



NMEA 2000

Product Catalogue



Q-FLEX

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Push-Pull Lite



Metal



Plastic

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NMEA 2000
Certified



IP67 / 68



Salt Spray
Resistant

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)	•	•			◦ RO: -40°C - 105°C, IP67 (Unmated)
•			•	•		•	•					•	•	(2)	•	•		UL1977	
•			•			•	•					•	•	(2)	•	•		UL1977	◦ RW: -20°C - 85°C, IP67 (Unmated)
•			•			•	•	•				•	•	(2)	•	•		UL1977	◦ OC: -20°C - 85°C, IP67 (Mated)
•			•			•	•					•	•	(2)	•	•		UL1977	
•			•			•	•					•	•	(2)	•	•			◦ FI: -40°C - 105°C, IP67 (Mated)
•			•			•	•					•	•	(2)	•	•			
•			•	•		•	•	•	•			•	•	(2)	•	•		CSA, UL1977, UL2238, UL50e	◦ RO & RW: -40°C - 105°C, IP68 (Unmated)
•			•			•	•	•	•			•	•	(2)	•	•			◦ OC & FI: -40°C ~ 105°C, IP68 (Mated)
•	•		•			•	•	•				•	•	(2)	•	•			
•			•	•	•	•						•	•	(1)	•	•	IEC 61076-2-105		
•		•	•	•	•	•	•	•				•	•	(1)	•	•			
•		•	•	•	•	•	•	•				•	•	(1)	•	•	IEC 61076-2-104	UL1977, UL2238	
•			•			•	•					•	94-HB	(1)	•	•			
•		•	•	•	•	•	•	•	•			•	•	(1)	•	•	IEC 61076-2-101	UL1977, UL2238, UL1863	◦ RO: -40°C ~ 105°C, IP67 (Mated / Unmated), IP68 (Unmated), IP69K (Mated)
•		•	•	•	•	•	•	•	•			•	•	(1)	•	•	IEC 61076-2-101	UL1977, UL2238	
•		•	•	•	•	•	•	•	•			•	•	(1)	•	•	IEC 61076-2-101	UL1977, UL2238, UL1863	◦ RW: -20°C ~ 85°C, IP67 (Mated / Unmated), IP68 (Unmated), IP69K (Mated)
•			•			•	•					•	94-HB	(1)	•	•			
•		•	•	•	•	•	•	•				•	•	(1)	•	•	IEC 61076-2-111	UL1977, UL2237	◦ OC: -20°C ~ 85°C, IP67 / IP68 (Mated)
•		•	•	•	•	•	•	•				•	•	(1)	•	•	IEC 61076-2-111	UL1977, UL2238	
•		•	•	•	•	•	•	•				•	•	(1)	•	•	IEC 61076-2-111		◦ FI: -40°C ~ 105°C, IP67 / IP68 (Mated)
•		•	•	•	•	•	•	•				•	•	(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

(R0) Receptacle						(FI) Field Installable					OC	UV Resistant	UL 94V-0	Vibration	EMI Option	ROHS 2.0 & REACH	Certifications	IP Rating	Operating Temperature
Solder	Crimp	Screw In	PCB 180	PCB 90	RW	Solder	Crimp	Screw In	Push In	IDC									
•			•	•		•	•				•		•	(2)	•			IP50 (Mated)	<ul style="list-style-type: none"> ◦ R0: -40°C - 125°C ◦ OC: -20°C - 85°C ◦ FI: -40°C - 125°C
•			•	•		•	•				•		•	(2)	•			IP68 (Mated)	
•			•	•		•	•				•		•	(2)	•			R0: IP68 (Unmated) OC: IP68 (Mated) FI: IP68 (Mated)	
•			•	•		•	•				•		•	(2)	•			IP68 (Mated)	
•			•	•		•	•				•		•	(2)	•			IP50 (Mated)	
•			•	•		•	•				•		•	(2)	•			IP68 (Mated)	
•			•	•		•	•				•	•	•	(2)	•			IP50 / IP66 (Mated)	
•			•	•		•	•				•		•	(2)	•			IP68 (Mated)	
•						•					•		94-HB	(2)	•		UL1977	IP67 / IP68	<ul style="list-style-type: none"> ◦ R0: -40°C - 105°C ◦ OC: -20°C ~ 80°C ◦ FI: -20°C ~ 80°C ◦ FI: -40°C ~ 105°C
•						•					•		94-HB	(2)	•		UL1977, TUV	IP67 / IP68	
•		•				•		•			•		•	(2)	*		UL1977	IP67 / IP68	
•						•		•			•	•	•	(2)	•		UL1977, TUV	IP67 / IP68	
•	•	•				•	•	•			•	•	•	(2)	•		UL1977, UL6703A, TUV	IP67 / IP68	
•		•				•		•			•	•	•	(2)	•		UL2238	IP67 / IP68	
•						•		•			•	•	•	(2)	•		UL1977	IP67 (Mated)	
•						•		•			•	•	•	(2)	•		UL1977	IP67 (Mated)	
•						•		•			•	•	•	(2)	•		UL1977	IP67 (Mated)	
•						•		•			•	•	•	(2)	•		UL1977	IP67 (Mated)	
•						•		•			•	•	•	(2)	•		UL1977	IP67 (Mated)	
•						•		•			•	•	•	(2)	•		UL1977	IP67 (Mated)	
•						•		•			•	•	•	(2)	•		UL1977	IP67 (Mated)	
						•		•			•	•	•	(2)	•		UL1977	IP69K (Mated)	
					•	•	•				•	•	•	(2)	•		UL1977		◦ RW: -40°C ~ 105°C ◦ OC: -20°C ~ 80°C, Data: -20°C ~ 80°C Power: -20°C ~ 105°C Hybrid: -40°C ~ 105°C ◦ FI: -40°C ~ 105°C
					•	•	•				•	*	•	(2)	•			RW: IP68 (Unmated) OC: IP68 (Mated) FI: IP67 (Mated)	
					•	•	•				•	•	•	(2)	•			Deep Mating: 300 ~ 800 bar	◦ Air: -40°C - 90°C ◦ Water: -4°C ~ 60°C

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					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					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) ◦ 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			•	Solder, Crimp			(2)	•	•		◦ RO : -40°C - 105°C, IP68 (Unmated)
			8h	Solder, PCB 90& 180			•	Solder, Crimp			(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)		•		◦ RO : -40°C - 105°C, IP68 (Unmated)
			8h	•			•				(2)		•		◦ OC : -20°C - 85°C, IP67P (Mated)
			8h	•			•				(2)		•		
			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

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	•				•		•					-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				•														•							



Marine

- AIS
- Antenna
- Audio System
- Autopilot System
- Bilge Pump
- Chartplotter
- Docking System
- Sonar / Transducer
- Fish - Finders
- Fridge & Refrigeration
- GPS, Beacon & Lifebuoy
- Heater
- Lighting System
- Multi-Function Display
- Outboard & Trolling Motors
- USB Charger
- HVAC (Heating Ventilation Air Conditioning)
- IP and Infrared CCTV & Cameras
- Power Controller
- RADAR
- Sailing Instruments
- Sensors
- Shipyards & Cruise
- Windlass

Key Features

- NMEA2K Compliant Or Certified Interconnects
- Lite and Heavy In Plastic or Metal Available
- IP68 (1M/24H) Mated or Unmated
- Unique Push-Pull MPronto-12 Plug Backward
Compatible To All Lite Sockets
- Complete Network / Power Systems
- Starter Kit, Retail Package Or Bulk Packing Available

Assemble Style



Solder
(S) Receptacle



PCB 90°
(R) Receptacle



PCB 180°
(P) Receptacle



Screw In
(B) Field Serviceable/Installable



Push In
(E) Field Serviceable/Installable

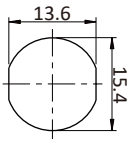
Product Range Overview

Sub-Series Name	Lite (Micro)	Heavy (Mini)
Mating Style	Push Pull & Screw Thread	Screw Thread
Plastic Version	✓	-
Metal Version	✓	✓
No. of Contacts	5	4 ~ 5
Plating of Contacts	Gold Plated	Gold Plated
Operating Voltage (AC/DC)	60V	600V
Nominal Current	4A	8A
Operating Temperature	<ul style="list-style-type: none"> • Receptacle : -40°C ~ 105°C • Receptacle with Wires: -20°C ~ 85°C • Overmolded with Cable : <ul style="list-style-type: none"> (1) PVC: -20°C ~ 85°C (2) PUR: -20°C ~ 85°C • Field Serviceable/Installable : -40°C ~ 105°C 	
Fasten Style of Nut	Front	Front
Receptacle	✓	✓
Receptacle With Cable / Wire	✓	-
Overmolded With Cable	✓	✓
Field Serviceable/Installable	✓	✓
Accessories	✓	✓
Applicable Wire Gauge	16AWG (1.50mm ²)*1P + 20AWG (0.50mm ²)*1P 18AWG (0.75mm ²)*1P + 22AWG (0.34mm ²)*1P 22AWG (0.34mm ²)*1P + 24AWG (0.24mm ²)*1P	15AWG (1.62mm ²)*1P + 18AWG (0.75mm ²)*1P 16AWG (1.50mm ²)*1P + 18AWG (0.75mm ²)*1P
Mating Cycles (Pin Contact)	Push Pull 500 Cycles Screw Thread 1,000 Cycles (IEC 100 Cycles)	1,000 Cycles (IEC 100 Cycles)
IP Rating	<ul style="list-style-type: none"> • Receptacle, Receptacle With Wires: IP68 (Unmated, 1M / 24h) • Field Serviceable/Installable: IP67 (Mated) • Overmolded With Cable: IP68 (Mated, 1M / 24h) 	
Salt Spray (Connector, Mated)	Metal: 48h (Mated) Plastic: 1,000h (Mated), 48h (Unmated)	
Flammability Rating	UL94V-0	UL94HB
Vibration	Frequency Range 10 ~ 500Hz / Amplitude 0.35mm	
RoHS 2.0 Compliant	✓	✓
REACH Compliant	✓	✓
Certificates	NMEA 2000	NMEA 2000

