

M SERIES connectors Catalog

M-2012-01-1

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Background:

Amphenol Industrial Operation (AIO) can provide its reliable connection products and the connection solutions. AIO is now manufacturing the range of M8, M12, circular connector, meet UL 1977&IEC 61076-2-101 standards, the connection product are widely used in field bus components, Ethernet, solenoid valves, pressure switches, motors-control, Encoder, HMI, photoelectric barriers, flow monitoring devices, and sensors in the hydraulic and automation industries, all kind of electronic equipment connection.

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APPLICATION

1. INVERTER
2. DATA/TELECOM
3. SMART GRID POWER
4. CONTROL/AUTOMATION
5. INDUSTRIAL INSTRUMENTATION
6. RAIL & MASS TRANSIT

M12 SPECIFICATION

Mechanical data

- Durability: 500 Cycles
- Salt Spray: 720 Hours different plating and base material
- Sealing Requirement: IP 67/IP68(mated)
- Operating temperature: -40°C~+100°C

Standards

- Connectors: IEC 61076-2-101

Electrical

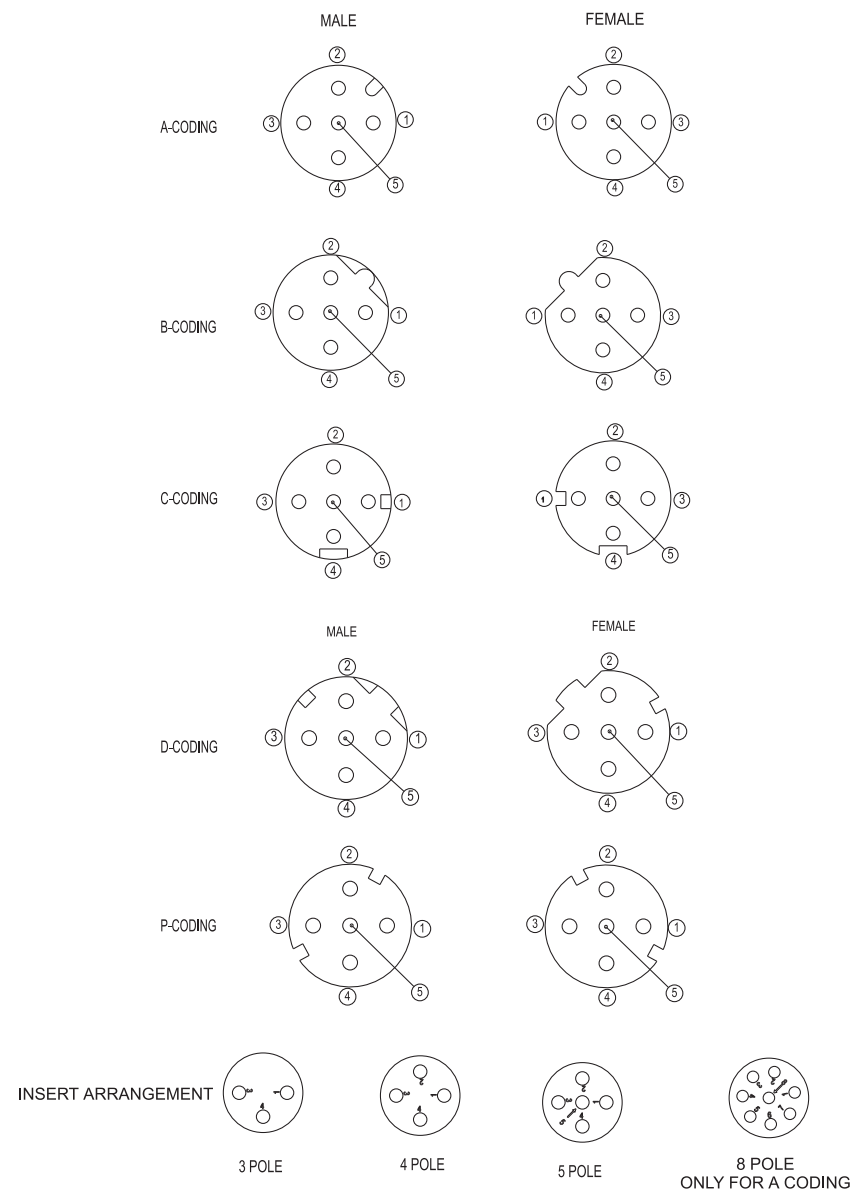
- Contact Resistance: $\leq 5\text{m}\Omega$
- Insulation Resistance: $> 20\text{M}\Omega$
- Rated Current: (3, 4, and 5 pole) = 4A, (8 pole) = 2A
- Operate Voltage:
 - (3 and 4 pole) = 250V AC/DC,
 - (5 pole) = 60V AC/DC,
 - (8 pole) = 30V AC/DC

Material

- Shell, Screw/Nut: Copper, Zinc, or Aluminum Alloy
- Contact: Brass with gold plating
- Insert: PA + Glass Filled meet UL 94V0
- Sealing: Epoxy Resin
- O-ring: NBR/SR

Cable characteristics:

- Material: UL certified PVC or customer requestment
- Cable size: 22AWG-20AWG, 3C, 4C, 5C & 8C
- Current rating: 4A
- Voltage rating: 250V AC/DC(3C, 4C), 60V AC/DC(5C), 30V(8C)
- Shielded/unshielded available.
- Heavy-duty application in harsh environments
- Highly resistant against abraion
- Good resistance against oil, lubricants, and coolants.
- Halogen free, hydrolysis and UV resistant.
- Flame retardant



How to order

For Receptacle

CJE12	C	R	ST	04	S	W	A	PCG	R	Blank
1	2	3	4	5	6	7	8	9	10	11

1. CJE12 M12 x 1.0 thread locking

7. Contact connection type

P-----Solder PCB
W-----Solder wire
S-----Screw
C-----Crimp

2. Shell, coupling nut material :

A-----Al Alloy
C-----Copper Alloy
Z-----Zn Alloy

8. Coding type

A-----A code only for 8 position
B-----B Code
D-----D code
C-----C Code
P-----P Code

3. Shell system

R-----Receptacle

9. Accessories type

PCG-----plastic cable gland
MCG-----Metal cable gland
Blank-----no Accessories

4. Backshell connection type

ST-----Straight
RA-----Right Angle (Solder PCB Inapplicability)

10. Panel lock type for receptacle

R-----Real lock
F-----Front lock

5. Insert arrangement

03, 04, 05, 08

6. Contact type

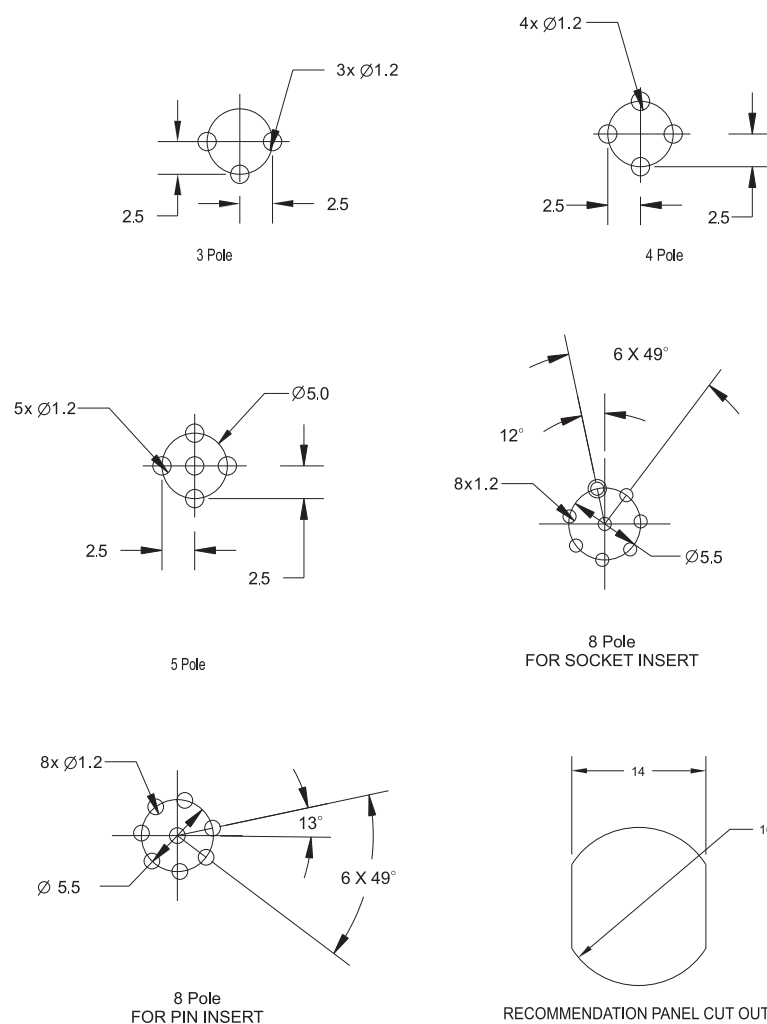
S-----female contact
P-----male contact

11. Contact finish

Blank-----Gold plated
2-----Silver plated
3-----Tin plated
4-----Nickel plated

PCB LAYOUT

For Receptacle

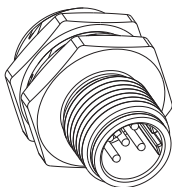


RECEPTACLE REAL LOCK MALE SOLDER TYPE

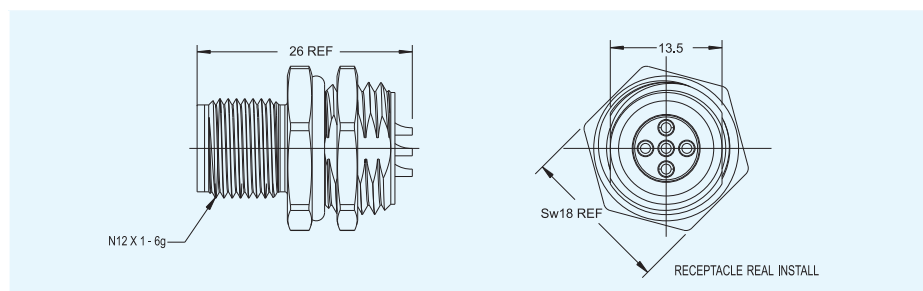
Part number

CJE12CRST_PW_R

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- 3,4,5,8 position available



