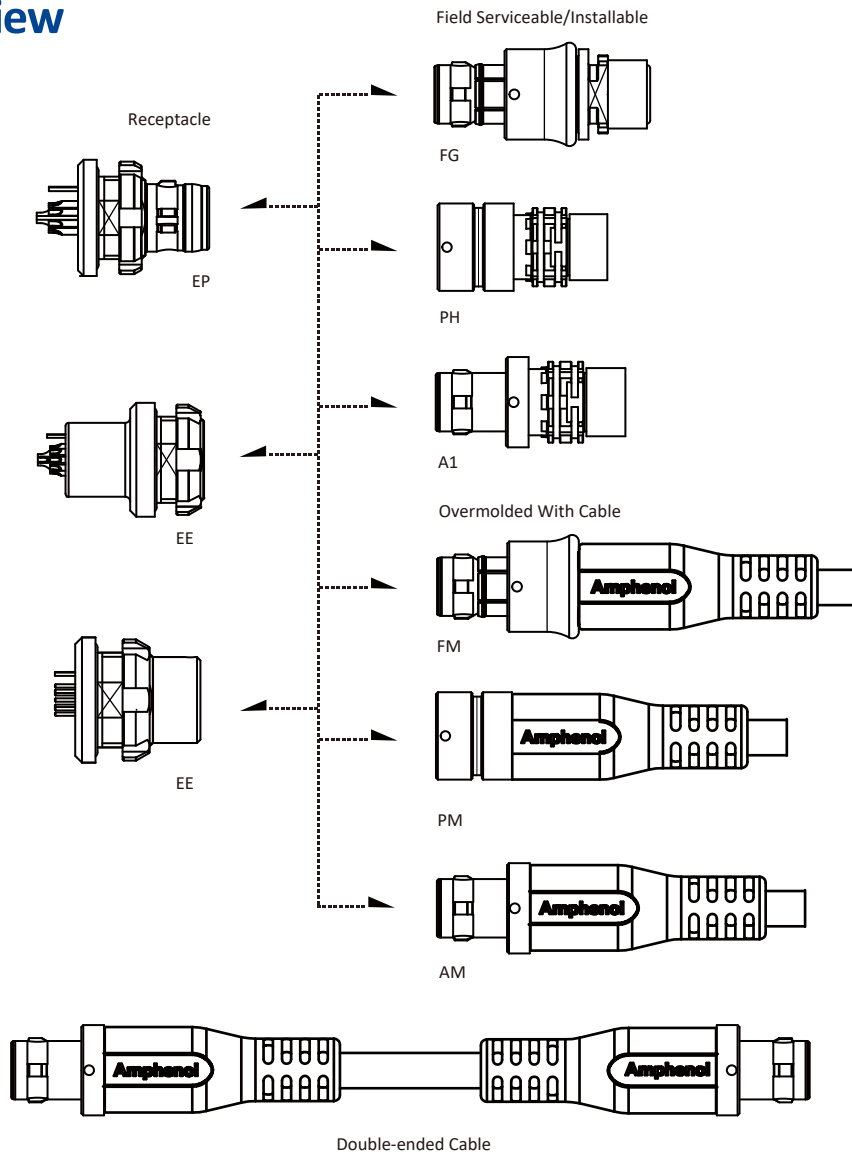
(■) Cable Length

From 0.5M ~ 99M

e.g. (A05) = 0.5M, (001) = 1M...(099) = 99M

Size	0 (B)				1 (C)			2 (D)		
Connector Type	Receptacle		Field Serviceable/Installable Overmolded With Cable		Receptacle	Field Serviceable/Installable Overmolded With Cable		Receptacle	Field Serviceable/Installable Overmolded With Cable	
	Male	Female	Male	Female	Female	Male	Female	Female	Male	Female
Contact	EP	EE	FG / A1	PH	EE	FG / A1	PH	EE	FG / A1	PH
2 Pin										
	10A / 400V		10A / 400V							
3 Pin										
	10A / 400V		10A / 400V							
4 Pin										
	7A / 300V		7A / 300V		10A / 500V		10A / 500V		14A / 650V	
5 Pin										
					10A / 450V		10A / 450V			
6 Pin										
								14A / 500V		14A / 500V
7 Pin										
	5A / 300V		5A / 300V							
8 Pin										
					7A / 333V		7A / 333V			
9 Pin										
	5A / 200V		5A / 200V							
10 Pin										
	5A / 200V		5A / 200V							
14 Pin										
					5A / 200V		5A / 200V			
16 Pin										
					5A / 200V		5A / 200V			
19 Pin										
								7A / 333V		7A / 333V
26 Pin										
								5A / 300V		5A / 300V

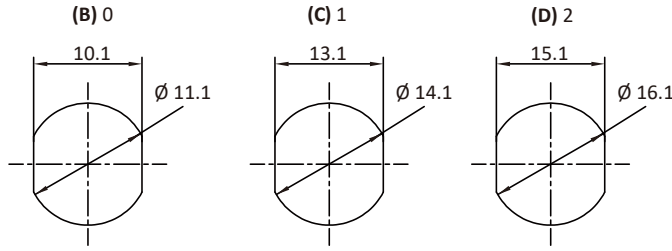
Range Overview



Alignment Keying

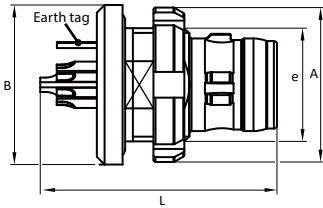
Code	Number of Keys	Color	Front View of Receptacle
N	5	Green	
P	5	Red	
Q	5	Blue	
R	5	Brown	

Panel Cut Out



(Unit: mm)

EP 180° Male Panel With Slotted Nut (Front Fasten)

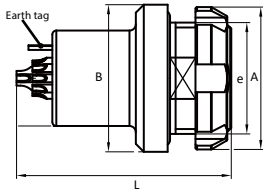


② Size	Dimension (Unit: mm)				③ Contact	Recommended Panel Thickness
	A	B	e	L		
(B) 0	12.8	13.2	M10*0.5	21.4	3 ~ 10	3mm

