Amphenol LTW®
Unrivaled InterConnects for Harsh Environments

HDMI

Product Catalogue

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Amphenol

Amphenol LTW creates high-quality waterproof HDMI cables for today's high definition media. Our HDMI family product offering is customizable to fit customer specific configurations.

Contents

1	Product Selection Guide
11	Served Markets & Applications
15	Our Service
21	Markets / Applications
22	Product Range Overview
23	HDMI Connector
24	Cable List
27	UL Style
33	FAQ and Lexicon

PRODUCT SELECTION GUIDE

Circular (Ceres, X-Lok, M)

	Mating Style						Materials	No. of Contacs	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	32-14	1,000	•	•	500h
Standard			•				P	2-8	•		300-600V	5A-10A 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 @Ampliture 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													
Solder	Crimp	SMT	PCB 180	PCB 90	RW	RC	Solder	Crimp	Screw In	Push In	IDC	OC	UV Resistant	UL 94V-0	Vibration	EMI Option	ROHS 2.0 & REACH	Standard / Compliant	Certifications	Operating Temperature & IP Rating
•			•			•	•					•	•	•	(2)	•	•			◦ **R0**: -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)		•			
•			•	•			•	•	•	•		•	•	•	(2)	•	•			
•			•				•	•	•	•		•	•	•	(2)	•	•		CSA, UL1977, UL2238, UL50e	◦ **R0** & **RW**: -40°C - 105°C, IP68 (Unmated)
•			•				•	•	•	•		•	•	•	(2)		•			
•			•				•	•	•	•		•	•	•	(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	◦ **R0**: -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 Contacs	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: **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 @Ampliture 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													
Solder	Crimp	Screw In	PCB 180	PCB 90	RW	Solder	Crimp	Screw In	Push In	IDC	OC	UV Resistant	UL 94V-0	Vibration	EMI Option	ROHS 2.0 & REACH	Certifications	IP Rating	Operating Temperature
•			•	•		•	•				•		•	(2)	•	•		IP50 (Mated)	◦ **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	◦ **R0**: -40°C - 105°C ◦ **OC**: -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, 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)	
	•						•					•	•			•	UL1977	IP69K (Mated)	
					•		•				•	•	•	(2)		•	UL1977	**RW:** IP68 (Unmated) **OC:** IP68 (Mated) **FI:** IP67 (Mated)	◦ **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)		•			
					•						•					•		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 Contacs	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 @Ampliture 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			RW	(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		Solder	Crimp	Screw In	Push In	IDC									
•				•					•	•	•	(2)		•	UL2238, UL50e	**R0:** IP68 (Unmated) **OC:** IP68 (Mated) **FI:** IP68 (Mated)	◦ **R0:** -40°C - 105°C ◦ **OC:** -40°C - 105°C ◦ **FI:** -40°C - 105°C
•	•		•	•		•	•		•		•	(1)	•	•	NMEA 2000	**R0:** IP68 (Unmated) **RW:** IP68 (Unmated) **OC:** IP68 (Mated) **FI:** IP67 (Mated)	◦ **R0:** -40°C - 105°C ◦ **RW:** -20°C - 85°C ◦ **OC:** -20°C - 85°C ◦ **FI:** -40°C - 105°C
•	•					•	•		•		94-HB	(1)	•	•	NMEA 2000		
•	•		•	•	•	•			•		•	(1)		•		**R0:** IP68 (Unmated) **RW:** IP68 (Unmated) **OC:** IP68 (Mated) **FI:** IP67 (Mated)	◦ **R0:** -40°C - 105°C ◦ **OC:** -40°C - 105°C ◦ **FI:** -40°C - 105°C
•				•					•	•	94-HB	(1)	•	•		**R0:** IP68 (Unmated) **OC:** IP68 (Mated) **FI:** IP68 (Mated)	◦ **R0**: -40°C - 105°C ◦ **RW:** -20°C - 85°C ◦ **OC:** -20°C - 85°C ◦ **FI:** -40°C - 105°C

RRODUCT SELECTION GUIDE

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

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

Remarks:
Materials: **P** (Plastic), **M** (Metal), **B** (Both)
Assemble Style: **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 @Ampliture 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)