DIMENSIONS (Millimeters)

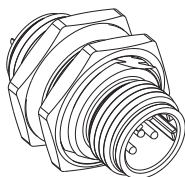


RECEPTACLE FRONT LOCK MALE SOLDER TYPE

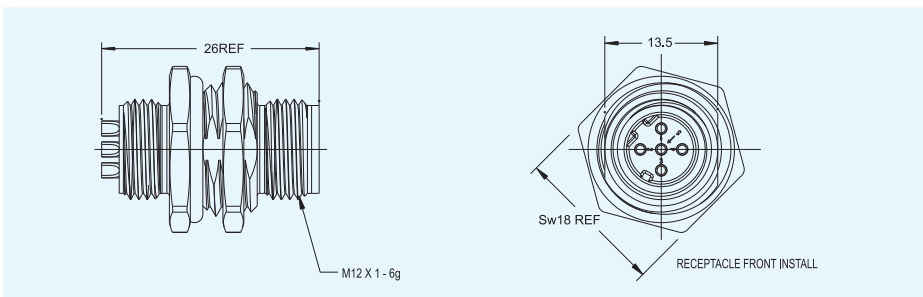
part number

CJE12CRST_PW_F

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- 3,4,5,8 position available



DIMENSIONS (Millimeters)

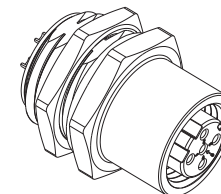


RECEPTACLE REAL LOCK FEMALE SOLDER TYPE

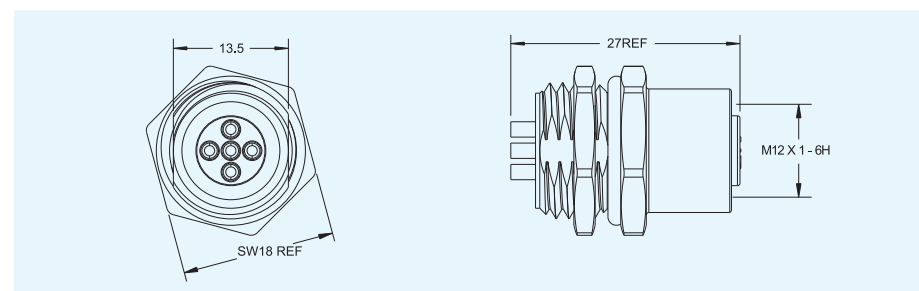
Part number

CJE12CRST_SW_R

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- 3,4,5,8 position available



DIMENSIONS (Millimeters)

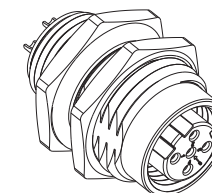


RECEPTACLE FRONT LOCK FEMALE SOLDER TYPE

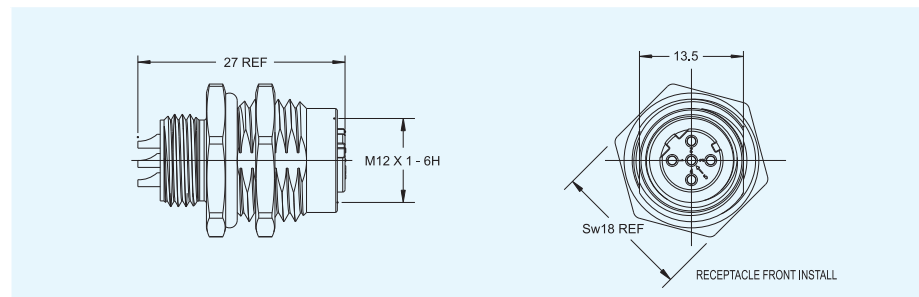
part number

CJE12CRST_SW_F

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- 3,4,5,8 position available



DIMENSIONS (Millimeters)

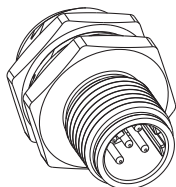


RECEPTACLE REAL LOCK MALE PCB TYPE

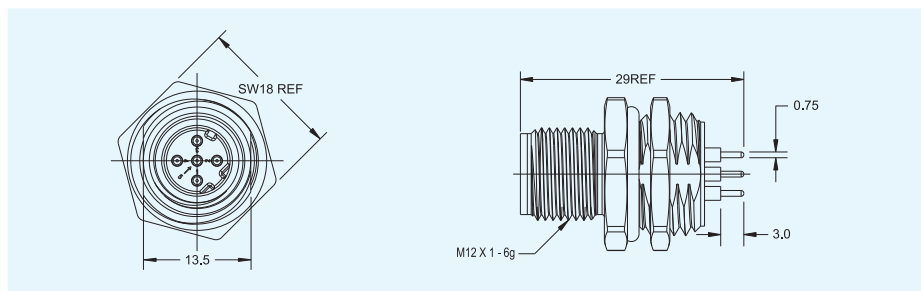
part number

CJE12CRST_PP_R

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- 3,4,5,8 position available



DIMENSIONS (Millimeters)

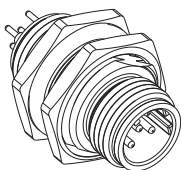


RECEPTACLE FRONT LOCK MALE PCB TYPE

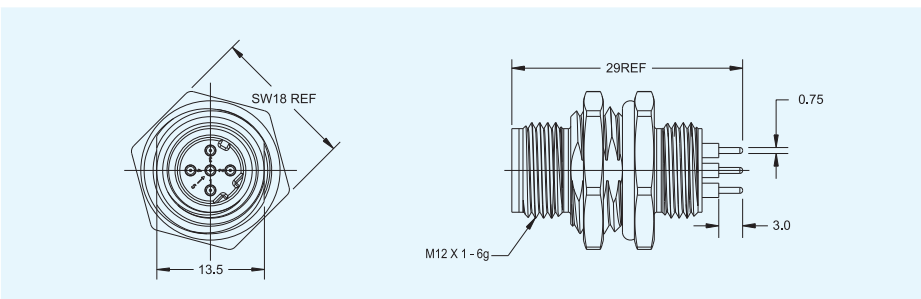
part number

CJE12CRST_PP_F

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- 3,4,5,8 position available



DIMENSIONS (Millimeters)

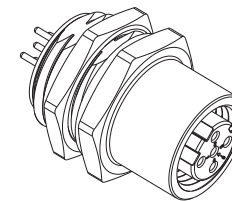


RECEPTACLE REAL LOCK FEMALE PCB TYPE

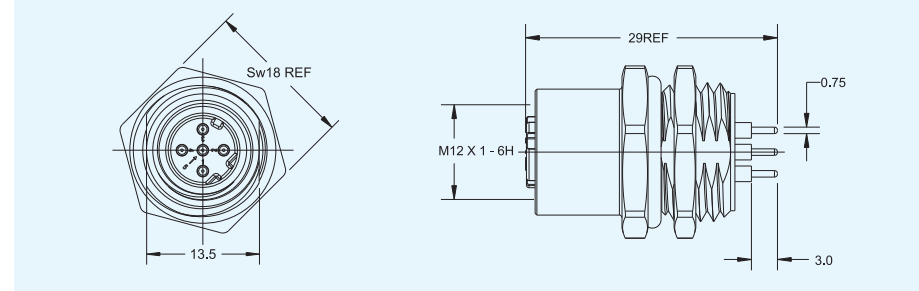
part number

CJE12CRST_SP_R

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- 3,4,5,8 position available



DIMENSIONS (Millimeters)

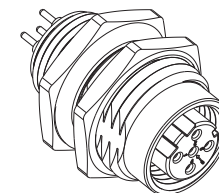


RECEPTACLE FRONT LOCK FEMALE PCB TYPE

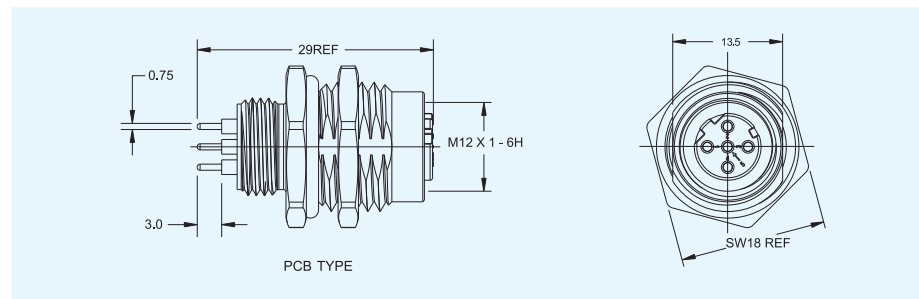
part number

CJE12CRST_SP_F

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- 3,4,5,8 position available