- Part Number: FDY ②-③ EPMS-⑦⑧⑨-001
- Operating Temperature: -40°C ~ 125°C
- Nut Torque Value: 1.0 Nm
- Gender: Female
- Assembly Style: PCB
- ⑦ Keying: N, P, Q, R
- ⑧ Housing Material & Surface Plating: (U) Aluminium Alloy / Ruthenium (D) Aluminium Alloy / Black Chrome
- ⑨ Insulation Material: (P) PPS / (K) PEEK

Mated With:
Break-Away : PH (P-48)

EE 180° Female Panel With Slotted Nut (Front Fasten)

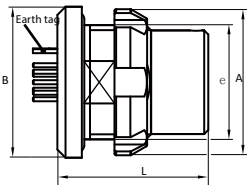


② Size	Dimension (Unit: mm)				③ Contact	Recommended Panel Thickness
	A	B	e	L		
(B) 0	15.0	15.5	M11*0.75	22.0	3 ~ 10	3mm
(C) 1	17.9	18.5	M14*1	27.0	4 ~ 16	3.5mm
(D) 2	21.9	20.8	M16*1	29.5	4 ~ 26	3mm

- Part Number: FDY ②-③ EEFP-⑦⑧⑨-001
- Operating Temperature: -40°C ~ 125°C
- Nut Torque Value: 1.0 Nm
- Gender: Female
- Assembly Style: PCB
- ⑦ Keying: N, P, Q, R
- ⑧ Housing Material & Surface Plating: (U) Aluminium Alloy / Ruthenium (D) Aluminium Alloy / Black Chrome
- ⑨ Insulation Material: (P) PPS / (K) PEEK

Mated With:
Push-Pull : FG (P-48), Break-Away : A1 (P-48)

EE 180° Female Panel With Slotted Nut (Front Fasten)

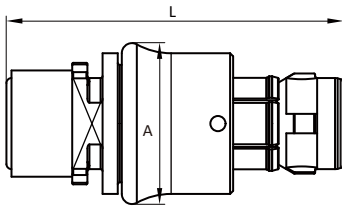


② Size	Dimension (Unit: mm)				③ Contact	Recommended Panel Thickness
	A	B	e	L		
(B) 0	15.0	15.5	M11*0.75	15.5	3 ~ 10	5mm
(C) 1	17.9	18.5	M14*1	18.5	4 ~ 16	4mm
(D) 2	21.9	20.8	M16*1	20.5	4 ~ 26	4mm

- Part Number: FDY ②-③ EEFP-⑦⑧⑨-002
- Operating Temperature: -40°C ~ 125°C
- Nut Torque Value: 1.0 Nm
- Gender: Female
- Assembly Style: PCB
- ⑦ Keying: N, P, Q, R
- ⑧ Housing Material & Surface Plating: (U) Aluminium Alloy / Ruthenium (D) Aluminium Alloy / Black Chrome
- ⑨ Insulation Material: (P) PPS / (K) PEEK

Mated With:
Push-Pull : FG (P-48), Break-Away : A1 (P-48)

FG 180° Male Field Serviceable/Installable, FM Overmolded With Cable

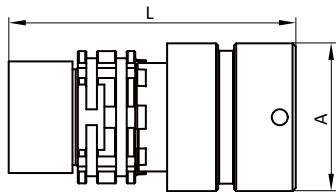


② Size	Dimension (Unit: mm)		③ Contact
	A	L	
(B) 0	14.0	31.4	3 ~ 10
(C) 1	12.9	33.2	4 ~ 16
(D) 2	19.6	35.2	4 ~ 26

Mated With:
EP (P-47), EE (P-47)

- Part Number
Field Serviceable/Installable: FDY ②-③ FGMS-⑦⑧⑨-000
Overmolded: FDY ②-③ FMMS-⑦⑧⑨-⑩
- Operating Temperature:
Field Serviceable/Installable: -40°C ~ 125°C
Overmolded: -20°C ~ 85°C
- Nut Torque Value: N/A
- Gender: Male
- Assembly Style: Solder
- ⑦ Keying: N, P, Q, R
- ⑧ Housing Material & Surface Plating:
(U) Aluminium Alloy / Ruthenium
(D) Aluminium Alloy / Black Chrome
- ⑨ Insulation Material: (P) PPS / (K) PEEK
- Cable Type: PVC, Black
- ⑩ Cable Length: From 1M ~ 99M
e.g. (01) = 1M, (99) = 99M

PH 180° Female Field Serviceable/Installable, PM Overmolded With Cable

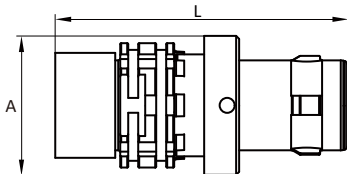


② Size	Dimension (Unit: mm)		③ Contact
	A	L	
(B) 0	11.9	25.0	3 ~ 10
(C) 1	13.9	27.0	4 ~ 16
(D) 2	17.6	30.0	4 ~ 26

Mated With:
EP (P-47)

- Part Number
Field Serviceable/Installable: FDY ②-③ PHMS-⑦⑧⑨-000
Overmolded: FDY ②-③ PMMS-⑦⑧⑨-⑩
- Operating Temperature:
Field Serviceable/Installable: -40°C ~ 125°C
Overmolded: -20°C ~ 85°C
- Nut Torque Value: N/A
- Gender: Male
- Assembly Style: Solder
- ⑦ Keying: N, P, Q, R
- ⑧ Housing Material & Surface Plating:
(U) Aluminium Alloy / Ruthenium
(D) Aluminium Alloy / Black Chrome
- ⑨ Insulation Material: (P) PPS / (K) PEEK
- Cable Type: PVC, Black
- ⑩ Cable Length: From 1M ~ 99M
e.g. (01) = 1M, (99) = 99M

