



 **TTAF[®]**
M5 / M8 / M12 CIRCULAR CONNECTORS
AND CABLE ASSEMBLIES



TTAF is a leading cable assembly manufacturer and interconnect solutions supplier, gaining trust of domestic and international clients by means of the solutions provided for special interconnect product requirements.

TTAF manufactures straight, right angle or customer specific molded backshells for different connectivity situations and provides flexible solutions in terms of MOQ's and cable lengths, enabling low quantity-high mix options depending on the industry requirements. Having a background of 20 years experience at connector business, TTAF can help customers with all interconnect needs of a system. In case of a special requirement; TTAF offers non-standard solutions, design, engineering, tooling & prototyping capabilities in order to support the customers.





TTAF developed a modular system with M5, M8 & M12 connector series which brings completely flexible solutions. This system enables production of connectors with different heights and pin configurations. M5/M8/M12 connectors comply with Lead-free processing requirements.

Besides connector series, TTAF provides cable assembly solutions for sensor/actuator or other automation system devices. TTAF product range includes assembled and overmolded patchcords and pigtailed.

In order to meet all industry requirements, TTAF can manufacture cable assemblies with different overmolding materials. As a price competitive and economic solution PVC or as a harsh environment solution PUR can be used.

PUR

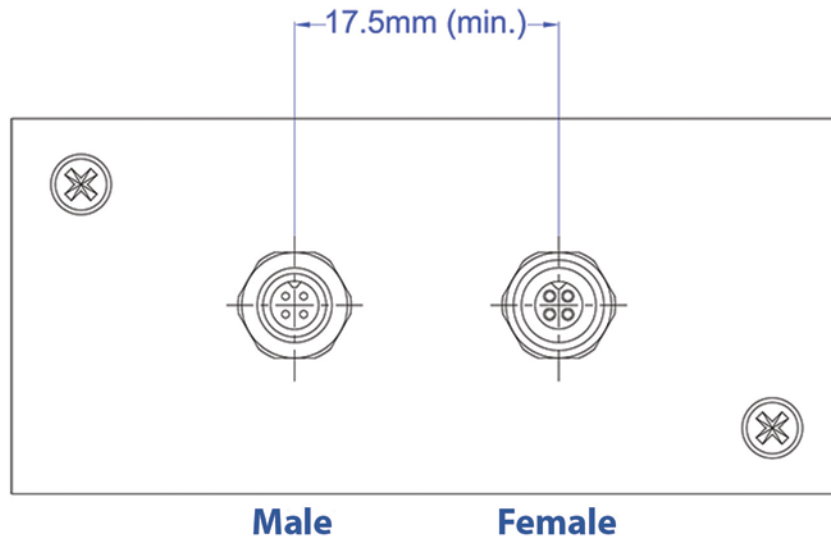
- + Highly resistant against abrasion.
- + Resistant to oil, lubricants and chemicals.
- + Halogen-free, hidrolisis and UV resistant
- + Flame retardant
- + UL/CSA Approved

PVC

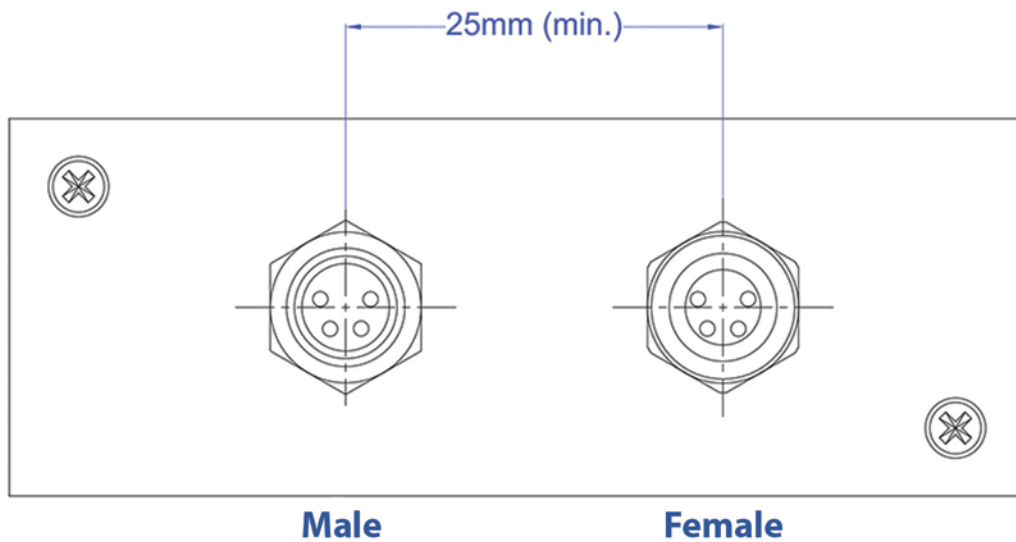
- + Suitable for medium mechanical load
- + Easy to dismantle
- + Limited resistance against abrasion and oil.
- + Competitive and economic solution.



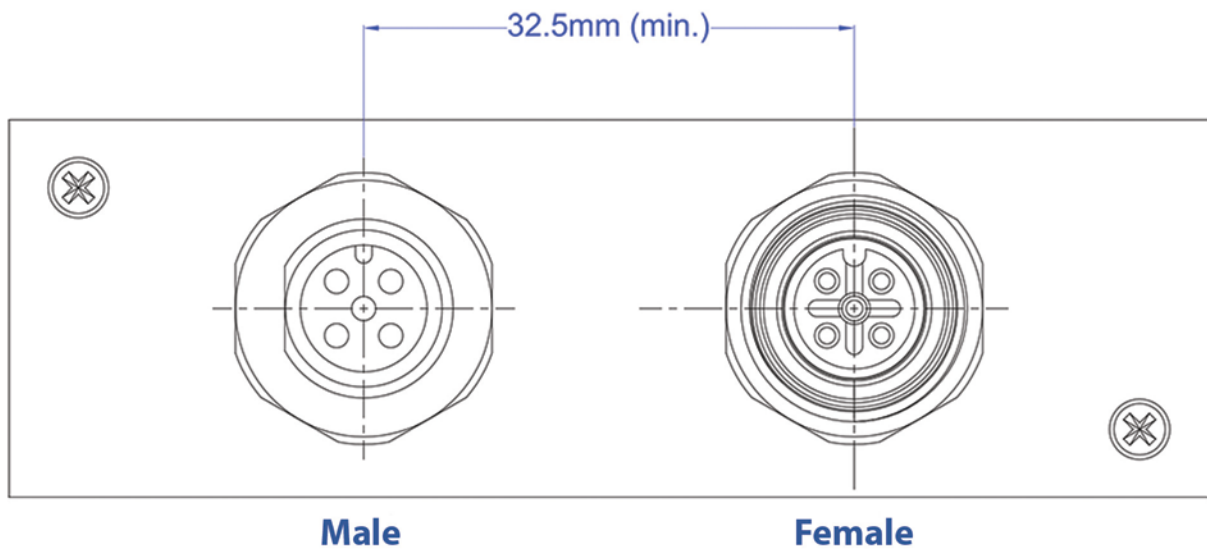
Recommended distance between M5 PCB Connectors