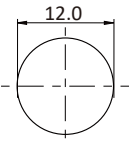
Push-Pull M12 Backward Compatible

Panel Cut Out

Male / Female



Double-Ended



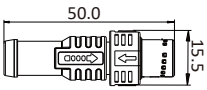
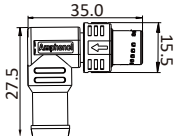
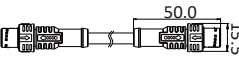
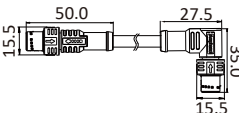
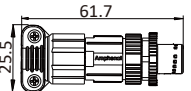
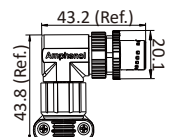
(Unit: mm)



Straight



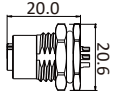
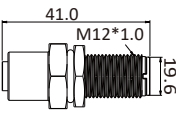
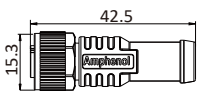
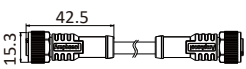
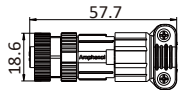
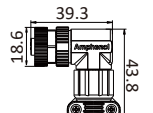
Right Angle

No of Contacts	5	
Rated Voltage (AC/DC)	60V	
Nominal Current	4A	
Plastic / Metal	Metal	
NMEA 2000	Compliant	
STRAIGHT, Overmolded Cable Assembly, Free Cable End, IP68 (Mated)		
① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket		
	Compliant 24+22AWG (0.25+0.34mm ²)	MC-05BMMM-PL8A ①
RIGHT ANGLE, Overmolded Cable Assembly, Free Cable End, IP68 (Mated)		
① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket		
	Compliant 24+22AWG (0.25+0.34mm ²)	MC-05BMMM-PR8A ①
STRAIGHT-TO-STRAIGHT, Overmolded Double-Ended Cable Assembly, IP68 (Mated)		
① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket		
	Compliant 24+22AWG (0.25+0.34mm ²)	MC-000505-0MM-CSA ①
STRAIGHT-TO-RIGHT ANGLE, Overmolded Double-Ended Cable Assembly, IP68 (Mated)		
① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket		
	Compliant 24+22AWG (0.25+0.34mm ²)	MC-000505-0MM-DSA ①
Field Serviceable/Installable, STRAIGHT, IP67 (Mated)		
Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 8.0mm Recommended Wire Size: 26 ~ 18AWG (0.14 ~ 0.75mm ²)		
	Screw-In Type	MC-05BMMB-PL7001
	Push-In Type	MC-05BMME-PL7001*
Field Serviceable/Installable, RIGHT ANGLE, IP67 (Mated)		
Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 7.0mm Recommended Wire Size: 26 ~ 18AWG (0.14 ~ 0.75mm ²)		
	Screw-In Type	MC-05BMMB-PR7001
	Push-In Type	MC-05BMME-PR7001*

* Upon Request

¹⁾ Standard Lengths: 1M, 2M, 3M, 5M and 10M. Higher MOQ Might Be Required For Non-Standard Lengths

To All NMEA 2000 Sockets

No of Contacts	5	
Rated Voltage (AC/DC)	60V	
Nominal Current	4A	
Plastic / Metal	Metal	
NMEA 2000 Certified	NMEA 2000 Certified	
Receptacle, Hexagonal Flange, FRONT Fastened Nut, IP68 (Unmated) Nut Torque Value: 4 ~ 6 kgf-cm Recommend Panel Thickness: Max. 4.5mm		
	Solder Type	HMC-05PFFS-SF8001
	180° PCB Type	HMC-05PFFP-SF8001
Bulkhead, Hexagonal Flange, IP67 (Mated)		
	Double-Ended	UMC-000505-0FM-BS001
STRAIGHT, Overmolded Cable Assembly, Free Cable End, IP68 (Mated) ① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket		
	Certified 24+22AWG (0.25+0.34mm ²)	HMC-05BFFM-SL8A ①
STRAIGHT-TO-STRAIGHT, Overmolded Double-Ended Cable Assembly, IP68 (Mated) ① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket		
	Compliant 24+22AWG (0.25+0.34mm ²)	MC-000505-OFF-CSA ①
	Compliant 22+18AWG (0.34+0.75mm ²)	MC-000505-OFF-CSB ①
Field Serviceable/Installable, STRAIGHT, IP67 (Mated) Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 8.0mm Recommended Wire Size: 26 ~ 18AWG (0.14 ~ 0.75mm ²)		
	Screw-In Type	HMC-05BFFB-SL7001
	Push-In Type	HMC-05BFFE-SL7001*
Field Serviceable/Installable, RIGHT ANGLE, IP67 (Mated) Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 7.0mm		
	Screw-In Type	HMC-05BFFB-SR7001
	Push-In Type	HMC-05BFFE-SR7001*

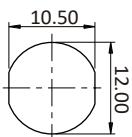
* Upon Request

¹⁾ Standard Lengths: 1M, 2M, 3M, 5M and 10M. Higher MOQ Might Be Required For Non-Standard Lengths

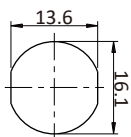
Panel Cut Out

Plastic

Male



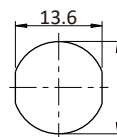
Female



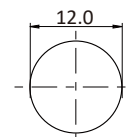
(Unit: mm)

Metal

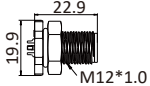
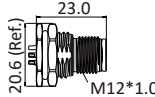
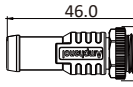
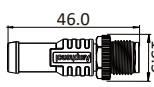
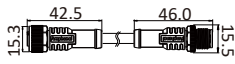
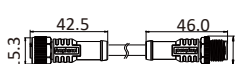
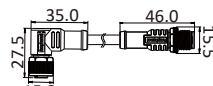
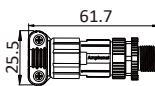
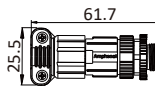
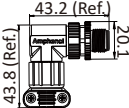
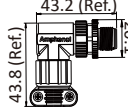
Male / Female



Double-Ended



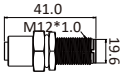
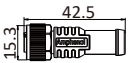
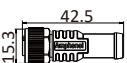

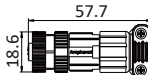
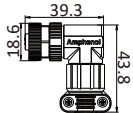
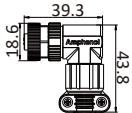


(Unit: mm)

No of Contacts	5			
Rated Voltage (AC/DC)	60V			
Nominal Current	4A			
Plastic / Metal	Plastic		Metal	
Receptacle, Hexagonal Flange, FRONT Fastened Nut, IP68 (Unmated) Nut Torque Value: 4 ~ 6 kgf-cm Recommend Panel Thickness: (Plastic) max. 4.9mm, (Metal) max. 4.5mm				
Solder Type		HPC-05PMM S -SF8001		HMC-05PMM S -SF8001
180° PCB Type		HPC-05PMM P -SF8001		HMC-05PMM P -SF8001
STRAIGHT , Overmolded Cable Assembly, Free Cable End, IP68 (Mated) ① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket				
24+22AWG (0.25+0.34mm ²)		HPC-05BMMM-SL8A①		HMC-05BMMM-SL8A①
20+16AWG (0.50+1.50mm ²)		HPC-05CMMM-SL8A①		-
STRAIGHT-TO-STRAIGHT , Overmolded Double-Ended Cable Assembly, IP68 (Mated) ① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket				
24+22AWG (0.25+0.34mm ²)		HPC-000505-OMF-CSA①		HMC-000505-OMF-CSA①
STRAIGHT-TO-RIGHT ANGLE , Overmolded Double-Ended Cable Assembly, IP68 (Mated) ① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket				
24+22AWG (0.25+0.34mm ²)		HPC-000505-OMF-DSA①	N/A	-
Field Serviceable/Installable, STRAIGHT , IP67 (Mated) Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 8.0mm Recommended Wire Size: 26 ~ 18AWG (0.14 ~ 0.75mm ²)				
Screw-In Type		HPC-05BMMB-SL7001		HMC-05BMMB-SL7001
Push-In Type		HPC-05BMM E -SL7001*		HMC-05BMM E -SL7001*
Field Serviceable/Installable, RIGHT ANGLE , IP67 (Mated) Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 7.0mm Recommended Wire Size: 26 ~ 18AWG (0.14 ~ 0.75mm ²)				
Screw-In Type		HPC-05BMMB-SR7001		HMC-05BMMB-SR7001
Push-In Type		HPC-05BMM E -SR7001*		HMC-05BMM E -SR7001*

* Upon Request

¹⁾ Standard Lengths: 1M, 2M, 3M, 5M and 10M. Higher MOQ Might Be Required For Non-Standard Lengths

No of Contacts	5			
Rated Voltage (AC/DC)	60V			
Nominal Current	4A			
Plastic / Metal	Plastic		Metal	
Receptacle, Hexagonal Flange, FRONT Fastened Nut, IP68 (Unmated) Nut Torque Value: 4 ~ 6 kgf-cm Recommend Panel Thickness: (Plastic) max. 4.9mm, (Metal) max. 4.5mm				
Solder Type		HPC-05PFFS-SF8001		HMC-05PFFS-SF8001
180° PCB Type		HPC-05PFFP-SF8001		HMC-05PFFP-SF8001
Bulkhead, Hexagonal Flange, IP67 (Mated)				
Double-Ended	N/A	-		UMC-000505-0FM-BS001
STRAIGHT, Overmolded Cable Assembly, Free Cable End, IP68 (Mated) ① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket				
24+22AWG (0.25+0.34mm ²)		HPC-05BFFM-SL8A ①		HMC-05BFFM-SL8A ①
Field Serviceable/Installable, STRAIGHT, IP67 (Mated) Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 8.0mm Recommended Wire Size: 26 ~ 18AWG (0.14 ~ 0.75mm ²)				
Screw-In Type		HPC-05BFFB-SL7001		HMC-05BFFB-SL7001
Push-In Type		HPC-05BFFE-SL7001*		HMC-05BFFE-SL7001*
Field Serviceable/Installable, RIGHT ANGLE, IP67 (Mated) Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 7.0mm Recommended Wire Size: 26 ~ 18AWG (0.14 ~ 0.75mm ²)				
Screw-In Type		HPC-05BFFB-SR7001		HMC-05BFFB-SR7001
Push-In Type		HPC-05BFFE-SR7001*		HMC-05BFFE-SR7001*

