

Product and Application Guide

2024



• Circular Connector • I/O Connector • LV214 Compliant Connector



About Us

Since 1993, Amphenol LTW Technology “ALTW” lives and breathes to create, innovate, design and produce “***unrivaled interconnects for harsh environments***”. With over 300 worldwide patents, not only does ALTW offer the broadest and widest range of rugged interconnects in the industry but also customization with the mission of “Customer Satisfaction First”. Undoubtedly, ALTW is the leader in rugged interconnects, highly recognized for its uncompromising quality, short lead time, fast and tailored service and its very competitive pricing.

Regardless of the challenging environments that your products will be subject to; there is a very good chance that you will find what you are looking for with ALTW.

24+

Product Series

80,000+

Part Numbers
(>70% customized parts)

30+

Market
Applications

75+

Distribution
Channels

Contact Us

- ✓ Headquartered & Factory: New Taipei City, Taiwan
- ✓ APAC Factory: Kunshan, Jiangsu Province, China PRC
- ✓ NA Factory: Nogales, Mexico
- ✓ EU Factory: Hungary (2023, Q4)

Our Capabilities

ALTW's strategy is to have as much vertically integrated manufacturing in-house capabilities as possible in order to ensure quality assurance, short lead time and highly competitive pricing. These are for example:

- Testing laboratories certified TAF and UL WDTP
- CNC lathe machined parts and contacts / pins
- Tooling / mold design and manufacturing
- Horizontal and vertical injection manufacturing
- Semi and full automated connector and cable assembly lines
- Cable assembly
- Total electronic turnkey solutions

Online Resource



Your benefits

- ✓ Worldwide access 24/7
- ✓ Product configurator
- ✓ Real time order tracking
- ✓ Online assistance (live chat)
- ✓ Instant drawing release
- ✓ Instant quotation
- ✓ Order online
- ✓ Catalogue
- ✓ Search by vendor
- ✓ Search by drawing / picture

New AmphenolItw.com E-Commerce Website

Products

- ✓ Find accessories and mating part easily
- ✓ Generating product comparison table automatically

Customize Your Parts

Generate the drawing, get your tailored price of your customized part

Industries Solutions

Applications, success stories, associated products

Support

- ✓ Where to buy: find the distributors near your location
- ✓ FAQs



Search

- ✓ By part number
- ✓ By specification
- ✓ By drawing / picture
- ✓ By manufacturers' part number

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- ✓ Online purchase
- ✓ Tailored prices
- ✓ Committed lead time

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Product Selection Guide

Product Series	Material	Hybrid	Compact Design	Quick Lock	Nominal Current	High Speed	Pin #	Vibration	IEC Standard	CS
Ceres	Metal, Plastic, Rubber	•	•	•	20A		31	•		
X-Lok	Metal, Plastic, Phosphor Bronze	•	•	•	80A	•	100	•		
RBL	Copper Alloy, Plastic	•		•	20A		18	•		
Power	Plastic	•			80A		14	•		
M Series	Metal, Plastic, Stainless	•	•	•	28A	•	28	•	•	
HS-Lok	Plastic	•	•	•	5A		6	•		
NMEA 2000	Metal, Plastic			•	8A		5	•		
FLOS & FLOS+	Metal		•	•	25A	•	26	•		
DeepTronica	Metal, Plastic			•	10A		25			
Heavy Duty Shielded	Metal				40A		14	•		
7/8" Mini	Metal		•		13A		14	•		
Single Pair Ethernet	Metal, Plastic		•	•	5A	•	2	•		
Ethernet Ingress Protection (EIP)	Metal		•	•	2.5A	10Gbps	8	•		
RJ45	Metal, Plastic		•		1.5A	•	8	•	•	
USB	Metal, Plastic	•	•	•	5A	10Gbps	-	•		
D-SUB	Metal, Plastic				5A		78	•		
DVI	Metal, Plastic				1.5A		29	•		
HDMI	Metal, Plastic				0.5A		19	•		
SSL	Plastic		•	•	3A		6	•		•
Fiber Optics	Plastic				-		-			
RF	Metal				-		1			
ZConnect (FPC, PPF, WTB)	Plastic		•	•	1A		40			
Cable Joiner	Plastic			•	30A		5			•
Cable Gland	Metal, Plastic				-		-	•		
LED Light Guide	Metal, Plastic		•		-		-			
Pressure Relief Vent	Metal, Plastic		•		-		-			

UL Certification											UL 94V-0	Page
A	cUL	NMEA 2000	TUV	UL1863	UL1977	UL2237	UL2238	UL50e	UL6703A	USB		
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Product Applications