Recommended distance between M8 PCB Connectors



Recommended distance between M12 PCB Connectors



View of the Panels from the point of cable entry

	STANDART	M5	M8	M12
PIN Number		4	2,3,4	2, 3, 4, 5
Technical Data				
Temperature Category	DIN EN 60068-1 test b	55/125/56	55/125/56	55/125/56
Temperature Range		-55/125 °C	-55/125 °C	-55/125 °C
Current rating for each contact	IEC 60512 test 5b	According to Ambient Temperature 20 °C 5.7 A 40 °C 4.8 A 70 °C 2.6 A	According to Ambient Temperature 20 °C 5.7 A 40 °C 4.8 A 70 °C 2.6 A	According to Ambient Temperature 20 °C 5.7 A 40 °C 4.8 A 70 °C 2.6 A
Dielectric Strength	IEC 60512 test 4a	4 pin; contact-contact 1400 V ^{ms}	2 pin; contact-contact 1400 V ^{ms} 3 pin; contact-contact 1000 V ^{ms} 4 pin; contact-contact 650 V ^{ms}	2 pin; contact-contact 2000 V ^{ms} 3 pin; contact-contact 1750 V ^{ms} 4 pin; contact-contact 1400 V ^{ms} 5 pin; contact-contact 1000 V ^{ms}
Contact Disturbance	IEC 60512 test 2a	< 10 mΩ	< 10 mΩ	< 10 mΩ
Insulation Resistance	IEC 60512 test 3a	> 10 ¹² Ω	> 10 ¹² Ω	> 10 ¹² Ω
Vibration	IEC 60512 test 6d	10-500 Hz 5 g	10-500 Hz 5 g	10-500 Hz 5 g
Contact Disturbance (During the vibration test)	IEC 60512 test 2e	< 1 μs	< 1 μs	< 1 μs
Shock	IEC 60512 test 6c	50 g 11 ms	50 g 11 ms	50 g 11 ms
Contact Disturbance (During the shock test)	IEC 60512 test 2e	< 1 μs	< 1 μs	< 1 μs
Mechanical Operations (Mating Cyle)	IEC 60512 test 9a	> 100 Mating Loops	> 100 Mating Loops	> 100 Mating Loops
Insertion and Withdrawal	IEC 60512 test 13b	max. 23 N	max. 23 N	max. 23 N
Gauge Retention Force	IEC 60512 test 16e	> 0.2 N	> 0.2 N	> 0.2 N

	STANDART	M5	M8	M12
PIN Number		4	2,3,4	2, 3, 4, 5
Technical Specifications				
Connection		Screw Locking M5x1 (Max. Compression Force 0.2 Nm)	Screw Locking M8x1 (Max. Compression Force 0.4 Nm)	Screw Locking M12x1 (Max. Compression Force 0.6 Nm)
Cable Information				
Insulation Material		PUR, PVC	PUR, PVC	PUR, PVC
Insulation Diameter		4 pins PUR 3.5mm PVC 2.5mm	2 pins 3 pins 4 pins PUR 3.5mm 4.1mm 4.4mm PVC 4mm 4.4mm 4.7mm	2 pins 3 pins PUR 3.8mm 4mm PVC 4.5mm 4.8mm 4 pins 5 pins PUR 4.7mm 5mm PVC 5.2mm 5.6mm
Conductor Cross-Section		0.25 mm ²	0.25 mm ²	0.34mm ² 0.25mm ² + 0.34mm ²
Bending Radius		10 x Cover Diameter	10 x Cover Diameter	10 x Cover Diameter 15 x Cover Diameter
Temperature Range		-25 +80 °C (PUR) -5 +70 °C (PVC)	-25 +80 °C (PUR) -5 +70 °C (PVC)	-25 +80 °C (PUR) -25 +75 °C (PUR) -5 +70 °C (PVC)
Finished, Mating Spot		Gold Plated	Gold Plated	Gold Plated
Screw Material		Zinc Casting	Zinc Casting	Zinc Casting
Screw Plating		4-6 µm Ni	4-6 µm Ni	4-6 µm Ni
Electrical Data				
Current rating for each contact	IEC 61076-2-101	Max. 4 A	Max. 4 A	Max. 4 A
Dielectric Power	IEC 61076-2-101	Max. 1.5 kV (It depends on type)	Max. 1.5 kV (It depends on type)	Max. 2.5 kV (It depends on type)
Approval				
Protection Class	IEC 60529	IP67	IP67	IP67

M15

CONNECTORS AND CABLE ASSEMBLIES



TTAF M5 cable solutions fit with PCB counterpart and the threaded panel flange offered in addition. TTAF provides assembled and overmolded patchcord or pigtail M5 cable assembly solutions.

Number of contacts: 4

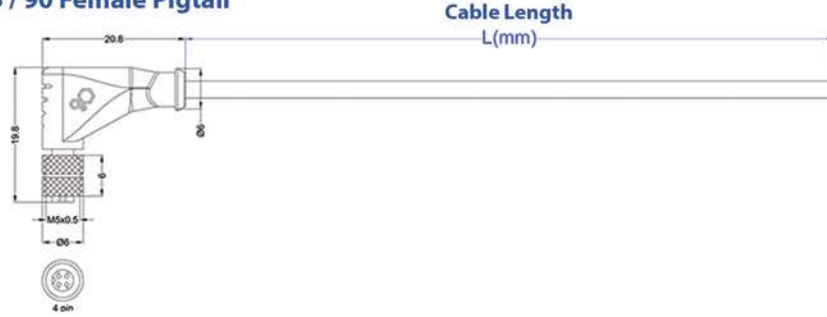
Cable: PVC/PUR

Cable Length: Various lengths based on customer requirement.

M5 / Flat Female Pigtail



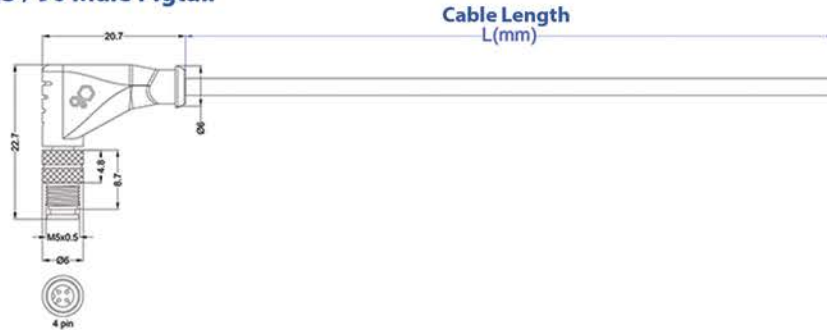
M5 / 90 Female Pigtail



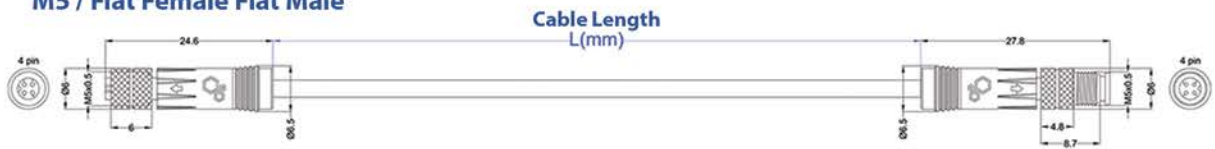
M5 / Flat Male Pigtail



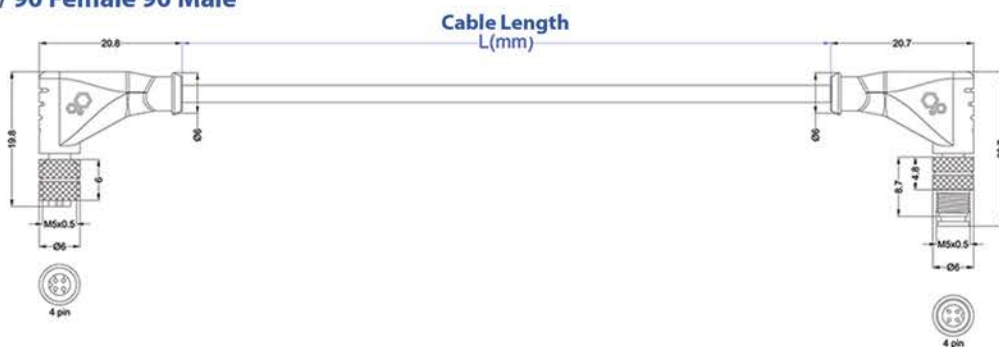
M5 / 90 Male Pigtail



M5 / Flat Female Flat Male



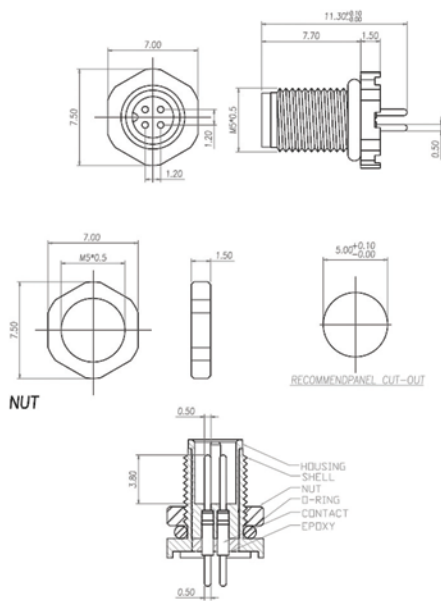
M5 / 90 Female 90 Male



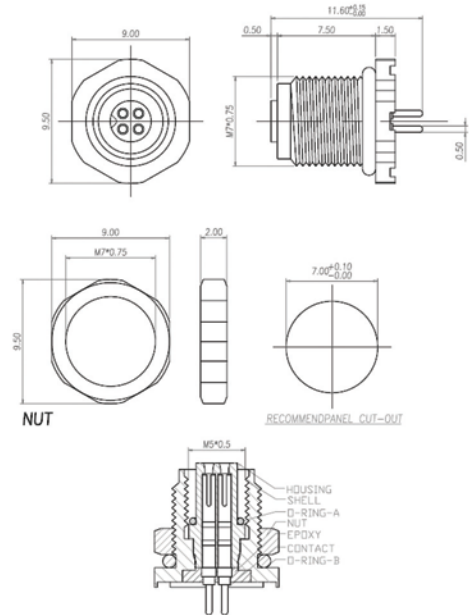
CONNECTING YOUR WORLD



M



F



Product Description:

5M4P-B-A-FL-5X0.5-C-D-GF-B-N

Material:

Housing:	PBT UL94V-O; Color:Black.
Contact:	Brass
Nut:	Brass
Shell:	Brass
O-Ring:	NBR;Color:Black
Epoxy Base:	EF400A & EF004B. Color: Black

Finish:

Contact:	Gold Flish Micro Inches Min.
Nut:	Nickel Plated.
Shell:	Nickel Plated.

Electrical Specification:

Rated Current:	1A.
Rated Voltage:	60V.
Water Proof:	IP67.

Environmental:

Operation Temp.:	-20°C~ 85°C
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Product Description:

5F4P-B-A-FL-7X0.75-C-D-GF-B-N

Material:

Housing:	PBT UL94V-O; Color:Black.
Contact:	Phosphor Bronze
Nut:	Brass.
Shell:	Brass
O-ring B:	NBR; Color: Black
Epoxy Base:	EF400A & EF004B. Color: Black

Finish:

Contact:	Gold Flish Micro Inches Min.
Nut:	Nickel Plated.
Shell:	Nickel Plated.

Electrical Specification:

Rated Current:	1A.
Rated Voltage:	60V.
Water Proof:	IP67.

Environmental:

Operation Temp.:	-20°C~ 85°C
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Product Description:

M5 Male connector with cable, straight / right angle, shield connected to the nut

Standard: IEC 61076-2-101/IEC 60947-5-2
Number of contacts: 4 poles

Material:

Housing: TPU; Color:Black
Contact: Brass
Nut: Brass
O-Ring: NBR;Color:Black
Shell: Brass

Finish:

Contact: Gold Flash Micro Inches Min.
Nut: Nickel Plated 60u"~100u"
Shell: Tin Plated 60u"~100u"

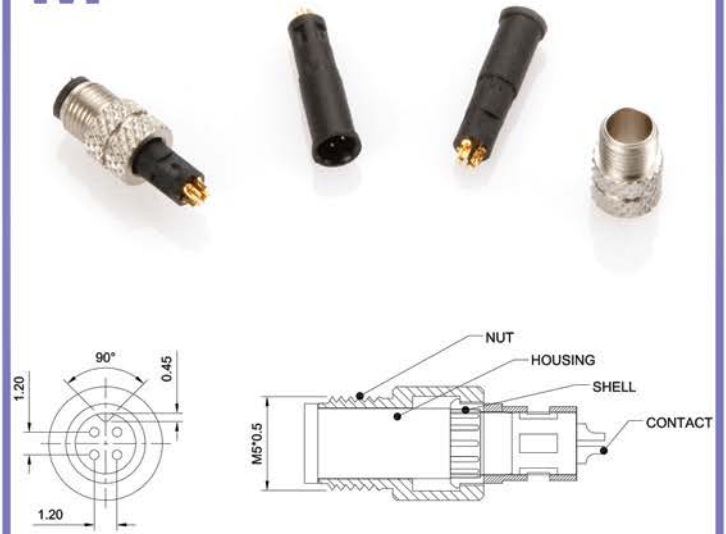
Electrical Specification:

Rated Current: 1A Max.
Voltage: 60V
IP Rating: IP67

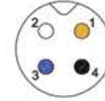
Environmental Conditions:

Protection class: IP67 (IEC 60529)
Temperature range: -20°C to +85°C

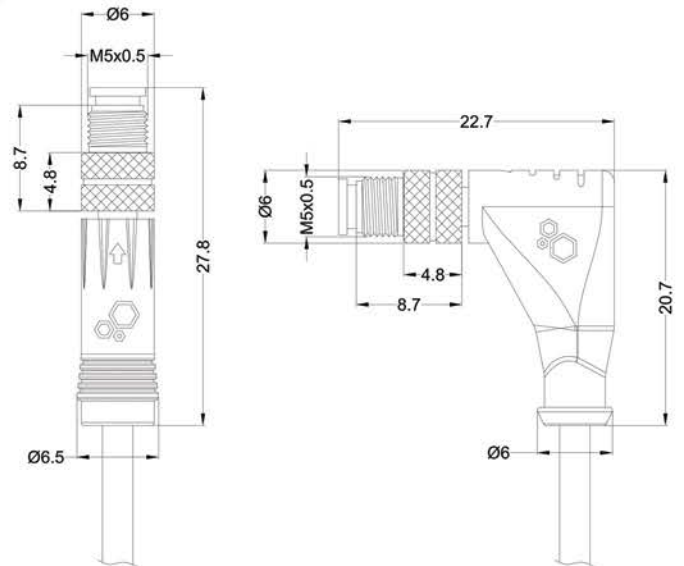
M



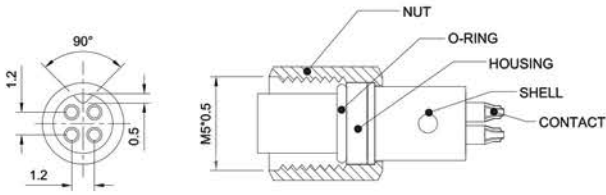
Contact Configuration:



- 1 - Brown
- 2 - White
- 3 - Blue
- 4 - Black



F



Contact Configuration:



- 1 - Brown
- 2 - White
- 3 - Blue
- 4 - Black

Product Description:

M5 Female connector with cable, straight / right angle, shield connected to the nut

Standard: IEC 61076-2-101/IEC 60947-5-2
Number of contacts: 4 poles

Material:

Housing: TPU; Color:Black
Contact: Phosphor Bronze
Nut: Brass
O-Ring: NBR;Color:Black
Shell: Brass

Finish:

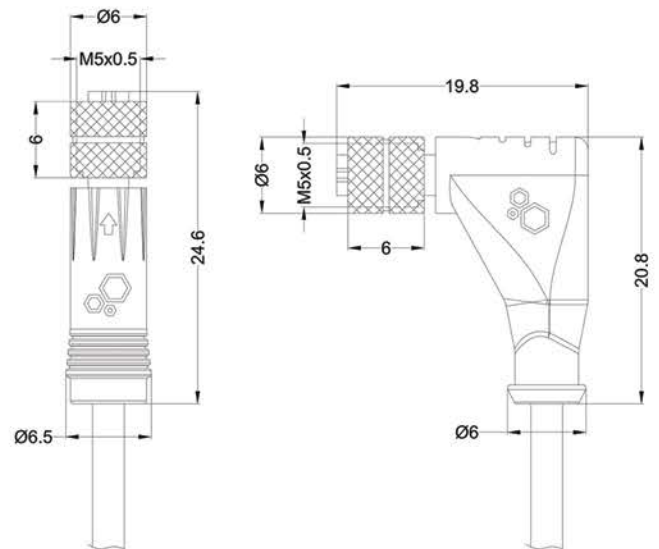
Contact: Gold Flash Micro Inches Min.
Nut: Nickel Plated 60u"~100u"
Shell: Tin Plated 60u"~100u"

Electrical Specification:

Rated Current: 1A Max.
Voltage: 60V
IP Rating: IP67

Environmental Conditions:

Protection class: IP67 (IEC 60529)
Temperature range: -20°C to +85°C



M18

CONNECTORS AND CABLE ASSEMBLIES



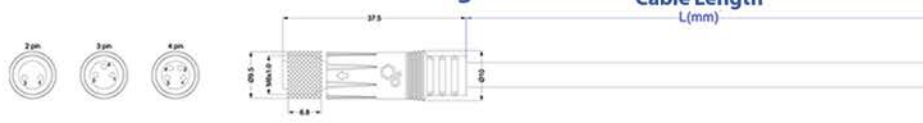
TTAF M8 cable solutions fit with PCB counterpart and the threaded panel flange offered in addition. TTAF provides assembled and overmolded patchcord or pigtail M8 cable assembly solutions.