* Upon Request

¹⁾ Standard Lengths: 1M, 2M, 3M, 5M and 10M. Higher MOQ Might Be Required For Non-Standard Lengths

No of Contacts	5			
Rated Voltage (AC/DC)	60V			
Nominal Current	4A			
Plastic / Metal	Plastic		Metal	
Receptacle, Hexagonal Flange, FRONT Fastened Nut, IP68 (Unmated) Nut Torque Value: 4 ~ 6 kgf-cm Recommend Panel Thickness: (Plastic) Male conn Max. 4.0mm, Female connector Max. 4.9mm; (Metal) max. 4.5mm				
90° PCB Type		MSAP-05PMMR-SF8003		M12A-05PMMR-SF8001
Receptacle With Wire, FRONT Fastened Nut, IP68 (Unmated)				
Solder Type	N/A	-		MC-05PMMR-SF8001
Receptacle With Wire, REAR Fastened Nut, IP68 (Unmated)				
Solder Type	N/A	-		MC-05PMMR-SH8001
STRAIGHT , Overmolded Cable Assembly, Free Cable End, IP68 (Mated) ① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket				
Screw Thread 24+22AWG (0.25+0.34mm ²)		MCP-05BMMM-SL8A ①		MC-05BMMM-SL8A ①
Screw Thread 22+18AWG (0.34+0.75mm ²)		MCP-05BMMM-SL8B ①		MC-05BMMM-SL8B ①
Push Pull 24+22AWG (0.25+0.34mm ²)	N/A	-		MC-05BMMM-PL8A ①
Push Pull 22+18AWG (0.34+0.75mm ²)		-		MC-05BMMM-PL8B ①
STRAIGHT-TO-STRAIGHT , Overmolded Double-Ended Cable Assembly, IP68 (Mated) ① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket				
Screw Thread 24+22AWG (0.25+0.34mm ²)		PC-000505-0MM-CSA ①		MC-000505-0MM-CSA ①
Screw Thread 22+18AWG (0.34+0.75mm ²)		PC-000505-0MM-CSB ①		MC-000505-0MM-CSB ①
Push Pull 24+22AWG (0.25+0.34mm ²)	N/A	-		MC-000505-0MM-CPA ①
Push Pull 22+18AWG (0.34+0.75mm ²)		-		MC-000505-0MM-CPB ①
Screw Thread 24+22AWG (0.25+0.34mm ²)		PC-000505-0MF-CSA ①		MC-000505-0MF-CSA ①
Screw Thread 22+18AWG (0.34+0.75mm ²)		PC-000505-0MF-CSB ①		MC-000505-0MF-CSB ①
Field Serviceable/Installable, STRAIGHT Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 8.0mm Recommended Wire Size: 26 ~ 18AWG (0.14 ~ 0.75mm ²)				
Screw-In Type, IP67 (Mated)		MSAP-05BMMB-SL7001		M12A-05BMMB-SL7001
Push-In Type, IP68 (Mated)		MSAP-05BMME-SL8001*		
Field Serviceable/Installable, RIGHT ANGLE Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 7.0mm Recommended Wire Size: 26 ~ 18AWG (0.14 ~ 0.75mm ²)				
Screw-In Type, IP67 (Mated)		MSAP-05BMMB-SR7001		M12A-05BMMB-SR7001
Push-In Type, IP68 (Mated)		MSAP-05BMME-SR8001*		

* Upon Request

¹⁾ Standard Lengths: 1M, 2M, 3M, 5M and 10M. Higher MOQ Might Be Required For Non-Standard Lengths

Panel Cut Out

Plastic

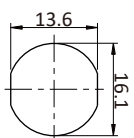
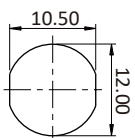
Male

Female

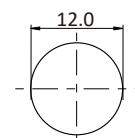
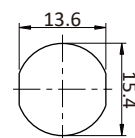
Metal

Male / Female

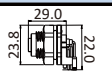
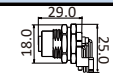
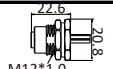
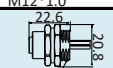
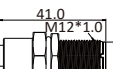
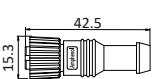
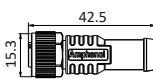
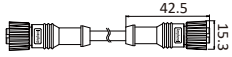
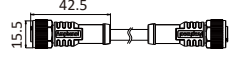
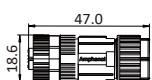
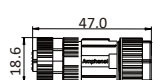
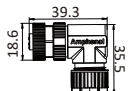
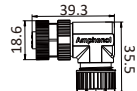
Double-Ended



(Unit: mm)



(Unit: mm)

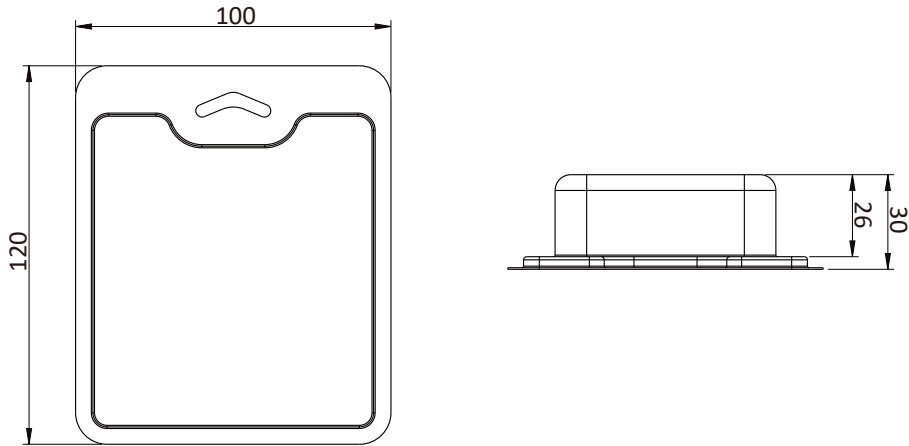
No of Contacts	5			
Rated Voltage (AC/DC)	60V			
Nominal Current	4A			
Plastic / Metal	Plastic		Metal	
Receptacle, Hexagonal Flange, FRONT Fastened Nut, IP68 (Unmated)				
Nut Torque Value: 4 ~ 6 kgf-cm Recommend Panel Thickness: (Plastic) max. 4.9mm, (Metal) max. 4.5mm				
90° PCB Type		MSAP-05PFFR-SF8002		M12A-05PFFR-SF8001
Receptacle With Wire, IP68 (Unmated)				
Front Fastened Nut	N/A	-		MC-05PFFS-SF8001
Rear Fastened Nut	N/A	-		MC-05PFFS-SH8001
Bulkhead, Hexagonal Flange, IP67 (Mated)				
Double-Ended	N/A	-		MC-000505-0FM-BS001
STRAIGHT, Overmolded Cable Assembly, Free Cable End, IP68 (Mated)				
① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket				
Screw Thread 24+22AWG (0.25+0.34mm ²)		MPC-05BFFM-SL8A ^①		MC-05BFFM-SL8A ^①
Screw Thread 22+18AWG (0.34+0.75mm ²)		-		MC-05BFFM-SL8B ^①
STRAIGHT-TO-STRAIGHT, Overmolded Double-Ended Cable Assembly, IP68 (Mated)				
① Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket				
Screw Thread 24+22AWG (0.25+0.34mm ²)		PC-000505-OFF-CSA ^①		MC-000505-OFF-CSA ^①
Screw Thread 22+18AWG (0.34+0.75mm ²)		PC-000505-OFF-CSB ^①		MC-000505-OFF-CSB ^①
Field Serviceable/Installable, STRAIGHT				
Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 8.0mm Recommended Wire Size: 26 ~ 18AWG (0.14 ~ 0.75mm ²)				
Screw-In Type, IP67 (Mated)		MSAP-05BFFB-SL7001		M12A-05BFFB-SL7001
Push-In Type, IP68 (Mated)		MSAP-05BFFE-SL8001*		M12A-05BFFE-SL8001*
Field Serviceable/Installable, RIGHT ANGLE				
Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: 4.0 ~ 7.0mm Recommended Wire Size: 26 ~ 18AWG (0.14 ~ 0.75mm ²)				
Screw-In Type, IP67 (Mated)		MSAP-05BFFB-SR7001		M12A-05BFFB-SR7001
Push-In Type, IP68 (Mated)		MSAP-05BFFE-SR8001*		M12A-05BFFE-SR8001*

* Upon Request

¹⁾ Standard Lengths: 1M, 2M, 3M, 5M and 10M. Higher MOQ Might Be Required For Non-Standard Lengths

Lite (Micro)

NMEA 2K Certified, Blister Packing (Small)



(Unit: mm)

Plastic



R: HPC-R-001
N: HPC-05BFFB-SR7001



R: HPC-R-002
N: HPC-05BFFB-SL7001



R: HPC-R-003
N: HPC-05BMMB-SR7001



R: HPC-R-004
N: HPC-05BMMB-SL7001



R: HPC-R-005
N: HMCP-05BMMT-SL8001



R: HPC-R-006
N: HMCP-05BFFT-SL8001



R: HPC-R-007
N: HPC-000505-0MF-IS001



R: HPC-R-008
N: HPC-050505-FMF-TS001



R: HPC-R-009
N: HPC-000505-0FM-ES001

Metal



R: HMC-R-001
N: HMC-05BFFB-SR7001



R: HMC-R-002
N: HMC-05BFFB-SL7001



R: HMC-R-003
N: HMC-05BMMB-SR7001



R: HMC-R-004
N: HMC-05BMMB-SL7001



R: HMC-R-005
N: HMC-05BMMT-SL8001



R: HMC-R-006
N: HMC-05BFFT-SL8001



R: HMC-R-007
N: HMC-000505-0MF-IS001



R: HMC-R-008
N: HMC-050505-FMF-TS001

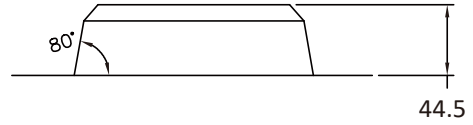


R: HMC-R-009
N: HMC-000505-0FM-ES001

R: Retail packing
N: Loose packing

Lite (Micro)