Application	Ceres	X-Lok	RBL	Power	M Series	HS-Lok	NMEA 2000	FLOS	Deep Tronica	Heavy Duty Shielded	7/8" Mini
Marine	•	•	•	•	•	•	•	•	•	•	•
Industrial Automation	•	•	•	•	•	•	•	•		•	•
LED Lighting	•	•	•	•	•	•	•	•		•	•
Broadband Wireless Access	•	•	•	•	•	•		•		•	•
Hybrid Electric Vehicles	•	•	•	•	•	•	•	•		•	•
Automated Meter Reading	•	•	•	•	•	•	•	•			
Heavy Equipment	•	•	•	•	•	•	•	•		•	•
Test Equipment	•	•	•	•	•	•	•	•		•	•
Remote Video Response Center	•	•	•	•	•	•	•	•		•	•
Renewable Energy	•	•	•	•	•	•	•	•		•	•
Rugged IT		•			•	•	•	•			
Railway Mass Transit	•	•	•	•	•	•	•	•		•	•
Medical Equipment	•	•	•	•	•	•	•	•		•	•
Transportation	•	•	•	•	•	•	•	•		•	•
Mobile Devices	•	•	•	•	•	•	•	•			
Automotive Diagnostics	•	•			•	•	•	•		•	•
Lifts & Materials Handling	•	•	•	•	•	•	•	•		•	•
UAV	•	•	•	•	•	•	•	•		•	•
Autonomous	•	•			•	•	•	•		•	•
Commercial Military								•			

SPE	EIP	RJ45	USB	D-SUB	DVI	HDMI	SSL	Fiber	RF	ZConnect	Cable Joiner	Cable Gland	Vent	LED Light Guide
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Ceres Series





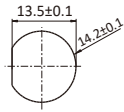

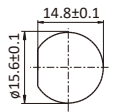

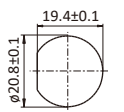

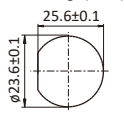



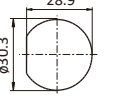
- ✓ IP67 mated or unmated
- ✓ Metal or plastic
- ✓ Mating style: 2 or 3 points lock bayonet, screw thread, push lock
- ✓ Assembly style: solder, screw-in, PCB 180°, PCB 90°, crimp
- ✓ Power, data / signal, hybrid
- ✓ Flammability UL 94V-0
- ✓ UV resistant

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
Mini (7/16"-28 UNS)	2-6 	2A-5A	250V	2 points lock Screw thread	<div>Circular Flange (D Cut) </div> <div>Square Flange </div>
Standard (5/8"-27 UNS)	2-12 	2A-10A 5A+2A 10A+5A	250-600V	2 points lock Screw thread	<div>Shielded Metal </div> <div>Circular Flange </div> <div>Square Flange </div>
Middle (13/16"-28 UNS)	2-18 8 	2A-20A 5A+2A 10A+2A 10A+5A	250-600V	2 points lock 3 points lock Screw thread	<div>Circular Flange (D Cut) </div>
Large (1"-20 UNEF)	2-22 12 	2A-20A 20A+2A 20A+5A	250-600V	2 points lock Screw thread	<div>Circular Flange (D Cut) </div> <div>Square Flange </div>
Macro (13/16"-20 UNS)	31 	5A	200V	2 points lock	
PLD (1/2"-28 UNEF)	2-4 	5A	250V	Push lock	
MAB (Ø 17.5mm)	4 	10A	250V	2 points lock	N/A
GBD (Ø 21.0mm)	8 	10A+5A	250V	3 points lock	N/A

X-Lok Push Lock Series



- ✓ IP68 mated or unmated
- ✓ Spring loaded push lock design
- ✓ Intuitive mating with audible feedback
- ✓ Power AC/DC, data, signal, hybrid
- ✓ Saving on-site installation time & costs
- ✓ Exponentially increase installation outputs
- ✓ Eliminating workmanship errors

Sub-Series	Pin #		Nominal Current	Voltage (AC/DC)	Panel Cut Out (unit: mm)	
Mini (9/16"-24 UNS) (PG9)	2-33  (0.5A-16A)	3-5  (16A)	0.5A-16A	30-630V	Circular Flange (D Cut) 	
Standard (5/8"-27 UNS)	2-8 		5A-10A 10A+5A	300-600V	Circular Flange (D Cut) 	
Middle (13/16"-28 UNS)	2-12 		5A-20A 10A+5A	300-600V	Circular Flange (D Cut) 	
Large (1"-20 UNEF)	2-100 		0.5A-20A 20A+5A 50A 50A+5A	60V (0.5A) 300-600V	Circular Flange (D Cut) 	
Macro (1 3/16"-20 UNS)	31 (3A)  (ED)	4-12 (20A+5A)  (EMD)	4-7 (80A+5A)  (EPD)	5A 50A+5A 80A+5A	300-600V	Circular Flange (D Cut) 