Number of contacts: 2,3,4

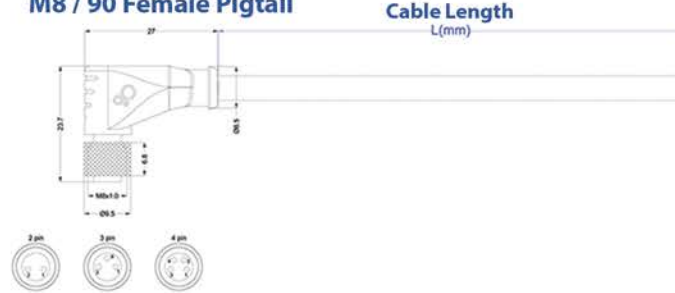
Cable: PVC/PUR (UL)

Cable Length: Various lengths based on customer requirement.

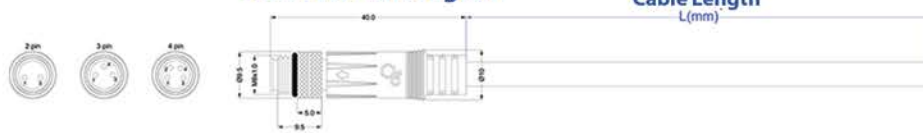
M8 / Flat Female Pigtail



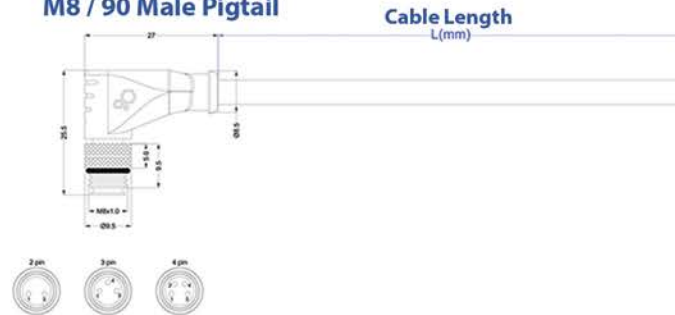
M8 / 90 Female Pigtail



M8 / Flat Male Pigtail



M8 / 90 Male Pigtail



M8 / Flat Female Flat Male



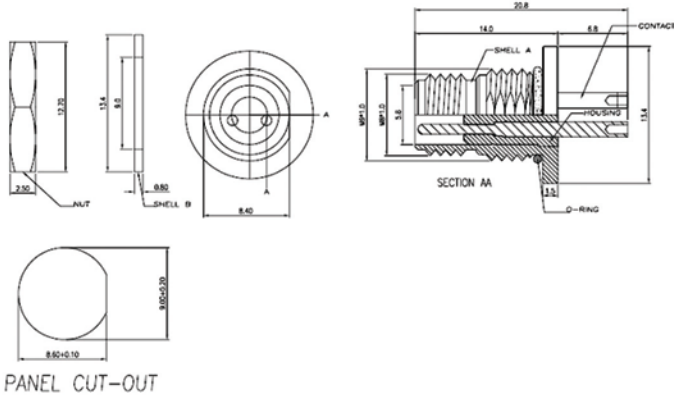
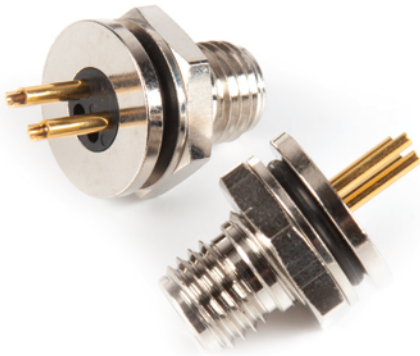
M8 / 90 Female 90 Male



A collection of various industrial connectors and cables scattered on a white background. The components include black cables with different types of connectors, such as circular and rectangular plugs, and metal housings with gold-plated pins. Some cables have text printed on them, including "VW-1", "E464897", "TTAF", "300V", and "80°C". The connectors are shown in various orientations, highlighting their design and build quality.

**CONNECTING
YOUR WORLD**

M



Product Description:

8M2P-B-E-FL-9X1.0-S-S-G10-B-N

Material:

Housing: PBT UL94V-0;Color: Black.
Contact: Brass.
Shell A: Brass.
Shell B: Brass.
Nut: Brass.
O-Ring: Epdm;Color:Black.

Finish:

Contact: 10 Micro Inches Min.Gold Plated.
Under Plate:Nickel.
Shell A: Nickel Plated 60u"~100" Over All.
Shell B: Nickel Plated 60u"~100" Over All.
Nut: Nickel Plated 60u"~100u" Over All.

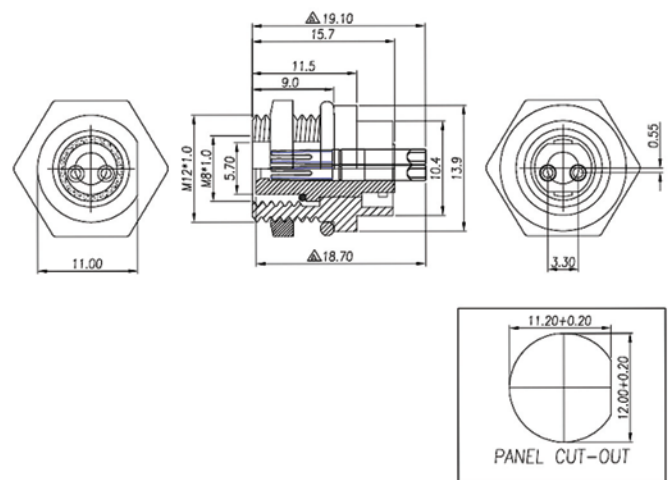
Electrical Specification:

Rated Current: 5A
Voltage: 125V.
Water Proof: IPX7.

Environmental:

Operation Temp.: -40°C~ 85°C

F



Product Description:

8F2P-B-E-FL-12X1.0-S-S-G10-B-N-1

Material:

Housing: PBT UL94V-0;Color: Black.
Contact: Brass.
Nut: Brass.
O-Ring: Nbr;Color:Black.

Finish:

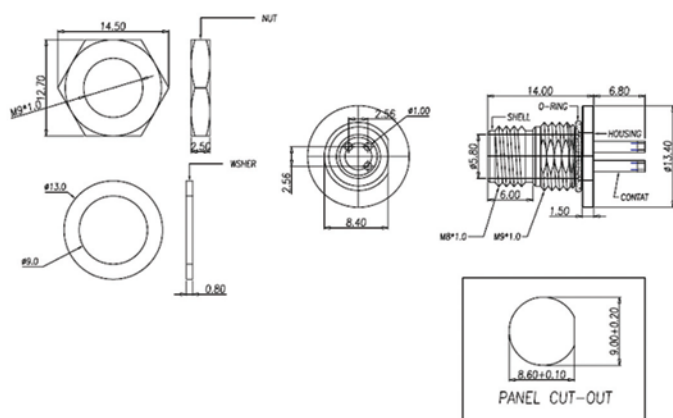
Contact : Contact Area:10 Micro Inches
Min. Gold Plating.
Under Plate:Nickel.
Nut: Nickel Plated 60u"~100u"Over All.

