Amphenol®

M SERIES connectors Catalog

M-2012-01-1

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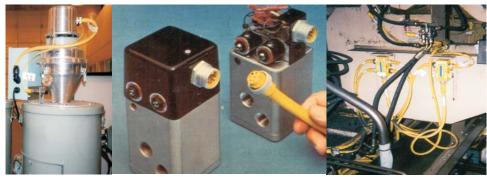
Zone, united arab emirates Tel: +9716-7422494 / Fax: +9716-7422941 / Cell: +97150-6310566 e-mail: jhussain@amphenol-ase.com











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: <=5mΩ
- Insulation Resistance:>20MΩ
- Rated Current:(3,4, and 5 pole) = 4A, (8pole) = 2A
- Operate Voltage:
- (3 and 4 pole) = 250 V AC/DC,
- (5 pole) = 60V AC/DC,
- (8 pole) = 30V AC/DC

Material

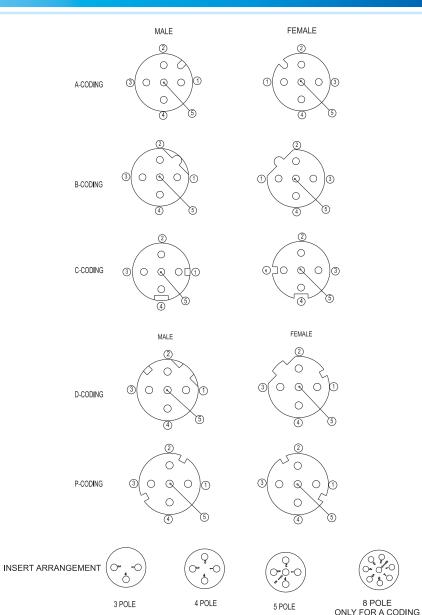
- Shell, Screw/Nut: Copper,Zinc, or Aluminum Alloy
- · Contact: Brass with gold plating
- Insert: PA + Glass Filled meet UL 94V0
- Sealing: Epoxy Resin
- O-ring: NBR/SR

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

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How to order For Receptacle

CJE12	С	R	ST	04	S	W	Α	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:

8. Coding type

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

A-----A code only for 8 position B-----B Code

D-----D code C-----C Code P----P Code

3. Shell system

9. Accessories type R-----Receptacle

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

11-----Contact finish

Blank-----Gold plated

6. Contact type S-----female contact

P----mele contact

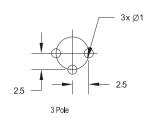
2----Silver plated 3----Tin plated 4----Nickel plated

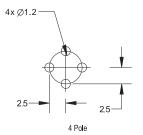
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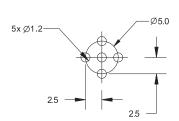
IEC M12 SERIES

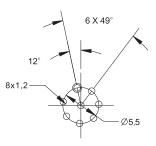
PCB LAYOUT

For Receptacle



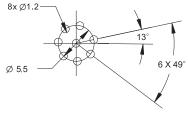




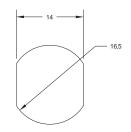


5 Pole

8 Pole FOR SOCKET INSERT



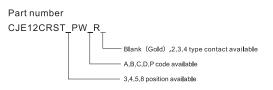
8 Pole FOR PIN INSERT



RECOMMENDATION PANEL CUT OUT

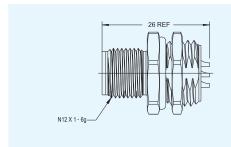
IEC M12 SERIES

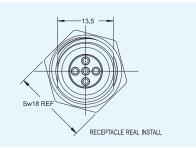
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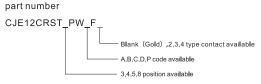


DIMENSIONS (Millimeters)



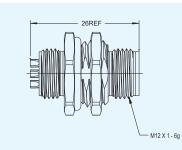


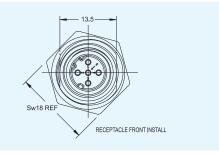
RECEPTACLE FRONT LOCK MALE SOLDER TYPE





DIMENSIONS (Millimeters)

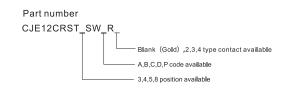




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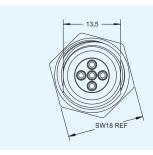
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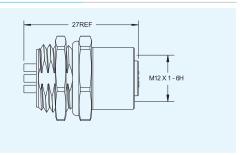
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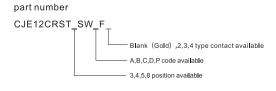