Certifications: UL1977, UL2238, UL50e



RBL Series



- ✓ IP67 mated, IP68 mated or unmated
- ✓ Push lock with latch & fool-proof design
- ✓ Intuitive mating with audible feedback
- ✓ Power, data / signal, hybrid
- ✓ Flammability UL 94V-0
- ✓ UL / CE certified

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Panel Cut Out (unit: mm)
Middle (13/16"-28 UNS)	<div>2-9 (5A)</div> <div>2-4 (10A)</div> <div>4-6 (10A+5A)</div>	5A-10A 10A+5A	300V	<div>Circular Flange </div> <div>Square Flange </div>
Large (1"-20 UNS)	<div>5-18 (5A)</div> <div>5-14 (20A)</div> <div>2-4 (20A)</div> <div>4-8 (20A+5A)</div>	5A-20A 20A+5A	300V	<div>Circular Flange </div> <div>Square Flange </div>

Certification: UL 1977



Power Series



- ✓ IP67 / IP68 / IP69K mated
- ✓ Nominal current up to 80A
- ✓ Operating voltage up to 600V
- ✓ UL / cUL / TUV certified
- ✓ Flammability UL 94V-0
- ✓ Screw thread, 2 points lock, 3 points lock mating style

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
PWE, PWF, PWG (M3*0.5)	2-7 	8A-16A	277V	Screw thread	
PWC, PWCU (13/16"-28 UNS)	3-12 	20A 20A+2A	277V	2 points lock 3 points lock	
PWH (1 1/4"-12 UNF) (M25*1.0)	3, 5 	25A	600V (AC) 1000V (DC)	3 points lock Screw thread	<div><div>Screw Threaded </div><div>Lock Bayonet </div></div>
PWL (M3*0.5)	3 	30A	300V	3 points lock	
PWM, PWMU (1"-20 UNEF)	2-6 	50A 50A+2A	600V	3 points lock	<div><div>Panel Nut </div><div>Screw </div></div>
PWN, PWNU (1"-20 UNEF)	2-6 	70A 70A+2A	600V	3 points lock	<div><div>Panel Nut </div><div>Screw </div></div>
PWP, PWPD (1 7/16"-18 UNEF)	2-7 	80A 80A+5A	600V	3 points lock	
PWX (61*61mm)	4-14 	30A 30A+5A 50A 50A+5A 80A 80A+5A	300-600V	3 points lock	


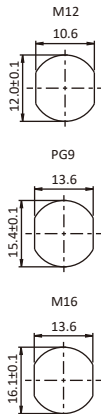







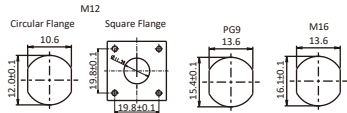

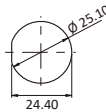
M Series



- ✓ IP67 / IP68 mated or unmated, IP69K mated
- ✓ Designed for industrial process measurement and control
- ✓ Compact design for harsh environment
- ✓ Size: IEC Standard M5 / M8 / M10.5 / M12 / M23, and available in receptacle, overmolded cable, field installable and accessory
- ✓ Plastic, metal, shielded variety
- ✓ Comprehensive range of accessories

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
M5 (M7*0.75)	3-6 	1A	60V	Screw thread	
Guided M8* (M8*0.5) (M8*1.0) (M10*0.75)	2-6 (2A/4A) A Code 5 (3A+1.5A) H Code	2A-4A 3A+1.5A	30-60V	Screw thread Snap-In	
M8* (M8*0.5) (M8*1.0) (M10*0.75)	6-13 (0.5A/1A/1.5A) A Code 3-4 (4A) B Code 5 (3A) C Code 4 (4A) D Code	0.5A-4A	30-60V	Screw thread Snap-In	
M10.5 (M11*0.5)	2-5 	2A	30V	Screw thread	
M12 (A)* (M12*1.0) (M16*1.5) (PG9)	3-28 	0.5A-4A	30-250V	Screw thread Push pull	
M12 (B)* (M12*1.0) (M16*1.5) (PG9)	5 	4A	60V		
M12 (D)* (M12*1.0) (M16*1.5) (PG9)	4 	4A	250V		