A1 180° Male Field Serviceable/Installable Break Away, AM Overmolded With Cable

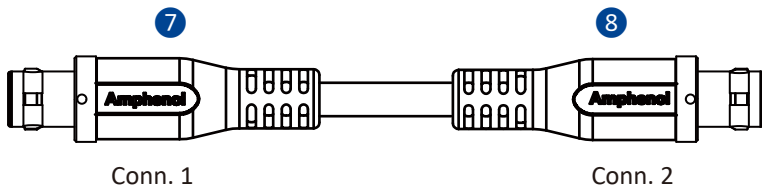


② Size	Dimension (Unit: mm)		③ Contact
	A	L	
(B) 0	11.9	25.0	3 ~ 10
(C) 1	13.9	29.2	4 ~ 16
(D) 2	17.6	31.0	4 ~ 26

Mated With:
EE (P-47)

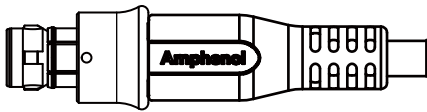
- Part Number:
Field Serviceable/Installable: FDY ②-③ A1MS-⑦⑧⑨-000
Overmolded: FDY ②-③ AMMS-⑦⑧⑨-⑩
- Operating Temperature:
Field Serviceable/Installable: -40°C ~ 125°C
Overmolded: -20°C ~ 85°C
- Nut Torque Value: N/A
- Gender: Male
- Assembly Style: Solder
- ⑦ Keying: N, P, Q, R
- ⑧ Housing Material & Surface Plating:
(U) Aluminium Alloy / Ruthenium
(D) Aluminium Alloy / Black Chrome
- ⑨ Insulation Material: (P) PPS / (K) PEEK
- Cable Type: PVC, Black
- ⑩ Cable Length: From 1M ~ 99M
e.g. (01) = 1M, (99) = 99M

Double End Cable

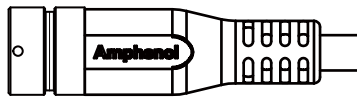


- Part Number: FDY ②-③ ④ DK-⑦-⑧-A ⑨
- Assembly Style: Solder
- ④ Keying: N, P, Q, R
- Operating Temperature: -20°C ~ 85°C
- Cable Type: PVC, Black
- ⑨ Cable Length: From 0.5M ~ 99M
e.g. (A05) = 0.5M, (001) = 1M

FM ⑦ & ⑧



PM ⑦ & ⑧



AM ⑦ & ⑧



② Size	Dimension (Unit: mm)		③ Contact
	A	L	
(B) 0	14.0	31.4	3 ~ 10
(C) 1	12.9	33.2	4 ~ 16
(D) 2	19.6	35.2	4 ~ 26

② Size	Dimension (Unit: mm)		③ Contact
	A	L	
(B) 0	11.9	25.0	3 ~ 10
(C) 1	13.9	27.0	4 ~ 16
(D) 2	17.6	30.0	4 ~ 26

② Size	Dimension (Unit: mm)		③ Contact
	A	L	
(B) 0	11.9	25.0	3 ~ 10
(C) 1	13.9	29.2	4 ~ 16
(D) 2	17.6	31.0	4 ~ 26

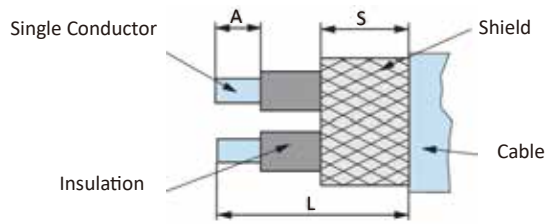
Accessories

Cap

With Steel Line	Dimension (Unit: mm)				Mating Pair (Gender)	Part Number	IP Rating
	Size	A	B	L			
<p>(Unit: mm)</p>	(B) 0	15.5	12.0	20.0	Female	CAP-WDYMQME0	IP67
	(C) 1	16.0	14.0	22.0	Female	CAP-WDYMQME1	
	(D) 2	17.5	17.0	25.0	Female	CAP-WDYMQME2	

With Steel Line	Dimension (Unit: mm)				Mating Pair (Gender)	Part Number	IP Rating
	Size	A	B	L			
<p>(Unit: mm)</p>	(B) 0	16.5	15.0	21.5	Male	CAP-WDYFQME0	IP67
	(C) 1	17.8	17.0	23.5	Male	CAP-WDYFQME1	
	(D) 2	19.5	21.0	28.0	Male	CAP-WDYFQME2	

Cable Preparation – straight cable exit / right angle cable exit



A = Stripping length single conductor
 L = Stripping length cable jacket
 S = Stripping length braided shield

Cable OD Max.

Size	max. cable \varnothing mm
0	5.5
1	6.5
2	10.0

Size	Contact \varnothing	Straight Cable Assembly			Right Angle Cable Assembly		
		L	A	S	L	A	S
0	0.5	9	3.5	8	14	3.5	14
	0.6	9	3.5	8	14	3.5	14
	0.7	9	3.7	8	14	3.7	14
	0.9	9	3.7	8	14	3.7	14
1	0.5	11	3.5	8	15	3.5	15
	0.6	11	3.5	8	15	3.5	15
	0.7	11	3.7	8	15	3.7	15
	0.9	11	3.7	8	15	3.7	15
1.5(A)	0.5	11	3.5	8	15	3.5	15
	0.6	11	3.5	8	15	3.5	15
	0.7	11	3.7	8	15	3.7	15
2	0.5	11	3.5	8	15	3.5	15
	0.7	11	3.7	8	15	3.7	15
	1.3	11	4.1	8	15	4.1	15
3	0.5	13	13	8	30	3.5	25
	0.7	13	13	8	30	3.7	25
	0.9	13	13	8	30	3.7	25
	2.0	13	13	8	30	5.4	25

All dimensions in mm

Tolerance: +10 %

Exceptions are noted on special instructions.

