

NEW

Amphenol LTW

HEAVY DUTY

M12 Ultra-reliable
High-temperature



Compliant with IEC 61076-2-101
and SAE J2839 standards

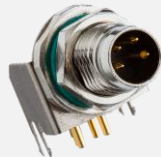
M Series Connector

most comprehensive
product range



M5

Screw thread



M8

Screw thread, Snap-in



Guided M8

Screw thread, Snap-in



M10.5

Screw thread, Snap-in



M12

Screw thread, Push Pull



M20 Heavy Duty

Screw thread



M23

Screw thread



Unrivaled InterConnects for Harsh Environments

About ALTW



3

Production Sites
(Taiwan, China, Mexico)



30+

Market Applications



90,000+

Products

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.

M Series Sensor Connector

M series is designed typically for industrial process measurement and control according to IEC standard, offering secure and reliable data as well as superior power transmission performance. Besides the industrial applications, M series is also an ideal solution for a compact design where the environmental protection and stable connection are required.

Amphenol LTW provides a comprehensive product range of M series, including M5 / M8 / Guided M8 / M10.5 / M12 / 7/8" / M20 and M23. We also have push pull version, MPronto-12, the MPronto-12 M12 push pull connectors with the unique push-pull fast-locking system guarantee secure, tool-free plugging, even in confined spaces and with a high cabling density. The Mpronto-12 M12 push pull connectors are the World's First truly backward compatible to all female M12*1.0 sockets made by different manufacturers.



Product Range Overview

| SUB SERIES | M5 | Guided M8 / LED | M8 / LED | M10.5 | M12 A / LED | M12 B / LED | M12 D / LED | M12 I |
|-------------------------------|---|-----------------------|-----------------------|--------------|----------------------------|-------------------------|----------------------------|--------------|
| Mating Style | Screw Thread | Snap-in, Screw Thread | Snap-in, Screw Thread | Screw Thread | Push Pull, Screw Thread | Push Pull, Screw Thread | Push Pull, Screw Thread | Screw Thread |
| Plastic Version | - | ✓ | ✓ | - | ✓ | ✓ | ✓ | ✓ |
| Metal Version | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. of Contacts | 3 ~ 6* | 2 ~ 6 | 3 ~ 13* | 2 ~ 5 | 3 ~ 28* | 2 ~ 8 | 3 ~ 5 | 5 |
| Plating of Contacts | Gold Plating | Gold Plating | Gold Plating | Gold Plating | Gold Plating | Gold Plating | Gold Plating | Gold Plating |
| Transmission Rate | - | - | - | - | Cat. 5e (8 Pin To RJ45) | - | Cat. 5e (4 Pin To RJ45) | - |
| Operating Voltage (AC/DC) | 60V | 30V ~ 60V | 30V ~ 60V | 30V | 30V ~ 250V | 60V | 250V | 60V |
| Nominal Current | 1A | 1.5A ~ 4A 3A+1.5A | 1.5A ~ 4A | 2A | 1.5A ~ 4A | 4A | 3A, 4A | 4A |
| Operating Temperature | Receptacle: -40°C ~ 105°C Receptacle With Cable: -20°C ~ 85°C Overmolded With Cable: -40°C ~ 85°C Field Serviceable/Installable: -40°C ~ 125°C | | | | | | | |
| Fasten Style of Nut | Front | Front, Rear | Front, Rear | Rear | Front, Rear | Front, Rear | Front, Rear | Front, Rear |
| Receptacle | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Receptacle with Cable | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Field Serviceable/Installable | - | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Overmolded with Cable | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Accessories | - | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Mating Cycles (Pin Contact) | 1,000 Cycles (IEC 100 Cycles) | | | | | | | |
| IP Rating | IP67 | Up to IP68 | Up to IP68 | IP67 | Up to IP68 | Up to IP68 | Up to IP68 | Up to IP68 |
| Salt Spray (Connector, Mated) | 48h | 48h | 48h | 48h | 48h | 48h | 48h | 48h |
| UV Resistant | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Flammability Rating | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 |
| Vibration Resistant | Frequency range 10 ~ 500Hz / Amplitude 0.35mm | | | | | | | |
| EMI Option | - | ✓ | ✓ | - | ✓ | ✓ | ✓ | - |
| RoSH Compliant | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| REACH Compliant | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Certifications | - | UL1977 UL2238 | - | UL1977 | UL1977, UL2238, UL1863 | UL1977 UL2238 | UL1977, UL2238, UL1863 | - |
| Standard / Compliance | IEC 61076-2-105 | - | IEC 61076-2-104 | - | IEC 61076-2-101 | IEC 61076-2-101 | IEC 61076-2-101 | - |