NMEA 2K Certified, Blister Packing (Medium)



(Unit: mm)

Plastic



R: HPC-R-010
N: P-555500-FFFM00-S001



R: HPC-R-011
N: P-555555-FFFFFM-S001



R: HPC-R-012
N: HPC-000505-0MF-CSA01



R: HPC-R-014
N: HPC-050500-FM0-TSA01



R: HPC-R-014
N: HPC-05CMMM-SL8A01

Metal



R: HMC-R-010
N: H-555500-FFFM00-S001



R: HMC-R-011
N: H-555555-FFFFFM-S001



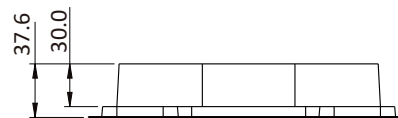
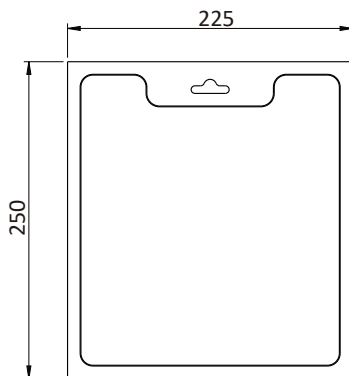
R: HMC-R-012
N: HMC-000505-0MF-CSA01



R: HMC-R-013
N: HMC-050500-FM0-TSA01

R: Retail packing
N: Loose packing

NMEA 2K Certified, Blister Packing (Large)



(Unit: mm)

Plastic



R: HPC-R-015
N: HPC-000505-0MF-CSA02



R: HPC-R-016
N: HPC-050500-FM0-TSA02

Metal



R: HMC-R-014
N: HMC-000505-0MF-CSA02



R: HMC-R-015
N: HMC-050500-FM0-TSA02

R: Retail packing
N: Loose packing



(Unit: mm)



Basic Package **HPC-B-001 (Plastic)**

- T-Connector x 2
- Drop Cable (2M) x 1
- T-Cable (2M) x 1
- Terminator Male x 1
- Terminator Female x 1



Basic Package **HMC-B-001 (Metal)**

- T-Connector x 2
- Drop Cable (2M) x 1
- T-Cable (2M) x 1
- Terminator Male x 1
- Terminator Female x 1



Pro Package **HPC-P-001 (Plastic)**

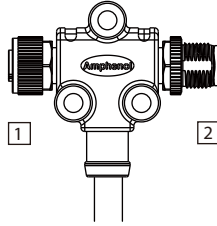
- T-Connector x 2
- Multiple Tee Connector x 2
- Drop Cable (2M) x 1
- Drop Cable (5M) x 1
- Drop Cable (10M) x 1
- Terminator Male x 1
- Terminator Female x 1



Pro Package **HMC-P-001 (Metal)**

- T-Connector x 2
- Multiple Tee Connector x 2
- Drop Cable (2M) x 1
- Drop Cable (5M) x 1
- Drop Cable (10M) x 1
- Terminator Male x 1
- Terminator Female x 1

T Cable

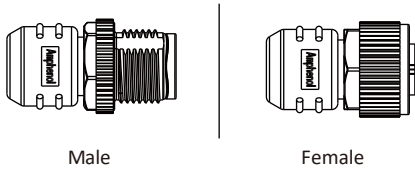


9 Mating Style: (S) Screw Thread / (P) Push Pull*
 11 Cable Length: (01) 1M ~ (99) 99M

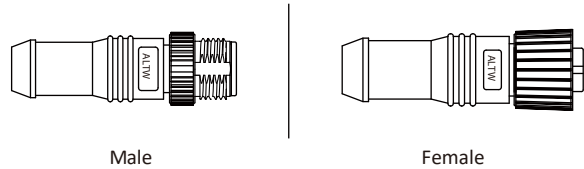
Nominal Current	Type	No. of Contacts	Male To Male	Female To Female	Male To Female
Certified NMEA 2000 (4A)	Metal	05			HMC-050500-FM0-TSA ¹¹
	Plastic				HPC-050500-FM0-TSA ¹¹
Non-Certified NMEA 2000 (4A)	Metal	05	MC-050500-MM0-T ⁹ B ¹¹	MC-050500-FF0-TSB ¹¹	MC-050500-FM0-TSB ¹¹
	Plastic		PC-050500-MM0-TSB ¹¹	PC-050500-FF0-TSB ¹¹	PC-050500-FM0-TSB ¹¹

Terminator

Certified NMEA 2000



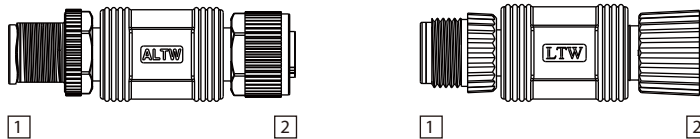
Non-Certified NMEA 2000



7 Mating Style: (S) Screw Thread / (P) Push Pull*

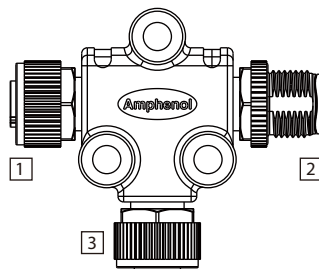
Nominal Current	Type	No. of Contacts	Male	Female
Certified NMEA 2000 (4A)	Metal	05	HMC-05BMMT-SL8001	HMC-05BFFT-SL8001
	Plastic		HMCP-05BMMT-SL8001	HMCP-05BFFT-SL8001
Non-Certified NMEA 2000 (4A)	Metal	05	MC-05BMMT-7L8001	MC-05BFFT-SL8001
	Plastic		MCP-05BMMT-SL8001	MCP-05BFFT-SL8001

I Adaptor



Nominal Current	Type	No. of Contacts	Male To Female
Certified NMEA 2000 (4A)	Metal	05	HMC-000505-OMF-IS001
	Plastic		HPC-000505-OMF-IS001
Non-Certified NMEA 2000 (4A)	Metal	05	MC-000505-OMF-IS001

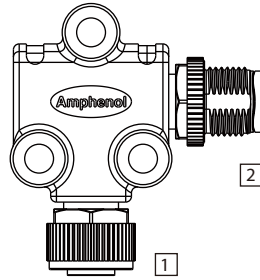
T Adaptor



1 Female Conn. Female Pin
 2 Male Conn. Male Pin
 3 Female Conn. Female Pin

Nominal Current	Type	No. of Contacts	Part Number
Certified NMEA 2000 (4A)	Metal	05	HMC-050505-FMF-TS001
	Plastic		HPC-050505-FMF-TS001

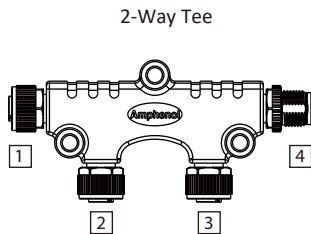
L Adaptor



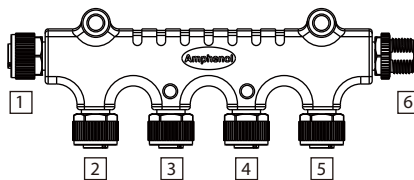
- 1 Male Conn. Male Pin
- 2 Female Conn. Female Pin

Nominal Current	Type	No. of Contacts	Part Number
Certified NMEA 2000 (4A)	Metal	05	HMC-000505-0FM-ES001
	Plastic		HPC-000505-0FM-ES001
Non-Certified NMEA 2000 (4A)	Metal	05	MC-000505-0FM-ES001

Multi-port T Adaptor



2-Way Tee

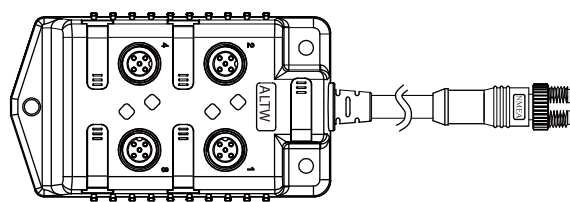


4-Way Tee

- 2-Way Tee**
- 1 Female Conn. Female Pin
- 2 Female Conn. Female Pin
- 3 Female Conn. Female Pin
- 4 Male Conn. Male Pin
- 4-Way Tee**
- 1 Female Conn. Female Pin
- 2 Female Conn. Female Pin
- 3 Female Conn. Female Pin
- 4 Male Conn. Male Pin
- 5 Female Conn. Female Pin
- 6 Male Conn. Male Pin

Nominal Current	Type	No. of Contacts	2-Way Tee	4-Way Tee
Certified NMEA 2000 (4A)	Metal	05	H-555500-FFFM00-S001	H-555555-FFFFFM-S001
	Plastic		P-555500-FFFM00-S001	P-555555-FFFFFM-S001
Non-Certified NMEA 2000 (4A)	Metal	05	S-555500-FFFM00-S001	S-555555-FFFFFM-S001

Distribution Box



- 9 Mating Style: (S) Screw Thread / (P) Push Pull*
- 11 Cable Length: (01) 1M ~ (99) 99M

Nominal Current	Type	No. of Contacts	Part Number
Certified NMEA 2000 (4A)	Metal	05	E-555500-FFFF00-SA 11
Non-Certified NMEA 2000 (4A)	Metal	05	S-555500-FFFF00-9 B 11

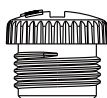
Waterproof Cap

For Female Connector

For Male Connector

For Male Connector

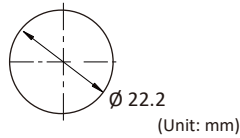
For Female Connector

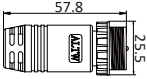
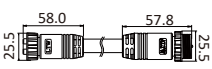
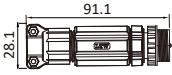
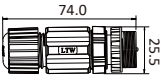
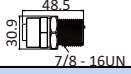
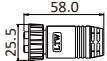
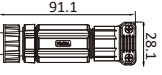
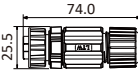


Type	Mating Pair	Mating Style	Mating Gender	Part Number
Metal	Receptacle	Screw Thread	Male	CAP-WBDMSPB2
Plastic	Receptacle / Overmolded with Cable			CAP-WBDM SMA1
Metal				CAP-WBDM SMA2
Plastic			CAP-WBDF SMA1	
Metal			CAP-WBDF SMA2	
			Female	