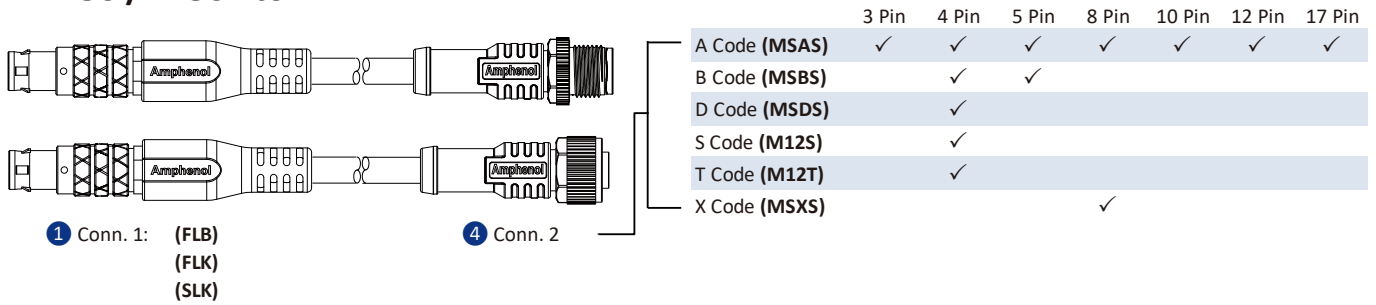
Right-angle plugs have special instructions.

Notes for data-rate-connectors

Before soldering, twist the strands back slightly in the original direction. If a shield is available for the separately pairs of wires (e.g. STP-Cables), wrap it around the pairs so as far as possible.

Cable Assembly Customization

↘ FLOS / FLOS+ to M12



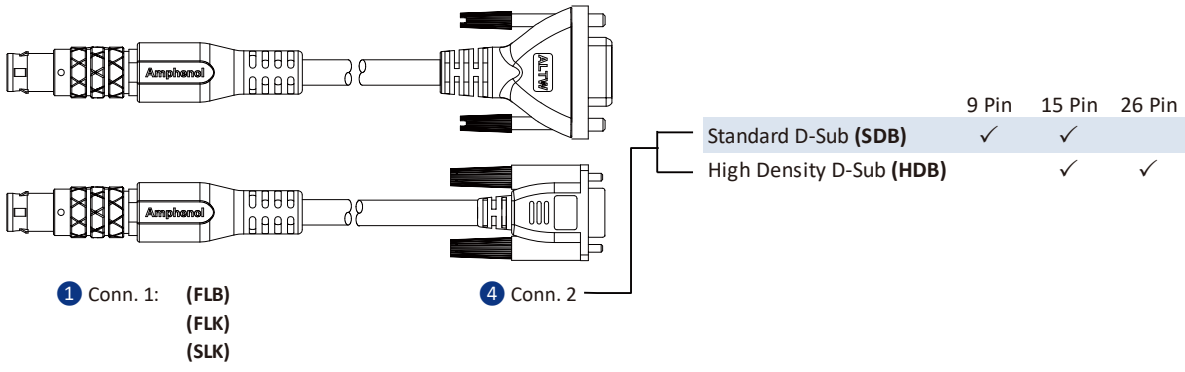
1 Conn. 1: (FLB)
(FLK)
(SLK)

4 Conn. 2

	3 Pin	4 Pin	5 Pin	8 Pin	10 Pin	12 Pin	17 Pin
A Code (MSAS)	✓	✓	✓	✓	✓	✓	✓
B Code (MSBS)		✓	✓				
D Code (MSDS)		✓					
S Code (M12S)		✓					
T Code (M12T)		✓					
X Code (MSXS)				✓			

• Code (Example): FLB B 02 - MSAS 02 - 01
 1 Size Contact 4 Contact Cable Length (M)
 FLB 00 (A) 02 ~ 19 - MSAS 02 ~ 17 - 01 ~ 99
 FLK 0 (B) MSBS
 SLK 0 (C) MSDS
 0 (D) M12S
 M12T
 MSXS

↘ FLOS / FLOS+ to D-Sub



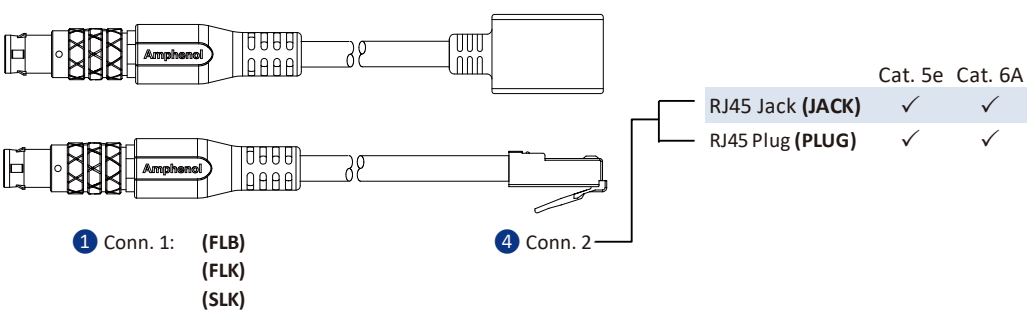
1 Conn. 1: (FLB)
(FLK)
(SLK)

4 Conn. 2

	9 Pin	15 Pin	26 Pin
Standard D-Sub (SDB)	✓	✓	
High Density D-Sub (HDB)		✓	✓

• Code (Example): FLB B 02 - SDB 02 - 01
 1 Size Contact 4 Contact Cable Length (M)
 FLB 00 (A) 02 ~ 19 - SDB 09 ~ 26 - 01 ~ 99
 FLK 0 (B) HDB
 SLK 0 (C)
 0 (D)

↘ FLOS / FLOS+ to RJ45



1 Conn. 1: (FLB)
(FLK)
(SLK)

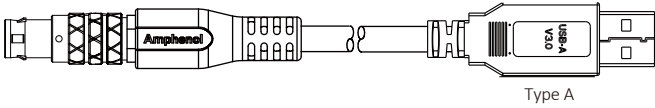
4 Conn. 2

	Cat. 5e	Cat. 6A
RJ45 Jack (JACK)	✓	✓
RJ45 Plug (PLUG)	✓	✓

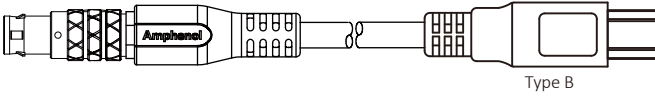
• Code (Example): FLB B 02 - PLUG 08 - 01
 1 Size Contact 4 Contact Cable Length (M)
 FLB 00 (A) 02 ~ 19 - JACK 08 - 01 ~ 99
 FLK 0 (B) PLUG
 SLK 0 (C)
 0 (D)