Product Range Overview

| SUB SERIES | M12 K / LED | M12 L / LED | M12 M / LED | M12 S / LED | M12 T / LED | M12 X | M12 Y | M20 | M23 |
|------------------------------------|---|---------------------|---------------------|----------------------------|----------------------------|----------------------------|---------------------|--------------|--------------|
| Mating Style | Screw Thread | Screw Thread | Screw Thread | Push Pull, Screw Thread | Push Pull, Screw Thread | Push Pull, Screw Thread | Screw Thread | Screw Thread | Screw Thread |
| Plastic Version | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - |
| Metal Version | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. of Contacts | 3 ~ 5 | 2 ~ 5 | 3 ~ 6 | 3 ~ 4 | 2 ~ 4 | 8 | 8 | 2 ~ 14 | 6 |
| Plating of Contacts | Gold Plating | Gold Plating | Gold Plating | Gold Plating | Gold Plating | Gold Plating | Gold Plating | Gold Plating | Gold Plating |
| Transmission Rate | - | - | - | - | - | Cat.6A | - | - | - |
| Operating Voltage (AC/DC) | 630V | 63V | 630V | 250V ~ 630V | 63V | 50V AC / 60V DC | 60V | 60V ~ 300V | 600V |
| Nominal Current | 12A, 16A | 16A | 8A | 4A, 12A | 12A | 0.5A | 0.5A, 6A | 5A, 10A, 20A | 28A |
| Operating Temperature | Receptacle: -40°C ~ 105°C Receptacle With Cable: -20°C ~ 85°C Overmolded With Cable: -40°C ~ 85°C Field Serviceable/Installable: -40°C ~ 125°C | | | | | | | | |
| Fasten Style of Nut | Front | Front, Rear | Front | Front, Rear | Front, Rear | Front, Rear | Front, Rear | Front, Rear | Front |
| Receptacle | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Receptacle with Cable | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - |
| Field Serviceable / Installable | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Overmolded with Cable | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Accessories | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | - | - | - |
| Mating Cycles (Pin Contact) | 1,000 Cycles (IEC 100 Cycles) | | | | | | | | |
| IP Rating | Up to IP68 | Up to IP68 | Up to IP68 | Up to IP68 | Up to IP68 | Up to IP68 | Up to IP68 | IP68 | IP67 |
| Salt Spray (Connector, Mated) | 48h | 48h | 48h | 48h | 48h | 48h | 48h | 48h | 48h |
| UV Resistant | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Flammability Rating | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 | UL94V-0 |
| Vibration Resistant | Frequency range 10 ~ 500Hz / Amplitude 0.35mm | | | | | | | | |
| EMI Option | - | - | ✓ | - | - | ✓ | ✓ | ✓ | ✓ |
| RoSH Compliant | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| REACH Compliant | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Certifications | UL1977 UL2237 | UL1977 UL2238 | - | UL1977, UL2237, UL2238 | UL1977 UL2238 | UL1863 | UL1863 | - | - |
| Standard / Compliance | IEC 61076-2- 111 | IEC 61076-2- 111 | IEC 61076-2- 111 | IEC 61076-2- 111 | IEC 61076-2- 111 | IEC 61076-2- 109 | IEC 61076-2- 109 | - | - |