Electrical Specification:

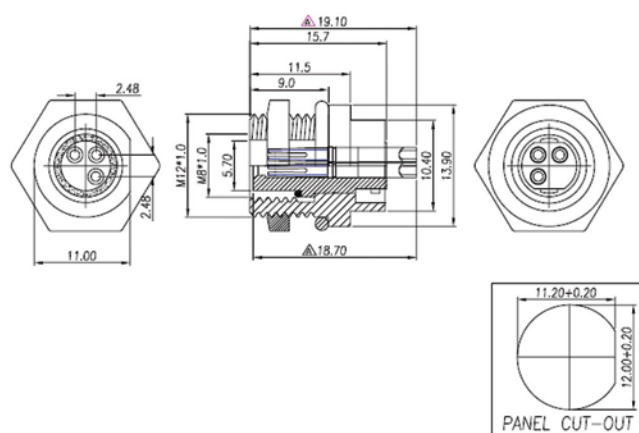
Rated Current: 5A
Voltage: 125V.
Water Proof: IPX7.

Environmental:

Operation Temp.: -20°C~ 85°C

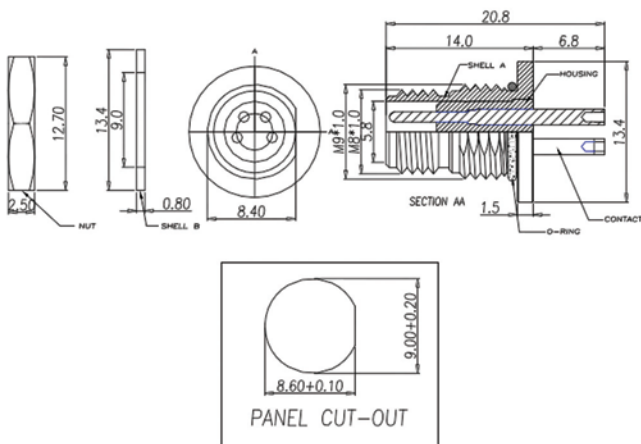


Operation Temp.: -20°C~ 85°C



Operation Temp.: -20°C~85°C

M



Product Description:

8F3P-B-E-FL-12X1.0-S-S-G10-B-N

Material:

Housing:	PBT UL94V-0; Color: Black
Contact A:	Brass
Shell A:	Brass
Shell B:	Brass
Nut:	Brass
O-ring:NBR;	Color: Black

Finish:

Contact:	10 Micro Inches Min. Gold Plated
Shell:	Nickel Plated 60u"~100u"Over All
Nut:	Nickel Plated

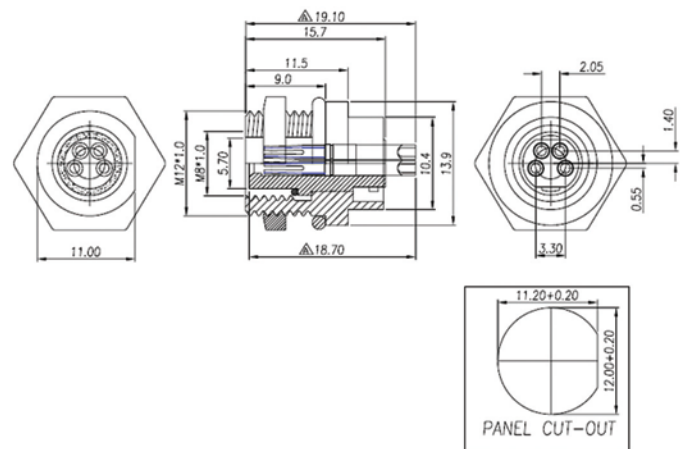
Electrical Specification:

Rated Current:	5A
Voltage:	125V
Water Proof:	IPX7

Environmental:

Operation Temp.: -40°C~85°C

F



Product Description:

8F4P-B-E-FL-12X1.0-S-S-G10-B-N

Material:

Insulation:	Thermoplastic UL94V-O.
Color:	Black.
Contact:	Brass.
Shell:	Brass.
Nut:	Brass.
O-Ring:	NBR(Black)

Finish

Contact:	10 Micro Inches Min. Gold Plated
Shell:	Nickel Plated
Nut:	Nickel Plated

Electrical Specification:

Rated Current:	5A
Voltage:	125V
Water Proof:	IPX7

Environmental:

Operation Temp.: -20°C~85°C

Product Description:

M8 Male connector with cable, straight / right angle, shield connected to the nut

Standard: IEC 61076-2-101/IEC 60947-5-2
Number of contacts: 2,3,4 poles

Material:

Housing: PBT UL94V-0; Color: Black
Contact: Brass
Nut: Copper Alloy
O-Ring: NBR; Color: Black
Shell: Brass

Finish:

Contact: 1u" Gold Plated
Nut: Nickel Plated 60u"~100u"
Shell: Nickel Plated 60u"~100u"

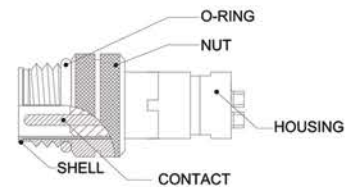
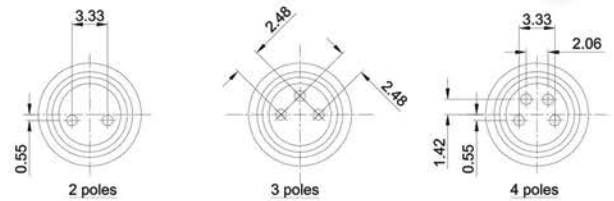
Electrical Specification:

Rated Current: 5A Max.
Voltage: 125V
IP Rating: IP67

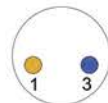
Environmental Conditions:

Protection class: IP67 (IEC 60529)
Temperature range: -40°C to +85°C

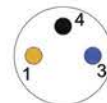
M



Contact Configuration:



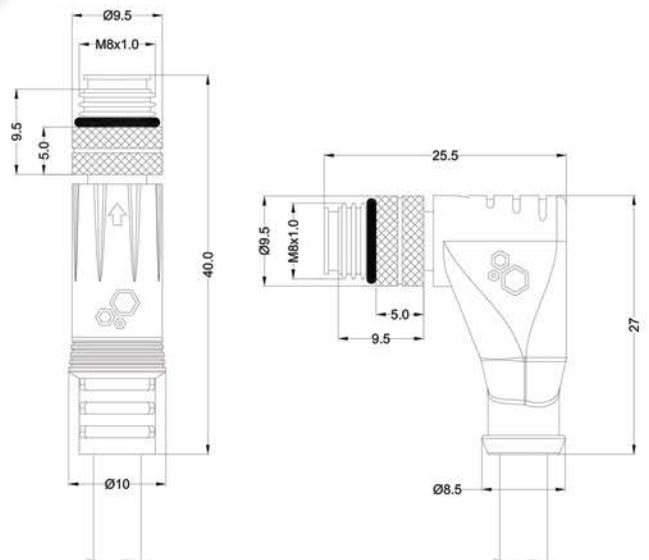
1 - Brown
3 - Blue



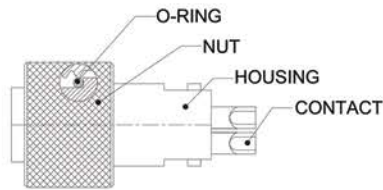
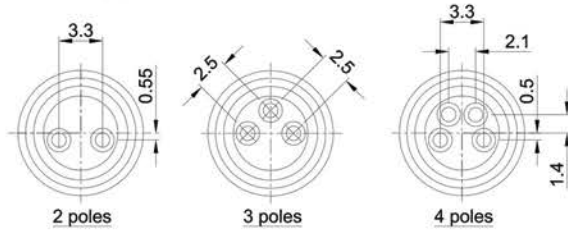
1 - Brown
3 - Blue
4 - Black



1 - Brown
2 - White
3 - Blue
4 - Black



F



Contact Configuration:



1 - Brown
3 - Blue



1 - Brown
3 - Blue
4 - Black



1 - Brown
2 - White
3 - Blue
4 - Black

Product Description:

M8 Female connector with cable, straight / right angle, shield connected to the nut

Standard: IEC 61076-2-101/IEC 60947-5-2
Number of contacts: 2, 3, 4 poles

Material:

Housing: PBT UL94V-0; Color: Black
Contact: Phosphor Bronze
Nut: Brass
O-Ring: NBR; Color: Black