Heavy (Mini)

Panel Cut Out



No of Contacts	5		
Rated Voltage (AC/DC)	60V	30V	
Nominal Current	8A		
Plastic / Metal	Metal		
NMEA 2000 Certified	NMEA 2000 Certified	NMEA 2000 Non-Certified	
STRAIGHT, Overmolded Cable Assembly, Free Cable End, IP68 (Mated)			
⑪ Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket			
	[Certified] 18+15AWG (0.75+1.62mm ²) [Non-certified] 18+16AWG (0.75+1.50mm ²)	UMN-05AMMM-SL8C⑪	MN-05AMMM-SL8C⑪
STRAIGHT-TO-STRAIGHT, Overmolded Double-Ended Cable Assembly, IP68 (Mated)			
⑪ Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket			
	[Certified] 18+15AWG (0.75+1.62mm ²) [Non-certified] 18+16AWG (0.75+1.50mm ²)	UMN-000505-OMF-CSC⑪	MN-000505-OMF-CSC⑪
Field Serviceable/Installable, STRAIGHT, IP67 (Mated)			
Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: (NMEA 2000 Certified) 8.0 ~ 12.2mm, (NMEA 2000 Non-Certified) 8.0 ~ 11.0mm			
	Screw-In Type	UMN-05BMMB-SL7001	-
	Push-In Type	UMN-05BMME-SL7001*	-
	Screw-In Type	-	MN-05BMMB-SL7001
	Push-In Type	-	MN-05BMME-SL7001*
Bulkhead, Hexagonal Flange, IP67 (Mated)			
	Double-Ended	UMN-000505-OFM-BS001	MN-000505-OFM-BS001
Bulkhead, Overmolded Cable Assembly, Free Cable End, IP68 (Mated)			
⑪ Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket			
	[Certified] 18+15AWG (0.75+1.62mm ²) [Non-certified] 18+16AWG (0.75+1.50mm ²)	-	MN-05AFFM-SL8C⑪
Field Serviceable/Installable, STRAIGHT, IP67 (Mated)			
Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: (NMEA 2000 Certified) 8.0 ~ 12.2mm, (NMEA 2000 Non-Certified) 8.0 ~ 11.0mm			
	Screw-In Type	UMN-05BFFB-SL7001	-
	Push-In Type	UMN-05BFFE-SL7001*	-
	Screw-In Type	-	MN-05BFFB-SL7001
	Push-In Type	-	MN-05BFFE-SL7001*

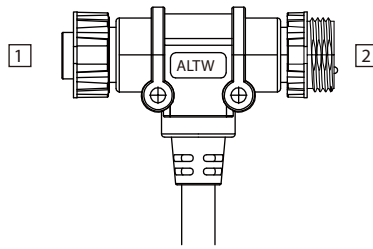
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P
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* Upon Request

¹⁾ Standard Lengths: 1M, 2M, 3M, 5M and 10M. Higher MOQ Might Be Required For Non-Standard Lengths

T Cable

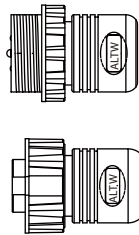


① Cable Length: (01) 1M ~ (99) 99M

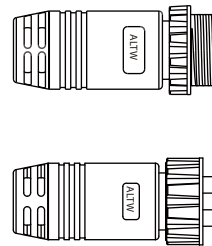
Nominal Current	Type	No. of Contacts	Female To Male
Non-Certified NMEA 2000 (8A)	Metal	05	MN-050500-FM0-TSC ①

Terminator

Conforming to NMEA
Signal function LED

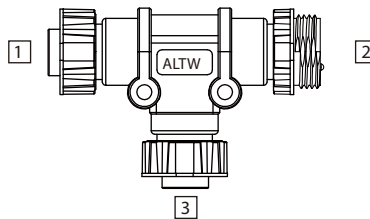


NMEA approved



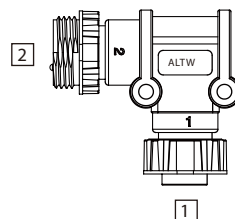
Nominal Current	Type	No. of Contacts	Male	Female
Certified NMEA 2000 (8A)	Metal	05	UMN-05AMMT-SL8001	UMN-05AFFT-SL8001
Non-Certified NMEA 2000 (8A)	Metal	05	MN-05BMMT-SL8001	MN-05BFFT-SL8001
Non-Certified LED NMEA 2000 (8A)	Metal	05	MNL-05BMMT-SL8001	MNL-05BFFT-SL8001

T Adaptor



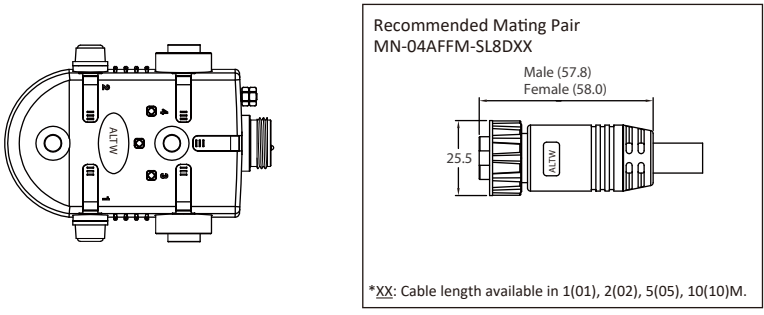
Nominal Current	Type	No. of Contacts	Part Number
Certified NMEA 2000 (8A)	Metal	05	UMN-050505-FMF-TS001
Non-Certified NMEA 2000 (8A)	Metal	05	MN-050505-FMF-TS001

L Adaptor



Nominal Current	Type	No. of Contacts	Male To Female
Non-Certified NMEA 2000 (8A)	Metal	05	MN-000505-0FM-ES001

Distribution Box



Recommended Mating Pair
MN-04AFFM-SL8DXX

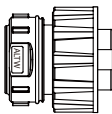
Male (57.8)
Female (58.0)

25.5

*XX: Cable length available in 1(01), 2(02), 5(05), 10(10)M.

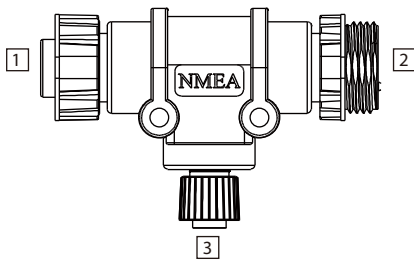
Nominal Current	Type	No. of Contacts	Part Number
Certified NMEA 2000 (8A)	Metal	04, 05	U-455000-MFF000-S001
Non-Certified NMEA 2000 (8A)	Metal	04, 05	N-455000-MFF000-S001

Waterproof Cap



Type	Mating Pair	Mating Style	Mating Gender	Part Number
Metal	Receptacle / Overmolded with Cable	Screw Thread	Male	CAP-WMNMMSMA1
			Female	CAP-WMNFMSMA1

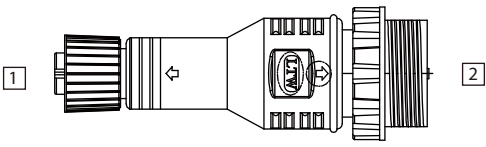
T Adaptor (Mini to Micro)



1 Female Conn. Female Pin
2 Male Conn. Male Pin
3 Female Conn. Female Pin

Nominal Current	Type	No. of Contacts	Part Number
Certified NMEA 2000 (4A)	Metal	05	UNC-050505-FMF-TS001
Non-Certified NMEA 2000 (4A)	Metal	05	NC-050505-FMF-TS001

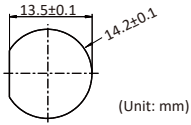
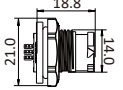
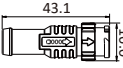
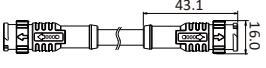
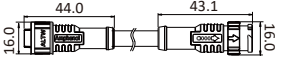
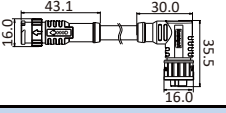
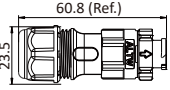
I Adaptor (Mini to Micro)



1 Female Conn. Female Pin
2 Male Conn. Male Pin

Nominal Current	Type	No. of Contacts	Part Number
Non-Certified NMEA 2000 (4A)	Metal	05	NC-000505-OMF-IS001