Served Markets & Applications

| Market | Application | |
|------------------------------|---|--|
| LED Lighting | <ul style="list-style-type: none"> Architectural Lighting Residential, Medical, and Commercial Lighting Street, Parking, Park, and Tunnel Lighting Entertainment and Signage Lighting | <ul style="list-style-type: none"> Horticulture, Grow, & Warehouse Lighting Mass Transportation and Vehicles Marine Vessel and Submersible Lighting Appliances and Equipment Lighting |
| Marine | <ul style="list-style-type: none"> Navigation System: Radar, GPS, Sonar, Fish-finder, Auto-pilot, Sailing Instruments, Chartplotter Communication: Antenna, radio, AIS, SCS Instrumentation & Monitoring: MFD, CCTV, Sensors | <ul style="list-style-type: none"> Power Distribution: Appliances, Charging, HVAC Entertainment: Video, Audio, Decorative Motors: Outboard, Inboard, Pump, Actuator, Trolling Subsea: Exploration, Buoys, Underwater Vehicle |
| Broadband Wireless Access | <ul style="list-style-type: none"> Access Point: LTE, 5G Cellular and Mobile Station Wireless Router and Mobile Backhaul | <ul style="list-style-type: none"> Power Supply and distribution system Other Communication Equipment |
| Industrial Automation | <ul style="list-style-type: none"> Data Communication: Router, Switches Motors: Servo, Step, Encoder, Actuator Power Supply and Distribution Robotic Arms, Packaging, and Conveyor system | <ul style="list-style-type: none"> Controller: Machine Vision, AVI, Sensors Autonomous Robots, Forklifts, Power Tools Industrial PC, Counters, and Display |
| Renewable Energy | <ul style="list-style-type: none"> Photo Voltaic (PV), Concentrated Solar Power (CSP) Power Distribution and Control: Inverter, MLPE, ICS Device Communication and Tracker | <ul style="list-style-type: none"> Wind Turbine and Tidal Power Generation Energy Storage and Portable Energy |
| Heavy Equipment | <ul style="list-style-type: none"> Navigation System: GPS, Lidar, Radar, Ultrasonic Instrumentation, Control, and Diagnostic Systems Monitoring: Display, Camera, Imaging | <ul style="list-style-type: none"> Safety System: Sensor, ADAS, Telematics & Tracking Communication and Electronic Toll systems Power Distribution: Charging, Lighting, Equipment |
| Autometer | <ul style="list-style-type: none"> Metering: Water, Electric, & Gas Meter Power and Control: Drone, Security Alarm | <ul style="list-style-type: none"> Monitoring: Sewage, Telemetry, and Vehicle tracking |
| Test Equipment | <ul style="list-style-type: none"> Measuring Device: Air, Humidity, Light, sound, Water, Image, Weight, Height Detectors: Gas, Fire, Leak, Motion, Heat | <ul style="list-style-type: none"> Monitoring: Seismic (earthquake), Climatic Weighing: Weigh, in-motion Geodetic System: Surveying, Laser marking, Borescope |