Finish:

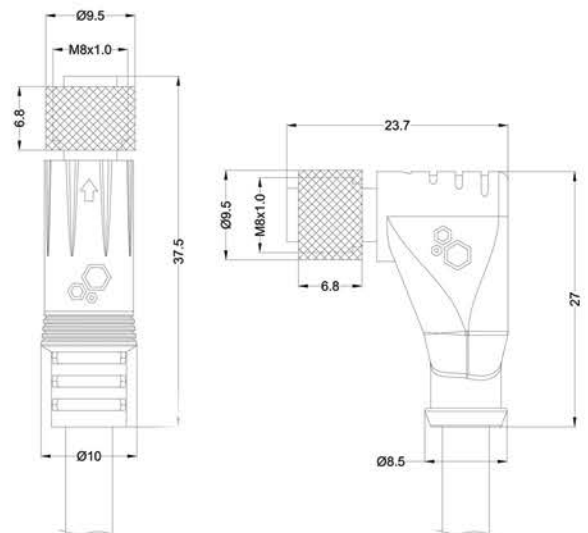
Contact: 1u" Gold Plated
Solder Area: Gold Flash
Under Plate: Nickel
Nut: Nickel Plated 60u"~100u"

Electrical Specification:

Rated Current: 5A Max.
Voltage: 125V
IP Rating: IP67

Environmental Conditions:

Protection class: IP67 (IEC 60529)
Temperature range: -20°C to +85°C



M12

CONNECTORS AND CABLE ASSEMBLIES



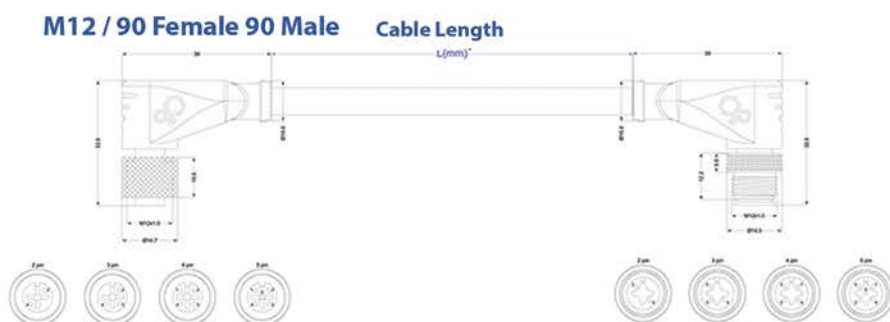
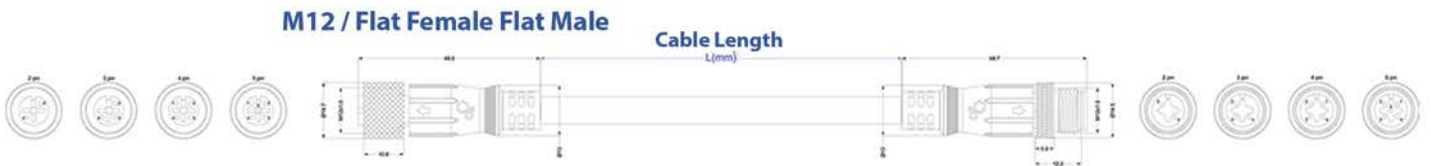
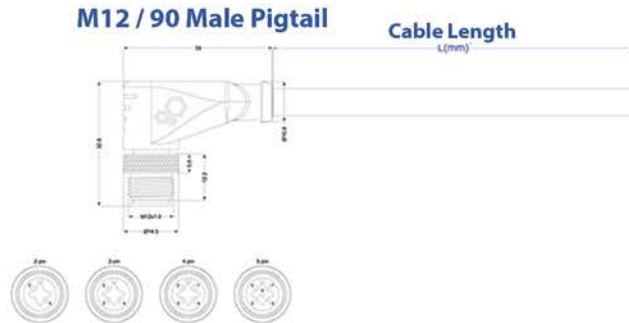
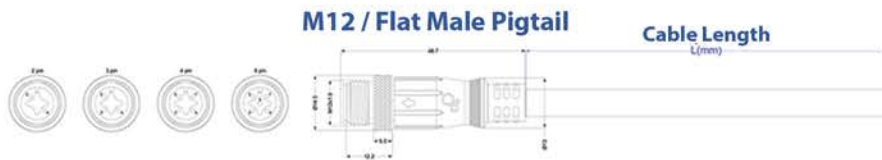
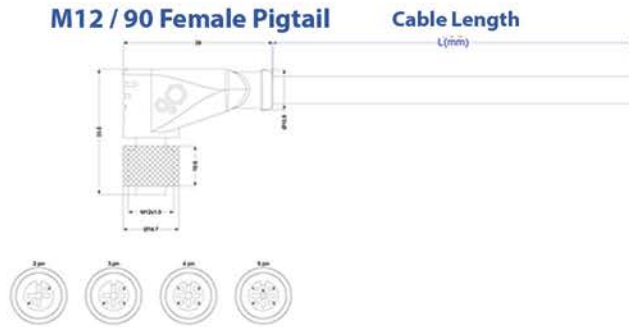
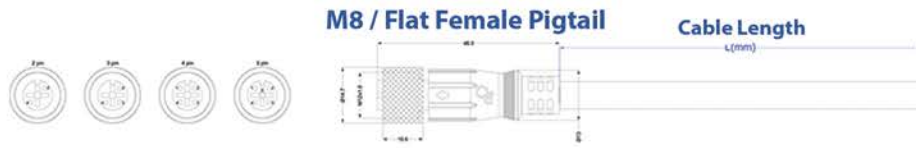
TTAF M12 cable solutions fit with PCB counterpart and the threaded panel flange offered in addition. TTAF provides assembled and overmolded patchcord or pigtail M12 cable assembly solutions.

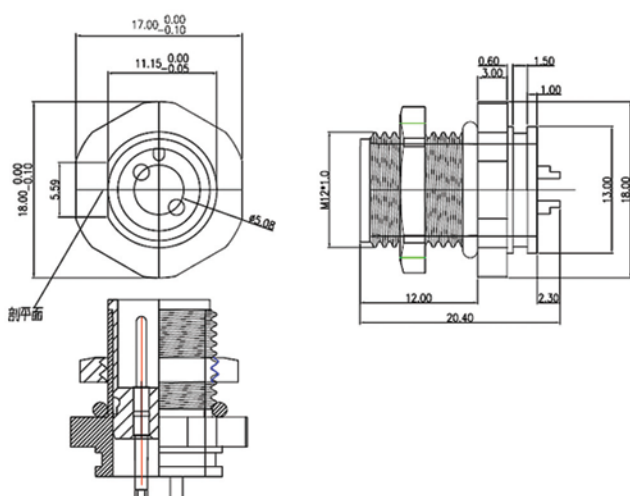
Number of contacts: 2,3,4,5

Led: 3 Led optional

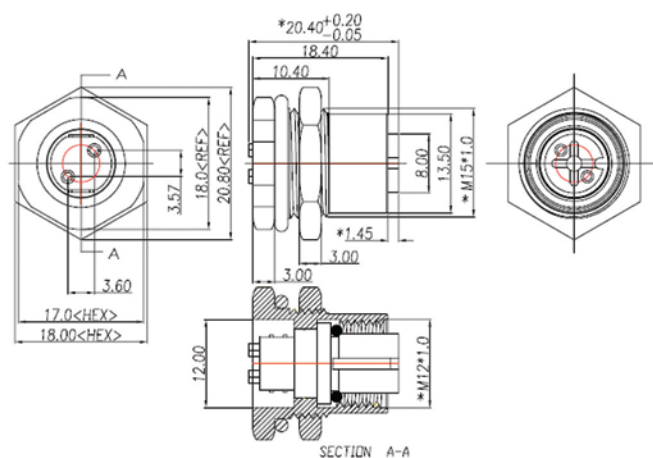
Cable: PVC/PUR (UL)

Cable Length: Various lengths based on customer requirement.