*with LED indicator

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
M12 (I)* (M16*1.5) (PG9)	5 	4A	60V	Screw thread Push pull	
M12 (M)* (M12*1.0) (M16*1.5) (PG9)	3-6 	8A	630V		
M12 (S)* (M16*1.5) (PG9)	3-4 	12A	630V		
M12 (T)* (M16*1.5) (PG9)	2-4 	12A	63V		
M12 (Y) (M12*1.0) (M16*1.5) (PG9)	8 	0.5A, 6A	60V		
M12 (K)* (M15*1.0) (M16*1.5) (PG9)	3-5 	12A, 16A	630V	Screw thread	
M12 (L)* (M15*1.0)	2-5 	16A	63V		
M12 (X) (M12*1.0) (M16*1.5) (PG9)	8 	0.5A	30-60V	Screw thread Push pull	
M23 (M25*1.5)	6 	28A	600V	Screw thread	

*with LED indicator



MPronto-12 M12 Push Pull Connector
100% backward compatible to all
standard female M12*1.0 sockets of
any manufacturer





HS-Lok Series



- ✓ IP68 mated or unmated
- ✓ Metal / plastic version
- ✓ Push pull quick mating mechanism
- ✓ Blind mating with audible feedback
- ✓ Power, data / signal, hybrid
- ✓ Flammability UL 94V-0 & UV resistant
- ✓ UL certified

Sub-Series	Pin #			Nominal Current	Voltage (AC/DC)	Panel Cut Out (unit: mm)
Q8 (M8*1.0)	2-6	4	5	2A 5A 5A+2A	100V (DC), 300V, 300V (AC) + 100V (DC)	
	(2A/5A)	(5A+2A)	(5A+2A)			

Certifications: UL2238, UL50e



NMEA 2000 Series



- ✓ IP67 mated, IP68 / IP69K mated or unmated
- ✓ High signal reliability
- ✓ 60/600V AC/DC voltage rating
- ✓ UL94V-0 / UL94HB flammability rating
- ✓ Designed to meet NMEA 2000 protocols and standards


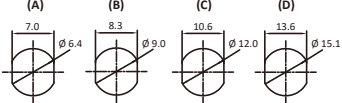

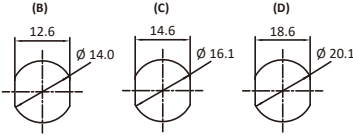

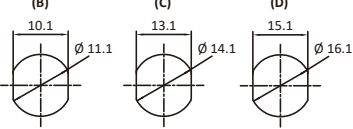


Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
Lite (Micro) (M12*1.0) (M16*1.5) (PG9)		4A	60V	Push pull Screw thread	
Heavy (Mini) (7/8"-16 UN)	4-5	8A	600V	Screw thread	

Certifications: NMEA 2000

FLOS & FLOS+ Series



- ✓ IP50 / IP66 mated, IP68 mated or unmated
- ✓ Intermateable with specific series of Fischer, Lemo, ODU, Souriau
- ✓ Easy auto-latching plug, fast & secure
- ✓ Reliable connection for power / data / signal transmission
- ✓ Metal shell for 360° EMI shielding
- ✓ Flexibility & capability of customization
- ✓ Push-pull locking and break-away function

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
B Series A Size (M7*0.5)		1.5A-25A	160-700V	Push pull	
B Series B Size (M9*0.6)					
B Series C Size (M12*1.0)					
B Series D Size (M15*1.0)					
K Series B Size (M14*1.0)		1.5A-25A	160-700V	Push pull	
K Series C Size (M16*1.0)					
K Series D Size (M20*1.0)					
Y Series B Size (M11*0.75)		5A-14A	260-1000V	Push pull Break away	
Y Series C Size (M14*1.0)		5A-10A	200-500V		
Y Series D Size (M16*1.0)		5A-14A	300-650V		



Amphenol LTW FLOS Y Series

Amphenol LTW FLOS Y Series Robust Metal Circular Connectors are an advanced and highly reliable solution with Push-Pull locking or Break-Away function for military applications.





DeepTronica® Series

Amphenol LTW is adding **under water connectors (up to 7000m depth)** to its connectivity portfolio. DeepTronica® offers 3 series: **Xiento-2M Series** (under 200m), **Abyss Series** (6000m) and **Hadalpelagic Series** (7000m) with Circular, Metal, Low Profile, Ethernet four types and contact density up to 25.

These dry and wet mate connectors solve the common issues met in shallow water applications such as poor sealing and corroded contacts due to low pressure cycles.

