

Circular sensor connectors



M9 cables & connectors

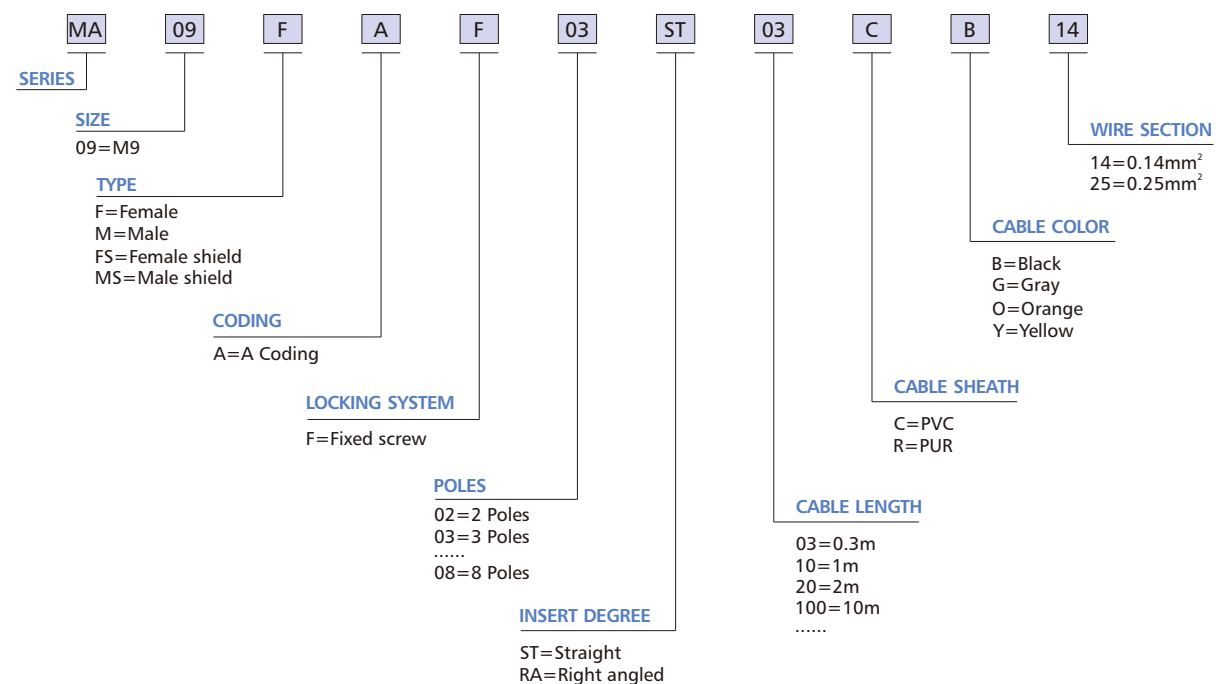
M9 series enrich our circular connector family. With their metal housing design structure, they can reach 360° EMI shielding. Meanwhile, they can reach excellent environmental protection at IP67 in locked condition. 2~8 pins are optional upon user's request. Moreover, over-molded types, panel-mount types with solder termination as well as PCB termination are available for your applications.

- 2~8 pins available
- Metal housing connector structure for 360° EMI shielding
- Over-molded, panel-mount with solder/PCB termination optional
- Degree of protection IP67
- Cable length customized
- Lower ambient temperature: -40°C (customized)

