



SIMULA
TECHNOLOGY

M SERIES WATERPROOF CONNECTORS



ABOUT SIMULA

Simula Technology Inc. is a publicly listed company in Taiwan, who designs and manufactures high-performing connectors, cables and accessories. Established in 1990, Simula's mission is to lead the industry with excellent R&D technology, constant innovation and exceptional customer service.

Simula provides both off-the-shelf and customized solutions to accommodate customers in various market segments. To ensure the quality and standard of the products we provide to our customer who puts their trust in us, Simula is in compliance with International Standards recognized worldwide such as ISO13485, ISO 9001, ISO14001 and IATF16949.



Mechanical, Electrical and Environmental Testing Laboratory

Laboratory

Fully equipped laboratory both in Taiwan and China facilities.



LAB Equipments

Electrical



Milliohm Meter (AC)



Withstand Voltage Tester (AC / DC)



Dual DC Power Supply



High-Resistance Meter



LCR Meter



TDR



Networking Analyzer



Scope Machine



Signal Generator / Counter



Package Loss Test Machine

Mechanical



Automatic Inserting / Pulling Force Tester



Single - Pin Contact Resistance / Lifetime Tester



64 - Pin Contact Resistance / Lifetime Tester



Cable Bending Tester



Torque Measurement

Environmental



Thermal Shock Tester



Temperature & Humidity Chamber



Low Temperature Chamber



High Temperature Oven



Salt Spray Test Chamber



Vibration Test System



Steam Ageing Tester



Hot-Air Reflow Machine



Tin Oven

Inspection and Verification



Vertical Profile Projector



Horizontal Profile Projector



30X to 350X Measuring Microscope



2.5D CCD



X Ray Fluorescence Spectrometer (ROHS)



X-Ray Plating Thickness Tester



Hardness Meter



Height Gauge



X-ray Inspection System



Waterproof Tank

The M-Series has been specifically designed to offer secure and reliable connectivity for a variety of applications, for example, in sensor connections commonly observed in Industrial Machinery, Factory Automation as well as Outdoor Conditions.

The full range of rugged and robust selections, offered in metal and plastic variants, makes it an ideal interconnect solution to fulfill diverse applications and customer needs.

Features

- Screw Locking mechanisms
- M5, M8, M12 series available
- Rear and front panel mount receptacles
- A, B, D, X code available
- Complete pin count selection
- IPX7 rated.

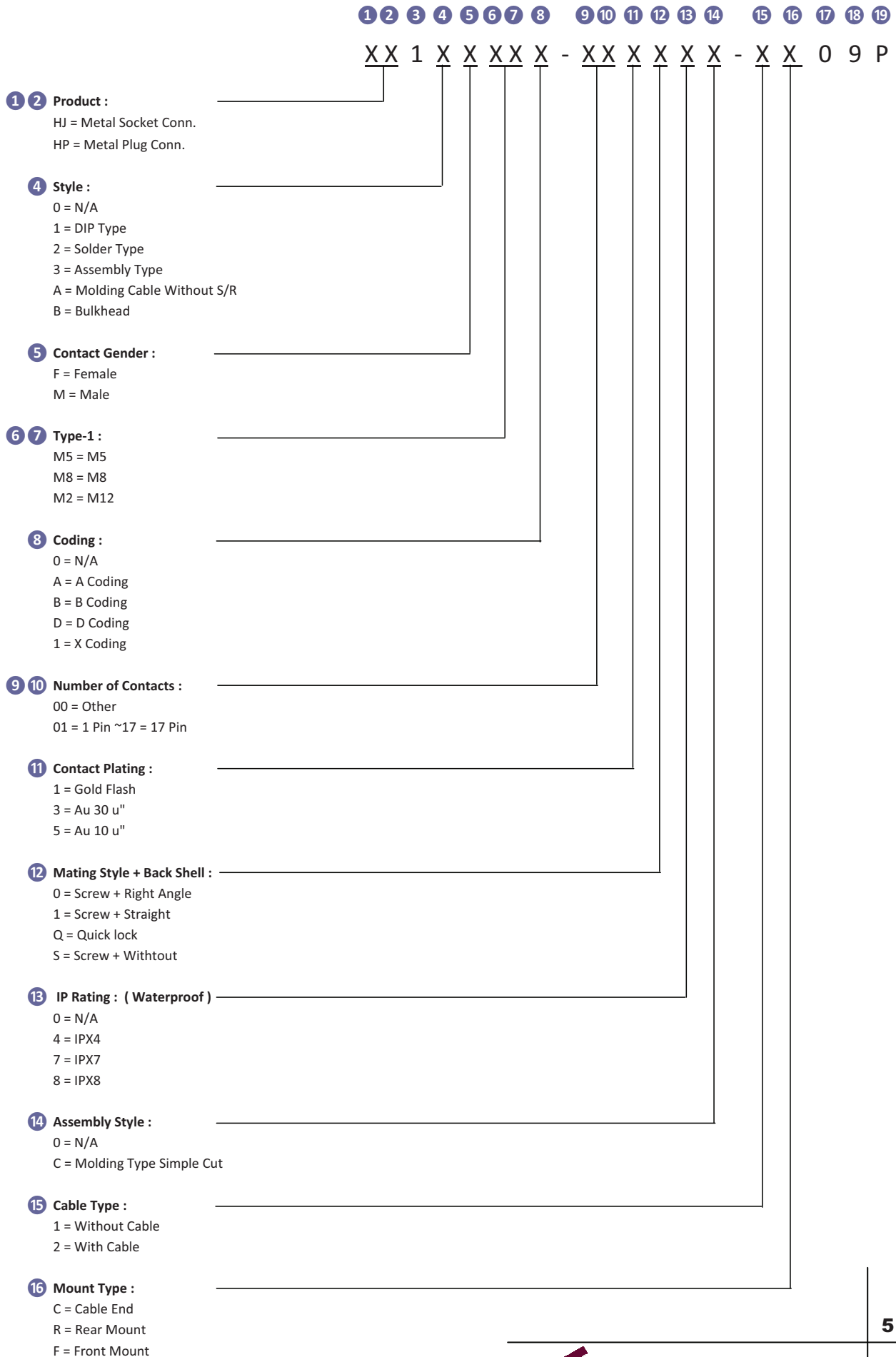
Important applications for M series waterproof connector:

- Industrial automations
- Industrial machinery
- Industrial communications
- Outdoor display
- Traffic transportation
- Marine
- Measurement & instrumentation
- Food & beverage processing
- Medical
- Robotics



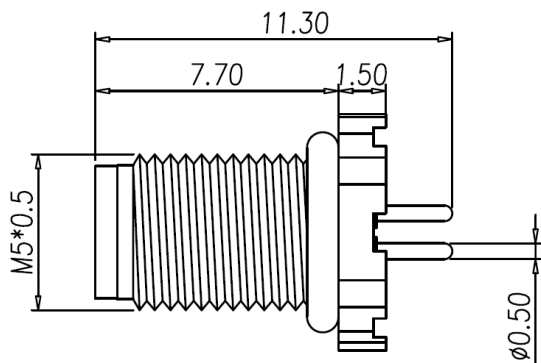
Electrical and Mechanical Characteristics

Item	Standard	M5	M8	M12
Contact Configuration	-	2 ~ 4	2 ~ 8	2 ~ 12
Coding	-	N/A	A, B	A, B, D, X
Operation Temperature	-	(1) Ambient temperature (operation) : Plug / Socket : - 25 °C to + 85 °C (2) Cable, fixed installation : - 40 °C to + 85 °C (3) Cable, flexible installation : - 25 °C to + 80 °C		
Waterproof Protection	IEC 60529	IP67		
IEC Standard No.	-	61076-2-105	61076-2-104	A, B, D coding : 61076-2-101 X coding : 61076-2-109
Current Rating	IEC 60512, test 5d	1 A	2, 3, 4, 5 Pin : 3 A 6, 8 Pin : 1.5 A	A Coding 2 ~ 5 Pin : 4 A 6 ~ 8 Pin : 2 A 9 ~ 12 Pin : 1.5 A B Coding 5 Pin : 4 A D Coding 4 Pin : 4 A
Operating Voltage	IEC 60664	60 V D.C. or A.C.	3, 4, 5 Pin: 50 V A.C. / 60 V D.C. 6, 8 Pin: 30 V A.C. / 30 V D.C.	A Coding 2 ~ 4 Pin: 250 V D.C. or A.C. 5 Pin: 60 V D.C. or A.C. 6~12 Pin: 30 V D.C. or A.C. B Coding 5 Pin: 60 V D.C. or A.C. D Coding 4 Pin: 250 V D.C. or A.C.
Contact Resistance	IEC 60512- 2a	< 20 mΩ		
Insulation Resistance(Unmated)	IEC 60512- 3a	> 10 MΩ		
Voltage Proof(Unmated)	IEC 60512-4a	500 V/s DC		
Mechanical Operation	IEC 60512-9a	100 cycles		
Insertion/Withdrawal Force	IEC 60512-13b	Insertion force : 8 N Max. Withdrawal force : 6 N Max.	Insertion force : 23 N Max. Withdrawal force : 23 N Max.	Insertion force : 23 N Max. Withdrawal force : 30 N Max.
Dry Heat	IEC 60512-11i	85 ± 2 °C		
Cold	IEC 60512-11j	-25 ± 2 °C		
Salt Sprays	MIL-STD-202	48 hours		
Material	-	Plug (1) Housing : Thermoplastic (Black) (2) Terminal : Brass (Gold Plated) (3) Body : Brass (Nickel Plated) (4) Screw nut : Brass (Nickel Plated) Receptacle (1) Housing : Thermoplastic (Black) (2) Terminal : Brass (Gold Plated) (3) Body : Brass (Nickel Plated) (4) Screw nut : Brass (Nickel Plated)		



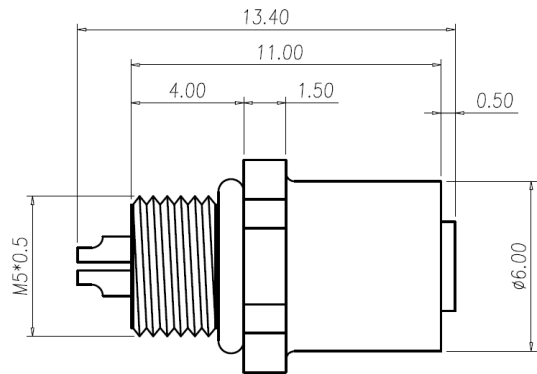
Panel-Mounting Connector

M5 Plug / Rear Mount / DIP



Number of Contacts	Contact Plating	P/N
2	Au 10 u"	HP11MM50-025170-1R09P
3	Au 10 u"	HP11MM50-035170-1R09P
4	Au 10 u"	HP11MM50-045170-1R09P

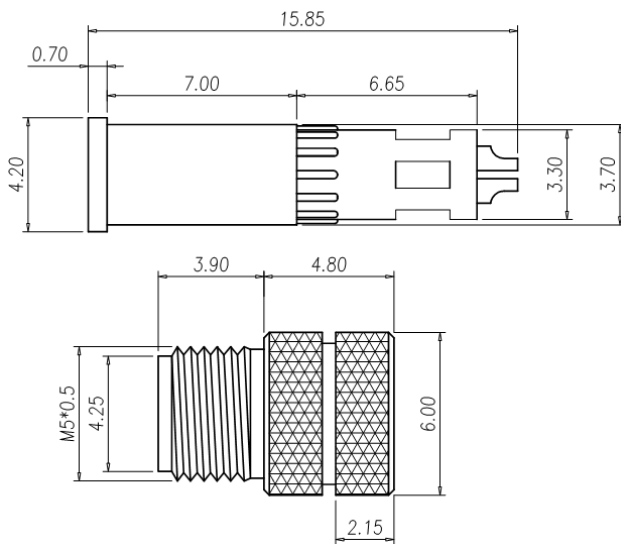
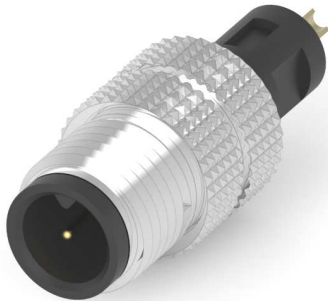
M5 Receptacle / Front Mount / Solder