Push Lock X-Lok A Size

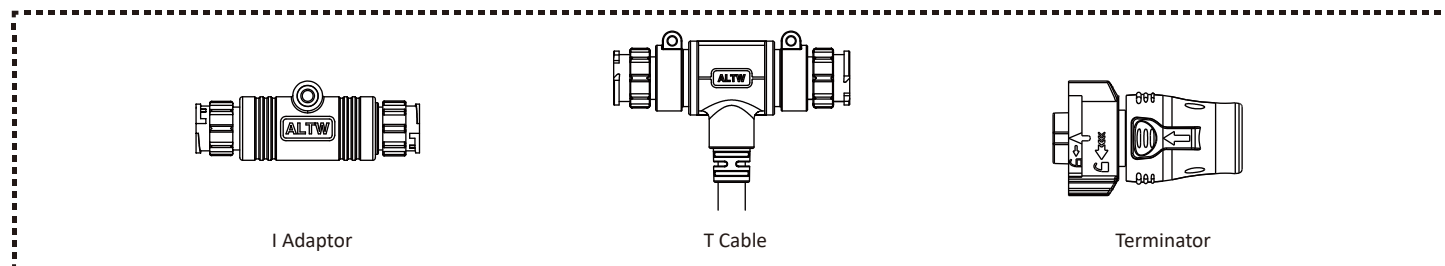
No of Contacts	Panel Cut Out	5	
Rated Voltage (AC/DC)	Circular Flange (D Cut)  (Unit: mm)	300V	
Nominal Current		4A	
Plastic / Metal		Plastic	Metal
Receptacle, Hexagonal Flange, FRONT Fastened Nut, IP78 (Unmated) Nut Torque Value: 4 ~ 6 kgf-cm Recommend Panel Thickness: (with Cap) max. 3.0mm, (without cap) max. 4.0mm			
	Solder Type	AD-05PMM S -QC8001	ASD-05PMM S -QC8001*
	180° PCB Type	AD-05PMM P -QC8001	ASD-05PMM P -QC8001*
STRAIGHT , Overmolded Cable Assembly, Free Cable End, IP68 (Mated)			
⑪ Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket			
	Compliant 24+22AWG (0.25+0.34mm ²)	AD-05BMMM-QL8K⑪	ASD-05BMMM-QL8K⑪*
STRAIGHT-TO-STRAIGHT , Overmolded Double-Ended Cable Assembly, IP68 (Mated)			
⑩ Cable Length: (A05) 0.5M, (001) 1M ~ (099) 99M ¹⁾ Cable Type: UL20276, PVC Jacket			
	End1: Male Conn Male Contact End2: Male Conn Male Contact	AB-AD05ML-ADML-QK⑩	AB-ASD05ML-ASDML-QK⑩*
	End1: Male Conn Male Contact End2: Female Conn Female Contact	AB-AD05ML-ADFL-QK⑩	AB-ASD05ML-ASDFL-QK⑩*
STRAIGHT-TO-RIGHT ANGLE , Overmolded Double-Ended Cable Assembly, IP68 (Mated)			
⑩ Cable Length: (A05) 0.5M, (001) 1M ~ (099) 99M ¹⁾ Cable Type: UL20276, PVC Jacket			
	End1: Male Conn Male Contact End2: Female Conn Female Contact	AB-AD05ML-ADFR-QK⑩	AB-ASD05ML-ASDFR-QK⑩*
Field Serviceable/Installable, STRAIGHT , IP68 (Mated) Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: (Red Seal) 4.0 ~ 6.0mm, (Blue Seal) 6.1 ~ 8.0mm Recommended Wire Size: 22 ~ 20AWG (0.34 ~ 0.50mm ²)			
	Screw-In Type	AD-05BMM B -QL8AP0*	ASD-05BMM B -QL8AP0*
	Push-In Type	AD-05BMM E -QL8AP0*	ASD-05BMM E -QL8AP0*

* Upon Request

¹⁾ Standard Lengths: 1M, 2M, 3M, 5M and 10M. Higher MOQ Might Be Required For Non-Standard Lengths

Accessories X-Lok A Size

Customization - Upon Request



Push Lock X-Lok A Size

No of Contacts	5		
Rated Voltage (AC/DC)	300V		
Nominal Current	4A		
Plastic / Metal	Plastic	Metal	
STRAIGHT , Overmolded Cable Assembly, Free Cable End, IP68 (Mated)			
11 Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket			
	Compliant 24+22AWG (0.25+0.34mm ²)	AD-05BFFM-QL8K ¹¹	ASD-05BFFM-QL8K ¹¹ *
RIGHT ANGLE , Overmolded Cable Assembly, Free Cable End, IP68 (Mated)			
11 Cable Length: (01) 1M ~ (99) 99M ¹⁾ Cable Type: UL20276, PVC Jacket			
	Compliant 24+22AWG (0.25+0.34mm ²)	AD-05BFFM-QR8K ¹¹	ASD-05BFFM-QR8K ¹¹ *
STRAIGHT-TO-STRAIGHT , Overmolded Double-Ended Cable Assembly, IP68 (Mated)			
10 Cable Length: (A05) 0.5M, (001) 1M ~ (099) 99M ¹⁾ Cable Type: UL20276, PVC Jacket			
	End1: Female Conn Female Contact End2: Female Conn Female Contact	AB-AD05FL-ADFL-QK ¹⁰	AB-ASD05FL-ASDFL-QK ¹⁰ *
STRAIGHT-TO-RIGHT ANGLE , Overmolded Double-Ended Cable Assembly, IP68 (Mated)			
10 Cable Length: (A05) 0.5M, (001) 1M ~ (099) 99M ¹⁾ Cable Type: UL20276, PVC Jacket			
	End1: Female Conn Female Contact End2: Female Conn Female Contact	AB-AD05FL-ADFR-QK ¹⁰	AB-ASD05FL-ASDFR-QK ¹⁰ *
RIGHT ANGLE-TO-RIGHT ANGLE , Overmolded Double-Ended Cable Assembly, IP68 (Mated)			
10 Cable Length: (A05) 0.5M, (001) 1M ~ (099) 99M ¹⁾ Cable Type: UL20276, PVC Jacket			
	End1: Female Conn Female Contact End2: Female Conn Female Contact	AB-AD05FR-ADFR-QK ¹⁰	AB-ASD05FR-ASDFR-QK ¹⁰ *
Field Serviceable/Installable, STRAIGHT , IP68 (Mated)			
Sealing Nut Torque Value: 4 ~ 6 kgf-cm Cable O.D.: (Red Seal) 4.0 ~ 6.0mm, (Blue Seal) 6.1 ~ 8.0mm			
Recommended Wire Size: 22 ~ 20AWG (0.34 ~ 0.50mm ²)			
	Screw-In Type	AD-05BFFB--QL8AP0*	ASD-05BFFB--QL8AP0*
	Push-In Type	AD-05BFFE--QL8AP0*	ASD-05BFFE--QL8AP0*

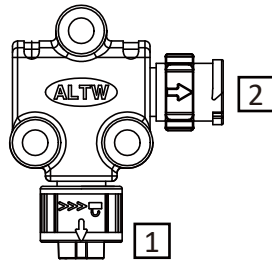
* Upon Request

¹⁾ Standard Lengths: 1M, 2M, 3M, 5M and 10M. Higher MOQ Might Be Required For Non-Standard Lengths

T Adaptor

<p>5 For Connector 1 6 For Connector 2 7 For Connector 3 Choose Connector / Contacts Gender: (M): Male + Male (F): Female + Female</p>				
Nominal Current	No. of Contacts	Mating Style	Part Number	More Options
5A	05	Push Lock	AB-AD-050505-FFM-TQ001	AB-AD-050505-5 6 7-TQ001
			AB-AD-050505-MFM-TQ001	

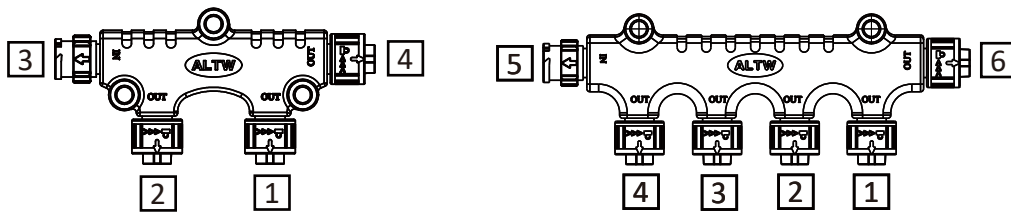
L Adaptor



4 For Connector 1
 5 For Connector 2
 Choose Connector / Contacts Gender:
 (M): Male + Male
 (F): Female + Female

Nominal Current	No. of Contacts	Mating Style	Part Number	More Options
5A	05	Push Lock	AB-AD-000505-0FM-LQ001	AB-AD-000505-0 4 5 -LQ001

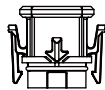
Multi-Ports T Adaptor



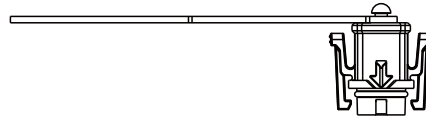
Nominal Current	No. of Contacts	Mating Style	4 Port Part Number	6 Port Part Number
5A	05	Push Lock	AB-AD-555500-FFMF00-Q001	AB-AD-555555-FFFFMF-Q001

Waterproof Cap

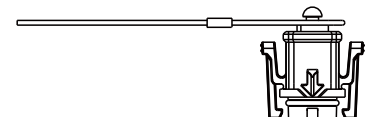
For Mating With Male



None

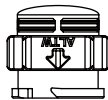


With Rubber Lead

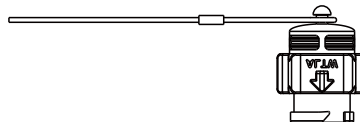


With Fish Line

For Mating With Female



None

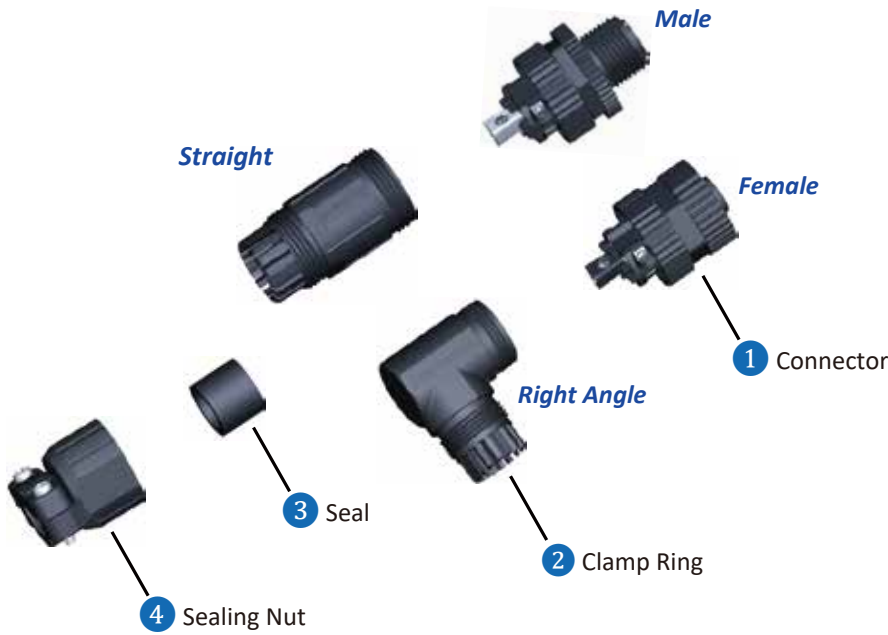


With Fish Line

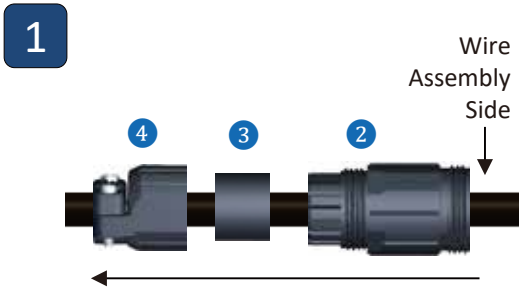
More to choose:
 3 None (MA) / With Rubber Lead (PC)
 4 None (MA) / With Fish Line (CD)
 5 None (A) / With Fish Line (D)