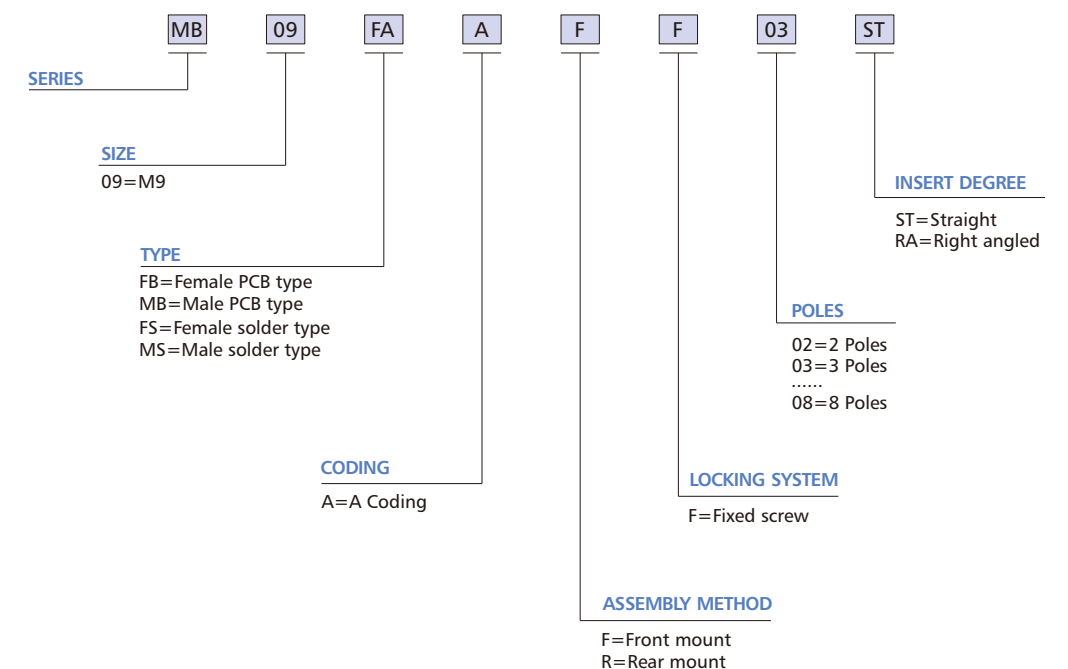
M9 Quick Search Table	Available Coding	A-coding				A-coding				A-coding			
	Rated Current	4A				3A				1A			
	Voltage	125V				125V				125V			
	Wire Gauge / size	24AWG / 0.25mm ²				24AWG / 0.25mm ²				26AWG / 0.14mm ²			
	Pin layout												
M9 cables & connectors		02 Pins		03 Pins		04 Pins		05 Pins		07 Pins		08 Pins	
Molded Cable													
	Male Molded Cable Straight	66	-	66	-	66	-	66	-	66	-	66	-
	Female Molded Cable Straight	67	-	67	-	67	-	67	-	67	-	67	-
Panel Mount Type													
	Male Panel Mount, Solder Type, Rear fastened	68	-	68	-	68	-	68	-	68	-	68	-
	Female Panel Mount, Solder Type, Front fastened	-	69	-	69	-	69	-	69	-	69	-	69
	Female Panel Mount, Solder Type, Rear fastened	-	70	-	70	-	70	-	70	-	70	-	70
	Male Panel Mount, PCB Type, Front fastened	71	-	71	-	71	-	71	-	71	-	71	-
	Female Panel Mount, PCB Type, Front fastened	-	72	-	72	-	72	-	72	-	72	-	72
	Female Panel Mount, Angled, PCB Type, Front fastened	-	73	-	73	-	73	-	73	-	73	-	73
	Protection Cap for Male Connector	74	-	74	-	74	-	74	-	74	-	74	-

How to Order Part Number

M9 Series with cable molded



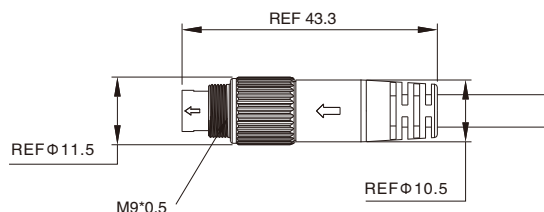
M9 Series Assembly / Panel-mount type



M9 Male Molded Cable, Straight

- Connector series: M9
- Gender: Male
- Locking type: Fix screw
- Mounting type: Straight
- Part No.: MA09MSAF**STXXXXXX

** refers to pins number
X refers to cable specification



RoHS

General information

Ambient temperature:	-40℃ ~ +80℃(fixed installation) -25℃ ~ +80℃(flexible installation)
Connector insert:	PBT
Connector contacts:	Brass with gold plated
Coupling nut:	Brass with nickel plated
Connector overmold:	TPU

Insulation resistance:	≥ 100MΩ
Contact resistance:	≤ 5mΩ
Shielding:	Available
IP rating:	IP67 in locked condition
Mating endurance:	>500 cycles

