



Innovation in Waterproof Solution

ALTW Sensor Solutions

Market Segment: INDUSTRIAL AUTOMATION

Application: CONTROL UNIT / DISTRIBUTION BOX

ALTW Product: OEM CONNECTORS / SPECIAL CONN INSERTS



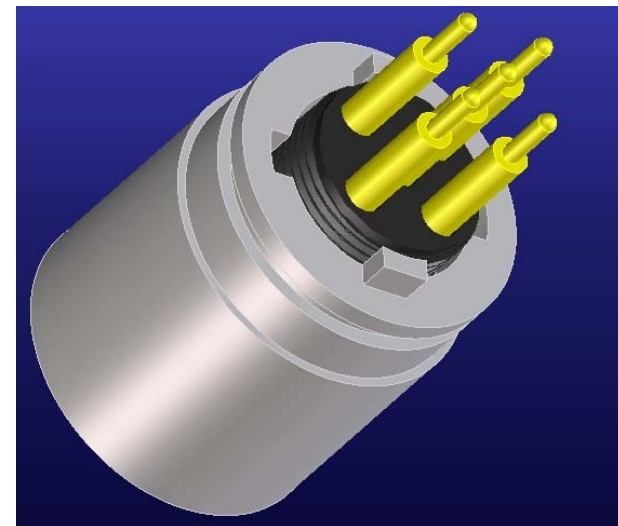
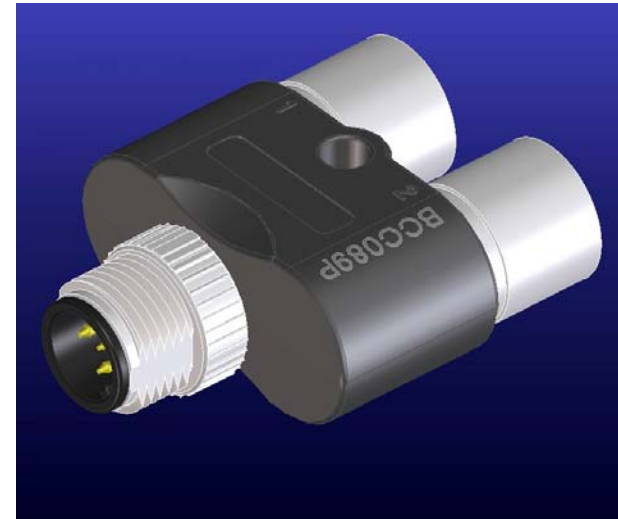
M12 Y-Connector & M12-RJ45 Adapter



Brief Specification & Features:

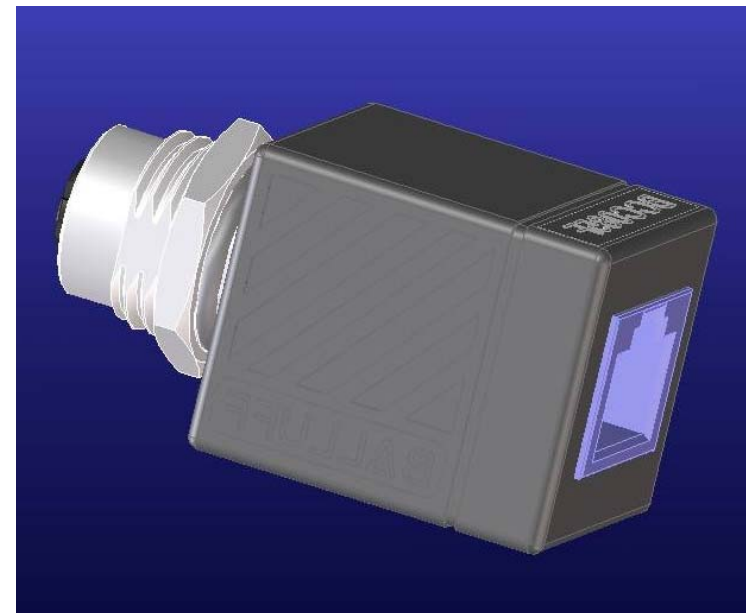
- ❖ Available version:
 - M12 Male 5pin to M12 Female 5pin*2
 - M8 Male 4Pin to M12 Female 3Pin*2