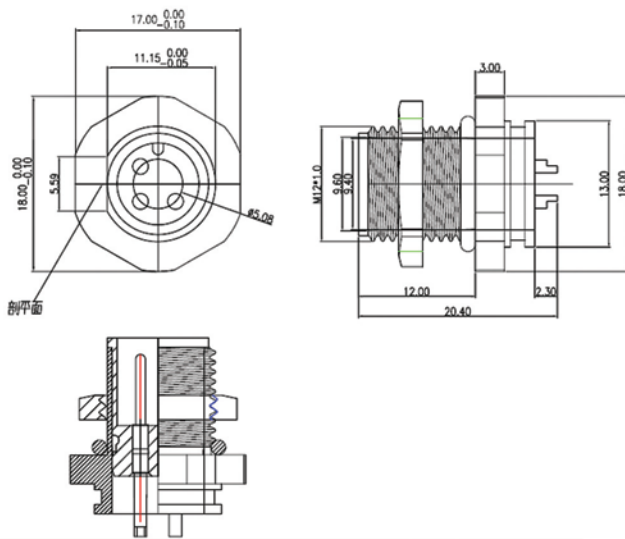


Operation Temp.: -20°C~85°C



Operation Temp.: -20°C~85°C

M



Product Description:

12M3P-B-A-FL-12X1.0-S-S-G10-B-N

Material:

Housing:	PBT UL94V-O; Color:Black
Contact:	Brass
Nut:	Brass
Shell:	Brass
O-ring:	EPDM Color:Black

Finish:

Contact:	10 Micro inc. min. Gold Plated
Nut:	Nickel Plated
Shell:	Nickel Plated

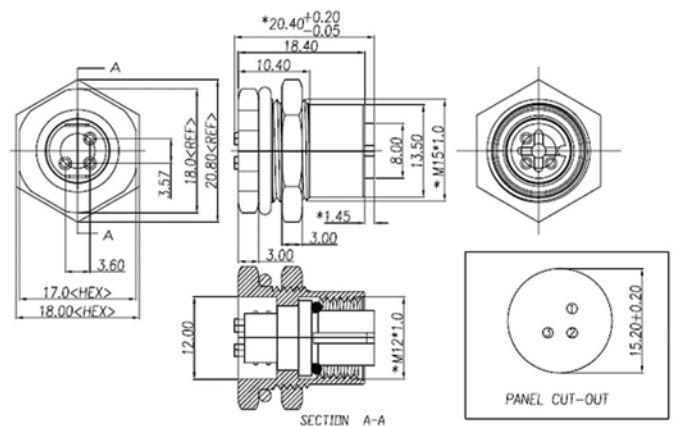
Electrical Specification

Rated Current:	5A
Voltage:	125V
Water Proof:	IPX7

Environmental:

Operation Temp.: -20°C~85°C

F



Product Description:

12F3P-B-A-FL-15X1.0-C-S-G10-B-N

Material:

Shell:	Brass
Contact:	Brass
Housing:	PBT+15GF(Black).
Nut:	Brass
O-Ring:	NBR(Black)

Finish:

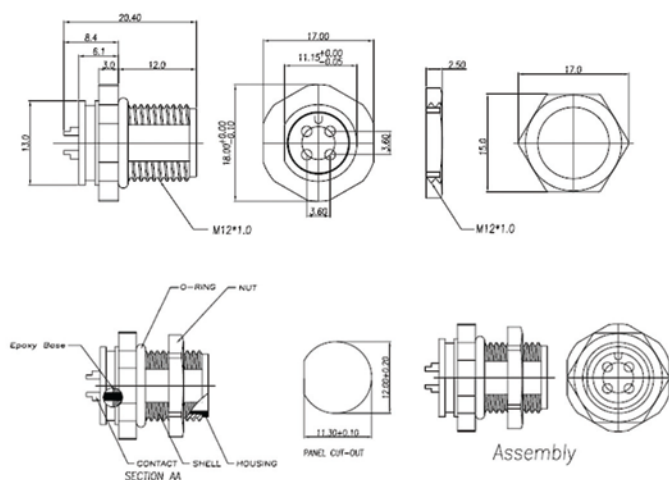
Contact:	10 Micro inc. min. Gold Plated
Nut:	Nickel Plated
Shell:	Nickel Plated

Electrical Specification

Rated Current:	5A
Voltage:	125V
Water Proof:	IPX7

Environmental:

Operation Temp.: -20°C~85°C

M


Product Description:

12M4P-B-A-FL-12X1.0-S-S-G10-B-N

Material:

Housing: PBT UL94V-O; Color:Black
 Contact: Brass
 Nut: Brass
 Shell: Brass
 O-ring: EPDM Color:Black

Finish:

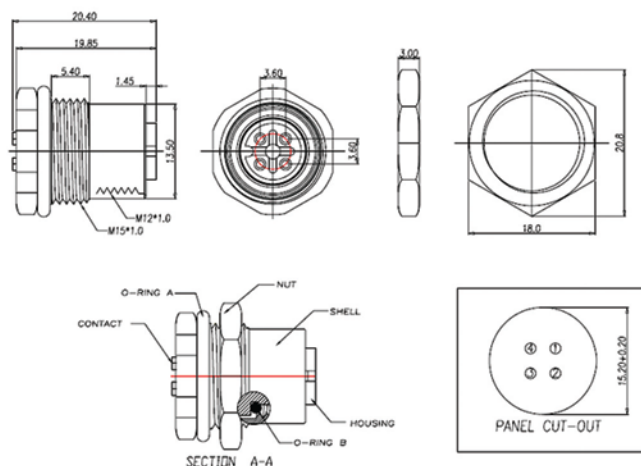
Contact: 10 Micro inc. min. Gold Plated
 Nut: Nickel Plated
 Shell: Nickel Plated

Electrical Specification:

Rated Current: 5A
 Voltage: 125V
 Water Proof: IPX7

Environmental:

Operation Temp.: -20°C~85°C

F


Product Description:

12F4P-B-A-FL-15X1.0-C-S-G10-B-N

Material:

Housing: PBT UL94V-O; Color: Black.
 Contact: Brass.
 Shell: Brass.
 NUT: Brass.
 O-Ring A: NBR; Color:Black.
 O-Ring B: NBR; Color:Black.

Finish:

Contact A: 10 Micro Inches MIN. Gold Plated.
 Under Plate: Nickel.
 Shell A: Nickel Plated 60u"~100u" Over All.

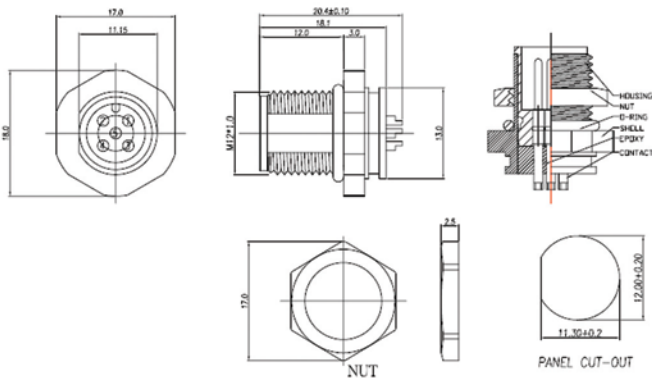
Electrical Specification:

Rated Current: 5A.
 Voltage: 125V
 Water Proof: IPX8.