Number of Contacts	Contact Plating	P/N
2	Au 10 u"	HJ12FM50-025170-1F09P
3	Au 10 u"	HJ12FM50-035170-1F09P
4	Au 10 u"	HJ12FM50-045170-1F09P

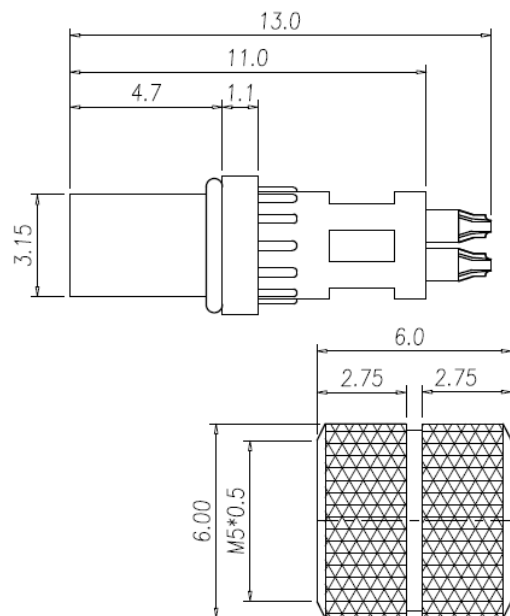
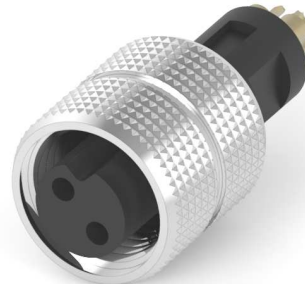
Cable End Connector

M5 Plug / Cable End / Solder



Number of Contacts	Contact Plating	P/N
2	Au 10 u"	HP12MM50-025170-1C09P
3	Au 10 u"	HP12MM50-035170-1C09P
4	Au 10 u"	HP12MM50-045170-1C09P

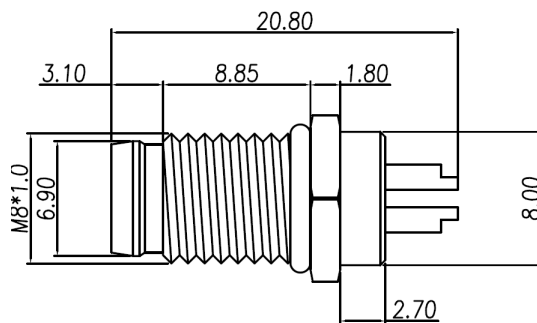
M5 Receptacle / Cable End / Solder



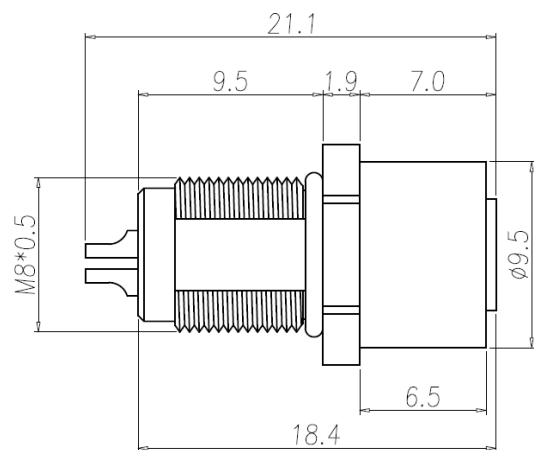
Number of Contacts	Contact Plating	P/N
2	Au 10 u"	HJ12FM50-025170-1C09P
3	Au 10 u"	HJ12FM50-035170-1C09P
4	Au 10 u"	HJ12FM50-045170-1C09P

Panel-Mounting Connector

M8 Plug / Rear Mount / Solder



M8 Receptacle / Front Mount / Solder

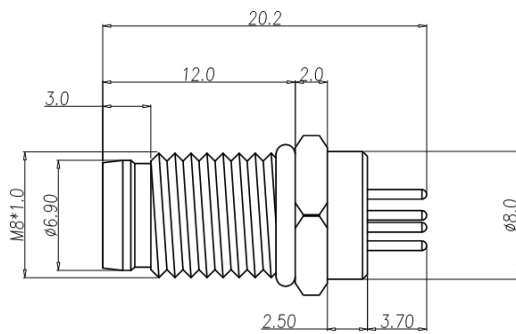


Number of Contacts	Contact Plating	P/N
2	Au 10 u"	HP12MM80-025170-1R09P
3	Au 10 u"	HP12MM80-035170-1R09P
4	Au 10 u"	HP12MM80-045170-1R09P

Number of Contacts	Contact Plating	P/N
2	Au 10 u"	HJ12FM80-025170-1F09P
3	Au 10 u"	HJ12FM80-035170-1F09P
4	Au 10 u"	HJ12FM80-045170-1F09P