RRODUCT SELECTION GUIDE

High Speed			Salt Spray (Connector, Mated)	R0	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	◦ **R0:** -40°C - 105°C, IP67 (Unmated) ◦ **RP:** -20°C - 85°C, IP67 (Unmated) ◦ **OC:** -20°C - 85°C, IP67P (Mated) ◦ **FI:** -40°C - 105°C, IP67 (Mated)
			48h	PCB180, Jack 90 & 180		•	•	•	•	•	(2)	•	•	TIA/EIA-568, IEC 60603-7	
			48h	Jack 180		•	•	•	•	•	(2)	•	•	TIA/EIA-568, IEC 60603-7	
			48h	•					•	•	(2)	•	•	TIA/EIA-568, IEC 60603-7	-40°C - 105°C, IP67 (Unmated)
•			48h	•	•		•	•		94V-HB	(2)	•	•		◦ **R0:** -40°C - 105°C, IP67 (Unmated) ◦ **RW:** -20°C - 85°C, IP67 (Unmated) ◦ **OC:** -20°C - 85°C, IP67P (Mated) ◦ **FI:** -40°C - 105°C, IP67 (Mated)
•	•		48h	Type 1 & 2, Jack, PCB 180	•		•	Solder		•	(2)	•	•		
•			48h	Type 1 & 2, Jack, PCB 180	•		•	Solder		•	(2)	•	•		
•			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)	•	•		◦ **R0:** -40°C - 85°C, IP68 (Unmated) ◦ **OC:** -20°C - 85°C, IP67 (Mated)
	•	•	48h	•			•			•	(2)	•	•		◦ **R0:** -40°C - 85°C, IP67 (Unmated) ◦ **OC:** -20°C - 85°C, IP67 (Mated)
	•		48h				•			•	(2)	•	•		◦ **OC:** -20°C - 85°C, IP68 (Mated)
			8h	Solder, PCB 90& 180			•	Solder, Crimp			(2)	•	•		◦ **R0:** -40°C - 105°C, IP68 (Unmated) ◦ **OC:** -20°C - 85°C, IP67P (Mated) ◦ **FI:** -40°C - 105°C, IP67 (Mated)
			8h	Solder, PCB 90& 180			•	Solder, Crimp			(2)	•	•		
				•			•			•	(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)	•	•		◦ **R0:** -20°C - 85°C, IP67 (Unmated) ◦ **OC:** -20°C - 85°C, IP67P (Mated)
			48h	•			•			94V-1	(2)	•	•		
			48h	•			•			•	(2)	•	•		
			8h	•			•				(2)		•		◦ **R0:** -40°C - 105°C, IP68 (Unmated) ◦ **OC:** -20°C - 85°C, IP67P (Mated)
			8h	•			•				(2)		•		
			8h	•			•				(2)		•		
			8h	•			•				(2)		•		

RRODUCT SELECTION GUIDE

Other IO (Fiber, ZConnect, RF)

	Mating Style					Materials	No. of Contacs	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
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 Contacs	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 @Ampliture 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)

RRODUCT SELECTION GUIDE

High Speed			Salt Spray (Connector, Mated)	R0	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)	◦ **R0:** -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-FunctionDisplay	•	•	•	•	•	•			•	•	•	•	•		•	•		•	•			•	•	•
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 Diagnotics	•	•	•	•	•			•		•	•	•	•	•	•	•		•	•				•	•
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				•														•						

HDMI Markets / Applications

Marine

- AIS
- Audio System
- Autopilot System
- Chartplotter
- Sailing Instruments
- Ligting System
- Multi-Function Display
- IP and Infrared CCTV & Cameras
- Shipyards & Cruise

Heavy Equipment

- Display
- Electronic Toll System
- Lidar & Radar
- Measurement Systems
- Telematics & Tracking
- Control System
- Camera & Monitoring
- Automotive Diagnotics
- Agriculture Electronic Equipment
- ADAS (Advanced Driver Assistance Systems)

Medical Equipment

- Medical Displays
- Non-invasive Devices

Remote Video Response Center

- CCTV / Dome / IP Camera
- Encoders
- Junction Box
- Monitoring Station
- Alarm System