DIMENSIONS (Millimeters)



RECEPTACLE FRONT LOCK MALE SOLDER WITH PLASTIC CABLE GLAND

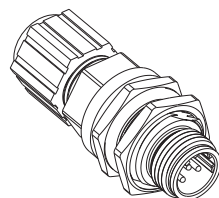
part number

CJE12RST_PW_FPCG

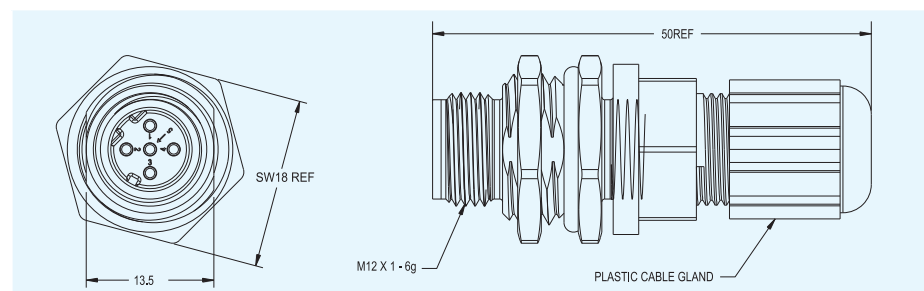
Blank (Gold) ,2,3,4 type contact available

A,B,C,D,P code available

3,4,5,8 position available



DIMENSIONS (Millimeters)



RECEPTACLE FRONT LOCK FEMALE SOLDER WITH PLASTIC CABLE GLAND

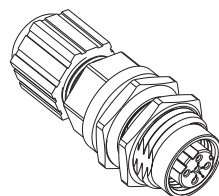
part number

CJE12RST_SW_FPCG

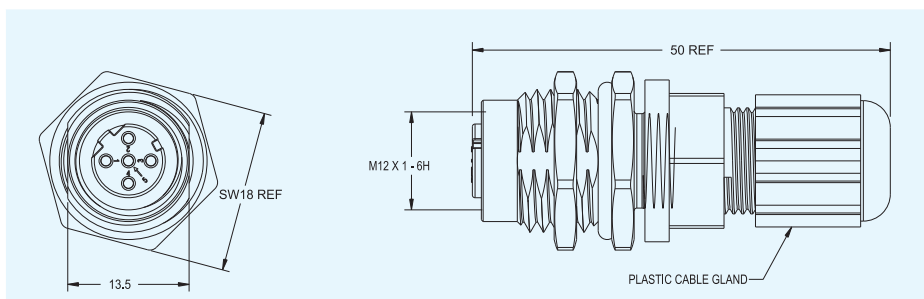
Blank (Gold) ,2,3,4 type contact available

A,B,C,D,P code available

3,4,5,8 position available



DIMENSIONS (Millimeters)



RECEPTACLE FRONT LOCK MALE SOLDER WITH METAL CABLE GLAND

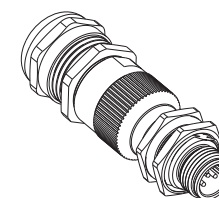
part number

CJE12RST_PW_FMCG

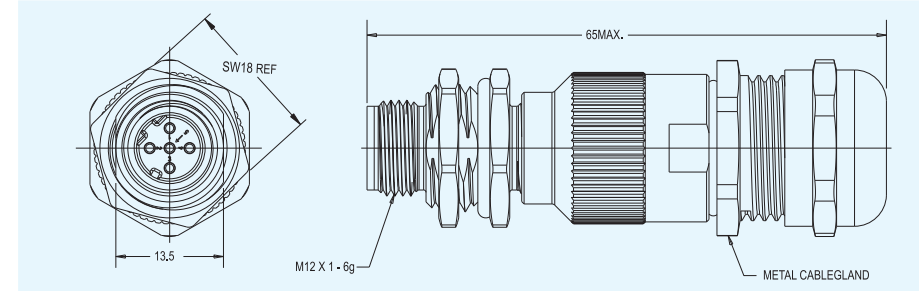
Blank (Gold) ,2,3,4 type contact available

A,B,C,D,P code available

3,4,5,8 position available



DIMENSIONS (Millimeters)



RECEPTACLE FRONT LOCK FEMALE SOLDER WITH METAL CABLE GLAND

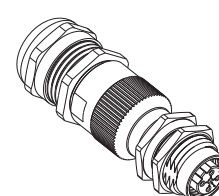
part number

CJE12RST_SW_FMCG

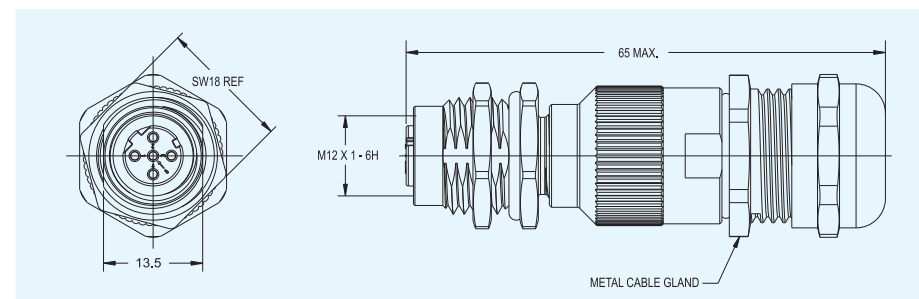
Blank (Gold) ,2,3,4 type contact available

A,B,C,D,P code available

3,4,5,8 position available



DIMENSIONS (Millimeters)



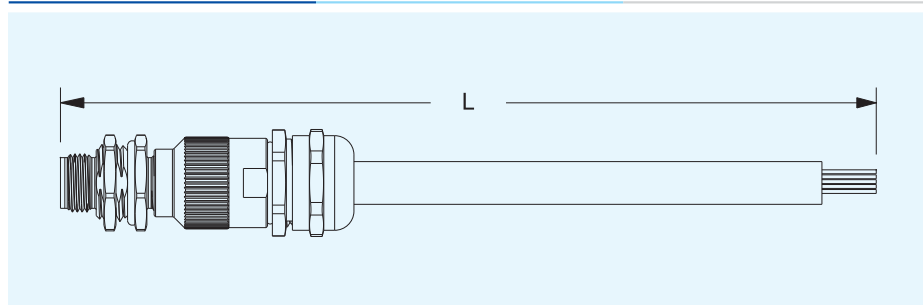
RECEPTACLE FRONT LOCK MALE WITH METAL CABLE GLAND & CABLE ASSEMBLY

part number

CJE12RST_PW_FMCGL

- Blank (Gold) ,2,3,4 type contact available
- For customer request cable length optional
- A,B,C,D,P code available
- 3,4,5,8 position available

DIMENSIONS (Millimeters)



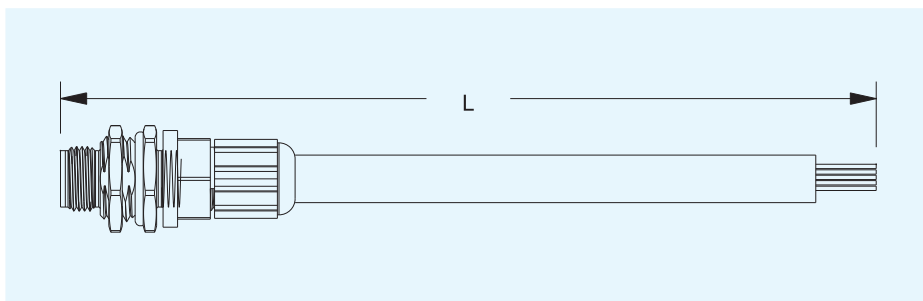
RECEPTACLE FRONT LOCK MALE WITH PLASTIC CABLE GLAND & CABLE ASSEMBLY

part number

CJE12RST_PW_FPCGL

- Blank (Gold) ,2,3,4 type contact available
- For customer request cable length optional
- A,B,C,D,P code available
- 3,4,5,8 position available

DIMENSIONS (Millimeters)



How to order

For Plug

CJE12	C	P	ST	04	S	W	A	PCG	L	Blank
1	2	3	4	5	6	7	8	9	10	11

1. CJE12 M12 x 1.0 thread locking

2. Shell, coupling nut material :

A-----Al Alloy
C-----Copper Alloy
Z-----Zn Alloy

3. Shell system

P-----Plug

4. Backshell connection type

ST-----straight
RA-----Right Angle

5. Insert arrangement

03, 04, 05, 08

6. Contact type

S-----female contact
P-----male contact

7. Contact connection type

W-----Solder wire
C-----crimp
S-----Screw

8 Coding type

A-----A code only for 8 position
B-----B Code
D-----D code
C-----C Code
P-----P code