Sub-Series (Abyss/Hadalpelagic)	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
Mini (7/16"-20 UNF) (5/8"-18 UNF) (3/4"-16 UNF)	1-25 	10A	600V	Push-pull	 Screw Hole without Nut (7/16"-20 UNF) (5/8"-18 UNF) (3/4"-16 UNF) Straight Hole with Nut 11.3mm 16mm 20.5mm
Micro (7/16"-20 UNF) (1/2"-20 UNF)	1-21 	5A-10A	300V	Push-pull	 Screw Hole without Nut (1/2"-20 UNF) (7/16"-20 UNF) Straight Hole with Nut 12.8mm 11.3mm



- ✓ Up to 800bar or 7000m depth of deployment area
- ✓ 300V ~ 600V
- ✓ 5A to 10A
- ✓ Contact density up to 25 contacts
- ✓ Corrosion resistant
- ✓ Temperature rating:
(Water) -4°C ~ 60°C
(Air) -40°C ~ 90°C
- ✓ Easy and secure coupling
- ✓ High quality PEED thermoplastic shell
- ✓ Long service life ≥ 1000 mating cycles
- ✓ Available in power, signal and hybrid cores
- ✓ High density, small form-factor connector
- ✓ Durable: designed for long term use
- ✓ Versatile: full interconnect solution



Heavy Duty Shielded Series



- ✓ IP68 mated
- ✓ Salt spray up to 500h
- ✓ Shielded design for reliable data transmission
- ✓ Sealing nut with cable cover to ensure better cable holding
- ✓ Flammability UL94V-0
- ✓ Meets IEC standard

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
HDS (M20*1.0)	2-14 	5A-40A	50-300V	Screw thread	<div>Front Fastened </div> <div>Rear Fastened </div>



7/8" Mini Series



- ✓ IP67 mated, IP68 mated or unmated
- ✓ 7/8" screw threaded mating style
- ✓ Foolproof alignment key design
- ✓ Pre-assembled wire / cable (overmolded)
- ✓ Assembly eliminates wiring errors and workmanship quality
- ✓ Customized solutions available
- ✓ Connector interface meet ANSI / B93.55M-1981

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
Mini (7/8" 16 UN)	2-6 	2, 2+PE, 4, 4+PE, 6	600V	Screw thread	<div>Male </div> <div>Female </div> <div>Double-Ended </div>

Single Pair Ethernet (SPE)



ALTW’s “**SPE**” mechanical interfaces are all designed and made according to IEEE 802.3bp standard offering different mechanical mating interfaces all IP67 up and above giving you the freedom to choose the interconnects suitable to your needs and requirements for industrial and ruggedized applications.

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
FLOS+	2 	2A	60V	Push pull	
M5	2 	1A	60V	Screw thread	
M8/G8	2 	4A	250V	Screw thread	
M12	2 	4A	250V	Screw thread	
X-Lok (Plastic/Metal)	2 	5A	300V	Push Lock	

- ✓ ALTW’s proprietary SPE interface integrated in **M5 / M8 (G8) / M12 / FLOS+ / X-Lok**
- ✓ Providing low power & simply networking on end-point sensors
- ✓ Cost-effective, smaller & lighter than standard 4 pairs ethernet cable
- ✓ Compatible 10/100/1000 base-T1 data rates as existing technologies **
- ✓ Receptacle IP67 **UNMATED** waterproof, also available in double ended and field installable
- ✓ Vibration resistance 20g (10 ~ 2,000 Hz)
- ✓ Supports PoDL (Power Over Data Lines)

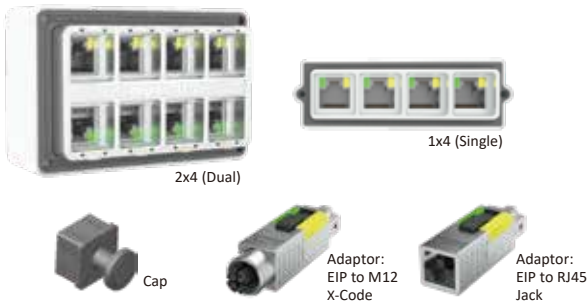
** 24~26 AWG Standard Length 15m



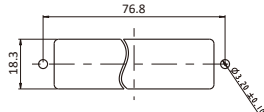
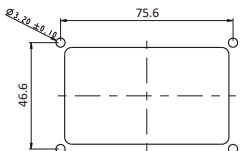
Ethernet Ingress Protection (EIP™)

Receptacle (single/dual)

Field Installable



Amphenol LTW’s EIP™ is the world first and smallest form factor push-pull RJ45 with PoE compliant to EN45545-2, EN61373, MICE3 and IP68 (mating & unmating) and IP69K. EIP meets Cat.5e (1Gbps) and Cat.6a (10Gbps) high data speed transmission enabling fast connection and disconnection, saving over 30% space and 80% installation time vs. M12 threaded connector.