Automotive Diagnostics

- Remote Vehicle Diagnostics

Industrial Automation

- Communication System
- Industrial Control
- Industrial Forklifts
- Industrial Network
- Industrial PC & Displays

Renewable Energy

- Communication System

Autonomous

- Central Computer
- GPS
- Lidar
- Video Cameras

Rugged IT

- Communication Devices
- Rugged Notebook
- Rugged Tablet

Railway Mass Transit

- Infortainment Systems
- In-Vehicle Information
- Navigation / GPS
- Vehicle Monitoring
- Indication Display

UAV

- Commercial Drone
- Consumer Drone
- Military Drone

Transportation

- Bus GPS
- Vehicle Camera

Lifts & Materials Handling

- Forklift
- Industrial Lift
- Materials Handling

Test Equipment

- Floor Scales
- Heavy-duty scales
- Precision surveying

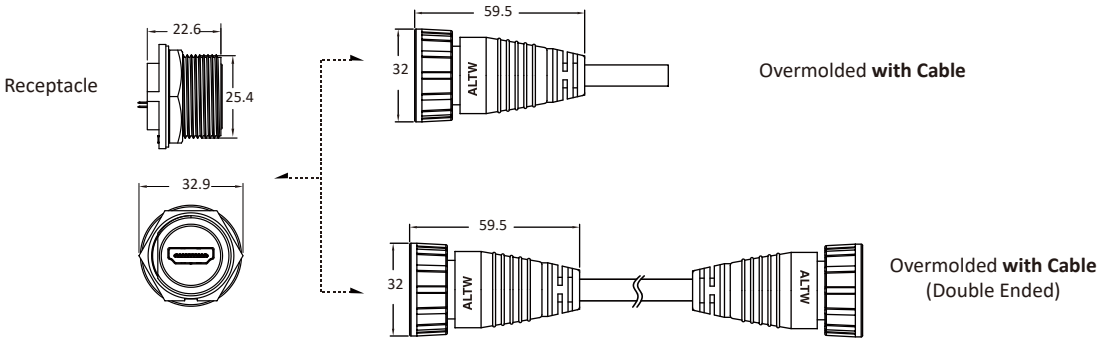
Product Range Overview

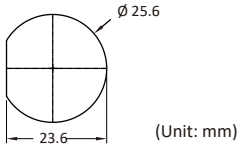
Sub-Series Name	Circular	Rectangular	Mini-HDMI*
Mating Style	Screw Thread	Push Lock With Latch	Screw Thread
Plastic Version	✓	✓	✓
No. of Contacts	19	19	19
Plating of Contacts	Gold Plated	Gold Plated	Gold Plated
Operating Voltage (AC/DC)	30V (AC)	30V (AC)	30V (AC)
Nominal Current	0.5A	0.5A	0.5A
Operating Temperature	• Receptacle: -20°C ~ 85°C • Overmolded with Cable: -20°C ~ 85°C		
Fasten Style of Nut	Front	Front	Front
Receptacle	• Nut Torque Value: 5 ~ 8 kgf.cm • Recommended Panel Thickness: 2mm Min. (for Rectangle Type); 4mm Max. (for Rectangle / Circular Type)		
Overmolded With Cable	Cable Information: UL20276, 26AWG (0.14mm^2), PVC, Black		
Accessories	✓	✓	✓
Applicable Wire Gauge	26AWG (0.14mm^2)	26AWG (0.14mm^2)	30AWG (0.05mm^2)
Mating Cycles (Pin Contact)	500 Cycles	500 Cycles	500 Cycles
IP Rating	• Receptacle: IP67 (Unmated) • Overmolded With Cable, Field Serviceable/Installable: IP67 (Mated)		
Salt Spray (Connector, Mated)	48h	48h	48h
Vibration	Frequency Range 10 ~ 55Hz Amplitude 1.52mm		
RoHS 2.0 Compliant	✓	✓	✓
REACH Compliant	✓	✓	✓