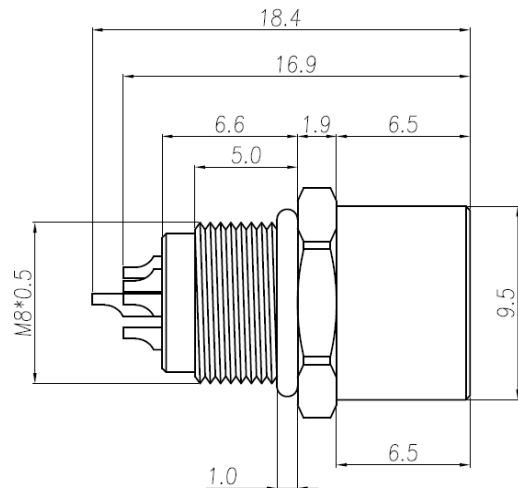
Panel-Mounting Connector

M8 Plug / Rear Mount / Solder / A Coding



Number of Contacts	Contact Plating	P/N
5	Au 10 u"	HP11MM8A-055170-1R09P
6	Au 10 u"	HP11MM8A-065170-1R09P

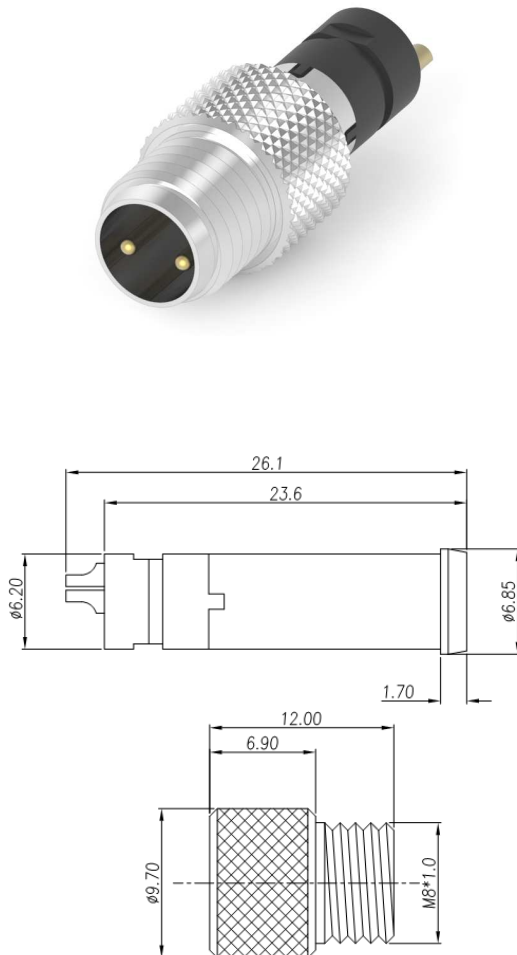
M8 Receptacle / Front Mount / Solder / A Coding



Number of Contacts	Contact Plating	P/N
5	Au 10 u"	HJ12FM8A-055170-1F09P
6	Au 10 u"	HJ12FM8A-065170-1F09P
8	Au 10 u"	HJ12FM8A-085170-1F09P

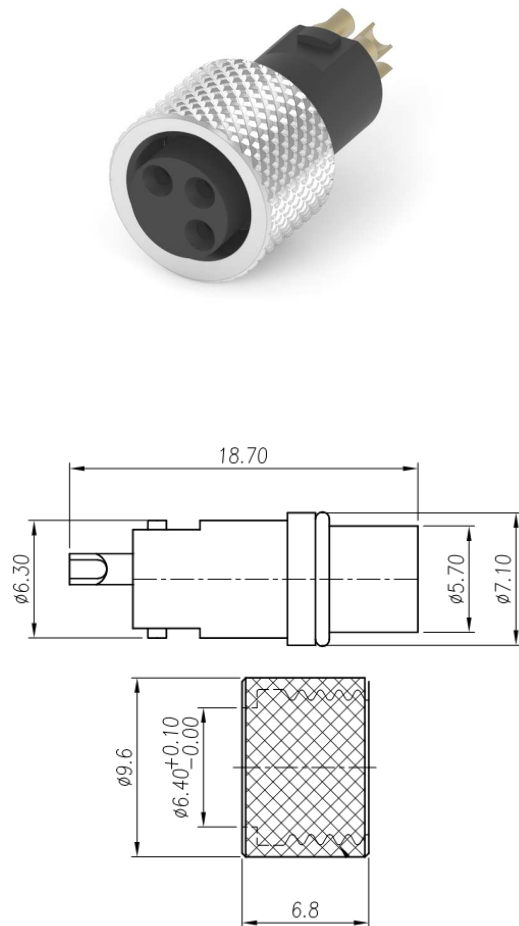
Cable End Connector

M8 Plug / Cable End / Solder



Number of Contacts	Contact Plating	P/N
2	Au 10 u"	HP12MM80-025170-1C09P
3	Au 10 u"	HP12MM80-035170-1C09P
4	Au 10 u"	HP12MM80-045170-1C09P

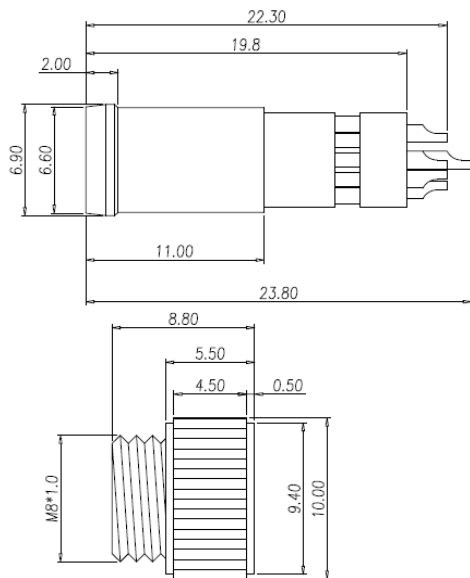
M8 Receptacle / Cable End / Solder



Number of Contacts	Contact Plating	P/N
2	Au 10 u"	HJ12FM80-025170-1C09P
3	Au 10 u"	HJ12FM80-035170-1C09P
4	Au 10 u"	HJ12FM80-045170-1C09P