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
EIP	8	0.5A	30V-60V	Push Lock	1X4 (Single) 
					2X4 (Dual) 

- ✓ IP68 / IP69K mated
- ✓ MICE3 compliant
- ✓ EN45545-2 and EN61373 compliant
- ✓ Built-in LED light tube
- ✓ IDC termination
- ✓ Cat.5E / Cat.6A (10Gbps) and PoE
- ✓ Push to lock, Latch to unlock
- ✓ Backward compatible to standard RJ45 plugs



RJ45 Series



- ✓ IP67 mated or unmated
- ✓ Transmission speed up to 10Gbps
- ✓ Support PoE
- ✓ EMI shielding
- ✓ Flammability UL 94V-0

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
Middle (13/16"-28 UNS)	8	Max. 1.5A	44-57V (DC)	3 points lock Screw thread	
Large / I-Adaptor (1"-20 UNEF)	8	Max. 1.5A	44-57V (DC)	2 points lock 3 points lock Screw thread	
ODVA (M27*1.5)	8	Max. 1.5A	44-57V (DC)	2 points lock	
Self-Closing Cover	8	Max. 1.5A	44-57V (DC)	-	N/A

Certifications: TIA/EIA-568, IEC 60603-7





USB Series



- ✓ IP67 / IP68 mated or unmated
- ✓ Metal or plastic
- ✓ Comprehensive product line
- ✓ Wide assembly style options
- ✓ High speed transmission up to 10Gbps
- ✓ Various mating styles

Sub-Series	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
Mini USB Type B (5/8"-27 UNS)	1.5A	30V	Screw thread	
Type A (13/16"-28 UNS) (1"-20 UNEF)	USB 2.0: 1.5A USB 3.2 Gen1: 1A	30V	2 points lock Screw thread	
Type B (13/16"-28 UNS) (1"-20 UNEF)	1.5A	30V	2 points lock Screw thread	
Micro USB Swift (8.3*3.8 mm)	1 & 5 Pin: 1.8A 2, 3 & 4 Pin: 1A	30V (AC) 5V (DC)	-	
Micro USB Swift-MU (8.3*3.8 mm)	1 & 5 Pin: 1.8A 2, 3 & 4 Pin: 1A	30V (AC) 5V (DC)	Snap-In	
Type C Swift-LP (13/16"-28 UNS)	Up to 5A	30V (DC)	-	
Type C Swift-LA (13/16"-28 UNS)	Up to 3A	30V (DC)	Snap-In	
Type C Swift-GG (13/16"-28 UNS)	Up to 5A	30V (DC)	Screw thread	
Type C Swift-XL (13/16"-28 UNS)	Up to 3A	30V (DC)	Push lock	N/A

Certifications: USB



D-SUB Series



- ✓ IP67 mated, IP68 unmated
- ✓ Fool-proof alignment key design
- ✓ Pre-assemble wire / cable assembly
- ✓ Flammability UL94V-0 & UV resistant
- ✓ Connector interface meet ANSI / B93.55M-1981

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style
Standard (#4-40 UNC)	9-50	4A	60V	Screw thread automated latch
High Density (#4-40 UNC)	15-78	8A	600V	



DVI Series



- ✓ IP67 mated, IP68 unmated
- ✓ $\geq 1000M\Omega$ @ 500VDC insulation resistance rating
- ✓ Copper alloy, gold-plated contacts and steel, nickel-plated shell


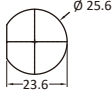

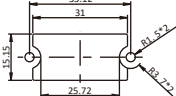
Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
DDD Dual Link (Digital)	25 	1.5A	40V	100	
DDS Single Link (Digital)	19 	1.5A	40V	100	
DID Dual Link (Digital and Analog)	29 	1.5A	40V	100	
DIS Single Link (Digital and Analog)	23 	1.5A	40V	100	



HDMI Series



- ✓ IP67 mated or unmated
- ✓ Mating style: lock with latch or screw thread
- ✓ Metal or plastic
- ✓ Flammability UL 94V-0

Sub-Series	Pin #	Nominal Current	Voltage (AC)	Mating Style	Panel Cut Out (unit: mm)
Circular (1"-20 UNEF)	19 	0.5A	30V	Screw thread	
Rectangular (M2.5*0.45)	19 	0.5A	30V	Push lock with latch	