9 Accessories type

PCG-----plastic cable gland
MCG-----Metal cable gland
Blank-----no Accessories

10. For cable assembly optional

Overmolding cable assembly ,length is optional
L----for cable length, optional

11-----Contact finish

Blank-----Gold plated
2-----Silver plated
3-----Tin plated
4-----Nickel plated

PLUG STRAIGHT MALE WITH PLASTIC CABLE GLAND

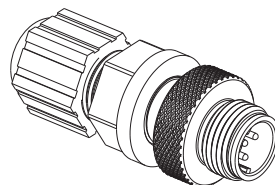
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CJE12CPST_PW_PCG

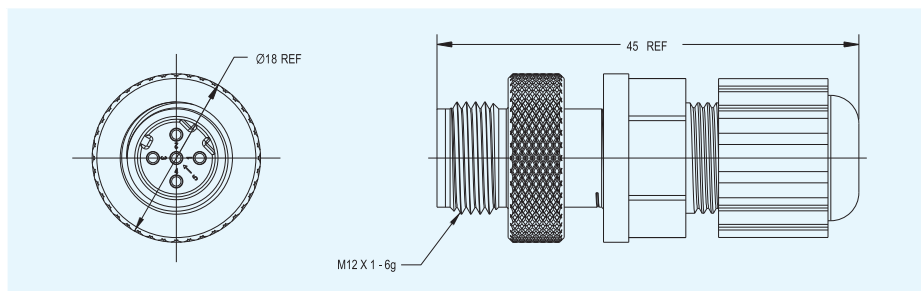
Blank (Gold) ,2,3,4 type contact available

A,B,C,D,P code available

3,4,5,8 position available



DIMENSIONS (Millimeters)



PLUG RIGHT ANGLE MALE WITH PLASTIC CABLE GLAND

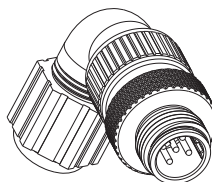
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CJE12CPRA_PW_PCG

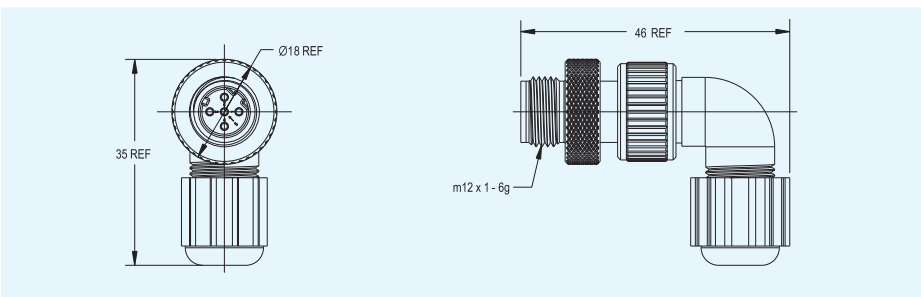
Blank (Gold) ,2,3,4 type contact available

A,B,C,D,P code available

3,4,5,8 position available



DIMENSIONS (Millimeters)



PLUG STRAIGHT FEMALE WITH PLASTIC CABLE GLAND

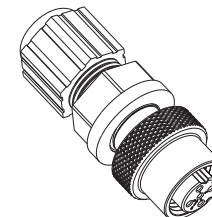
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CJE12CPST_SW_PCG

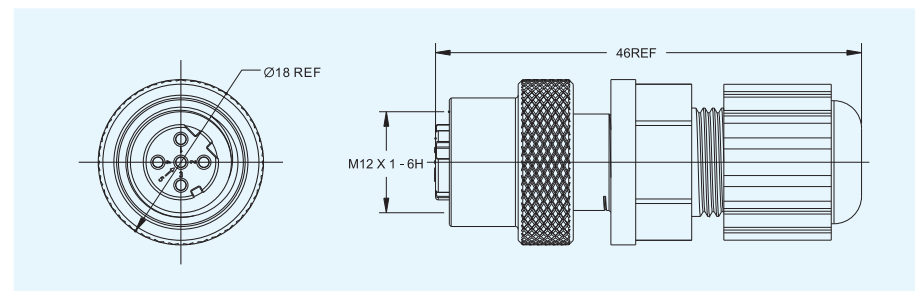
Blank (Gold) ,2,3,4 type contact available

A,B,C,D,P code available

3,4,5,8 position available



DIMENSIONS (Millimeters)



PLUG RIGHT ANGLE FEMALE WITH PLASTIC CABLE GLAND

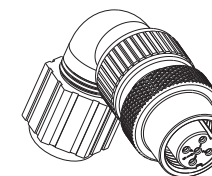
part number

CJE12CPRA_SW_PCG

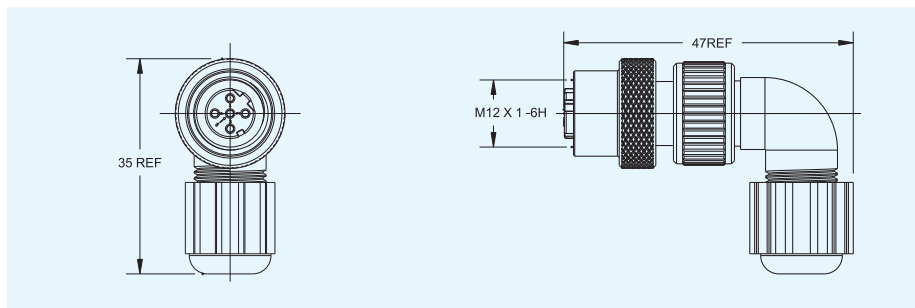
Blank (Gold) ,2,3,4 type contact available

A,B,C,D,P code available

3,4,5,8 position available



DIMENSIONS (Millimeters)

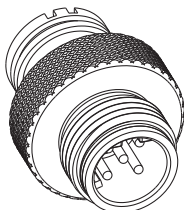


PLUG MALE

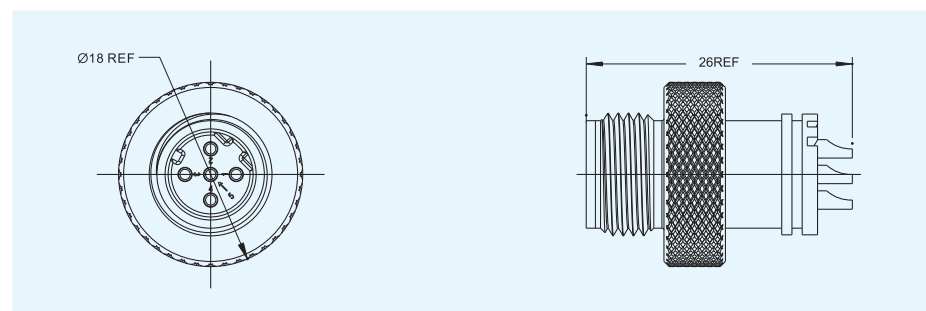
part number

CJE12CPST_PW

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- 3,4,5,8 position available



DIMENSIONS (Millimeters)

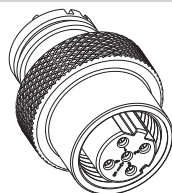


PLUG FEMALE

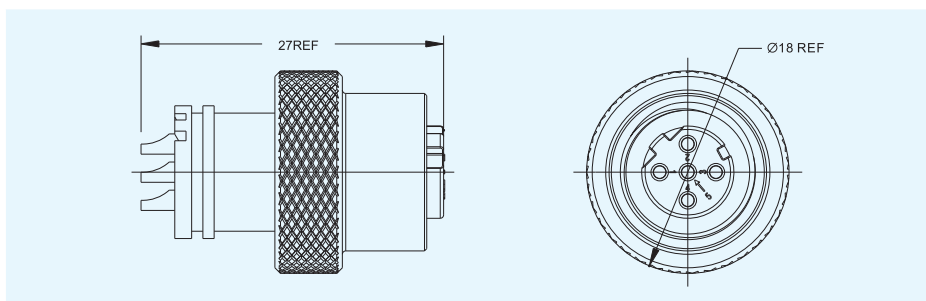
part number

CJE12CPST_SW

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- 3,4,5,8 position available



DIMENSIONS (Millimeters)



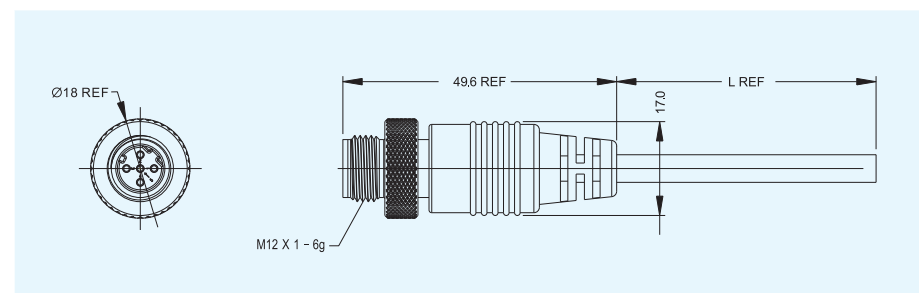
PLUG STRAIGHT MALE OVERMOLDING CABLE ASSEMBLY

part number

CJE12CPST_P

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- Solder wire(W) / crimp(C) type available
- 3,4,5,8 position available

DIMENSIONS (Millimeters)