*Upon Request

>> Circular Type

Panel Cut Out

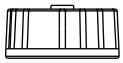




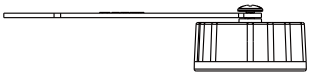
Receptacle IP67 (Unmated) HJ-19PMFP-SC7001 (Male Conn. Female Contact)	Mate With →	Overmolded **With Cable** (**Straight**) IP67 (Mated) HP-19AFMM-SL7A⑩ (Female Conn. Male Contact) Overmolded **With Cable Double Ended** (**Straight**) IP67 (Mated) HP19BL-HPBL-SA⑩ (Female Conn. Male Contact)

⑩ Cable Length (Single end) **(01)** 1M ~ **(05)** 5M
⑩ Cable Length (Double ended) **(A05)** 0.5M, **(001)** 1M ~ **(005)** 5M

Waterproof Cap



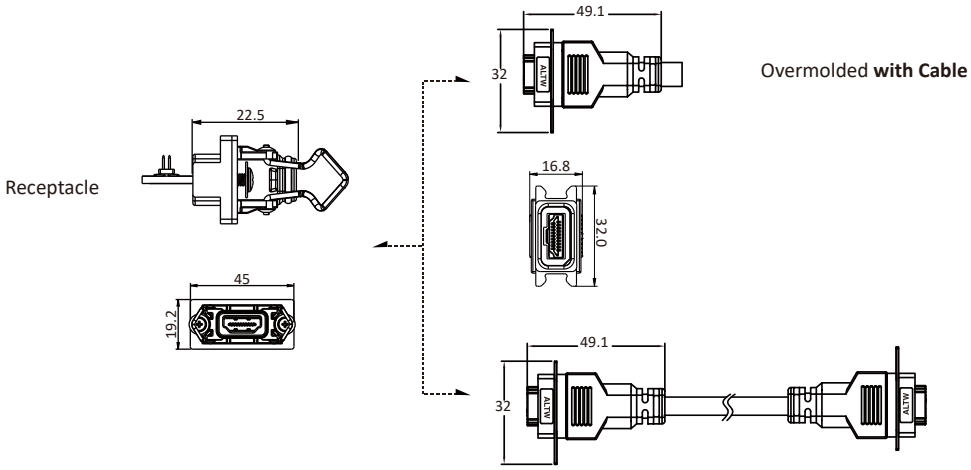
- IP Rating: IP67
- Mating Pair: Receptacle
- Mating Style: Screw Thread
- Mating Pair (Gender): Male
- Part Number: CAP-WADMSMA1

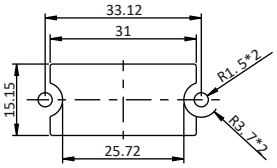


- IP Rating: IP67
- Mating Pair: Receptacle
- Mating Style: Screw Thread
- Mating Pair (Gender): Male
- Part Number: CAP-WADMSPC1 (With Rubber Lead)

>> Rectangle Type

Panel Cut Out

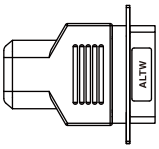




Receptacle IP67 (Unmated) HJ-19PFFR-QS7001 (Female Conn. Female Contact)	Mate With →	Overmolded **With Cable** (**Straight**) IP67 (Mated) HP-19AMMM-QL7A⑩ (Male Conn. Male Contact) Overmolded **With Cable Double Ended** (**Straight**) IP67 (Mated) HP19ML-HPML-QA⑩ (Male Conn. Male Contact)

⑩ Cable Length (Single end) **(01)** 1M ~ **(05)** 5M
⑩ Cable Length (Double ended) **(A05)** 0.5M, **(001)** 1M ~ **(005)** 5M

Waterproof Cap



- IP Rating: IP67
- Mating Pair: Receptacle
- Mating Style: Latch Type
- Mating Pair (Gender): Female
- Part Number: CAP-WHDFHPA1

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. (2.5mm)	3
Protected against a solid object greater than 1.0mm, such as a thin strap. (1.0mm)	4
Dust Protected. Prevents ingress of dust sufficient to cause harm.	5
Dust tight. No ingress of dust.	6

Example:

IP 6 5

Protected against water jets from any angle.

Dust tight.No ingress of dust.

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

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