| Hybrid Electric Vehicles | <ul style="list-style-type: none"> Motor Module: Scooter, Hoover board, Wheelchair Safety System: Speed, Brake, Throttle, Gear Power System: Controller | <ul style="list-style-type: none"> Sensors: Speedometer, Fuel, Cleaning Device Communication: CAN, In-vehicle Info Lighting: Interior and Exterior LED |
| Railway Mass Transit | <ul style="list-style-type: none"> Navigation: GPS, Radar, Lidar, Ultrasonic HVAC Infotainment: Display, sound, Broadcasting, monitor | <ul style="list-style-type: none"> Sensors: Speedometer, Fuel, Cleaning Communication: Main Controller, In-vehicle Info Lighting: Interior and Exterior |
| Mobile Devices | <ul style="list-style-type: none"> Drone Remote Controller Measurement: Altimeter, Gesture, Piezoelectric | <ul style="list-style-type: none"> Handheld: Barcode, Scanner, Portable lamp, GPS |
| Transportation | <ul style="list-style-type: none"> Monitoring: Display, CCTV, Lidar, Surveillance Cam Communication: Wi-Fi, router, Fleet Management Navigation: GPS, Radar | <ul style="list-style-type: none"> Power: Charger, Outlet, Inlet Peripherals: Speaker, Electronic seats, Winches |
| Medical Equipment | <ul style="list-style-type: none"> Patient Care: Electric Beds, Wheelchair Lift & stair, Rehabilitation System, Mobile Carts Visualization: Display and monitors | <ul style="list-style-type: none"> Diagnostic: MRI, CT Scan, Ultrasound, X-ray Monitoring: ECG, Holter, Blood Pressure, Sugar |
| Automotive Diagnostics | <ul style="list-style-type: none"> Auto-crash detection & notification system Vehicle Tracking and Roadside Assistance System | <ul style="list-style-type: none"> Remote Diagnostics |
| UAV | <ul style="list-style-type: none"> Drone: Commercial, Consumer, & Military | |
| Lifts & Materials Handling | <ul style="list-style-type: none"> Forklift, Industrial Lift, Material Handling | |
| Remote Video Response Center | <ul style="list-style-type: none"> Monitoring: Display, CCTV, Dome, IP Camera Detection: Auto-License Plate Recognition, Alarm Identification: Face detection, encoders | <ul style="list-style-type: none"> Remote Control Devices and Sensors Peripherals: Junction boxes and cabling system Lighting: Interior and Exterior |
| Autonomous | <ul style="list-style-type: none"> Navigation & Sensor: GPS, Lidar, Radar, Ultrasonic, IMU Imaging: Cameras, Monitors, Infotainment Display | <ul style="list-style-type: none"> Controller: Inertial Measurement Unit & Navigation System, Central Computer |
| Communication | <ul style="list-style-type: none"> Transmitter and Receiver Equipment Data: Router and Switches | <ul style="list-style-type: none"> Base Station and Access Point High Bandwidth: Multiplexer & demultiplexer |
| Rugged IT | <ul style="list-style-type: none"> Telemetry Military Notebook & Tablet and VR & AR | <ul style="list-style-type: none"> Night Vision Goggles and Camera Communication Equipment |