Cable Assembly Customization

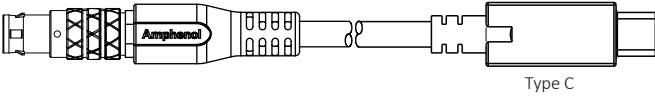
↳ FLOS / FLOS+ to USB



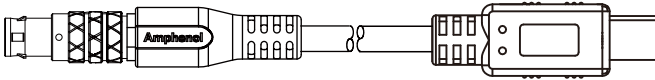
Type A



Type B



Type C



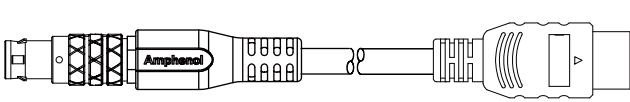
① Conn. 1: (FLB)
(FLK)
(SLK)

④ Conn. 2

	2.0	3.2 Gen 1	3.2 Gen 2
USB Type A Plug (UA)	✓	✓	
USB Type B Plug (UB)	✓		
Usb Type C Plug (UC)	✓	✓	✓
Mini Type B Plug (NUB)	✓		

• Code (Example): FLB B 02 - UA 20 - 01
 ① Size Contact ④ Speed Cable Length (M)
 FLB 00 (A) 02 ~ 19 - UA 2.0 (20) - 01 ~ 99
 FLK 0 (B) UB 3.2 (G1)
 SLK 0 (C) UC 3.2 (G2)
 0 (D) NUB

↳ FLOS / FLOS+ to HDMI



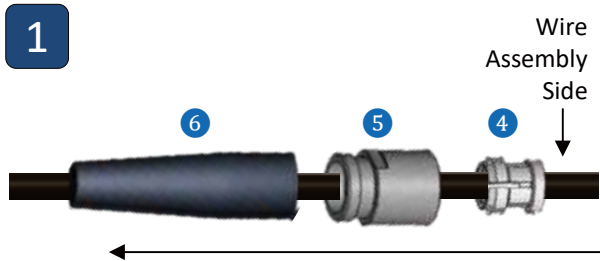
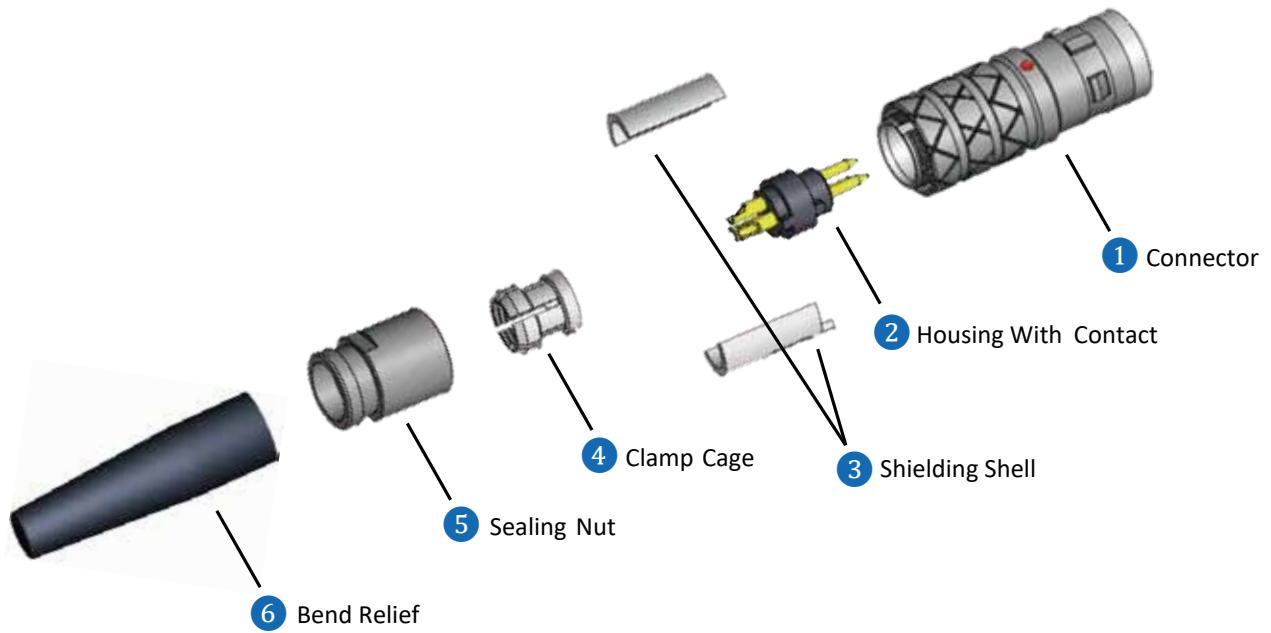
HDMI Type A Plug (HDMI A)

① Conn. 1: (FLB)
(FLK)
(SLK)

④ Conn. 2

• Code (Example): FLB B 02 - HDMI A - 01
 ① Size Contact ④ Type Cable Length (M)
 FLB 00 (A) 02 ~ 19 - HDMI A - 01 ~ 99
 FLK 0 (B)
 SLK 0 (C)
 0 (D)