- ❖ Waterproof Rate: IP67
- ❖ Rated voltage: 60V AC/DC
- ❖ Current rating: 5A
- ❖ -25 to 80°C operating temp range
- ❖ UL 2238 Approved



Brief Specification & Features:

- ❖ M12 D female 4pin to RJ adaptor 90° & 180°
- ❖ Waterproof Rate: IP65
- ❖ Rated voltage: 250V AC/DC
- ❖ Current rating: 5A
- ❖ -25 to 80°C operating temp range



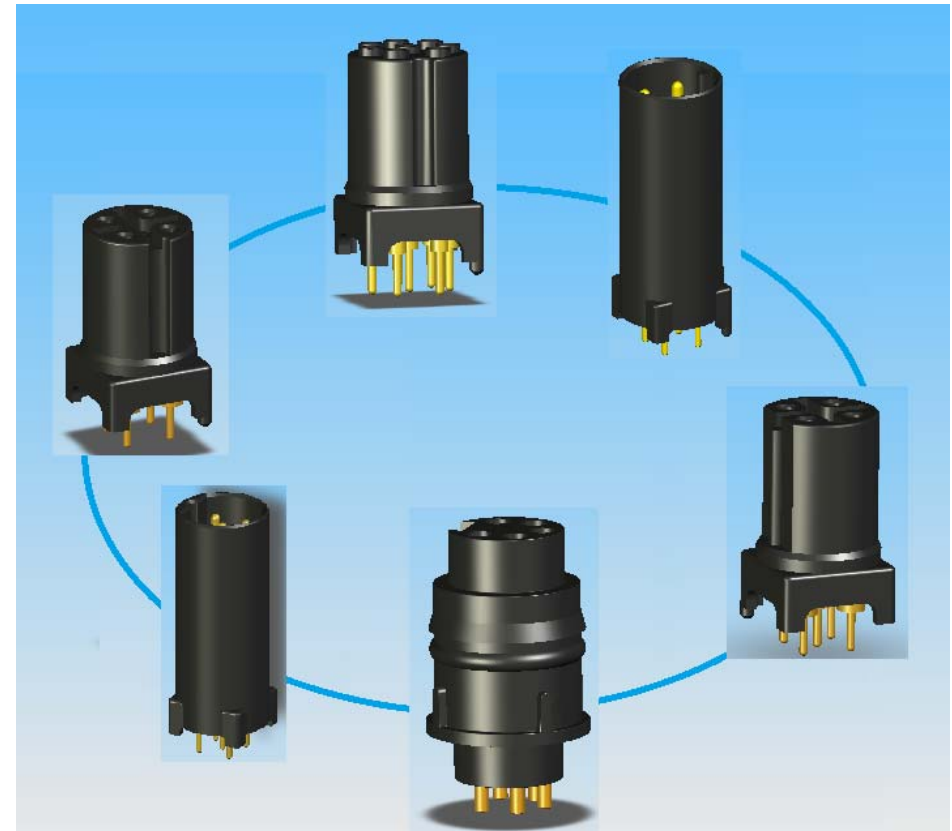
Brief Specification & Features:

- ❖ 7/8" Mini T-Conn in 3Pin, 4Pin & 5Pin Version
- ❖ Waterproof Rate: IP67
- ❖ Rated voltage: 600V AC/DC (3~4Pin) / 300V AC/DC (5Pin)
- ❖ Current rating: 9A / UL94V-0 / UV-Resistant
- ❖ -25 to 80°C operating temp range
- ❖ Approval: UL 2238 + CSA C22.2 No. 182.3



Brief Specification & Features:

- ❖ Housing: Black, PA 66 FR50, UL94V-0 or TPU Texin 245, UL94-HB
- ❖ Male/Female Pin: Copper Alloy, Gold Plated
- ❖ Rated voltage: 60V AC/DC
- ❖ Current rating: 2A/5A



M12 & 7/8 Connector Inserts for I/O Link Distribution Box



I/O Link Connection
(used in automated production for linking sensors and actuators.)