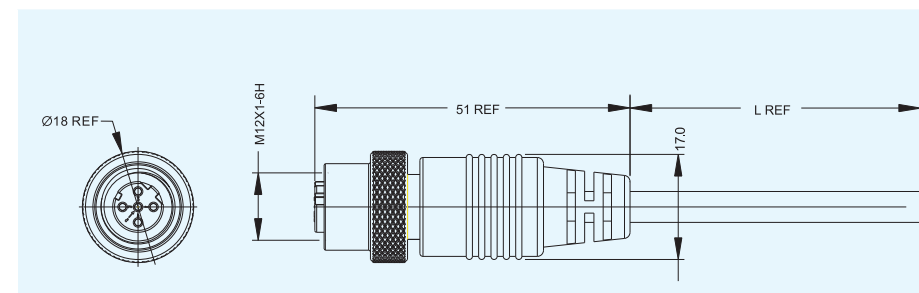
PLUG STRAIGHT FEMALE OVERMOLDING CABLE ASSEMBLY

part number

CJE12CPST_S

- Blank (Gold) ,2,3,4 type contact available
- A,B,C,D,P code available
- Solder wire(W) / crimp(C) type available
- 3,4,5,8 position available

DIMENSIONS (Millimeters)

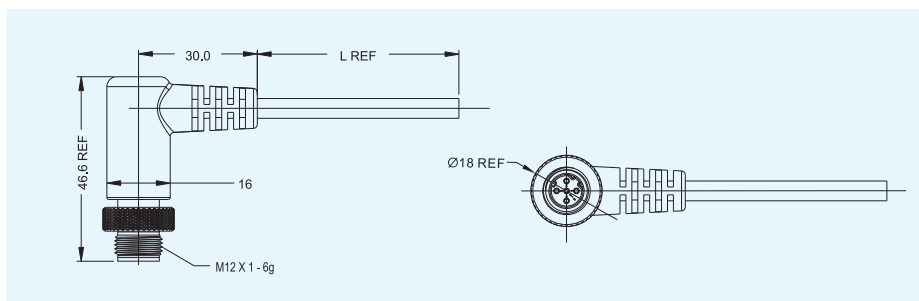


PLUG RIGHT ANGLE MALE OVERMOLDING CABLE ASSEMBLY

part number

CJE12CPRA_P L
Blank (Gold) ,2,3,4 type contact available
A,B,C,D,P code available
Solder wire(W) / crimp(C) type available
3,4,5,8 position available

DIMENSIONS (Millimeters)

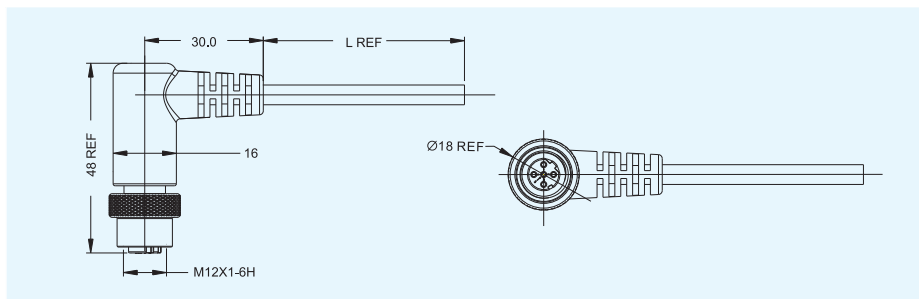


PLUG RIGHT ANGLE FEMALE OVERMOLDING CABLE ASSEMBLY

part number

CJE12CPRA_S L
Blank (Gold) ,2,3,4 type contact available
A,B,C,D,P code available
Solder wire(W) / crimp(C) type available
3,4,5,8 position available

DIMENSIONS (Millimeters)

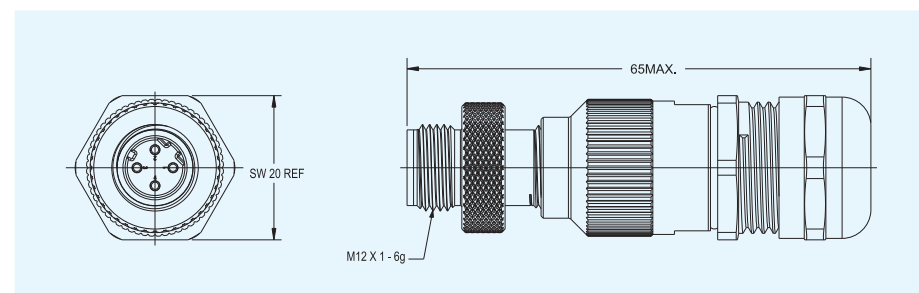


PLUG STRAIGHT MALE WITH METAL CABLE GLAND TYPE

part number.

CJE12CPST_PW MCG
Blank (Gold) ,2,3,4 type contact available
A,B,C,D,P code available
3,4,5,8 position available

DIMENSIONS (Millimeters)

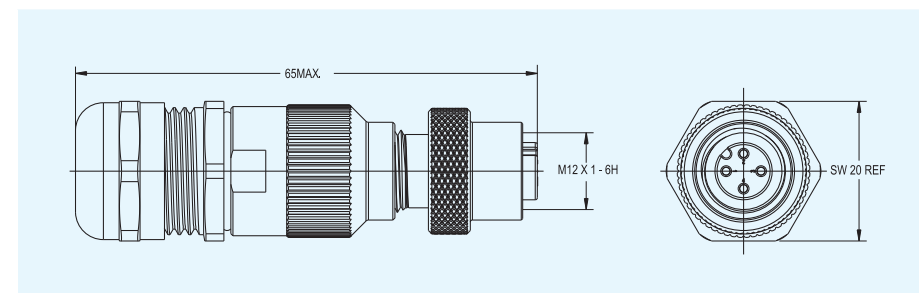


PLUG STRAIGHT FEMALE WITH METAL CABLE GLAND TYPE

part number .

CJE12CPST_SW MCG
Blank (Gold) ,2,3,4 type contact available
A,B,C,D,P code available
3,4,5,8 position available

DIMENSIONS (Millimeters)

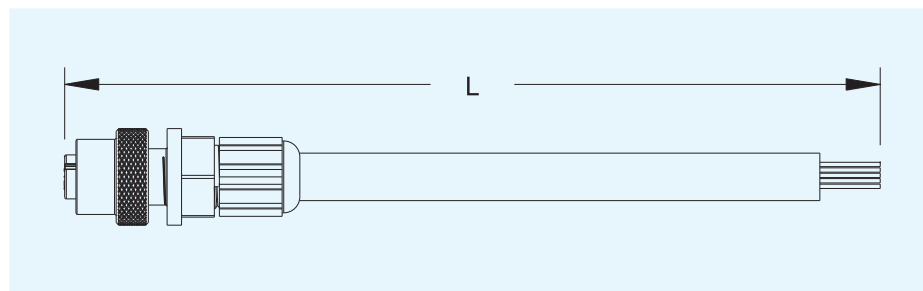


PLUG STRAIGHT FEMALE WITH PLASTIC CABLE GLAND & CABLE ASSEMBLY

part number.

CJE12CPST_SW_PCGL
 Blank (Gold) ,2,3,4 type contact available
 A,B,C,D,P code available
 3,4,5,8 position available

DIMENSIONS (Millimeters)

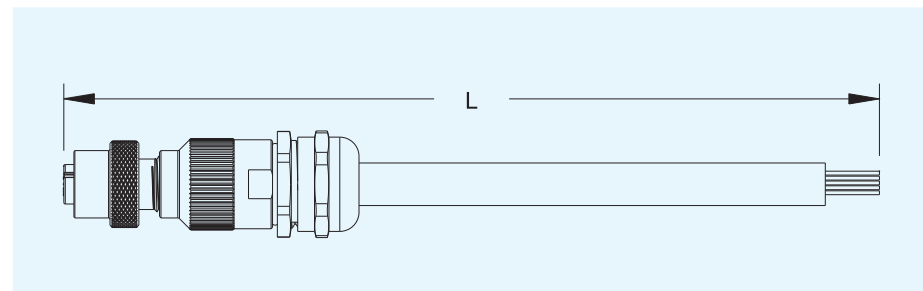


PLUG STRAIGHT FEMALE WITH METAL CABLE GLAND & CABLE ASSEMBLY

part number .