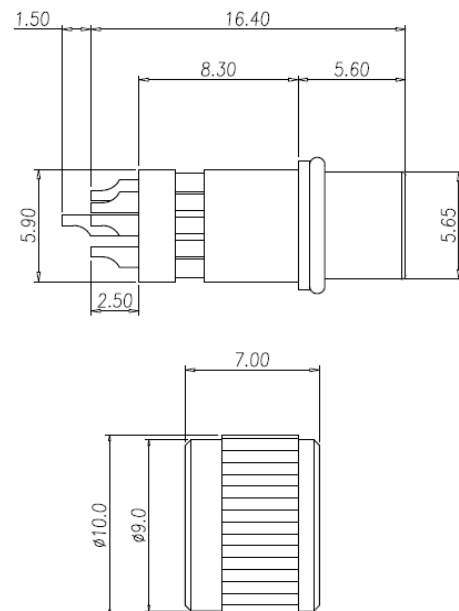
Cable End Connector

M8 Plug / Cable End / Solder / A Coding



Number of Contacts	Contact Plating	P/N
5	Au 10 u"	HP12MM8A-055170-1C09P
6	Au 10 u"	HP12MM8A-065170-1C09P
8	Au 10 u"	HP12MM8A-085170-1C09P

M8 Receptacle / Cable End / Solder / A Coding

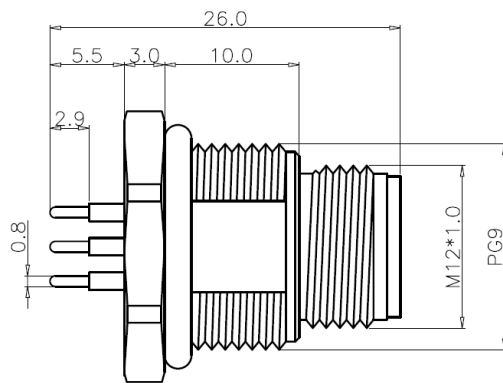
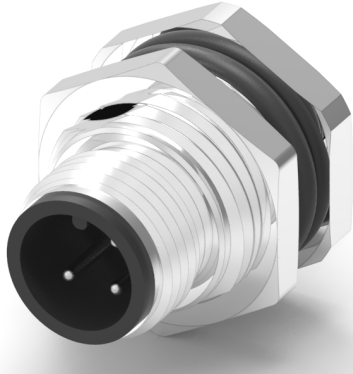


Number of Contacts	Contact Plating	P/N
5	Au 10 u"	HJ12FM8A-055170-1C09P
6	Au 10 u"	HJ12FM8A-065170-1C09P
8	Au 10 u"	HJ12FM8A-085170-1C09P

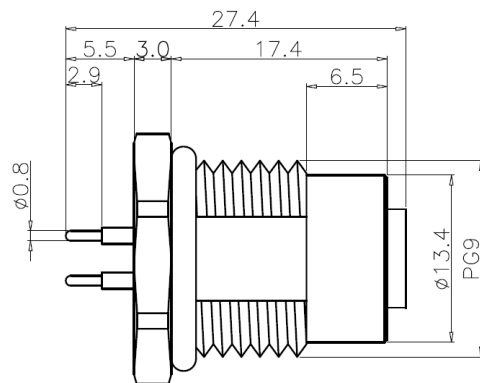
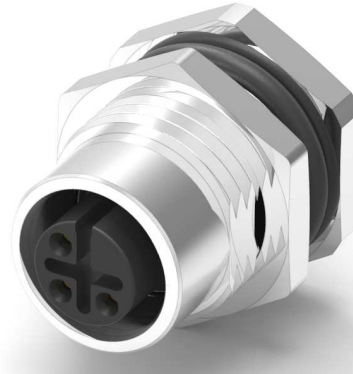
M12 Waterproof Connectors

Panel-Mounting Connector

M12 Plug / Rear Mount / DIP / A Coding



M12 Receptacle / Rear Mount / DIP / A Coding

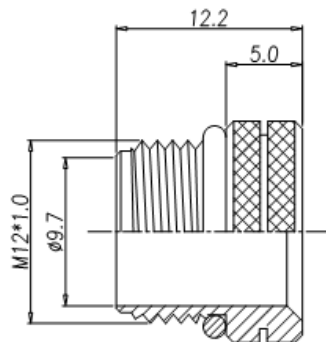
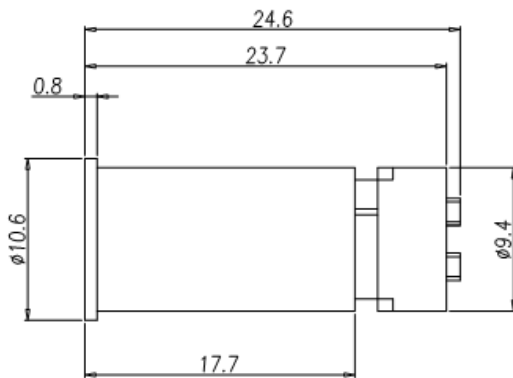


Number of Contacts	Contact Plating	P/N
3	Au 10 u"	HP11MM2A-035170-1R09P
4	Au 10 u"	HP11MM2A-045170-1R09P
5	Au 10 u"	HP11MM2A-055170-1R09P
8	Au 10 u"	HP11MM2A-085170-1R09P
10	Au 10 u"	HP11MM2A-105170-1R09P
12	Au 10 u"	HP11MM2A-125170-1R19P

Number of Contacts	Contact Plating	P/N
3	Au 10 u"	HJ11FM2A-035170-1R09P
4	Au 10 u"	HJ11FM2A-045170-1R09P
5	Au 10 u"	HJ11FM2A-055170-1R09P
6	Au 10 u"	HJ11FM2A-065170-1R09P
8	Au 10 u"	HJ11FM2A-085170-1R09P
12	Au 10 u"	HJ11FM2A-125170-1R09P