ALTW produced
connector inserts



Market Segment: INDUSTRIAL AUTOMATION

Application: OPTO-SENSOR FOR FOOD & BEVERAGE INDUSTRY

ALTW Product: HIGH QUALITY CONN INSERTS



Housing: TROGAMID CX 7323, PA
Pin: Copper Alloy, Gold Plated 30 μ "

Housing: ULTEM PEI 1000
Pin: Copper Alloy, Gold Plated 30 μ "

❖ High precision connectors using high quality plastic material particularly advantageous for optical sensors in food and beverage industry



Brief Specification & Features:

- ❖ Housing: Black/Gray, C3U, PA66, UL94V-0
- ❖ Male Pin: Copper Alloy, Gold Plated
- ❖ Rated voltage: 60V AC/DC
- ❖ Current rating: 5A
- ❖ Approval: UL1977 + CSA C22.2 No. 182.3





Optical Sensor for Bottle Detection
Incentives: shorter prod'n runs, high quality demand



ALTW produced
connector insert



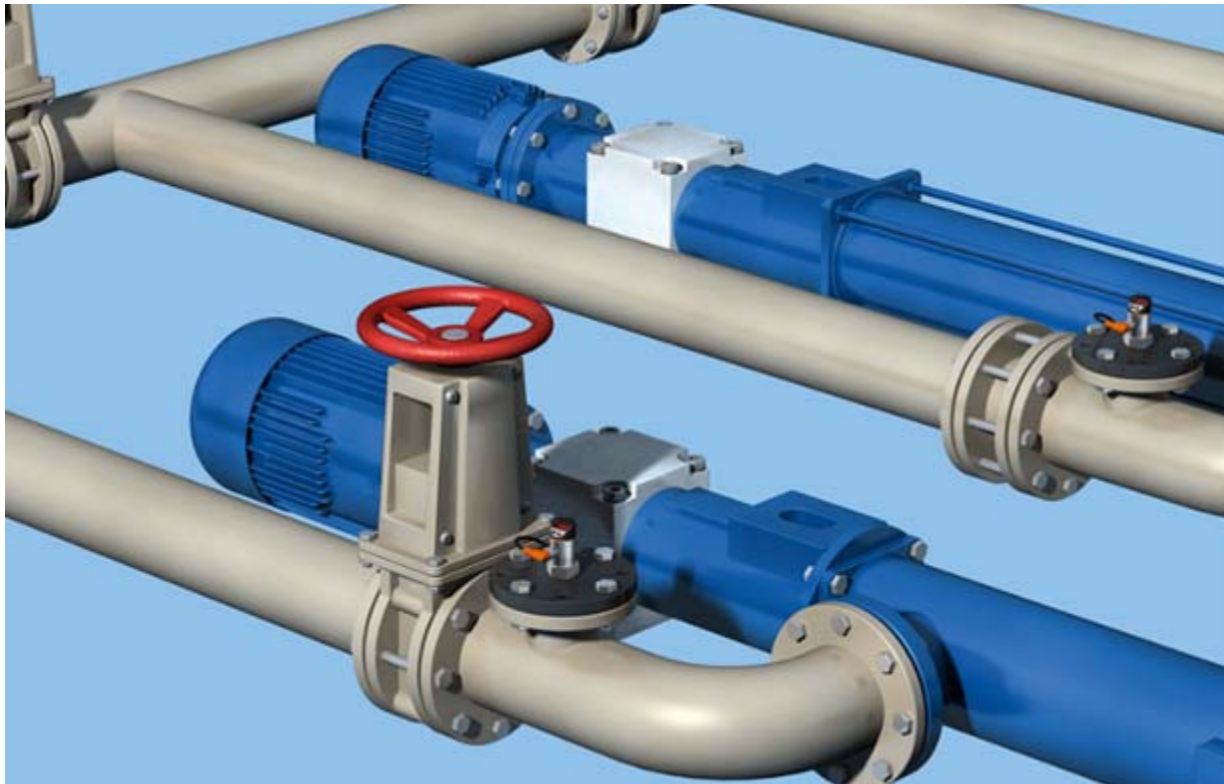
Monitoring Manways
(to protect the maintenance staff against injuries caused by moving machine and plant parts)