CJE12CPST_SW_MCGL
 Blank (Gold) ,2,3,4 type contact available
 A,B,C,D,P code available
 3,4,5,8 position available

DIMENSIONS (Millimeters)



Max-M12 Connector

Electrical & Environmental Characteristics:

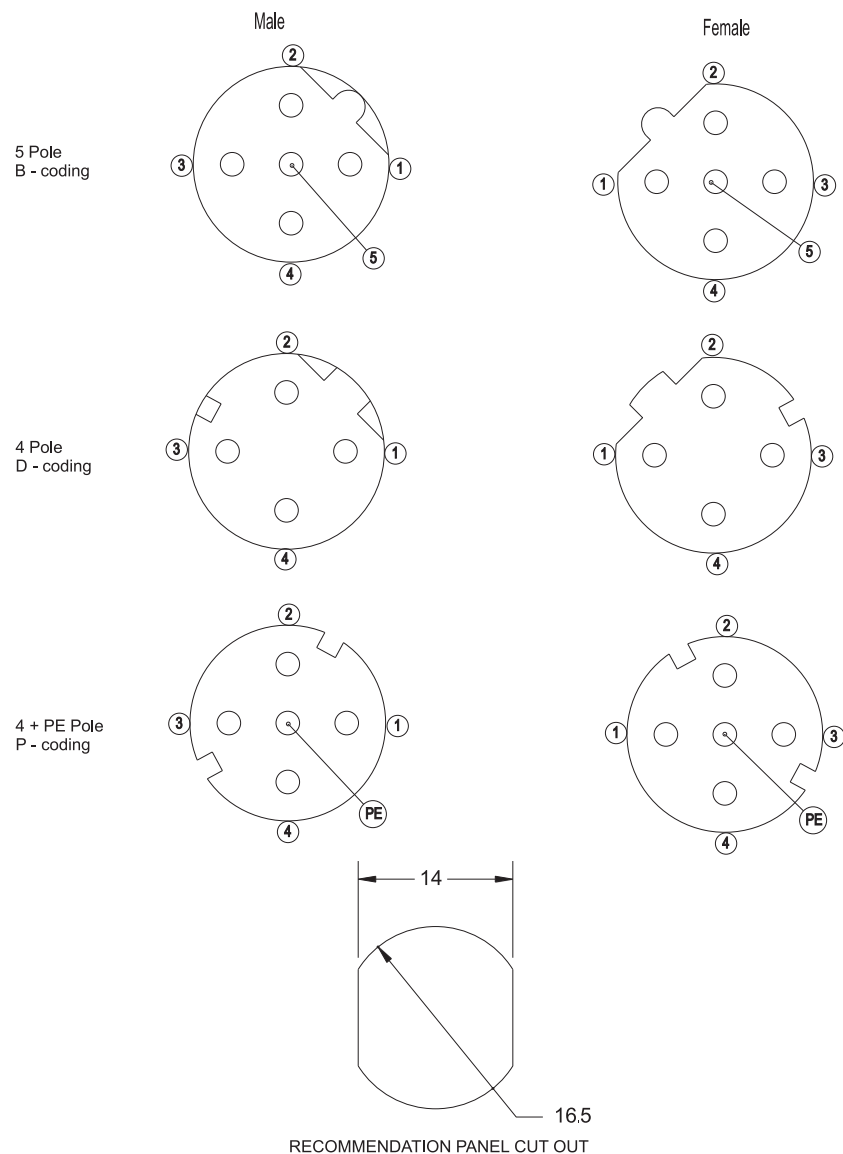
- SAE J 2839 Compliant
- IP 67 & IP 69 K Compliant
- Backward compatible with IEC 61076-2-101 (M12) with higher environmental rating
- Provisions for overall cable shield or drain wire to the connector plug housing
- Connection resistance – maximum millivolt drop of 50 millivolts



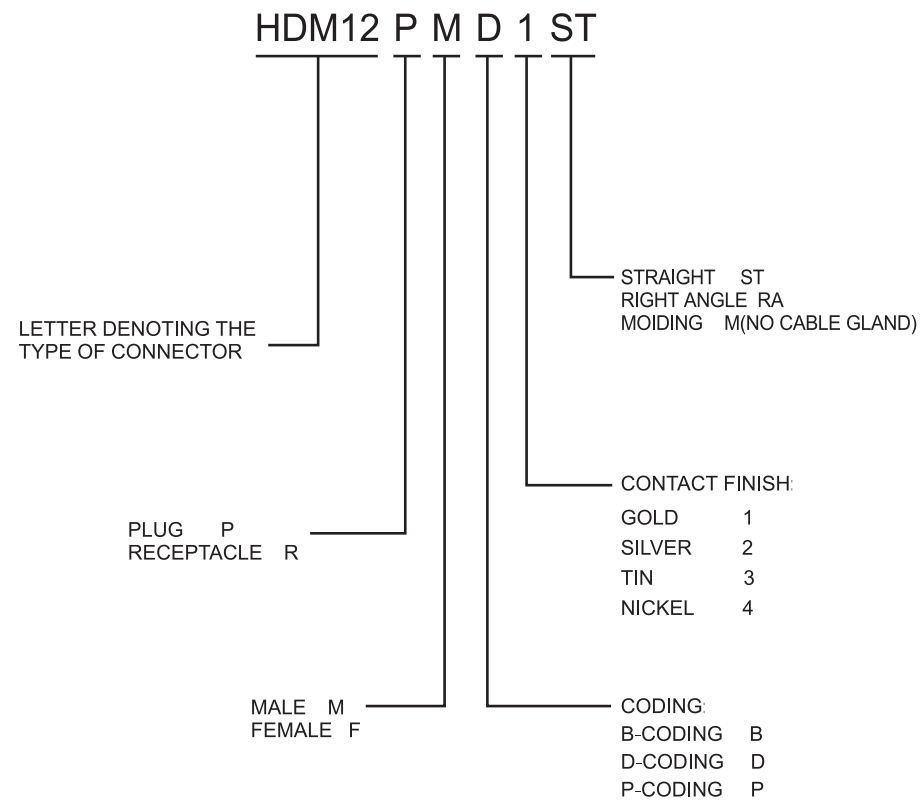
Operating Voltage	5 pin - 60V AC/DC 4 pin - 250V AC/DC	IEC 60664
Current Rating	4A MAX.	IEC 60512 TEST 5B
Temperature Rating	-40°C - +125°C	SAE J2030, 6 . 13
Dielectric Withstanding Voltage	1000V	IEC 60512, TEST 4A
Insulation Resistance	>20 Megohms	SAE J2030, 6 . 3
Rated Impulse Voltage	1500V	IEC 60664-1
Contact Resistance	<10 mΩ	IEC60512 TEST 2A
Vibration, Sine	10 - 2000 Hz, 20g, <1 us	SAE J2030, 6 . 15
Shock, Half Sine	10 CYCLES, 50g, 11mg, <1 us	SAE J2030, 6 . 16
Temperature Life	1000HAT 125°C + 3°C	SAE J2030, 6 . 6
Durability	50 CYCLES MIN.	SAE J2030, 6 . 11
Salt Fog	96H	SAE J2030, 6 . 12
Protection Class	IP67 and IP69K	IEC 60529
Wire Gauge	0.5 mm2 (20AWG) or 0.8 mm2 (18AWG)/ 0.75 mm2	SAE J1128 / ISO 6722
Cable OD.	ø 12.7 MAX.	
Recommended Torque	M12 THREAD, 0.8 - 1.0 Nm	
Connector Retention	444 N MIN	SAE J2030, 6 . 20
Contact Retention	110 N MIN	SAE J2030, 6 . 18

Applications:

- Construction Machinery & Equipment
- Forestry Equipment
- Navigation, GPS and Telematics Applications
- Mining Machinery & Equipment
- Agricultural Machinery & Equipment
- Harsh Environment Sensors, Controllers, Actuators, Switches, etc.



How to order



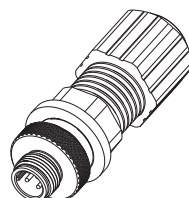
PLUG STRAIGHT MALE

part number

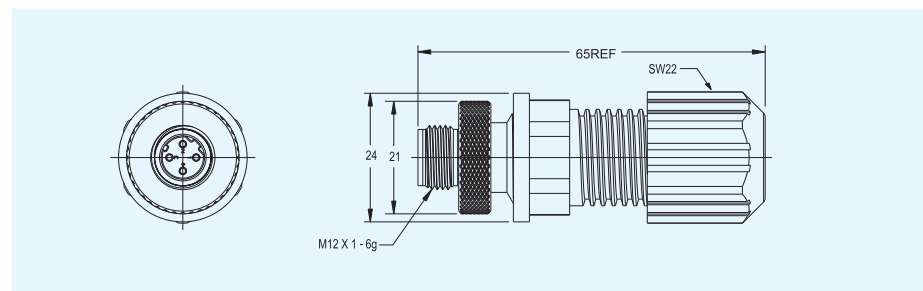
HDM12PM-ST

1,2,3,4 type contact available

B,D,P, code available



DIMENSIONS (Millimeters)



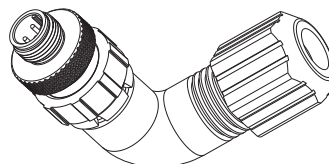
PLUG RIGHT ANGLE MALE

part number

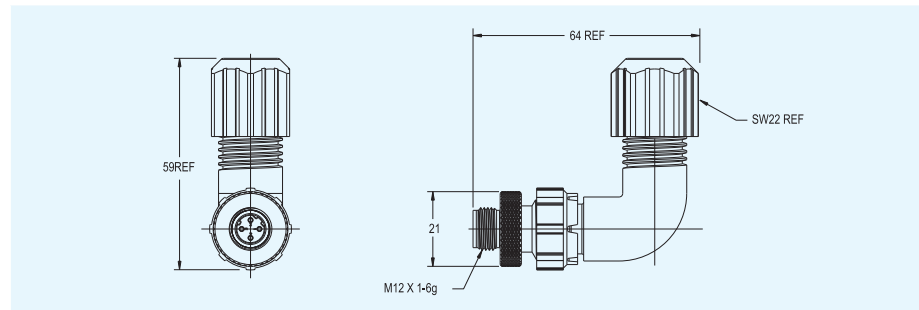
HDM12PM-RA

1,2,3,4 type contact available

B,D,P, code available



DIMENSIONS (Millimeters)