SSL Series



- ✓ IP68 mated
- ✓ Indoor & outdoor solutions
- ✓ Wire to wire, board to board, wire to board, jumper, receptacle
- ✓ Compact design
- ✓ UV resistant (SSL 1.2)
- ✓ UL / cUL / CSA certified

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style
SSL 1.1	2-6	3A	100V	Push lock
SSL 1.2	2-4	5A	Wire: 250V Flat Cable: 300V	

Certifications: UL1977, UL2238+UL50e



Fiber Optics Series



- ✓ IP67 mated
- ✓ LC & SC type available
- ✓ Flammability UL 94V-0
- ✓ Cable O.D. range 2.0 ~ 6.8mm
- ✓ Operating Temperature: Up to -40°C ~ +105°C

Sub-Series	Contact Configuration	Mating Style	Panel Cut Out (unit: mm)
LC (1"-20 UNEF)		3 points lock	
SC (1"-20 UNEF)			



RF Series



- ✓ IP68 unmated
 - ✓ Available in SMA, N-Type
 - ✓ Various termination choice
- Broad line of military, industrial available and commercial grade products

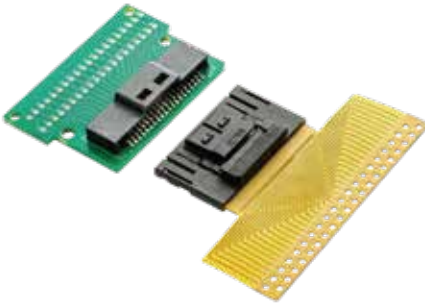
Sub-Series	Pin #	Voltage (AC/DC)	Mating Style	Panel Cut Out (unit: mm)
SMA Type (1/4"-36 UNS)	1 	335 Volts RMS at sea level	Screw thread	
N Type (5/8"-24UNEF)	1 	1,000 Volts RMS at sea level	Screw thread	

Certifications: MIL-C-39012

ZConnect® Series

Amphenol LTW ZConnect® Low-Profile LV214-Compliant Connectors are low-profile connectors (8mm maximum mated height) for space-saving along with providing a more secure mating with 2nd lock design. ZConnect® Connectors are robust enough to meet the automotive requirements of LV214 (VW75174). The series ranges from 8 to 40 contacts at 1A up to 120VDC with 0.9mm / 1.8mm / 2.7mm pitch.

2nd lock design for high security & reliable mating



FPC



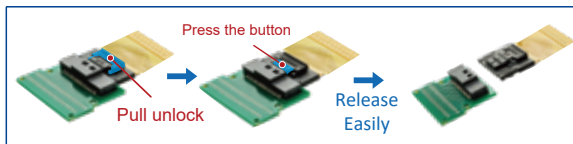
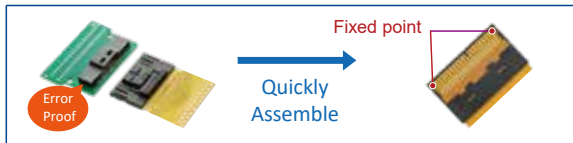
Wire-to-Board



FFC

Assembly Instruction

****FPC insert into PLUG with orientation error proof design and with 2nd lock design****



Key Features

- ✓ Connector Position Assurance
- ✓ Hot Plugging
- ✓ Secondary lock
- ✓ Anti-vibration & multiple contacts
- ✓ Cost and space saving
- ✓ Low profile (8mm max mated)
- ✓ Audible feedback
- ✓ FPC, FFC, Wire-to-Board

General Characteristics

- ✓ LV214 compliant
- ✓ Operating temperature: -40°C ~ 110°C
- ✓ Operating voltage: 120V DC
- ✓ Nominal current: 1A



ZConnect® Samples Kit

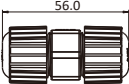
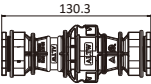
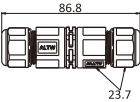
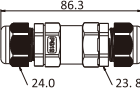
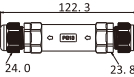
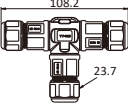
*All purpose and All-in-One Sales and Samples Kit.
Pocket size, light, convenient, practical, professional,
carry with you anywhere and anytime.*



Cable Joiner Series



- ✓ IP67 / IP68 mated
- ✓ Nominal current up to 30A
- ✓ Operating voltage up to 600V
- ✓ Screw-in, crimp, push-in terminations
- ✓ Suitable for wire 10 ~ 22 AWG (6.0 ~ 0.34mm²)