ALTW produced connector insert



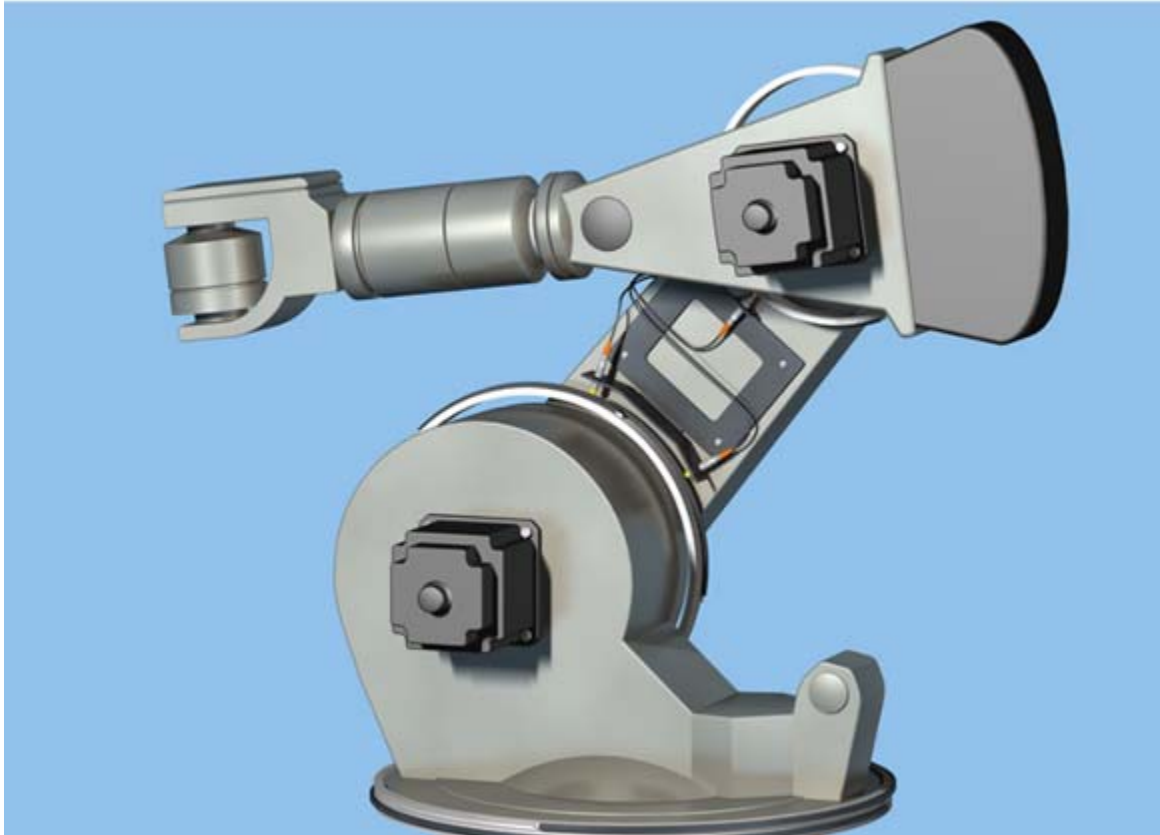
Water Treatment
(System Pressure Monitoring for pump's waste water treatment)



ALTW produced
connector insert



Automotive Industry – Robotics (Area Monitoring on a Robot)



ALTW produced
connector insert



**Building Automation – Monitoring entrance doors for
hot-air curtain control**

(prevents inconvenient draught and maintains the room temperature stable)