**NEW
RELEASE**

Heavy Duty M12 “HDM12”

Rugged HDM12 for ultra-reliable, high-temperature applications

- ❑ Temperature range: -40°C ~ +125°C
- ❑ Waterproof rating: IP68
- ❑ Durability: 1000 cycles
- ❑ Salt Spray: 204h
- ❑ Vibration resistance: 20G as per SAE J2839
- ❑ Vibration and mechanical shock: SAE J2839
- ❑ UL1977
- ❑ IEC 61076-2-101



Amphenol LTW presents the robust M12 high-temperature connector, the HDM12. Engineered for commercial applications with elevated vibration and challenging environmental conditions, the HDM12 excels in heavy-duty and harsh surroundings.

Compliant with IEC 61076-2-101 and SAE J2839 standards, the HDM12 connectors emerge as the ideal solution for ultra-rugged applications prevalent in markets such as Heavy Equipment, Heavy-Duty Automotive, Railway Mass Transit, Factory Automation, etc. Elevate your connectivity reliability in extreme conditions with the durability and performance offered by our HDM12 connectors.

Field Installable 5 Pin

| Gender | Part Number | Termination Style | Backshell |
|--------|--------------------------------------|-------------------|-----------|
| Female | HDM12A-05BFFB-SL7001 | Screw-in | Straight |
| Male | HDM12A-05BMMB-SL7001 | | |

Receptacle 5 Pin

| Gender | Part Number | Thread | Assembly Style |
|--------|--------------------------------------|--------|----------------|
| Female | HDM12A-05PFFP-SF8001 | PG9 | PCB 180° |
| | HDM12A-05PFFP-SF8002 | M16 | |
| Male | HDM12A-05PMMP-SF8001 | PG9 | |
| | HDM12A-05PMMP-SF8002 | M16 | |

MPRONT0-12

M12 PUSH PULL CONNECTORS



FEATURES

- ❑ Unique technology patent
- ❑ One simple Push-to-Plug and Pull-to-Unplug
- ❑ Saves over 80% installation time vs. standard M12 screw thread mating
- ❑ Parts and components available for sale



MPronto-12



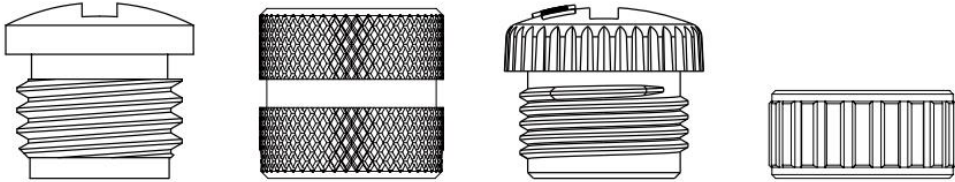
SPECIFICATIONS

- ❑ Support M12 A, B, C, D, H, I, P, S, T, X and Y codes. (S and T code available in over-molded non-shielded version and field installable crimp type)
- ❑ Contacts: up to 17 pins
- ❑ Salt Spray: 48h
- ❑ Durability: 500 cycles
- ❑ Meets IP67, IP68 and IP69K ingress protection
- ❑ Mate with all M12*1.0 per IEC standard (in compliant to IEC 61076-2-101)

Accessory

(click the image to find more product information)

Waterproof Cap

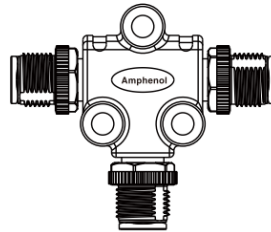


- ✓ Cap only
- ✓ With rubber lead
- ✓ With chain
- ✓ With fish line

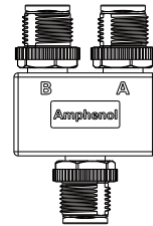
I Adaptor



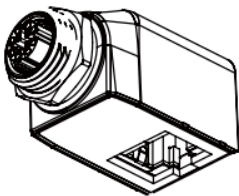
T Adaptor



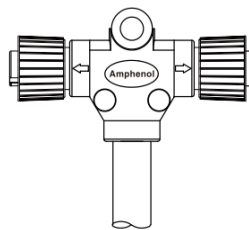
Y Adaptor



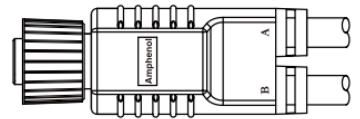
M12 to RJ Adaptor



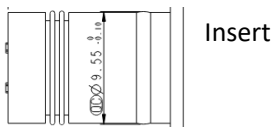
T Cable



Y Cable



Insert / Nut / Retail Package



Insert

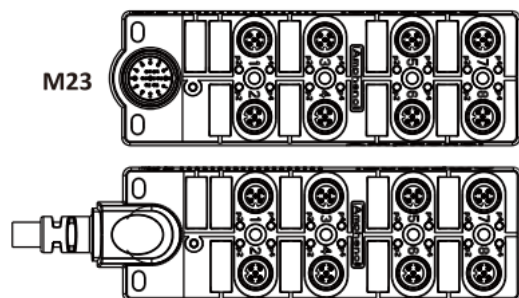


Nut



Retail Package

Distribution Box





Amphenol LTW

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