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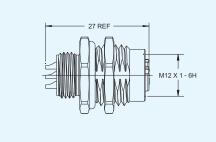


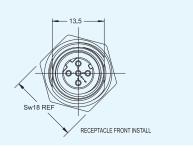


RECEPTACLE FRONT LOCK FEMALE SOLDER TYPE







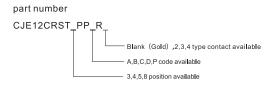


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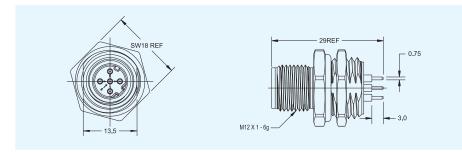
IEC M12 SERIES

RECEPTACLE REAL LOCK MALE PCB TYPE

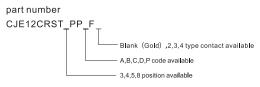




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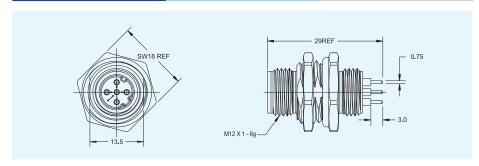


RECEPTACLE FRONT LOCK MALE PCB TYPE

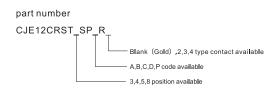




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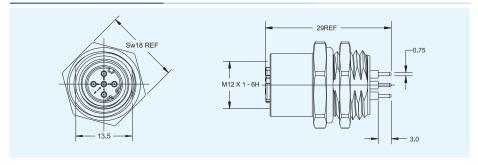


RECEPTACLE REAL LOCK FEMALE PCB TYPE

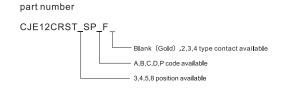




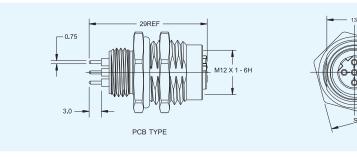
DIMENSIONS (Millimeters)



RECEPTACLE FRONT LOCK FEMALE PCB TYPE

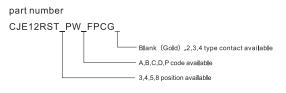






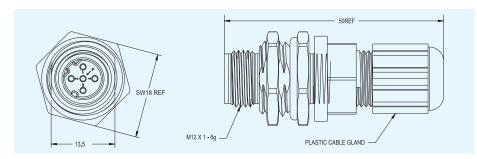
IEC M12 SERIES

RECEPTACLE FRONT LOCK MALE SOLDER WITH PLASTIC CABLE GLAND

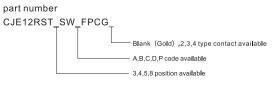




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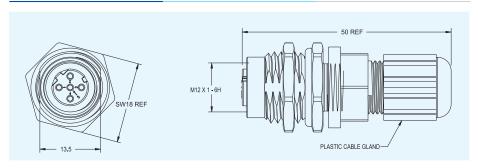


RECEPTACLE FRONT LOCK FEMALE SOLDER WITH PLASTIC CABLE GLAND





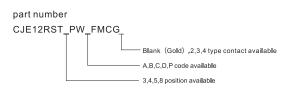
DIMENSIONS (Millimeters)



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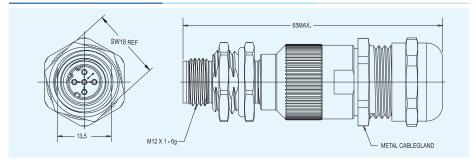
IEC M12 SERIES

RECEPTACLE FRONT LOCK MALE SOLDER WITH METAL CABLE GLAND

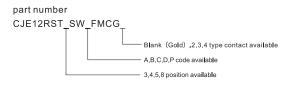




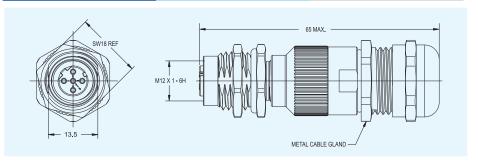
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RECEPTACLE FRONT LOCK FEMALE SOLDER WITH METAL CABLE GLAND