ALTW produced
connector insert



Market Segment: INDUSTRIAL AUTOMATION

Application: ETHERNET SWITCH

ALTW Product: M12 CONNECTORS/DISTRIBUTION BOX

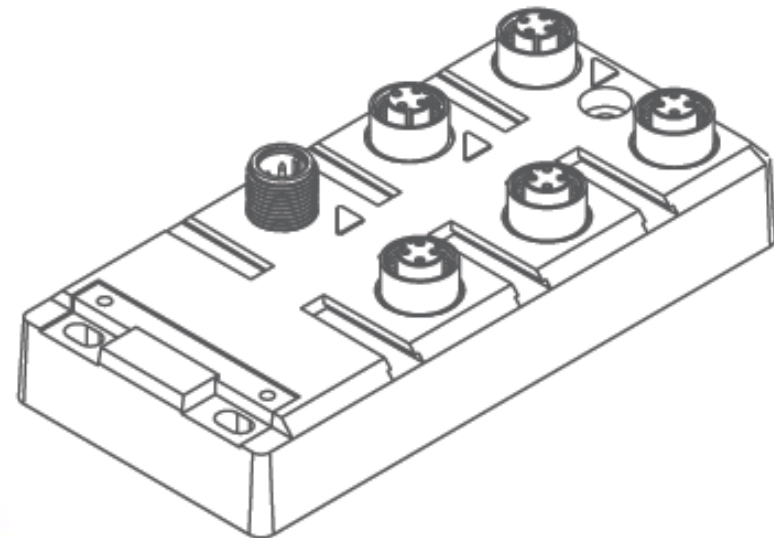


Brief Specification & Features:

- ❖ Rugged Design
 - M12 Connectors for robust connection
 - 10/100BaseT(X), 4-Pin M12 (D-Coding), F/H Duplex mode, and auto MDI/MDI-X Connection
 - Case design meets IP67
 - -40 to 75°C operating temp range

- ❖ Power Input: 12 to 45VDC, 18 to 30VAC

- ❖ Industrial Grade Reliability
 - Active circuit protection
 - Robust connection
 - Dust & immersion proof



Market Segment: LED LIGHTING

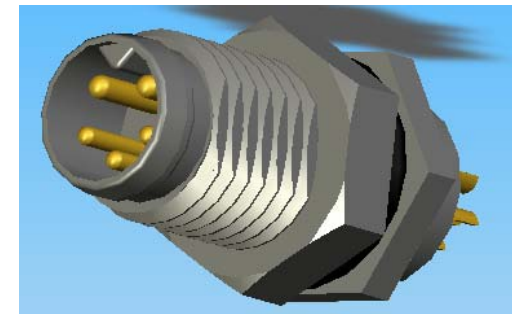
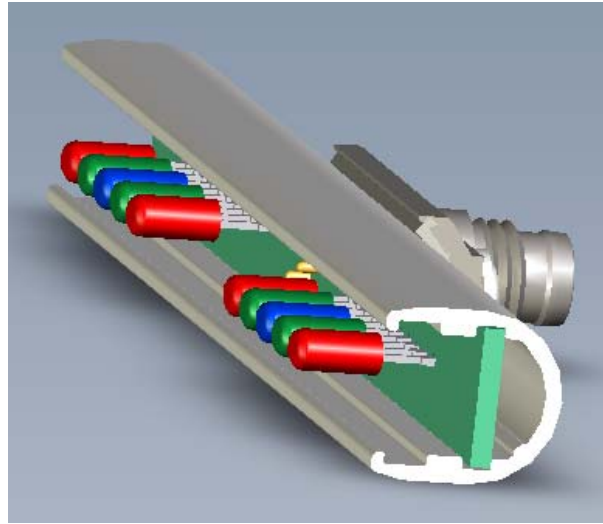
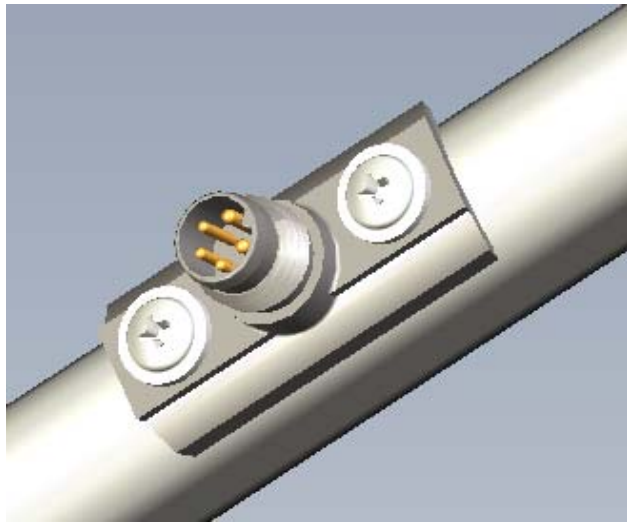
Application: CONTROL BOX FOR LED DISPLAYS, PIXEL STRING
& TUBE LIGHTS