Size	Mating Part	Gender of Mating Part	Mating Style	Part Number
A Size	Receptacle	Male	Push Lock	CAP-WAAMQ 3 1
	Overmolded with Cable	Female		CAP-WAAFQ 4 1
		Male		CAP-WAAMQM 5 1

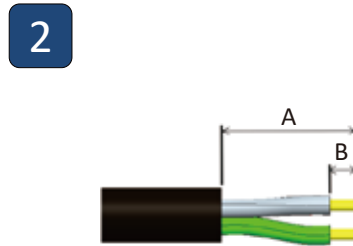
Assembly Instruction Screw-in Type (Certified Micro)



No. of Contacts	5
Wire Range	26 ~ 18 AWG (0.14 ~ 0.75mm ²)
Cable O.D. (Unit: mm)	Straight: 4.0 ~ 8.0 Right Angle: 4.0 ~ 7.0

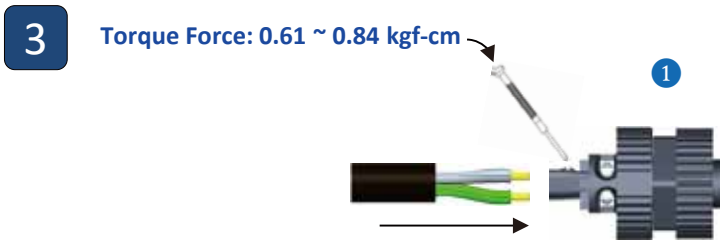


Follow the order from ④ to ② and put components through cable accordingly, no need to assemble here.

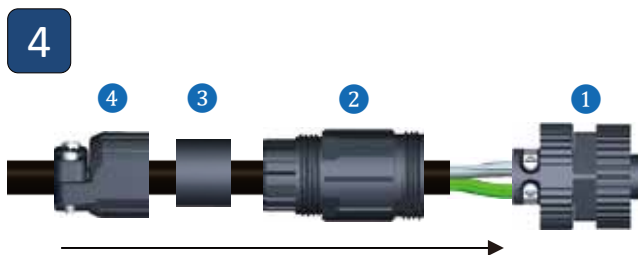


Follow suggested stripping length of (A) Jacket, (B) Insulation.

	Unit: mm
(A) Jacket	14.0 ~ 18.0
(B) Insulation	5.0 ~ 6.0



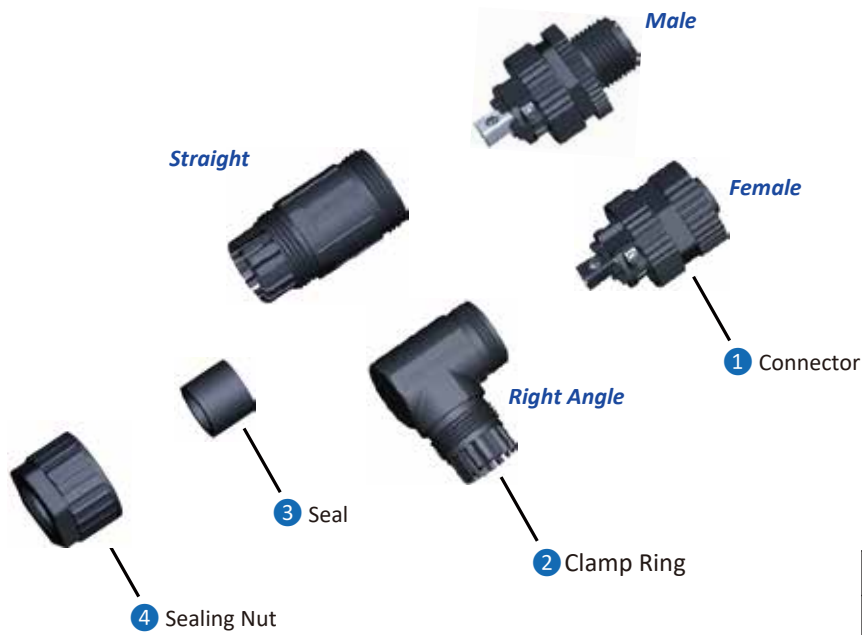
Insert wires into contacts until the conductors are completely covered. Then tighten the screw by screw driver.



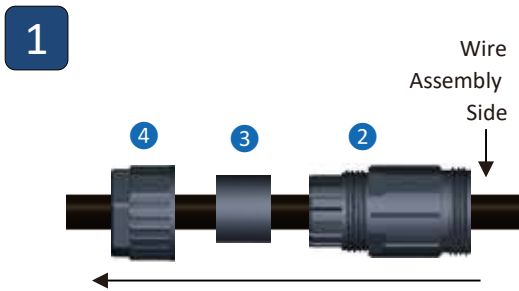
Follow the order ② → ①, ③ → ②, ④ → ② to assemble all components. And tighten ① & ②, ② & ④ with suggested torque force.

	① & ②	② & ④
Torque Force (Unit: kgf-cm)	3.0 ~ 4.0	4.0 ~ 6.0

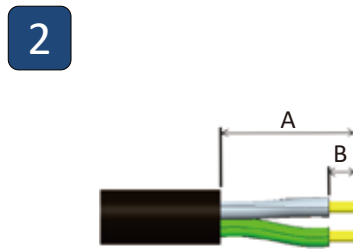
Assembly Instruction Screw-in Type (Non-Certified Micro)



No. of Contacts	5
Wire Range	26 ~ 18 AWG (0.14 ~ 0.75mm ²)
Cable O.D. (Unit: mm)	Straight: 4.0 ~ 8.0 Right Angle: 4.0 ~ 7.0

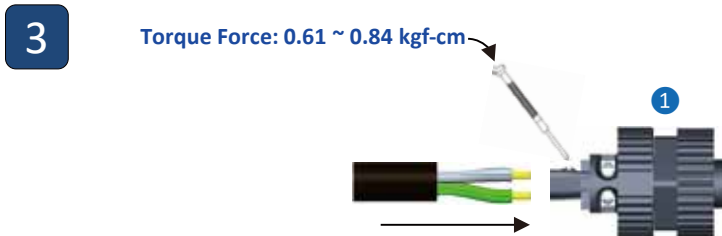


Follow the order from **4** to **2** and put components through cable accordingly, no need to assemble here.

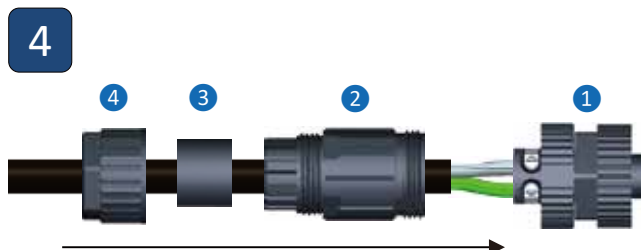


	Unit: mm
(A) Jacket	14.0 ~ 18.0
(B) Insulation	5.0 ~ 6.0

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



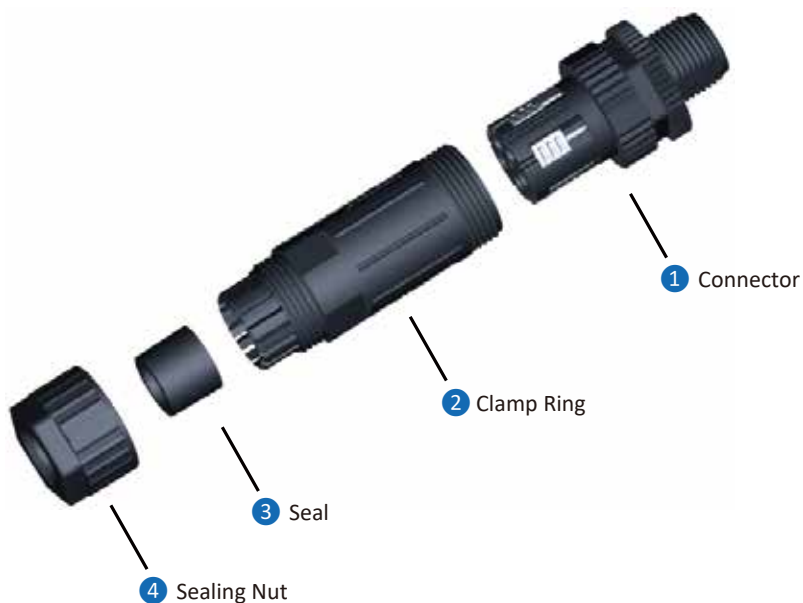
Insert wires into contacts until the conductors are completely covered. Then tighten the screw by screw driver.



Follow the order **2** → **1**, **3** → **2**, **4** → **2** to assemble all components.
And tighten **1** & **2**, **2** & **4** with suggested torque force.

	1 & 2	2 & 4
Torque Force (Unit: kgf-cm)	3.0 ~ 4.0	4.0 ~ 6.0

Assembly Instruction Push-in Type (Non-Certified Micro)



No. of Contacts	5
Wire Range	24 ~ 22 AWG (0.25 ~ 0.34mm ²)
Cable O.D. (Unit: mm)	4.0 ~ 7.5

1

Wire Assembly Side

Follow the order from **4** to **2** and just put components through cable accordingly, no need to assemble here.

2

	Unit: mm
(A) Jacket	18.0 ~ 20.0
(B) Insulation	7.0 ~ 8.0

Follow suggested stripping length of outer jacket (A), insulation (B).

3

Make sure to push all latches toward the front of **1**. Insert wires until the bare wires are completely covered and push all latches toward cable.