Sub-Series	Pin #	Nominal Current	Voltage (AC/DC)	Mating Style	Product Image (unit: mm)
M20	None, 4	10A	-	Screw thread	
M32	None, 4	15A-30A	-	Push lock with latch	
FICX I Tube (11)	2-5	16A-30A	450V (Non UL) 600V (UL)	Screw thread	
FICX I Tube (12)	2-5	8A-20A	450V (Non UL) 600V (UL)	Screw thread	
FICX XI Tube (13)	2-5	8A-20A	450V (Non UL) 600V (UL)	Screw thread	
FICX T Tube (T2)	2-5	10A-20A	450V (Non UL) 600V (UL)	Screw thread	

Certifications: UL6703A, CSA, UL2238, UL50e





Cable Gland Series



- ✓ IP67 / IP68 mated
- ✓ Metal or plastic
- ✓ Metric (M8 ~ M40) & PG thread (PG7 ~ PG29)
- ✓ Cable O.D. range 1.5 ~ 32mm
- ✓ Flammability UL 94V-0
- ✓ UV resistant

	Cable O.D. (mm)	Nut Thread	Mating Style
Screw Thread Type	1.5 ~ 32.0	M8 ~ M40 PG7 ~ PG29 1"-20 UNF 13/16"-28 UN	Screw thread
Square Flange Type	5.0 ~ 9.3	6"-32 UNC	Screw thread



LED Light Guide



- ✓ IP67 mated
- ✓ 6 different colors
- ✓ Metal or plastic
- ✓ Compact design

Sub-Series	Voltage (AC/DC)	Material	Light Color	Panel Cut Out (unit: mm)
Ø3mm (M8*1.0)	4V	Metal, Plastic	Red, Blue, Green, White, Yellow, Red & Green	<div>Red & Green</div> <div>Others</div>
Ø5mm (M8*1.0)	4V	Metal	Red, Blue, Green, White, Yellow, Red & Green	



- ✓ IP66, IP68, IP69K
- ✓ Metal / stainless / plastic version
- ✓ Hydrophobic membranes type (water resistant)
& oleophobic membranes type (water & oil resistant)
- ✓ Flammability UL 94V-0

Sub-Series	Drawing	Air Permeability	Mating Style	Panel Cut Out (unit: mm)
M6 Plastic (M6*0.75)		> 300ml/min @70mbar	Screw thread	
M12 Snap-in		> 550ml/min @70mbar > 1000ml/min @70mbar > 3000ml/min @70mbar	Snap-in	
M12 Metal (M12*1.5)		> 1760ml/min @70mbar	Screw thread	
M12 Plastic (M12*1.5)		> 550ml/min @70mbar > 1000ml/min @70mbar > 3000ml/min @70mbar		
M12 Stainless (M12*1.5)		> 1600ml/min @70mbar		



Spring-Loaded



M20



M40



Rectangular

- ✓ Waterproof and dustproof
- ✓ Equalize/balance pressure
- ✓ Explosion proof
- ✓ Extend the service life of sealed enclosure
- ✓ High ingress protection meet IP69K

Sub-Series	Drawing	Air Permeability		Mating Style	Panel Cut Out (unit: mm)	
EPV Metal (M20*1.5)		> 1400ml /min @70mbar	> 2000ml /min @70mbar	Screw thread		
EPV Metal (M40*1.5)		> 3000ml /min @70mbar	> 4500ml /min @70mbar			
EPV Plastic (Rectangular Type)		> 10,000ml/min @70mbar			N/A	

Ingress Protection (IP) Rating Guide

Waterproof Definition

Unmated Waterproof



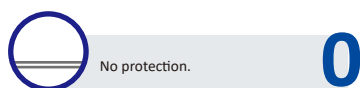
Standalone waterproof or waterproof is assured even without its counterpart. The water will not go through the inner portion of the exposed connector as it is entirely sealed.

Mated Waterproof



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

1st numeral - solid foreign objects



No protection.

0



Protected against solid foreign objects of 50 mm Ø and greater.

1



Protected against solid foreign objects of 12,5 mm Ø and greater.

2



Protected against solid foreign objects of 2,5 mm Ø and greater.

3



Protected against solid foreign objects of 1,0 mm Ø and greater.

4



Dust-protected.

5



Dust-tight.

6

Example:



IP 65

Protected against water jets.

Dust-tight.

2nd numeral - water



No protection.

0



Protected against vertically falling water drops.

1



Protected against vertically falling water drops when enclosure tilted up to 15°.

2



Protected against spraying water.

3



Protected against splashing water.

4



Protected against water jets.

5



Protected against powerful water jets.

6



Protected against the effects of temporary immersion in water.

7



Protected against the effects of continuous immersion in water.

8



Protected against high pressure and temperature water jets.

9K



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