Electrical data & Mechanical data

Contacts		Rated current	Voltage		Wire gauge / size		Cable jacket	Part No.
			A/C	D/C	AWG	mm ²		
02 pins		4A	125V	125V	24AWG	0.25	PVC	MA09MSAF02STXXCB25
							PUR	MA09MSAF02STXXRB25
03 pins		4A	125V	125V	24AWG	0.25	PVC	MA09MSAF03STXXCB25
							PUR	MA09MSAF03STXXRB25
04 pins		3A	125V	125V	24AWG	0.25	PVC	MA09MSAF04STXXCB25
							PUR	MA09MSAF04STXXRB25
05 pins		3A	125V	125V	24AWG	0.25	PVC	MA09MSAF05STXXCB25
							PUR	MA09MSAF05STXXRB25
07 pins		1A	125V	125V	26AWG	0.14	PVC	MA09MSAF07STXXCB14
							PUR	MA09MSAF07STXXRB14
08 pins		1A	125V	125V	26AWG	0.14	PVC	MA09MSAF08STXXCB14
							PUR	MA09MSAF08STXXRB14

Note: X refers to cable length

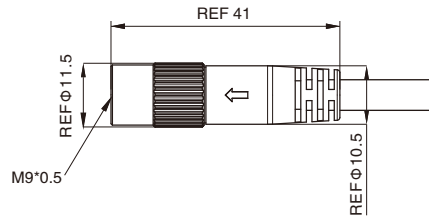
Remarks

- Please refer to Page 578 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm².
- Please refer to Page 64 for products' part number encoding rule.

M9 Female Molded Cable, Straight

- Connector series: M9
- Gender: Female
- Locking type: Fix screw
- Mounting type: Straight
- Part No.: MA09FSAF**STXXXXXX

** refers to pins number
X refers to cable specification



RoHS

General information

Ambient temperature:	-40℃ ~ +80℃(fixed installation) -25℃ ~ +80℃(flexible installation)
Connector insert:	PBT
Connector contacts:	Brass with gold plated
Coupling nut:	Brass with nickel plated
Connector overmold:	TPU

Insulation resistance:	≥ 100MΩ
Contact resistance:	≤ 5mΩ
Shielding:	Available
IP rating:	IP67 in locked condition
Mating endurance:	>500 cycles

Electrical data & Mechanical data

Contacts		Rated current	Voltage		Wire gauge / size		Cable jacket	Part No.
			A/C	D/C	AWG	mm ²		
02 pins		4A	125V	125V	24AWG	0.25	PVC	MA09FSAF02STXXCB25
							PUR	MA09FSAF02STXXRB25
03 pins		4A	125V	125V	24AWG	0.25	PVC	MA09FSAF03STXXCB25
							PUR	MA09FSAF03STXXRB25
04 pins		3A	125V	125V	24AWG	0.25	PVC	MA09FSAF04STXXCB25
							PUR	MA09FSAF04STXXRB25
05 pins		3A	125V	125V	24AWG	0.25	PVC	MA09FSAF05STXXCB25
							PUR	MA09FSAF05STXXRB25
07 pins		1A	125V	125V	26AWG	0.14	PVC	MA09FSAF07STXXCB14
							PUR	MA09FSAF07STXXRB14
08 pins		1A	125V	125V	26AWG	0.14	PVC	MA09FSAF08STXXCB14
							PUR	MA09FSAF08STXXRB14

Note: X refers to cable length

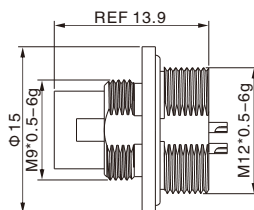
Remarks

- Please refer to Page 578 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm².
- Please refer to Page 64 for products' part number encoding rule.

M9 Male Panel Mount, Solder Type, Rear fastened

- Connector series: M9
- Gender: Male
- Locking type: Fix screw
- Mounting type: Rear fastened
- Part No.: MB09MSARF**ST

** refers to pins number



RoHS

General information

Ambient temperature:	-25 °C ~ + 80 °C
Connector insert:	PBT
Connector contacts:	Brass with gold plated
Coupling screw:	Brass with nickel plated
Insulation resistance:	≥ 100MΩ
Contact resistance:	≤ 5mΩ

Shielding:	Unavailable
IP rating:	IP67 in locked condition
Panel cut-out:	Refer to page 237
Mating endurance:	>500 cycles