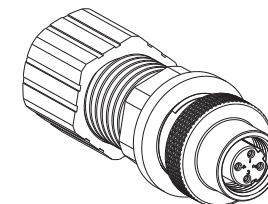
PLUG STRAIGHT FEMALE

part number

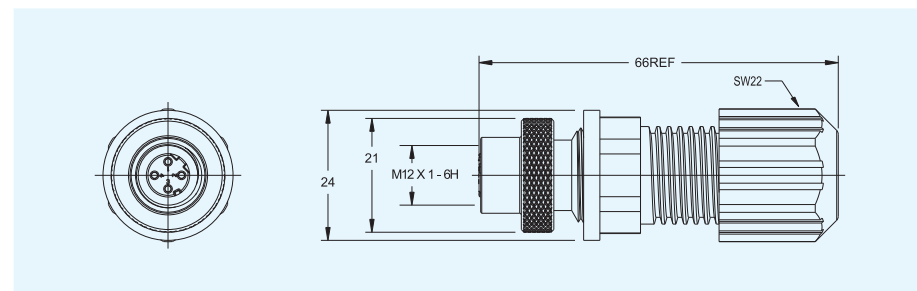
HDM12PF-ST

1,2,3,4 type contact available

B,D,P, code available



DIMENSIONS (Millimeters)



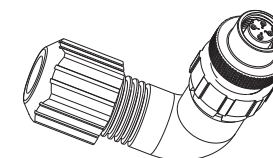
PLUG RIGHT ANGLE FEMALE

part number

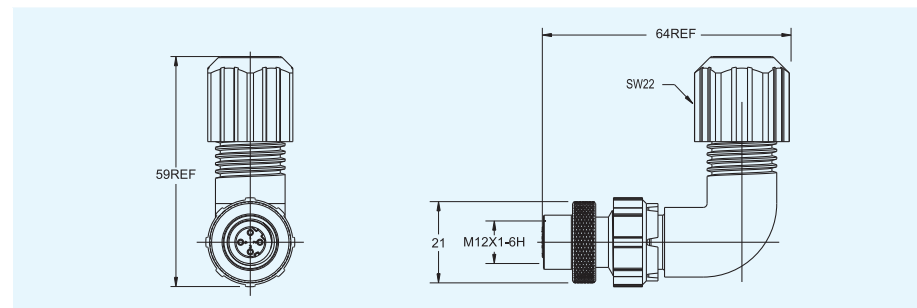
HDM12PF-RA

1,2,3,4 type contact available

B,D,P, code available



DIMENSIONS (Millimeters)



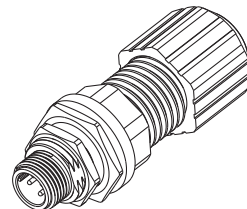
RECEPTACLE STRAIGHT MALE

part number

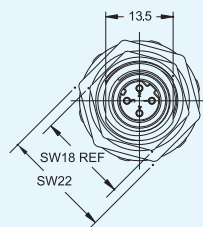
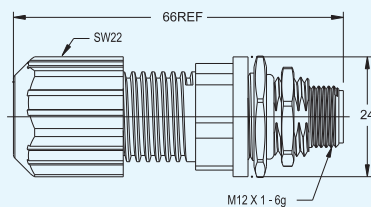
HDM12RM-ST

1,2,3,4 type contact available

B,D,P, code available



DIMENSIONS (Millimeters)



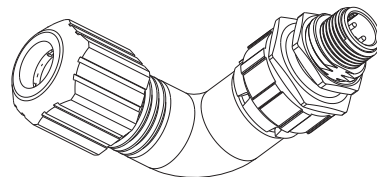
RECEPTACLE RIGHT ANGLE MALE

part number

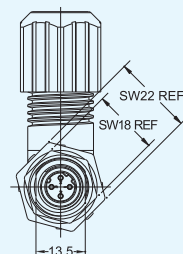
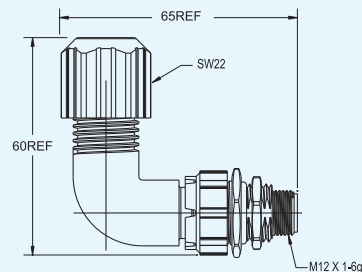
HDM12RM-RA

1,2,3,4 type contact available

B,D,P, code available



DIMENSIONS (Millimeters)



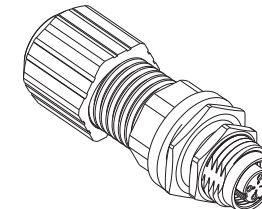
RECEPTACLE STRAIGHT FEMALE

part number

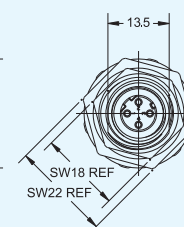
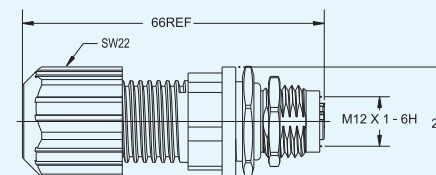
HDM12RF-ST

1,2,3,4 type contact available

B,D,P, code available



DIMENSIONS (Millimeters)



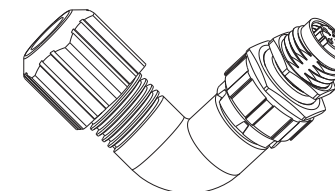
RECEPTACLE RIGHT ANGLE FEMALE

part number

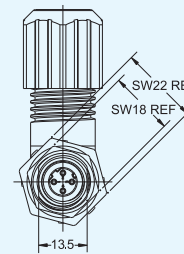
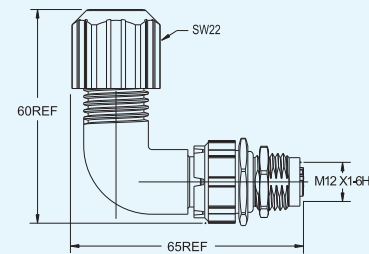
HDM12PF-RA

1,2,3,4 type contact available

B,D,P, code available



DIMENSIONS (Millimeters)



M8 SPECIFICATION

Mechanical Data:

- Durability: 500 Cycles
- Salt Spray: 720Hours different plating and base material
- Sealing Requirement: IP 67/IP68(mated)
- Operating temperature -40°C~+100°C

Standards:

- Connectors: IEC61076-2-101

Electrical:

- Insulation resistance: $\geq 20M$ ohms
- Contact resistance $\leq 5m$ ohms
- Rated current: 4A
- Operating voltage 60V AC/DC

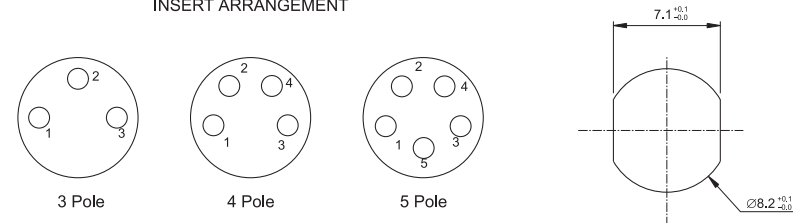
Materials:

- Shell, Screw/Nut: Copper/Al alloy/ Zn alloy with nickel plating
- Contact: copper with gold plating
- Insert material: PA+GF meet UL 94V0
- Sealing: Epoxy resin
- O-ring: NBR/SR

Cable characteristics:

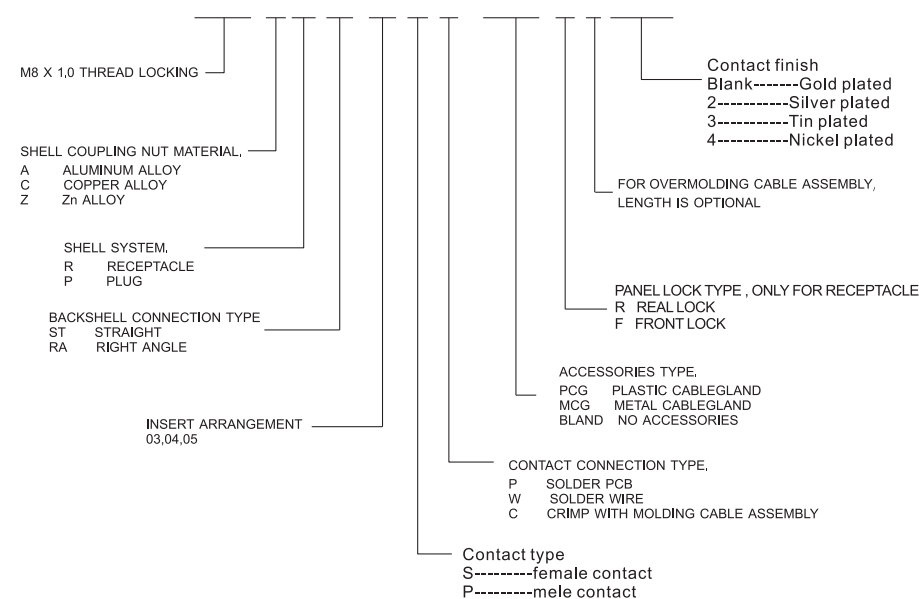
- Material: UL certified PVC or customer requestment
- Cable size: 22AWG-20AWG, 3C, 4C, 5C
- Current rating: 4A
- Voltage rating: 60V AC/DC
- Shielded/unshielded available.
- Heavy-duty application in harsh environments
- Highly resistant against abraion
- Good resistance against oil, lubricants, and coolants.
- Halogen free, hydrolysis and UV resistant.
- Flame retardant