Environmental:

Operation Temp.: -40°C~ 85°C

M



Product Description:

12M5P-B-A-FL-12X1.0-S-S-G10-B-N

Material:

Housing: PBT UL94V-0; Color:Black
Contact: Brass
Nut: Brass
Shell: Brass
O-ring: EPDM Color:Black

Finish:

Contact: 10 Micro inc. min. Gold Plated
Nut: Nickel Plated
Shell: Nickel Plated

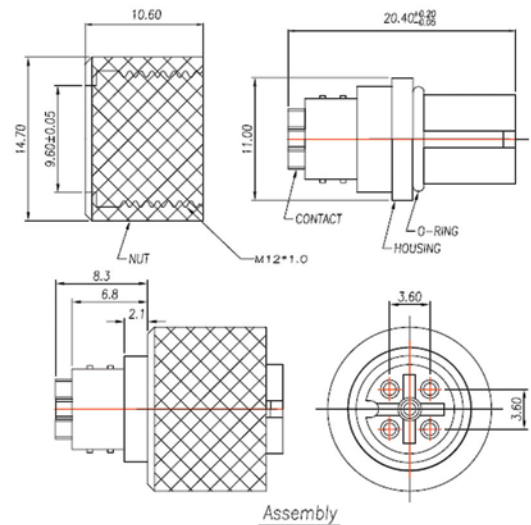
Electrical Specification:

Rated Current: 5A
Voltage: 125V
Water Proof: IPX7

Environmental:

Operation Temp.: -20°C~85°C

F



Product Description:

12F5P-B-A-FL-15X1.0-C-S-G10-B-N

Material:

Housing: PBT UL94V-0 ; COLOR : BLACK
Contact: Brass
Nut: Brass
Shell: Brass
O-Ring A: NBR ; COLOR : BLACK
O-Ring B: EPDM ; COLOR : BLACK

Finish:

Contact: 10 Mirco Inches Min. Gold Plated
Under Plate: Nickel
Nut: Nickel Plated
Shell: Nickel Plated

Electrical Specification:

Rated Current: 5A
Voltage: 125V
Water Proof: IPX7

Environmental:

Operation Temp.: -20°C~85°C

Product Description:

M12 Male connector with cable, straight / right angle, shield connected to the nut

Standard: IEC 61076-2-101/IEC 60947-5-2
Number of contacts: 2,3,4,5 poles

Material:

Housing: PBT UL94V-0; Color: Black
Contact: Brass
Nut: Brass
O-Ring: EPDM; Color: Black
Shell: Brass

Finish:

Contact: 1u" Gold Plated
Under Plate: Nickel
Nut: Nickel Plated 60u"~100u"

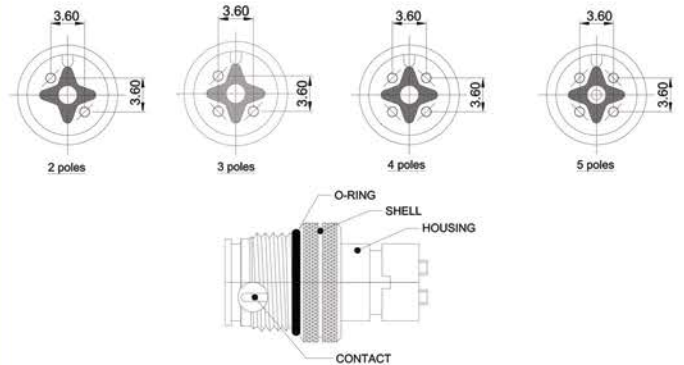
Electrical Specification:

Rated Current: 5A Max.
Voltage: 125V
IP Rating: IP67

Environmental Conditions:

Protection class: IP67 (IEC 60529)
Temperature range: -40°C to +85°C

M



Contact Configuration:



2 - White
4 - Black



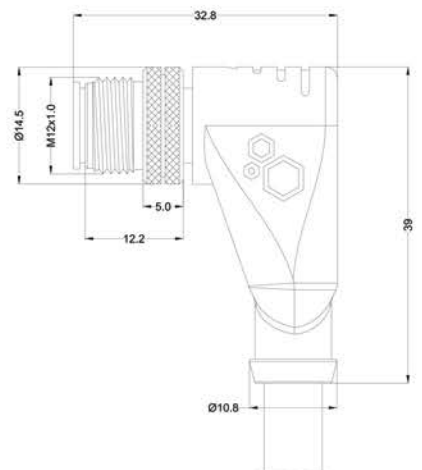
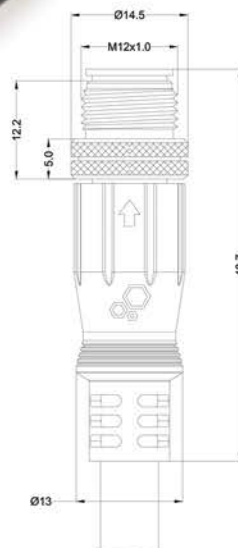
2 - White
3 - Blue
4 - Black



1 - Brown
2 - White
3 - Blue
4 - Black



1 - Brown
2 - White
3 - Blue
4 - Black
5 - Grey



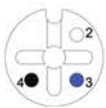
F



Contact Configuration:



2 - White
4 - Black



2 - White
3 - Blue
4 - Black



1 - Brown
2 - White
3 - Blue
4 - Black



1 - Brown
2 - White
3 - Blue
4 - Black
5 - Grey

Product Description:

M12 Female connector with cable, straight / right angle, shield connected to the nut

Standard: IEC 61076-2-101/IEC 60947-5-2
Number of contacts: 2, 3, 4, 5 poles

Material:

Housing: PBT UL94V-0; Color: Black
Contact: Brass
Nut: Brass
O-Ring: EPDM; Color: Black

Finish:

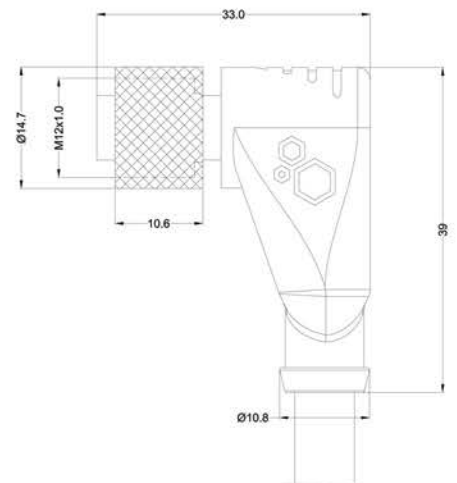
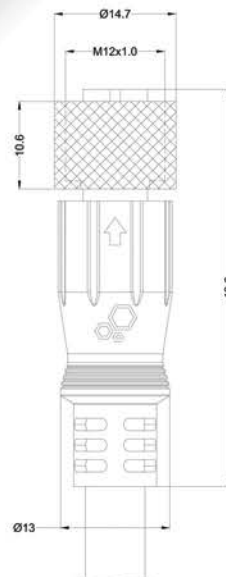
Contact: 1u" Gold Plated
Under Plate: Nickel
Nut: Nickel Plated 60u"~100u"

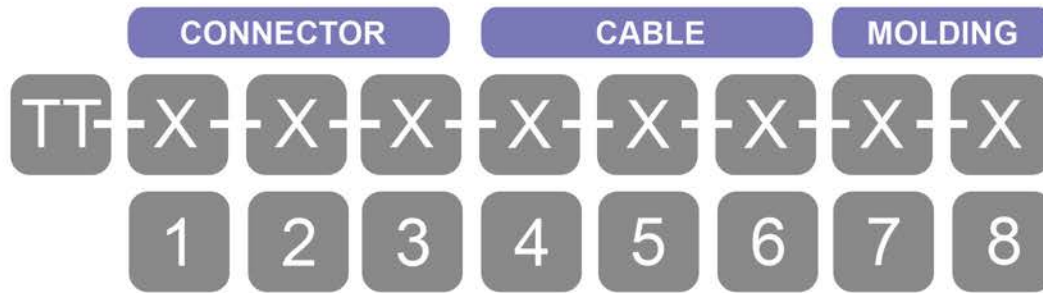
Electrical Specification:

Rated Current: 5A Max.
Voltage: 125V
IP Rating: IP67

Environmental Conditions:

Protection class: IP67 (IEC 60529)
Temperature range: -20°C to +85°C





1

TYPE

05	M5
08	M8
12	M12

2

POLE NUMBER

02	2
03	3
04	4
05	5

3

CONNECTOR POSITION

FS	Female 180°
FR	Female 90°
MS	Male 180°
MR	Male 90°
FSFS	Female 180° / Female 180°
FRFR	Female 90° / Female 90°
MSMS	Male 180° / Male 180°
MRMR	Male 90° / Male 90°
FSMR	Female 180° / Male 90°
FRMS	Female 90° / Female 180°

4

CABLE MATERIAL

A	Pvc
B	Pur

5

CABLE LENGTH (M)

1M	1
2M	2
3M	3
4M	4
5M	5
..M	... etc

6

CABLE STRIP (CM)

0	0
10	10
20	20
30	30
40	40
50	50
...	... etc

7

COLOR

A	Black
B	Green
C	Orange
D	Yellow
E	Grey

8

OUTPUT

O	No LED
P	With LED for PNP
N	With LED for NPN

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