Electrical data & Mechanical data

Contacts		Contacts termination	Rated current	Voltage		Wire gauge / size		Part No.
				A/C	D/C	AWG	mm ²	
02 pins		Solder version	4A	125V	125V	24AWG	0.25	MB09MSARF02ST
03 pins		Solder version	4A	125V	125V	24AWG	0.25	MB09MSARF03ST
04 pins		Solder version	3A	125V	125V	24AWG	0.25	MB09MSARF04ST
05 pins		Solder version	3A	125V	125V	24AWG	0.25	MB09MSARF05ST
07 pins		Solder version	1A	125V	125V	26AWG	0.14	MB09MSARF07ST
08 pins		Solder version	1A	125V	125V	26AWG	0.14	MB09MSARF08ST

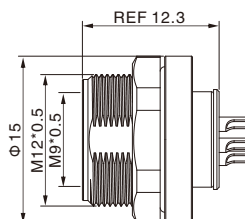
Remarks

- Please refer to Page 578 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm².
- Please refer to Page 65 for products' part number encoding rule.

M9 Female Panel Mount, Solder Type, Front fastened

- Connector series: M9
- Gender: Female
- Locking type: Fix screw
- Mounting type: Front fastened
- Part No.: MB09FSAFF**ST

** refers to pins number



RoHS

General information

Ambient temperature:	-25 °C ~ + 80 °C
Connector insert:	PBT
Connector contacts:	Brass with gold plated
Coupling screw:	Brass with nickel plated
Insulation resistance:	≥ 100MΩ
Contact resistance:	≤ 5mΩ

Shielding:	Unavailable
IP rating:	IP67 in locked condition
Panel cut-out:	Refer to page 237
Mating endurance:	>500 cycles

Electrical data & Mechanical data

Contacts		Contacts termination	Rated current	Voltage		Wire gauge / size		Part No.
				A/C	D/C	AWG	mm ²	
02 pins		Solder version	4A	125V	125V	24AWG	0.25	MB09FSAFF02ST
03 pins		Solder version	4A	125V	125V	24AWG	0.25	MB09FSAFF03ST
04 pins		Solder version	3A	125V	125V	24AWG	0.25	MB09FSAFF04ST
05 pins		Solder version	3A	125V	125V	24AWG	0.25	MB09FSAFF05ST
07 pins		Solder version	1A	125V	125V	26AWG	0.14	MB09FSAFF07ST
08 pins		Solder version	1A	125V	125V	26AWG	0.14	MB09FSAFF08ST

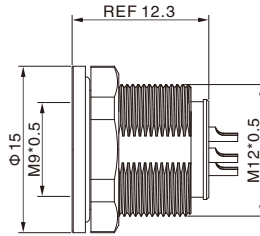
Remarks

- Please refer to Page 578 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm².
- Please refer to Page 65 for products' part number encoding rule.

M9 Female Panel Mount, Solder Type, Rear fastened

- Connector series: M9
- Gender: Female
- Locking type: Fix screw
- Mounting type: Rear fastened
- Part No.: MB09FSARF**ST

** refers to pins number



RoHS

General information

Ambient temperature:	-25 °C ~ + 80 °C
Connector insert:	PBT
Connector contacts:	Brass with gold plated
Coupling screw:	Brass with nickel plated
Insulation resistance:	≥ 100MΩ
Contact resistance:	≤ 5mΩ

Shielding:	Unavailable
IP rating:	IP67 in locked condition
Panel cut-out:	Refer to page 237
Mating endurance:	>500 cycles

Electrical data & Mechanical data

Contacts		Contacts termination	Rated current	Voltage		Wire gauge / size		Part No.
				A/C	D/C	AWG	mm ²	
02 pins		Solder version	4A	125V	125V	24AWG	0.25	MB09FSARF02ST
03 pins		Solder version	4A	125V	125V	24AWG	0.25	MB09FSARF03ST
04 pins		Solder version	3A	125V	125V	24AWG	0.25	MB09FSARF04ST
05 pins		Solder version	3A	125V	125V	24AWG	0.25	MB09FSARF05ST
07 pins		Solder version	1A	125V	125V	26AWG	0.14	MB09FSARF07ST
08 pins		Solder version	1A	125V	125V	26AWG	0.14	MB09FSARF08ST

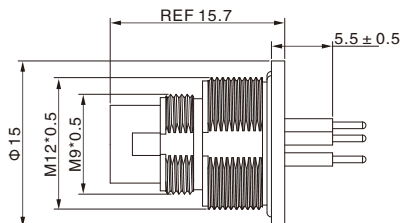
Remarks

- Please refer to Page 578 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm².
- Please refer to Page 65 for products' part number encoding rule.