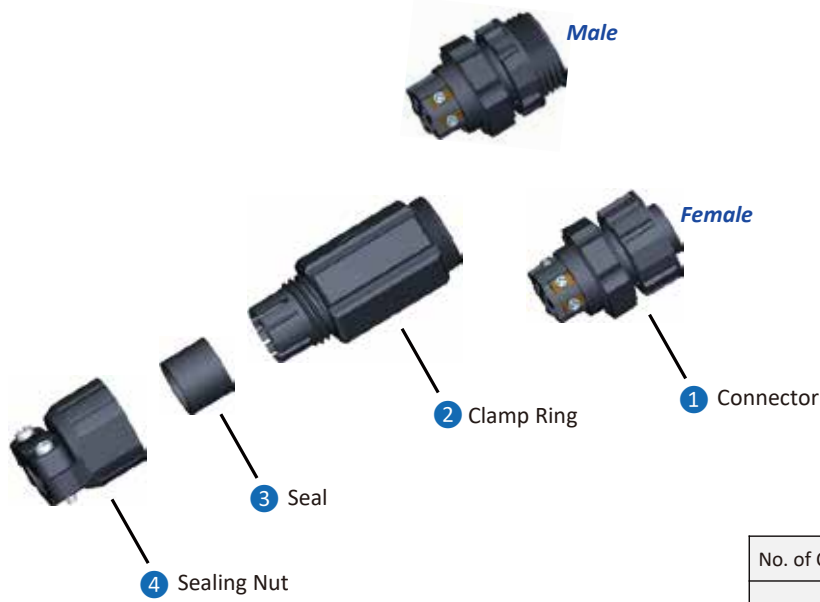
Front

4

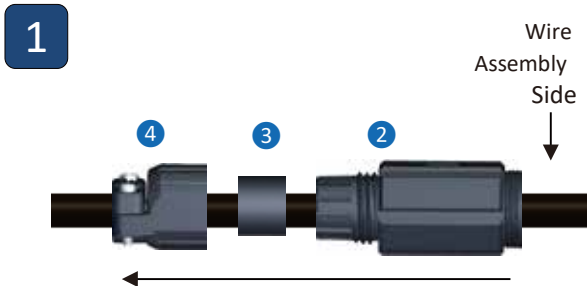
Follow the order **2** → **1**, **3** → **2**, **4** → **2** to assemble all components.
And tighten **1** & **2**, **2** & **4** with suggested torque force.

	1 & 2	2 & 4
Torque Force (Unit: kgf-cm)	3.0 ~ 4.0	4.0 ~ 6.0

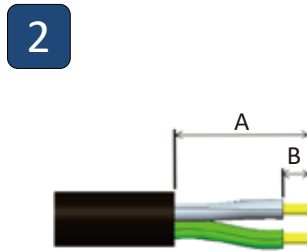
Assembly Instruction Screw-in Type (Certified Mini)



No. of Contacts	5
Wire Range	18 ~ 15 AWG (0.75 ~ 1.62mm ²)
Cable O.D. (Unit: mm)	8.0 ~ 12.2

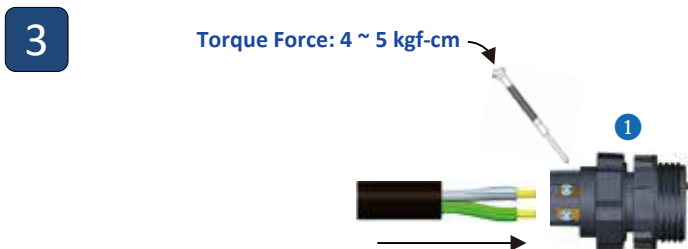


Follow the order from ④ to ② and put components through cable accordingly, no need to assemble here.

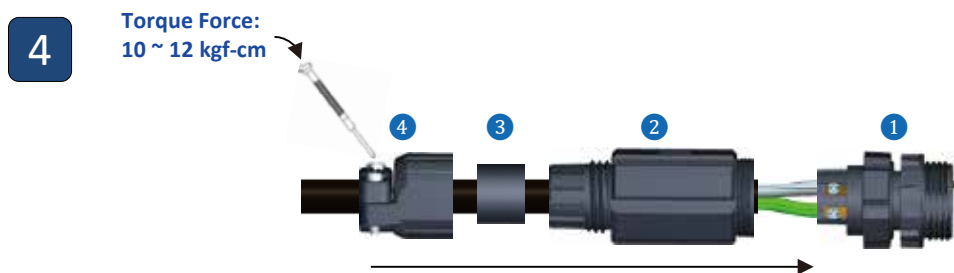


	Unit: mm
(A) Jacket	25.0
(B) Insulation	3.0 ~ 5.0

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



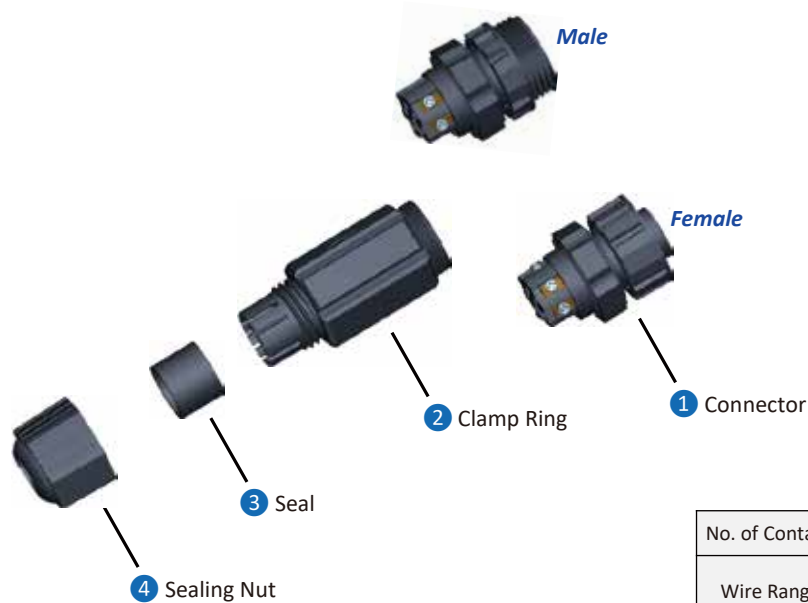
Insert wires into contacts until the conductors are completely covered. Then tighten the screw by screw driver.



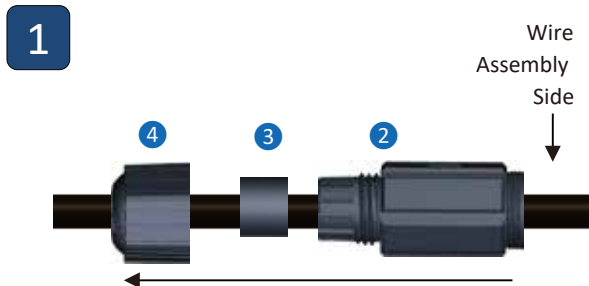
	① & ②	② & ④
Torque Force (Unit: kgf-cm)	3.0 ~ 4.0	4.0 ~ 6.0

Follow the order ② → ①, ③ → ②, ④ → ② to assemble all components. And tighten ① & ②, ② & ④ with suggested torque force.

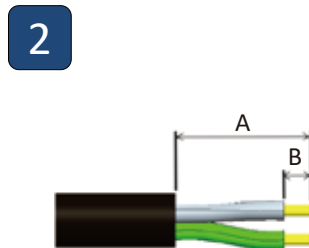
Assembly Instruction Screw-in Type (Non-Certified Mini)



No. of Contacts	5
Wire Range	18 ~ 15 AWG (0.75 ~ 1.62mm ²)
Cable O.D. (Unit: mm)	8.0 ~ 11.0



Follow the order from ④ to ② and put components through cable accordingly, no need to assemble here.

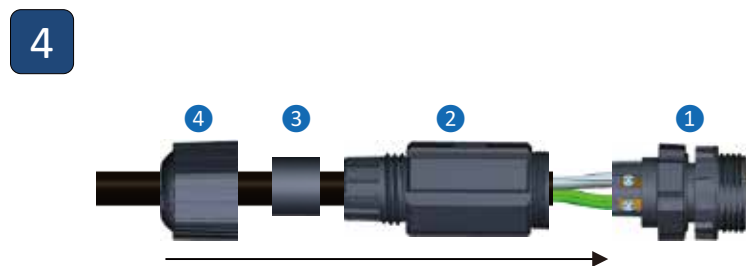


	Unit: mm
(A) Jacket	25.0
(B) Insulation	3.0 ~ 5.0

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



Insert wires into contacts until the conductors are completely covered. Then tighten the screw by screw driver.



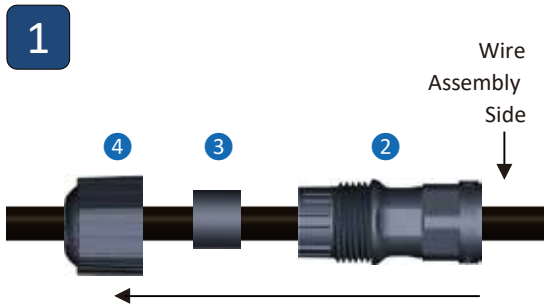
	① & ②	② & ④
Torque Force (Unit: kgf-cm)	3.0 ~ 4.0	4.0 ~ 6.0

Follow the order ② → ①, ③ → ②, ④ → ② to assemble all components. And tighten ① & ②, ② & ④ with suggested torque force.

Assembly Instruction Screw-in Type (Non-Certified X-Lok A Size)



Nominal Current	5A
Wire Range	22 ~ 20AWG (0.34 ~ 0.50mm ²)
Cable O.D. (Unit: mm)	4.0 ~ 6.0 (Red Seal) 6.1 ~ 8.0 (Blue Seal)



Follow the order from ④ to ② and just put components through cable accordingly, no need to assemble here.

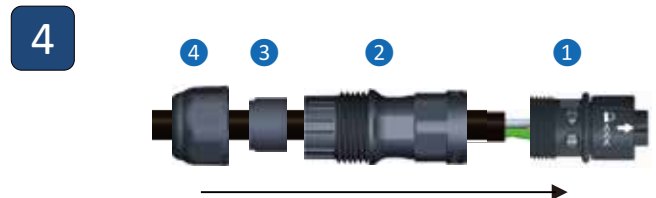


Unit: mm	Male Contact	Female Contact
(A) Jacket	25.0	27.0
(B) Insulation	5.0	5.0

Strip the cable sheath and insulation



Insert wires into ① until the bare wires are completely covered then tighten the screw by screw driver.



	① & ②	② & ④
Torque Force (Unit: kgf-cm)	6.0 ~ 8.0	6.0 ~ 15.0

Assemble components in the order (① → ② → ③ → ④)

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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