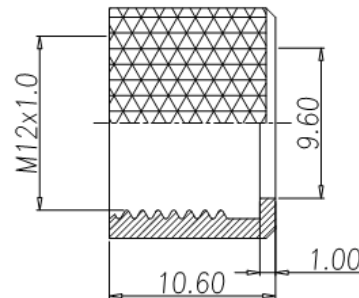
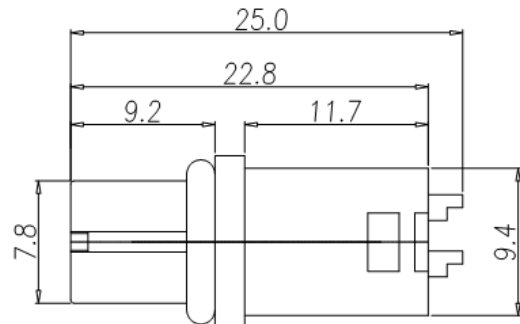
Cable End Connector

M12 Plug / Cable End / Solder / A Coding



Number of Contacts	Contact Plating	P/N
2	Au 10 u"	HP12MM2A-025170-1C09P
3	Au 10 u"	HP12MM2A-035170-1C09P
4	Au 10 u"	HP12MM2A-045170-1C09P
5	Au 10 u"	HP12MM2A-055170-1C09P

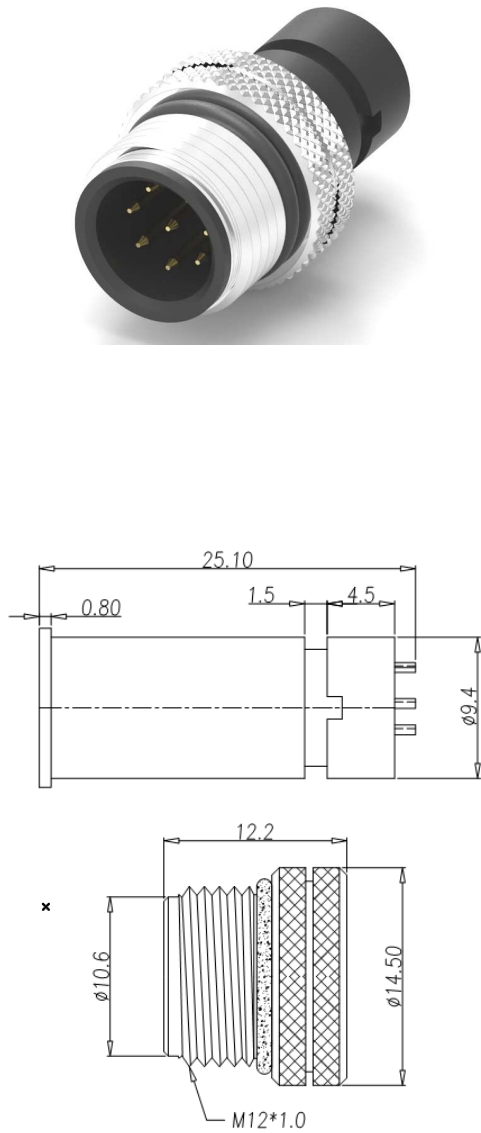
M12 Receptacle / Cable End / Solder / A Coding



Number of Contacts	Contact Plating	P/N
2	Au 10 u"	HJ12FM2A-025170-1C09P
3	Au 10 u"	HJ12FM2A-035170-1C09P
4	Au 10 u"	HJ12FM2A-045170-1C09P