M9 Male Panel Mount, PCB Type, Front fastened

- Connector series: M9
- Gender: Male
- Locking type: Fix screw
- Mounting type: Front fastened
- Part No.: MB09MBAFF**ST

** refers to pins number



RoHS 

General information

Ambient temperature:	-25 °C ~ + 80 °C
Connector insert:	PBT
Connector contacts:	Brass with gold plated
Coupling screw:	Brass with nickel plated
Insulation resistance:	≥ 100MΩ
Contact resistance:	≤ 5mΩ

Shielding:	Unavailable
IP rating:	IP67 in locked condition
Panel cut-out:	Refer to page 237
PCB layout:	Refer to page 237
Mating endurance:	>500 cycles

Electrical data & Mechanical data

Contacts		Contacts termination	Rated current	Voltage		Part No.
				A/C	D/C	
02 pins		PCB version	4A	125V	125V	MB09MBAFF02ST
03 pins		PCB version	4A	125V	125V	MB09MBAFF03ST
04 pins		PCB version	3A	125V	125V	MB09MBAFF04ST
05 pins		PCB version	3A	125V	125V	MB09MBAFF05ST
07 pins		PCB version	1A	125V	125V	MB09MBAFF07ST
08 pins		PCB version	1A	125V	125V	MB09MBAFF08ST

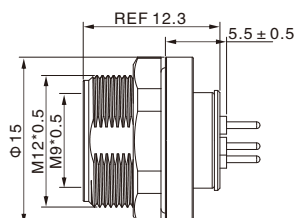
Remarks

- Please refer to Page 65 for products' part number encoding rule.

M9 Female Panel Mount, PCB Type, Front fastened

- Connector series: M9
- Gender: Female
- Locking type: Fix screw
- Mounting type: Front fastened
- Part No.: MB09FBAFF**ST

** refers to pins number



RoHS

General information

Ambient temperature:	-25 °C ~ + 80 °C
Connector insert:	PBT
Connector contacts:	Brass with gold plated
Coupling screw:	Brass with nickel plated
Insulation resistance:	≥ 100MΩ
Contact resistance:	≤ 5mΩ

Shielding:	Unavailable
IP rating:	IP67 in locked condition
Panel cut-out:	Refer to page 237
PCB layout:	Refer to page 237
Mating endurance:	>500 cycles

Electrical data & Mechanical data

Contacts		Contacts termination	Rated current	Voltage		Part No.
				A/C	D/C	
02 pins		PCB version	4A	125V	125V	MB09FBAFF02ST
03 pins		PCB version	4A	125V	125V	MB09FBAFF03ST
04 pins		PCB version	3A	125V	125V	MB09FBAFF04ST
05 pins		PCB version	3A	125V	125V	MB09FBAFF05ST
07 pins		PCB version	1A	125V	125V	MB09FBAFF07ST
08 pins		PCB version	1A	125V	125V	MB09FBAFF08ST

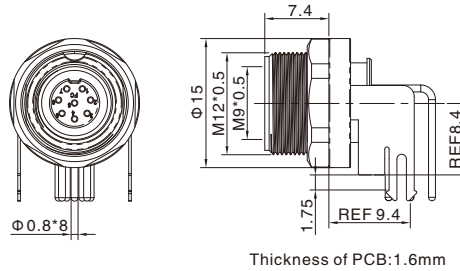
Remarks

- Please refer to Page 65 for products' part number encoding rule.

M9 Female Panel Mount, Angled, PCB Type, Front fastened

- Connector series: M9
- Gender: Female
- Locking type: Fix screw
- Mounting type: Front fastened
- Part No.: MB09FBSAFF**RA

** refers to pins number



RoHS

General information

Ambient temperature:	-25 °C ~ + 80 °C
Connector insert:	PBT
Connector contacts:	Brass with gold plated
Coupling screw:	Brass with nickel plated
Insulation resistance:	$\geq 100M\Omega$
Contact resistance:	$\leq 5m\Omega$

Shielding:	Available
IP rating:	IP67 in locked condition
Panel cut-out:	Refer to page 237
PCB layout:	Refer to page 237
Mating endurance:	>500 cycles