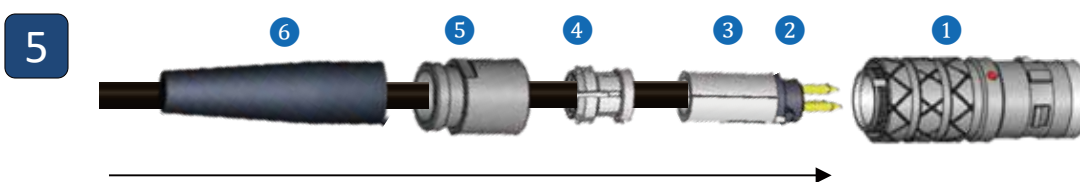
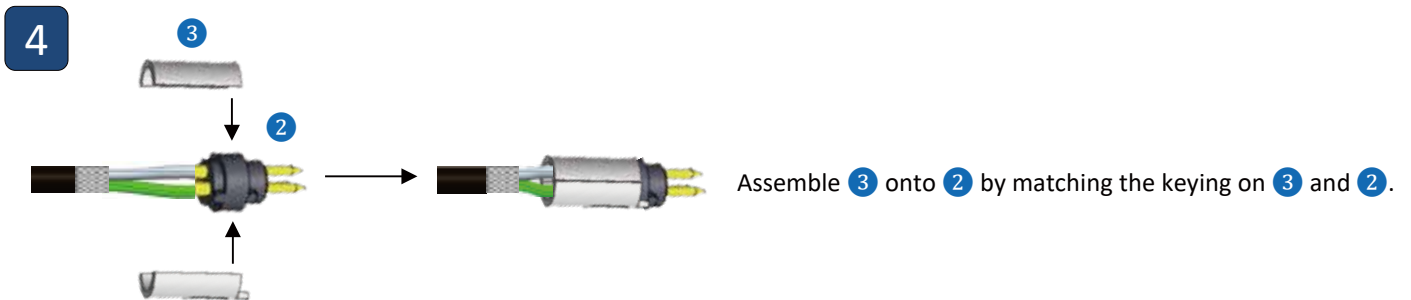
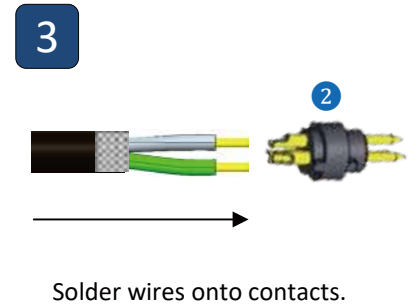
Assembly Instruction Solder Type (FLOS B)



Follow the order from **6** to **4** (**6** is optional) and put components through cable accordingly, no need to assemble here.

	Unit: mm
(A) Jacket	9.0 ~ 11.0
(B) Insulation	3.0 ~ 4.0
(C) Fold Braid	3.0 ~ 4.0

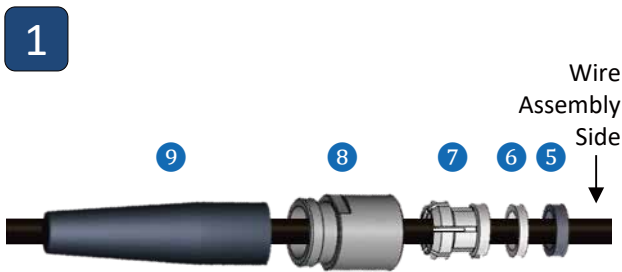
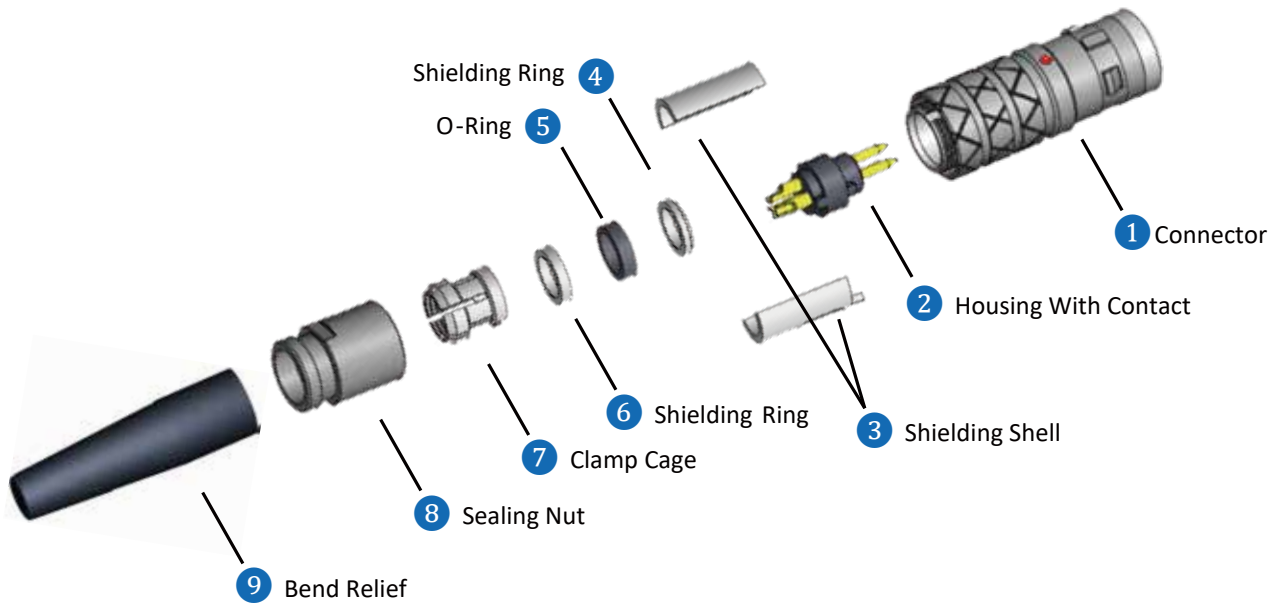
Follow suggested stripping length of **(A)** Jacket, **(B)** Insulation, **(C)** Fold Braid.