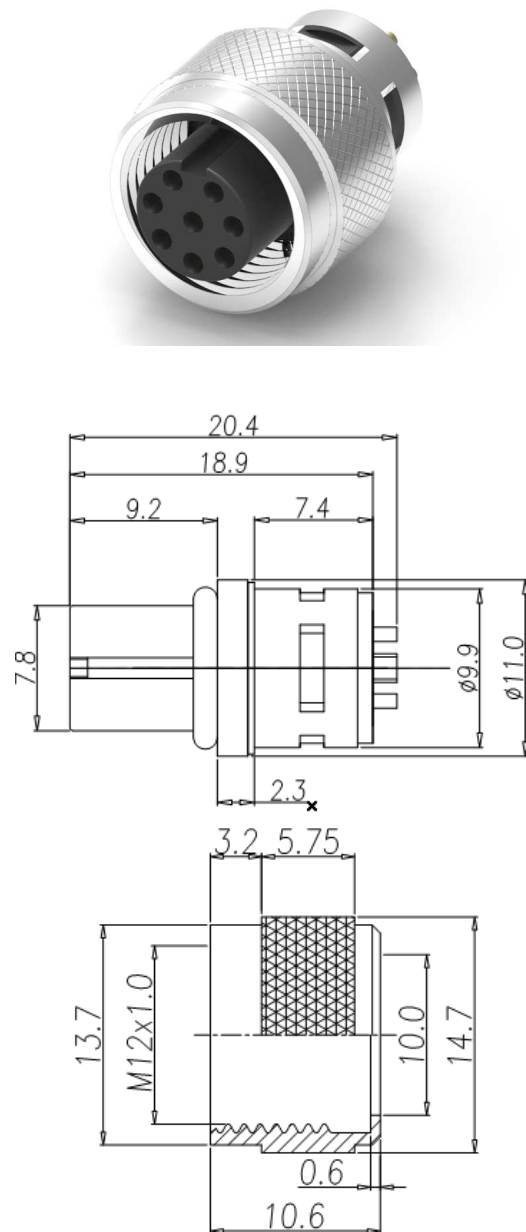
Cable End Connector

M12 Plug / Cable End/ Solder / A Coding



Number of Contacts	Contact Plating	P/N
8	Au 10 u"	HP12MM2A-085170-1C09P

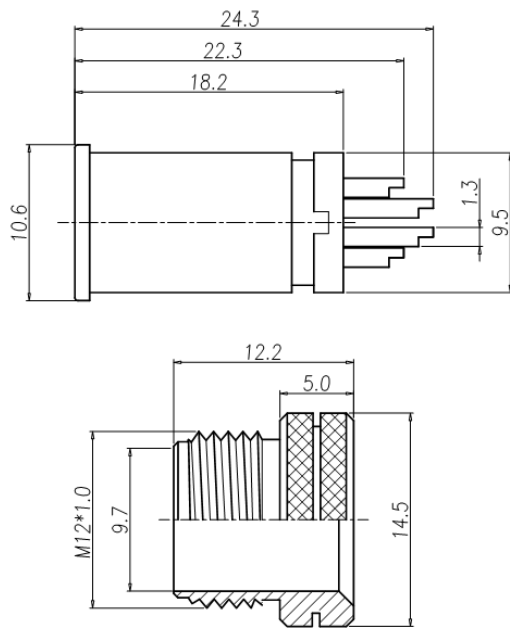
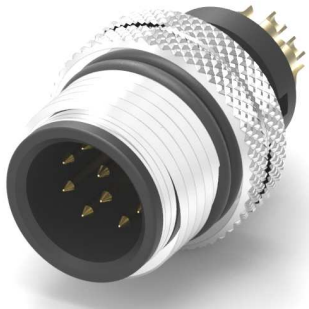
M12 Receptacle / Cable End / Solder / A Coding *



Number of Contacts	Contact Plating	P/N
5	Au 10 u"	HJ12FM2A-055170-1C09P
8	Au 10 u"	HJ12FM2A-085170-1C09P

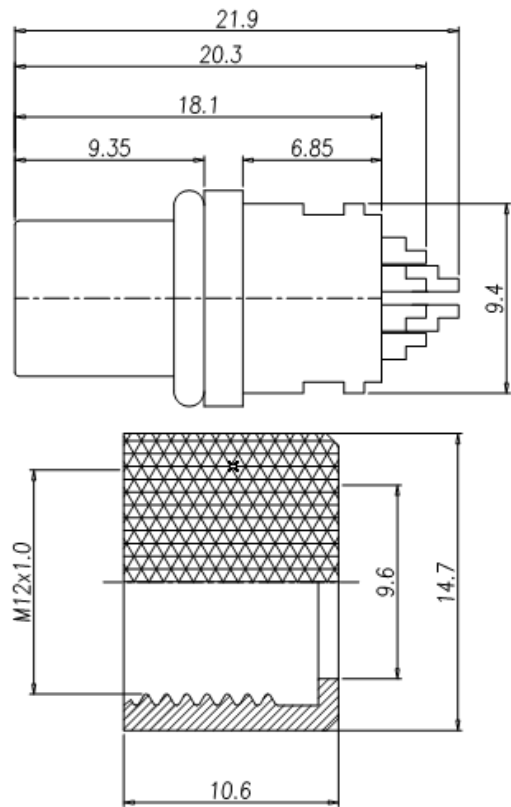
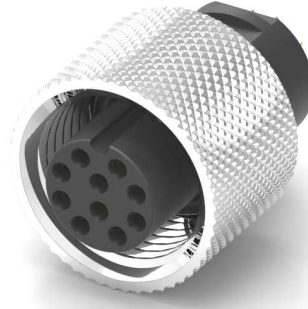
Cable End Connector

M12 Plug / Cable End / Solder / A Coding



Number of Contacts	Contact Plating	P/N
10	Au 10 u"	HP12MM2A-105170-1C09P
12	Au 10 u"	HP12MM2A-125170-1C09P

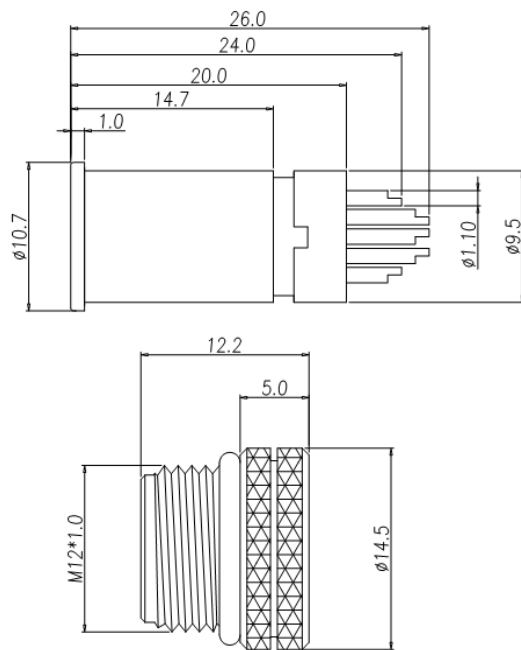
M12 Receptacle / Cable End / Solder / A Coding



Number of Contacts	Contact Plating	P/N
10	Au 10 u"	HJ12FM2A-105170-1C09P
12	Au 10 u"	HJ12FM2A-125170-1C09P

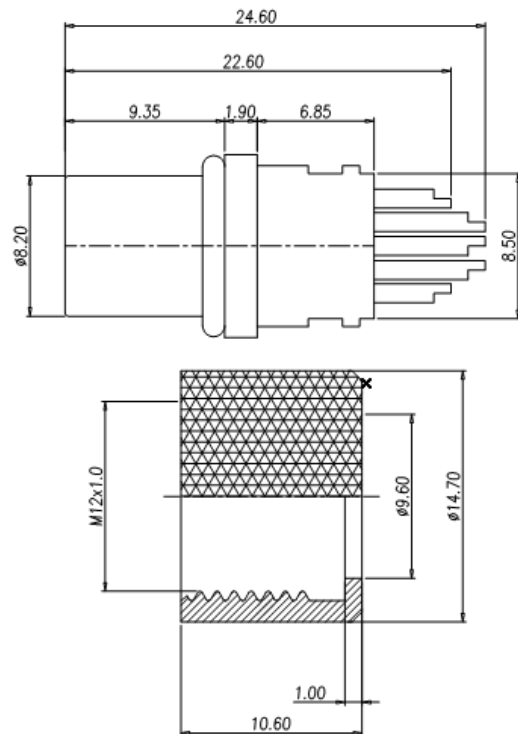
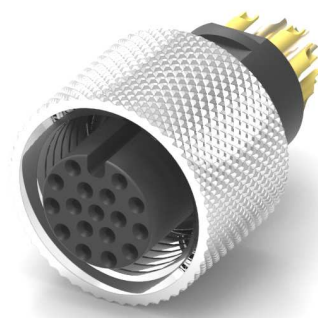
Cable End Connector