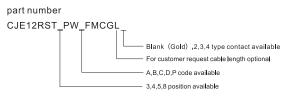




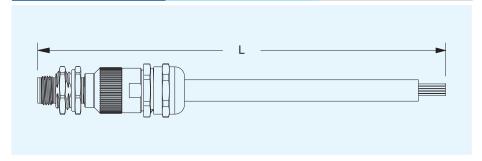


IEC M12 SERIES

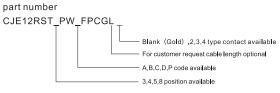
RECEPTACLE FRONT LOCK MALE WITH METAL CABLE GLAND & CABLE ASSEMBLY



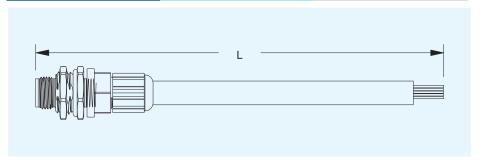
DIMENSIONS (Millimeters)



RECEPTACLE FRONT LOCK MALE WITH PLASTIC CABLE GLAND & CABLE ASSEMBLY



DIMENSIONS (Millimeters)



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IEC M12 SERIES

How to order

For Plug

CJE12	С	Р	ST	04	S	W	Α	PCG	L	Blank
1	2	3	4	5	6	7	8	9	10	11

1. CJE12 M12 x 1.0 thread locking

8 Coding type A-----A code only for 8 position

B-----B Code D-----D code C-----C Code

2. Shell, coupling nut material:

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

P----P code

3. Shell system

P-----Plug

4. Backshell connection type

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

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

5. Insert arrangement

03, 04, 05, 08

10 .For cable assembly optional

Overmolding cable assembly ,length is optional

L----for cable length, optional

6. Contact type

S-----female contact P----mele contact

11-----Contact finish

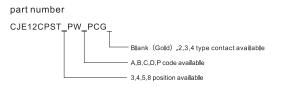
7. Contact connection type W-----Solder wire

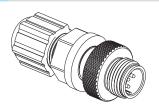
C----crimp S-----Screw Blank-----Gold plated 2----Silver plated 3----Tin plated 4----Nickel plated

IEC M12 SERIES

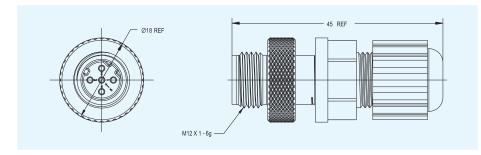
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PLUG STRAIGHT MALE WITH PLASTIC CABLE GLAND

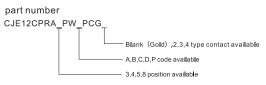




DIMENSIONS (Millimeters)

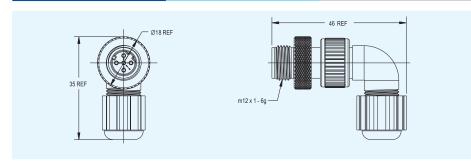


PLUG RIGHT ANGLE MALE WITH PLASTIC CABLE GLAND

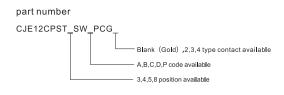




DIMENSIONS (Millimeters)

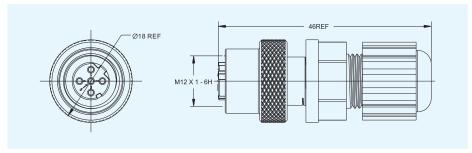


PLUG STRAIGHT FEMALE WITH PLASTIC CABLE GLAND

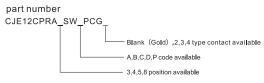




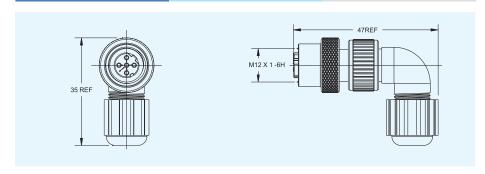
DIMENSIONS (Millimeters)



PLUG RIGHT ANGLE FEMALE WITH PLASTIC CABLE GLAND

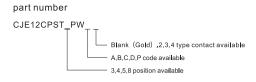






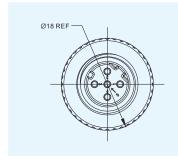
IEC M12 SERIES

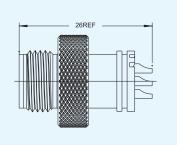
PLUG MALE



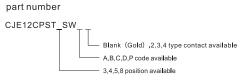


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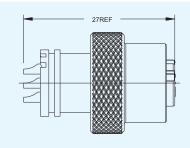