ALTW Product: OEM M8 CONN 5PIN/TOTAL SOLUTION



American Airline Arena in Miami





Brief Specification & Features:

- ❖ M8 Male Panel/Female Cable Assy (2Pin*5A + 3Pin*2A)
- ❖ Waterproof Rate: IP67
- ❖ Rated voltage: 30V AC/DC
- ❖ Current rating: 5A + 2A
- ❖ -40 to 80°C operating temp range
- ❖ UV Resistant (Cable and Panel)
- ❖ UL94V-0 for Panel and UL94-HB for Cable Conn



Market Segment: MARINE
Application: Electric Boat Motor
ALTW Products: M12 Sensor



Brief Specification & Features:



Specification:

Available Contact:	5Pins (3, 4, and 8Pins upon request)
Current Rating:	3~5Pin (5A); 8Pin (2A)
Temperature Range:	-25°C to 90 °C
Degree of Protection:	IP68
Termination/Mounting:	Solder or PCB Pins / Front Mounting
Fixing Thread:	M16*1.5
Material:	Nylon+GF (UL94V-0) for connector body and housing Copper Alloy, Gold Plated for Contacts



**M12 Plastic Tiller Data Cable +
M12 Plate Mount Battery
Connector**



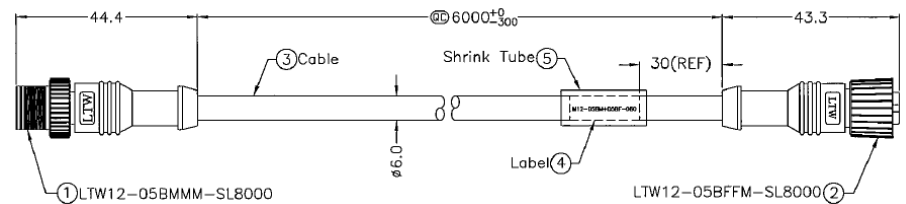
Market Segment: MARINE

Application: MARINE ELECTRONIC EQUIPMENT

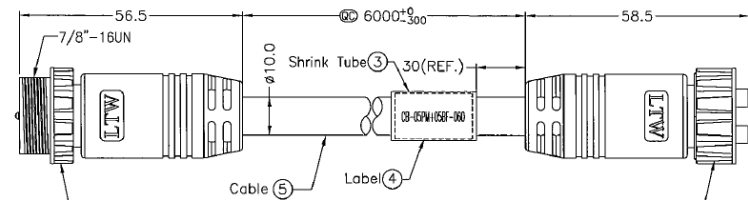
ALTW Product: NMEA2000 Mini & Micro Connectors



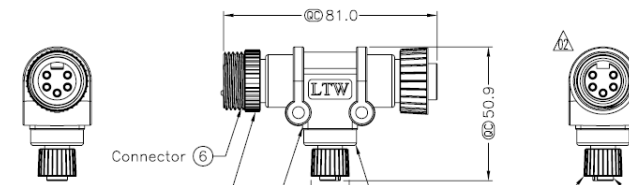
Fishing



Navigation



Communication



ALTW Sensor Series

- For signal applications with following contact arrangements:
M12: 3,4,5 and 8 pins with A, B, D coded and I style(5 pin)
M10.5: 2~5 pins
M8:3,4 pins
- For panel mount (Front and Rear), field installable and molded with cable
- Waterproof rating IP66, 67and 68 in mated/ unmated position.
- Cable housing straight or right-angled with various cable outlets.
- Housing are made from high grade plastic material.
- Various cable materials and configurations.
- Terminal is Gold plated.
- The Termination technique includes versions with solder and screw-in types.