M12 Plug / Cable End / Solder / A Coding



Number of Contacts	Contact Plating	P/N
17	Au 10 u"	HP12MM2A-175170-1C09P

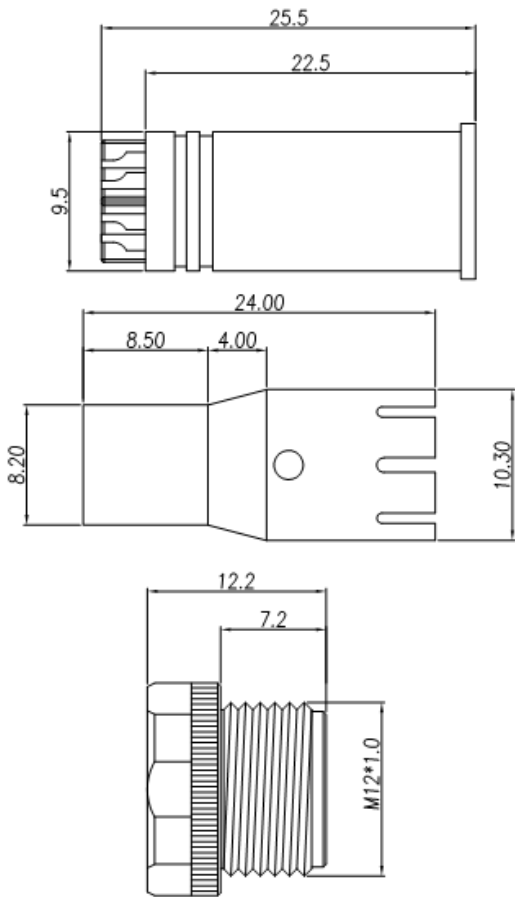
M12 Receptacle / Cable End / A Coding



Number of Contacts	Contact Plating	P/N
17	Au 10 u"	HJ12FM2A-175170-1C09P

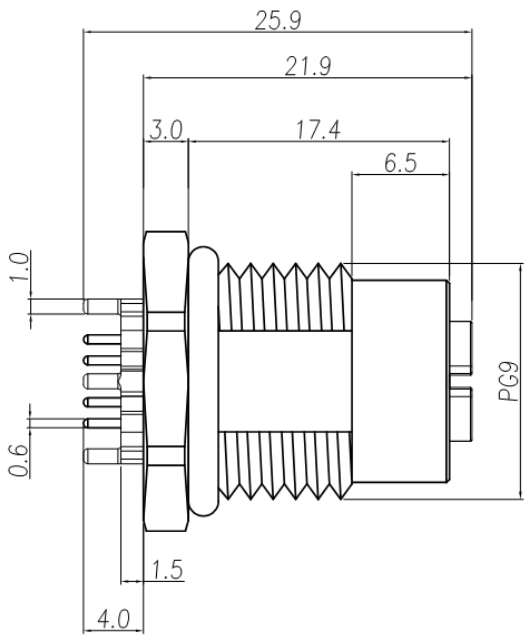
X Coding

M12 Plug / Cable End / Solder / X Coding



Number of Contacts	Contact Plating	P/N
8	Au 10 u"	HP12MM21-085170-1C09P

M12 Receptacle / Rear Mount / DIP / X Coding



Number of Contacts	Contact Plating	P/N
8	Au 10 u"	HJ11FM21-085170-1R09P

Dust Cap

M5 Plug



P/N

HT10MM50-000S40-2Y190

M5 Receptacle



P/N

HT10FM50-000S40-2Y190

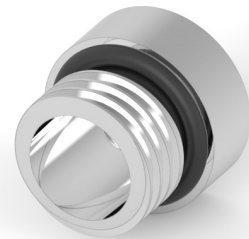
M8 Plug



P/N

HT10MM80-000S40-2Y090

M8 Receptacle



P/N

HT10FM80-000S40-1C29P

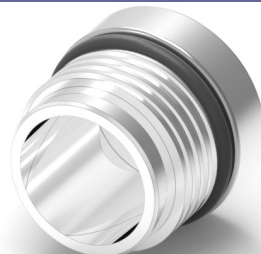
M12 Plug



P/N

HT10MM20-000S40-1C09P

M12 Receptacle



P/N

HT10FM20-000S40-1C19P

At Simula, we continuously explore and refine the values that we wish to bring to our customers, which is by combining our experience and competency on the design, manufacture and reliability verification of connectors.

Due to the inevitable trend of resource and supply chain integration within the industry, we further stretched our capabilities into subsequent cable assembly, hence delivering fully functional complete products to our valued customers.

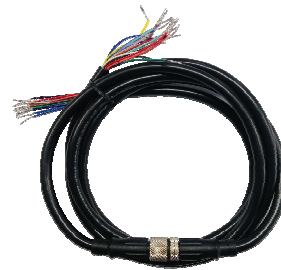
Customers would only need to provide requirements such as specification, drawing or sample and our team will feedback in a timely manner with design proposal, suggestions on changes as well as the quotation.

Together, we shall collaborate and create products that meets tomorrow's need.

M5 2 Pin Plug To M5 2 Pin Plug Cable



M12 Receptacle & Plug 17 Pin To Open



M12 X Coding 8 Pin Plug To M12 X Coding 8 Pin Plug Cable



M12 X Coding 8Pin Plug To RJ45 Plug Cable



M12 X Coding 8Pin Plug To M12 X Coding 8Pin Plug Cable



M12 X Coding 8Pin Plug To RJ45 Plug Cable



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DESIGNED BY SIMULA

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