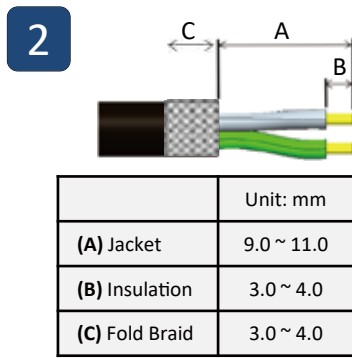
- Assemble **2**、**3**、**4** → **1**, and make sure the keying on **4** & **1** are matched.
- Assemble components in the order **5** → **1** with suggested torque force.
- Assemble **6** → **5**

	1 & 5
Torque Force (Unit: kgf-cm)	3.0 ~ 4.0

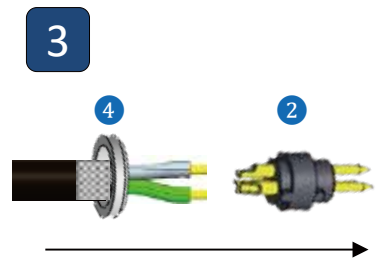
Assembly Instruction Solder Type (FLOS K)



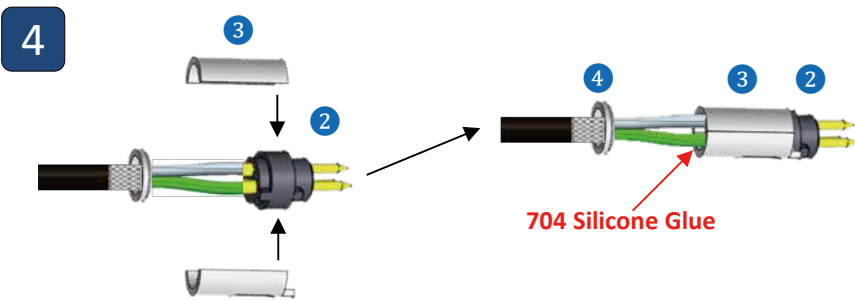
Follow the order from 9 to 5 (9 is optional) and put components through cable accordingly, no need to assemble here.



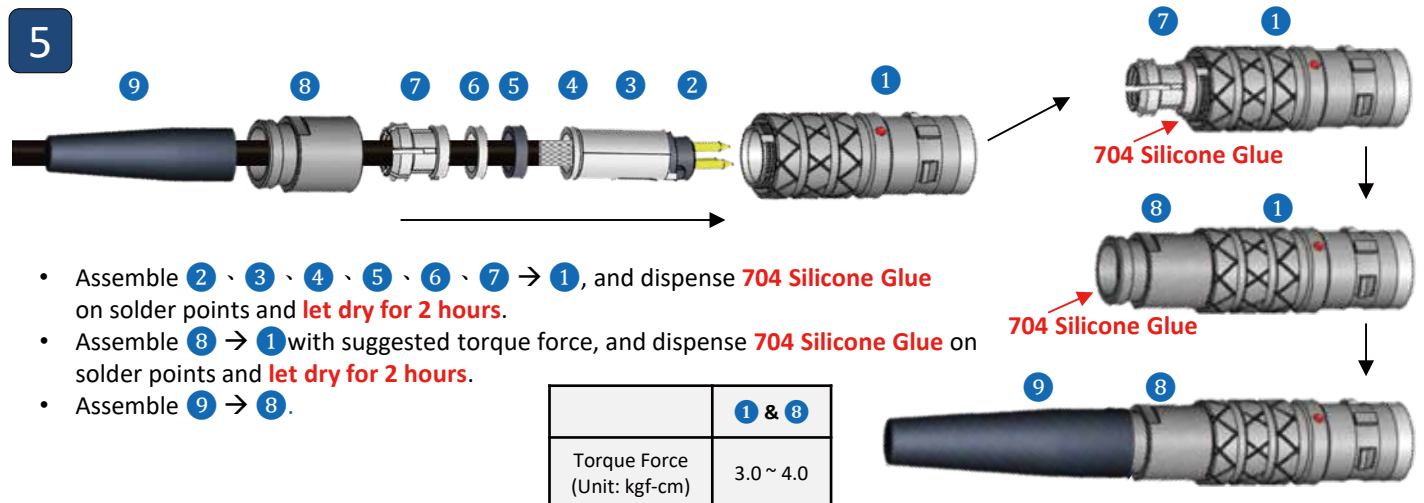
Follow suggested stripping length of (A) Jacket, (B) Insulation, (C) Fold Braid.



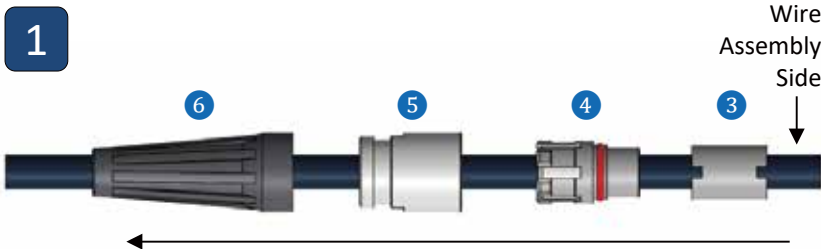
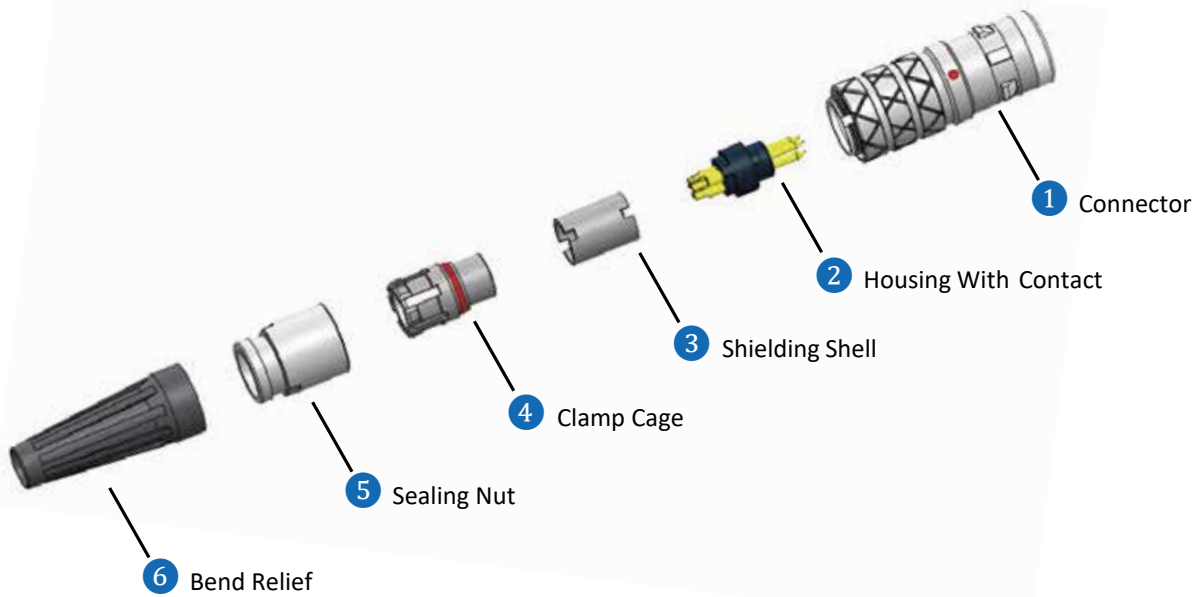
Put wires through 4, and it should be blocked before braid. Then solder wires onto contacts.