INSERT ARRANGEMENT



RECOMMENDATION PANELCUT OUT

CJE8 C R ST 04 S W PCG R L Blank

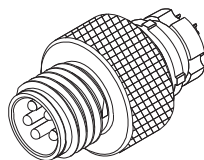


PLUG STRAIGHT MALE CABLE ASSEMBLY

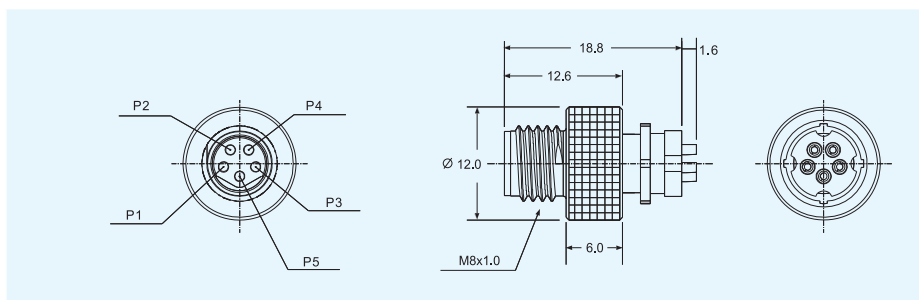
part number

CJE8CPST_PW

Blank (Gold) ,2,3,4 type contact available
3,4,5 position available



DIMENSIONS (Millimeters)

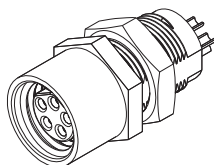


RECEPTACLE REAL LOCK FEMALE SOLDER TYPE

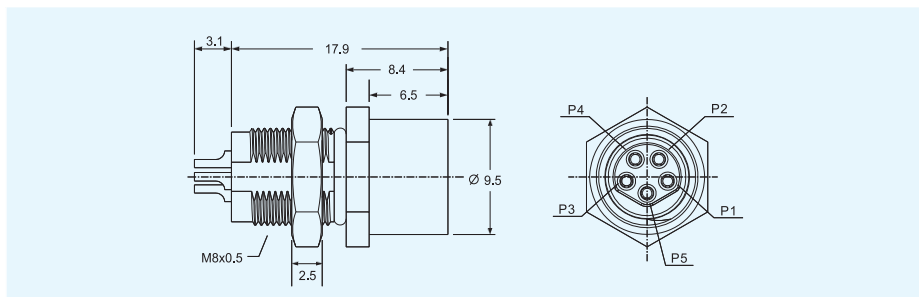
part number

CJE8CRST_SWR

Blank (Gold) ,2,3,4 type contact available
3,4,5 position available



DIMENSIONS (Millimeters)



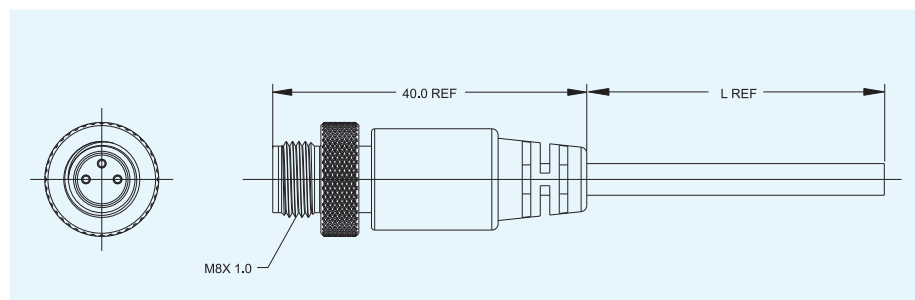
PLUG STRAIGHT MALE OVERMOLDING CABLE ASSEMBLY

part number

CJE8CPST_P L

Blank (Gold) ,2,3,4 type contact available
Solder wire(W)/crimp(C) type available
3,4,5 position available

DIMENSIONS (Millimeters)



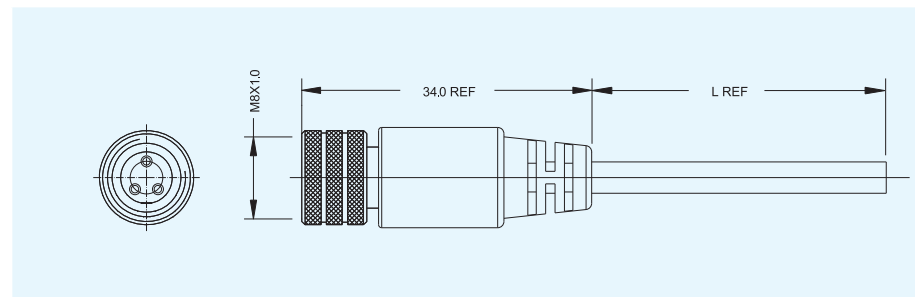
PLUG STRAIGHT FEMALE OVERMOLDING CABLE ASSEMBLY

part number

CJE8CPST_S L

Blank (Gold) ,2,3,4 type contact available
Solder wire(W)/crimp(C) type available
3,4,5 position available

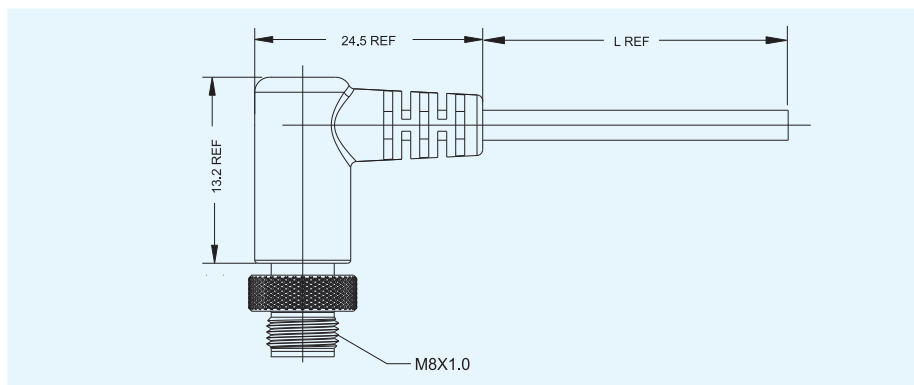
DIMENSIONS (Millimeters)



PLUG RIGHT ANGLE MALE OVERMOLDING CABLE ASSEMBLY

part number
CJE8CPRA_P L

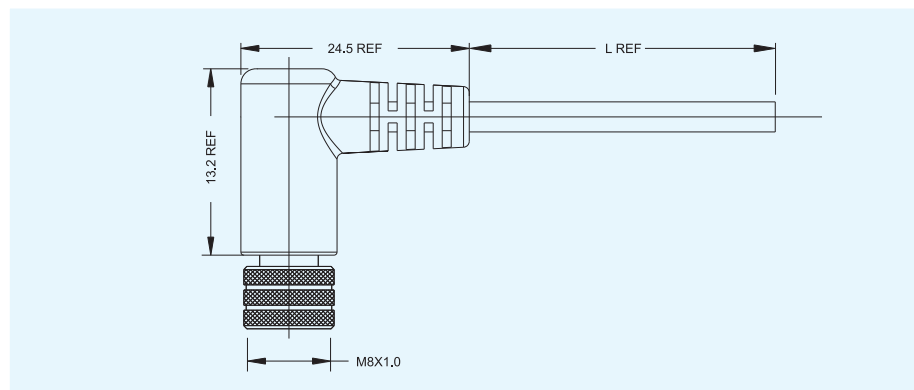
- Blank (Gold) ,2,3,4 type contact available
- Solder wire(W)/crimp(C)type available
- 3,4,5 position available



PLUG RIGHT ANGLE FEMALE OVERMOLDING CABLE ASSEMBLY

part number
CJE8CPRA_S L

- Blank (Gold) ,2,3,4 type contact available
- Solder wire(W)/crimp(C)type available
- 3,4,5 position available



WITH SHIELD CABLE INSTALL INSTRUCTION

- Strip cable jacket about 30mm, fold the cable shield back on the jacket. Trim the insulation about 20mm.



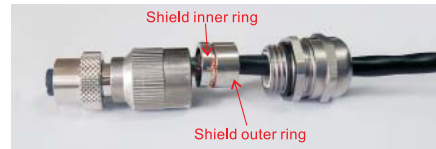
- Strip insulation 5mm, then solder conductor to connector contact cup. Covered the joint with tube.



- Install the adapter to the connector, screw tightly.



- Make the shield between inner ring and outer ring, trim excess shield



- Push the inner ring and outer ring with shield into the adapter, screw the body and cap of cable gland



WITHOUT SHIELD CABLE INSTALL INSTRUCTION

- Strip cable jacket 30mm.



- Strip insulation 5mm, then solder conductor to connector. Covered the joint with tube.



- Screw the cable gland body and cable gland cap.