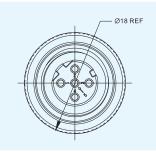
PLUG FEMALE





DIMENSIONS (Millimeters)

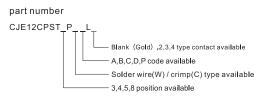




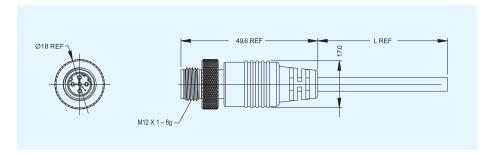
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IEC M12 SERIES

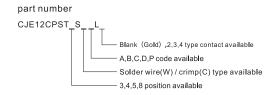
PLUG STRAIGHT MALE OVERMOLDING CABLE ASSEMBLY

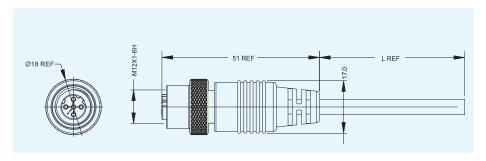


DIMENSIONS (Millimeters)



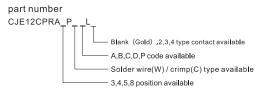
PLUG STRAIGHT FEMALE OVERMOLDING CABLE ASSEMBLY



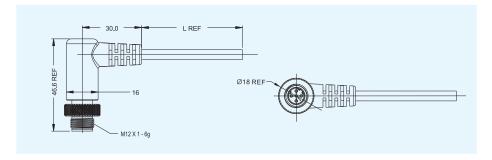


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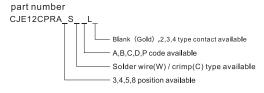
PLUG RIGHT ANGLE MALE OVERMOLDING CABLE ASSEMBLY



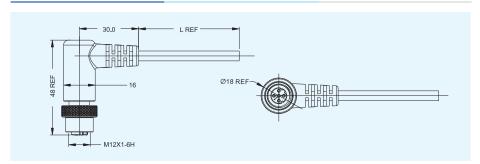
DIMENSIONS (Millimeters)



PLUG RIGHT ANGLE FEMALE OVERMOLDING CABLE ASSEMBLY



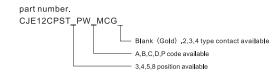
DIMENSIONS (Millimeters)



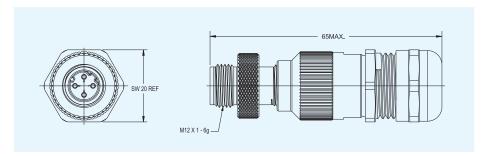
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IEC M12 SERIES

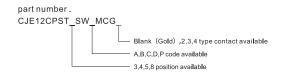
PLUG STRAIGHT MALE WITH METAL CABLE GLAND TYPE

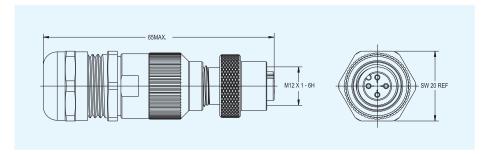


DIMENSIONS (Millimeters)



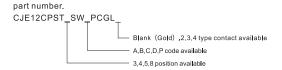
PLUG STRAIGHT FEMALE WITH METAL CABLE GLAND TYPE





IEC M12 SERIES

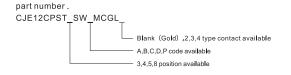
PLUG STRAIGHT FEMALE WITH PLASTIC CABLE GLAND & CABLE ASSEMBLY



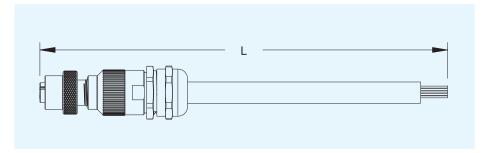
DIMENSIONS (Millimeters)



PLUG STRAIGHT FEMALE WITH METAL CABLE GLAND & CABLE ASSEMBLY



DIMENSIONS (Millimeters)



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SAE M12 SERIES

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
Tempature 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	1000H AT 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.