Brief Specification & Features:

General Characteristics	Sensor Connector
Code	M12(A,B,D, I)
No. of contacts	3,4,5,8(A,B,D)/ 5(I)
Panel	
Field Installable	
Moded With Cable	
Electrical Characteristics	
Current Rating	5A(3,4,5 Pin),2A(8Pin)
Rated insulation voltage	2~4PIN 250V 5PIN 60V 8PIN 30V
Insulation resistance	>100MΩ at DC 500V
Contact resistance	≤10mΩ
Mechanical Characteristics	
Minimum mating cycles	>500 times
Operating temperature	Panel Type: -25~90℃, -40~105℃/Ass'y Type: -40~105℃ Molding Type: -20~80℃(PVC Cable)/ -25~90℃(PU Cable)
Insertion and withdrawal force	30N (Max.)
Materials	
Housing material	PU / PA
Contact material	Copper Alloy, Gold Plated
Other Characteristics	
Wire gauge mm2 / AWG	22~26AWG
Termination	Solder/Screw
IP-degree of protection	IP66/IP67/IP68
Corrosion	48 Hours Salt Spray Contact

Brief Specification & Features:

General Characteristics	Sensor Connector
Code	MB
No. of contacts	3,4
Panel	
Field Installable	
Moded With Cable	
Adapter/Solder	
Electrical Characteristics	
Current Rating	5A
Rated insulation voltage	3PIN 60V 4PIN 30V
Insulation resistance	>100MΩ at DC 500V
Contact resistance	≤10mΩ
Mechanical Characteristics	
Minimum mating cycles	>500 times
Operating temperature	Panel Type: -25~90℃, -40~105℃ / Ass'y Type: -40~105℃ Molding Type: -20~80℃ (PVC Cable) / -25~90℃ (PU Cable)
Insertion and withdrawal force	30N (Max.)
Materials	
Housing material	PU / PA
Contact material	Copper Alloy, Gold Plated
Other Characteristics	
Wire gauge mm2 / AWG	22~26AWG
Termination	Solder/Screw
IP-degree of protection	IP66/IP67/IP68
Corrosion	48 Hours Salt Spray Contact



Brief Specification & Features:

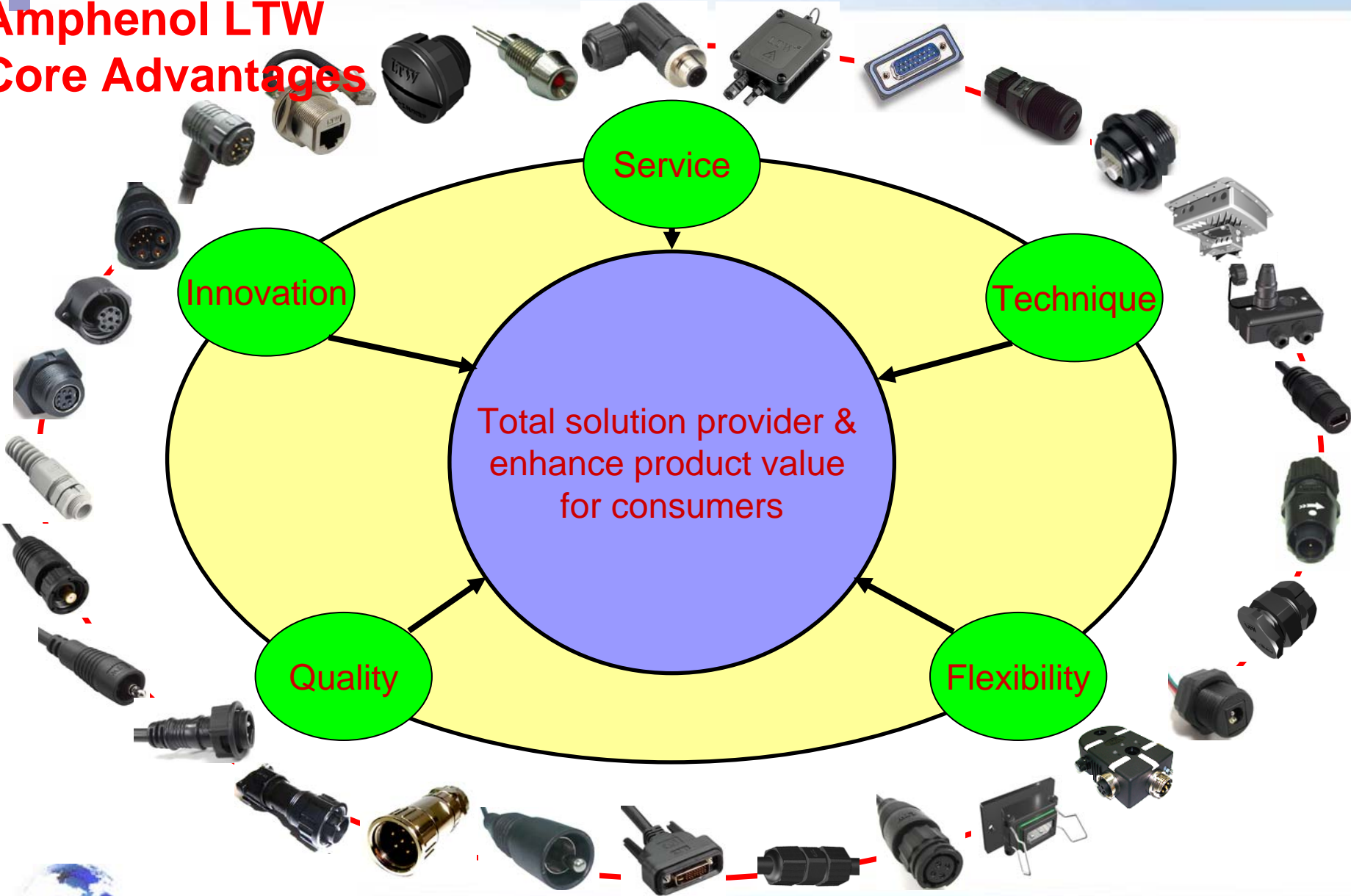
General Characteristics	Marine Micro (M12)	
Code	MC	UMC
No. of contacts	5	5
Panel		
Molding/ Assembly		
Adaptor		
Electrical Characteristics		
Current Rating	3A	3A
Voltage Rating	25V	
Insulation resistance	>100M Ω at DC 25V	
Contact resistance	$\leq 5m\Omega$	
Mechanical Characteristics		
Minimum mating cycles	>500 times	
Operating temperature	-20 $^{\circ}$ C ~ 70 $^{\circ}$ C	
Insertion and withdrawal force	40N	
Materials		
Housing material	PU / PA	
Contact material	Copper Alloy, Gold Plated	
Other Characteristics		
Wire gauge mm ² / AWG	22#*1P+24#*1P+B	22#*1P+24#*1P+B
Termination technique	Solder/Screw in	
IP-degree of protection	IP67	
Corrosion	48 Hours Salt Spray Contact	
Certificate	N/A	NMEA 2000




Brief Specification & Features:

General Characteristics	Marine Mini (7/8"-16UN)		Adaptor	
Code	MN*	UMN*	5	4, 5
No. of contacts	5	5	5	4, 5
Panel				
Molding/Assembly				
Adaptor				
Electrical Characteristics				
Current Rating	8A	8A	4A	4A or 8A
Voltage Rating	25V			
Insulation resistance	>100MΩ at DC 25V			
Contact resistance	≤5mΩ			
Mechanical Characteristics				
Minimum mating cycles	>500 times			
Operating temperature	-20℃~70℃			
Insertion and withdrawal force	40N			
Materials				
Housing material	PU / PA			
Contact material	Copper Alloy, Gold Plated			
Other Characteristics				
Wire gauge mm ² / AWG	16#*1P+18#*1P+B	15#*1P+18#*1P+B		N/A
Termination technique	Solder/Screw in	Solder		N/A
IP-degree of protection	IP67			
Corrosion	48 Hours Salt Spray Contact			
Certificate	N/A	NMEA 2000	N/A	NMEA 2000

Amphenol LTW Core Advantages





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Thanks for your time and attention !!



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