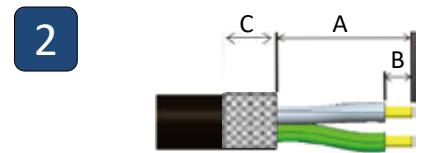
Assemble 3 onto 2 by matching the keying on 3 and 2. Then dispense **704 Silicone Glue** on solder points and **let dry for 2 hours**.



Assembly Instruction Solder Type (FLOS+ K)

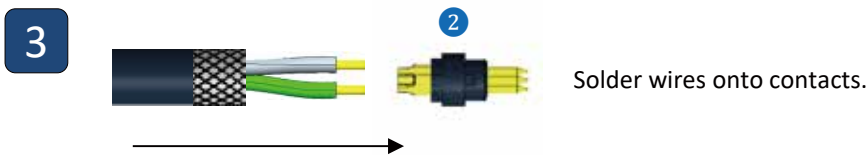


Follow the order from 6 to 3 (6 is optional) and put components through cable accordingly, no need to assemble here.

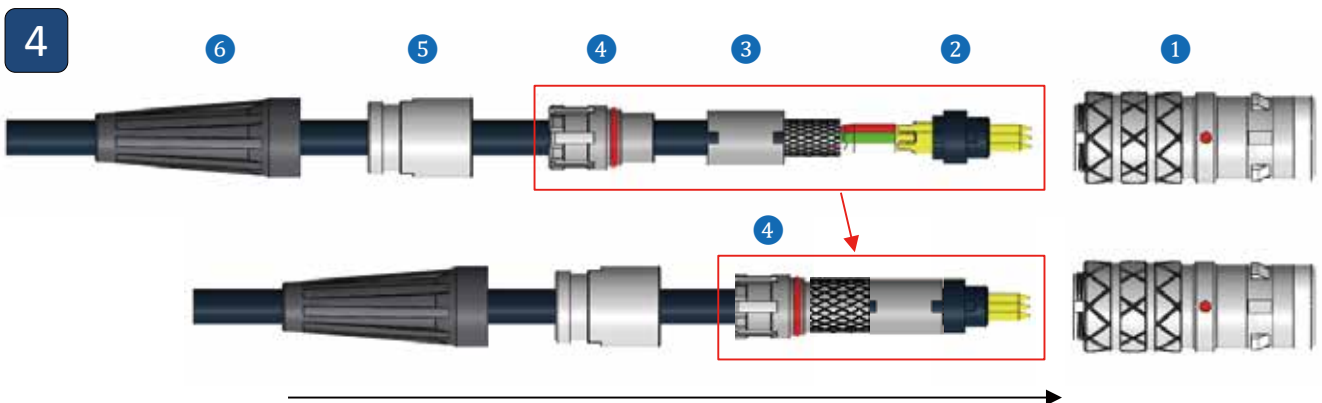


	Unit: mm
(A) Jacket	9.0 ~ 11.0
(B) Insulation	3.0 ~ 4.0
(C) Fold Braid	3.0 ~ 4.0

Follow suggested stripping length of (A) Jacket, (B) Insulation, (C) Fold Braid.



Solder wires onto contacts.



- Assemble 2、3、4 → 1, make sure the front part of 4 is covered by Braid. Then rotate 4 in order to match all the keying on 4、3、2.
- Assemble 5 → 1 with suggested torque force.
- Assemble 6 → 5.

	1 & 5
Torque Force (Unit: kgf-cm)	3.0 ~ 4.0

Ingress Protection (IP) Rating Guide

Waterproof Definition

Unmated Waterproof



Standalone waterproof or waterproof is assured even without its counterpart. The water will not go through the inner portion of the exposed connector as it is entirely sealed.

Mated Waterproof



Waterproof is only assured when mated and locked tightly to its counterpart.

1st Digit - SOLIDS

Degree of protection against solid objects

No Protection **0**

Protected against a solid object greater than 50mm, such as a hand. **1**

Protected against a solid object greater than 12.5mm, such as a finger. **2**

Protected against a solid object greater than 2.5mm, such as a wire. **3**

Protected against a solid object greater than 1.0mm, such as a thin strap. **4**

Dust Protected. Prevents ingress of dust sufficient to cause harm. **5**

Dust tight. No ingress of dust. **6**

2nd Digit - LIQUIDS

Degree of protection against water

No Protection **0**

Protected against water drops. **1**

Protected against water drops at a 15 degree angle. **2**

Protected against water spray at a 60 degree angle. **3**

Protected against water splashing from any angle. **4**

Protected against water jets from any angle. **5**

Protected against powerful water jets and heavy seas. **6**

Protected against the effects of temporary submersion in water (30 minutes at 3 feet). **7**

Protected against the effects of permanent submersion in water (up to 13 feet). **8**

Protection against close range, powerful and high temperature water jets. **9K**

Example:



IP 65

→ Protected against water jets from any angle.

→ Dust tight. No ingress of dust.

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