Male

SAE M12 SERIES

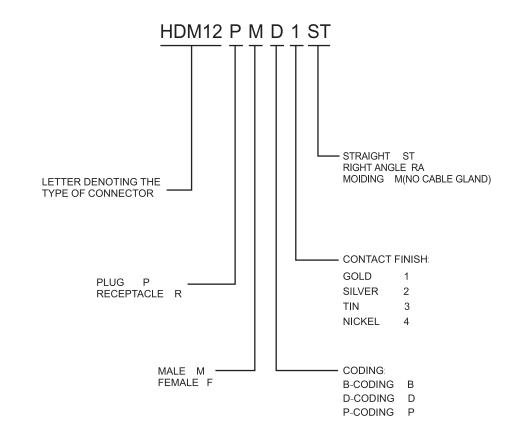
Female

5 Pole B - coding 4 Pole D - coding 3 4 + PE Pole P - coding

Amphenol°

SAE M12 SERIES

How to order



RECOMMENDATION PANEL CUT OUT

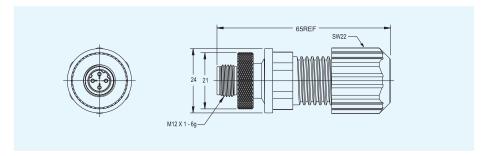
SAE M12 SERIES

PLUG STRAIGHT MALE

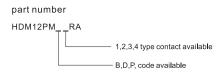


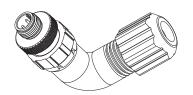


DIMENSIONS (Millimeters)

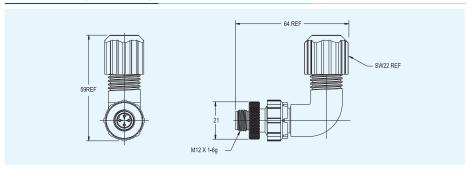


PLUG RIGHT ANGLE MALE





DIMENSIONS (Millimeters)

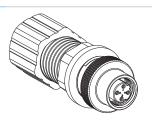


Amphenol°

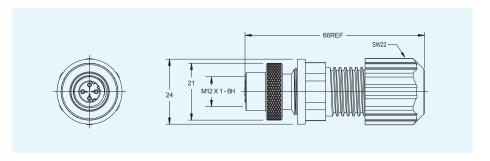
SAE M12 SERIES

PLUG STRAIGHT FEMALE





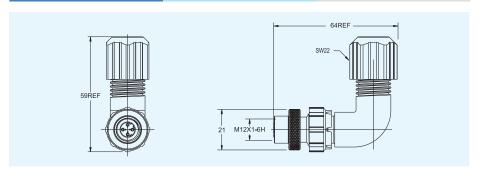
DIMENSIONS (Millimeters)



PLUG RIGHT ANGLE FEMALE



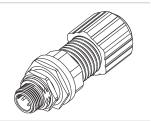




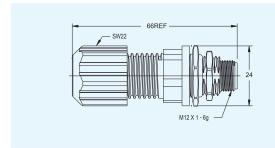
SAE M12 SERIES

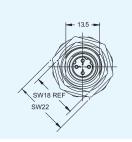
RECEPTACLE STRAIGHT MALE



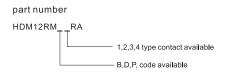


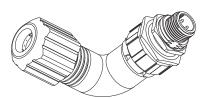
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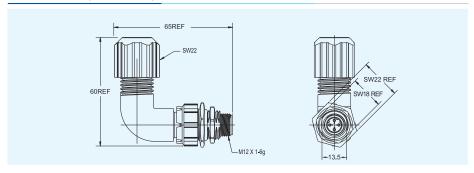


RECEPTACLE RIGHT ANGLE MALE





DIMENSIONS (Millimeters)

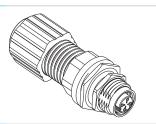


Amphenol°

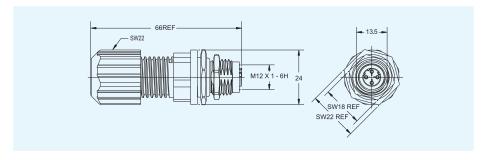
SAE M12 SERIES

RECEPTACLE STRAIGHT FEMALE



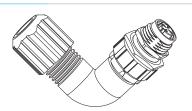


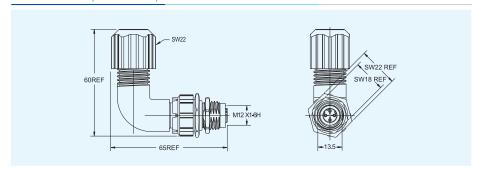
DIMENSIONS (Millimeters)



RECEPTACLE RIGHT ANGLE FEMALE







M8 SERIES

RECOMMENDATION PANELCUT OUT

M8 SPECIFICATION

Mechanical Data:

• Durability: 500 Cycles

· Salt Spray: 720Hours different plating and base material

• Sealing Requirement: IP 67/IP68(mated)

• Opweating temperature -40°C~+100°C

Standards:

· Connectors: IEC61076-2-101

Electrical:

Insulation resistance: ≥20M ohms

Contactresistance
 5m ohms

· Rated current: 4A

• Operating voltage 60V AV/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

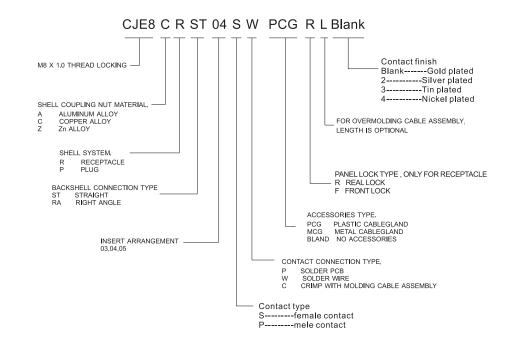
· Highly resistant against abraion

· Good resistance against oil, lubricants, and coolants.

· Halogen free, hydrolysis and UV resistant.

Flame retardant

3 Pole 4 Pole 5 Pole 7.1.26.1 7.1.2

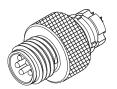


M8 SERIES

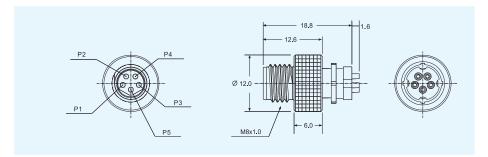
Amphenol°

PLUG STRAIGHT MALE CABLE ASSEMBLY

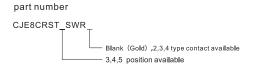




DIMENSIONS (Millimeters)

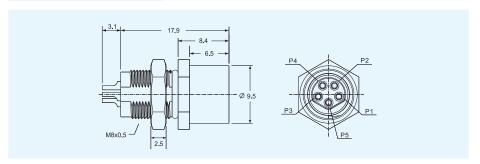


RECEPTACLE REAL LOCK FEMALE SOLDER TYPE

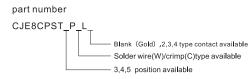




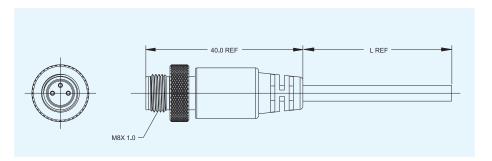
DIMENSIONS (Millimeters)



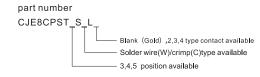
PLUG STRAIGHT MALE OVERMOLDING CABLE ASSEMBLY

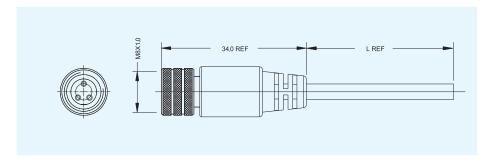


DIMENSIONS (Millimeters)



PLUG STRAIGHT FEMALE OVERMOLDING CABLE ASSEMBLY

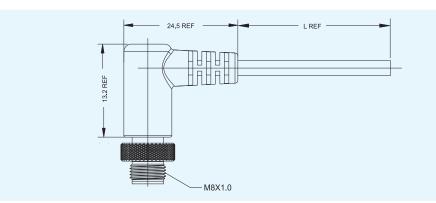




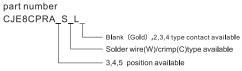
Amphenol[®]

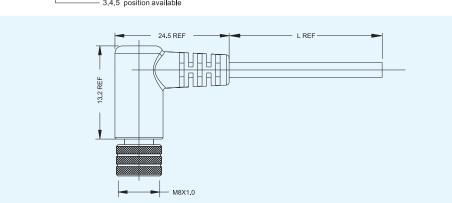
PLUG RIGHT ANGLE MALE OVERMOLDING CABLE ASSEMBLY





PLUG RIGHT ANGLE FEMALE OVERMOLDING CABLE ASSEMBLY





WITH SHIELD CABLE INSTALL INSTRUCTION

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



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



3.Install the adapter to the connector, screw tightly.



4. Make the shield between inner ring and outer ring, trim excess shield



5.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

1.Strip cable jacket 30mm.



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



3. Screw the cable gland body and cable gland cap.



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