Electrical data & Mechanical data

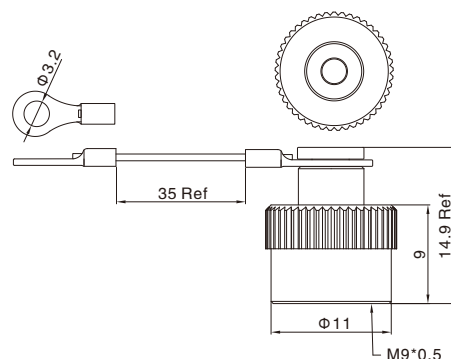
Contacts		Contacts termination	Rated current	Voltage		Part No.
				A/C	D/C	
02 pins		PCB version	4A	125V	125V	MB09FBSAFF02RA
03 pins		PCB version	4A	125V	125V	MB09FBSAFF03RA
04 pins		PCB version	3A	125V	125V	MB09FBSAFF04RA
05 pins		PCB version	3A	125V	125V	MB09FBSAFF06RA
07 pins		PCB version	1A	125V	125V	MB09FBSAFF07RA
08 pins		PCB version	1A	125V	125V	MB09FBSAFF08RA

Remarks

- Please refer to Page 65 for products' part number encoding rule.

M9 Protection Cap for Male Connector

- Connector series: M9
- Gender: for Male
- Locking type: Fix screw
- Part No.: PCNM9x0.5-0



■ General information

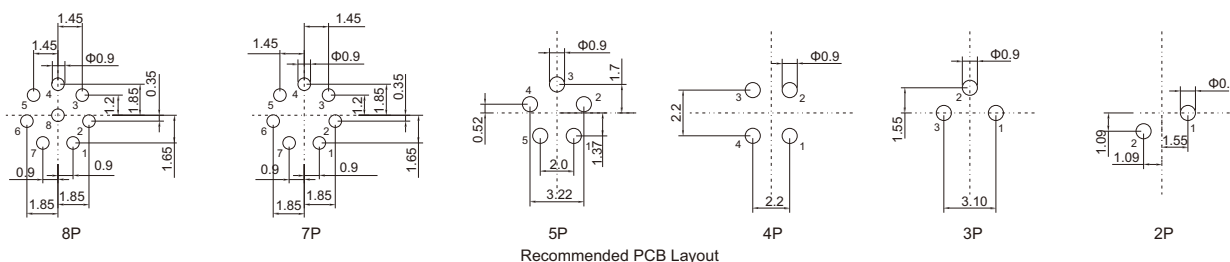
Nut/Screw:	Aluminium alloy with nickel plated
Line:	Stainless steel

Gasket:	FKM
IP rating:	IP67 in locked condition

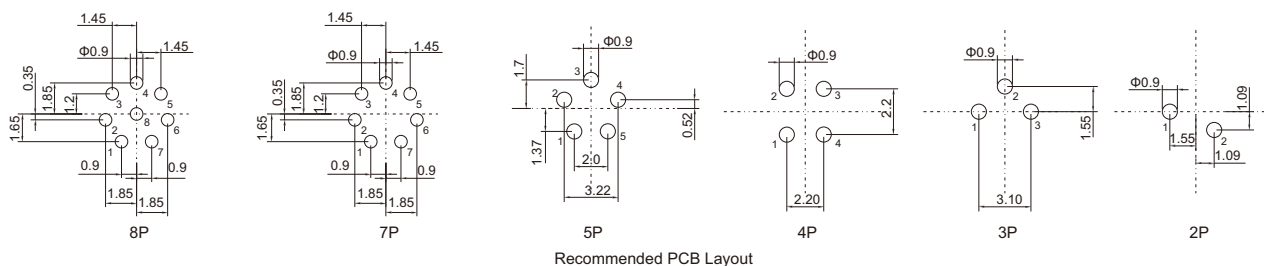
M9 PCB Layout & Panel Cut-out

■ PCB Layout

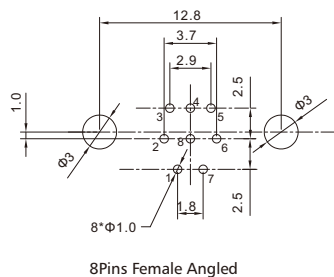
M9 Male Connector for MB09MBAFFxxST



M9 Female Connector for MB09FBAFFxxST



for MB09FBSAFFXXRA



■ Panel Cut-out Dimensions

