

MB-F Series Circular Connectors

1. Overview

1.1 Plug



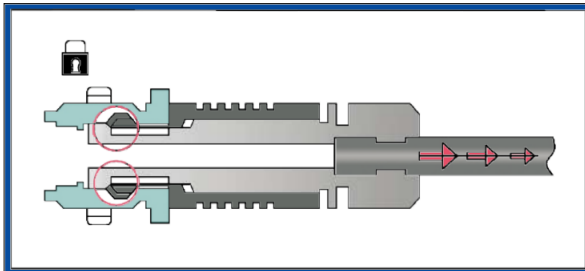
1.2 Panel Mount Receptacle



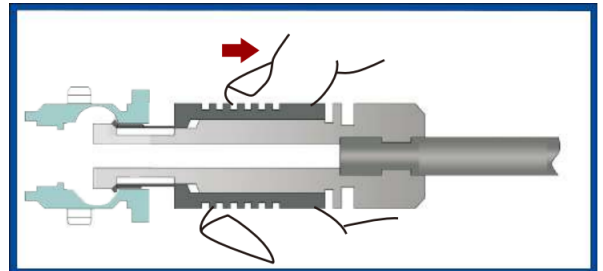
1.3 Cable Mount Receptacle



2. Push-Pull Self-Latching Connection System



Secure Locking When Cable Pulled



Pull the Outer Sleeve to Unlock

3. Main Features

- Original push-pull self-locking system
- Widely adopted by the industry
- Unparalleled signal integrity
- Fully secured against accidental disconnection
- Designed for frequent connect disconnect operations
- Ideal for compact product designs
- Locking system integrated into the connector housing
- Non-locking or emergency quick release solutions also available
- Available over-molded injection and custom cable assembly

4. Technical Characteristics

4.1 Mechanical and Climatical

Characteristics	Value	Standard
Endurance	>5000 cycles	IEC 60512-5 test 9a
Humidity	Up to 95% at 60°C	
Temperature Range	-40°C to +150°C	
Resistance to Vibration	10-2000Hz, 15g	IEC 60512-4 test 6d
Shock Resistance	100g, 6ms	IEC 60512-4 test 6c
Salt Spray Corrosion Test	>96h	IEC 60512-6 test 11f
Protection Index (mated)	IP50/IP 68	IEC 60529

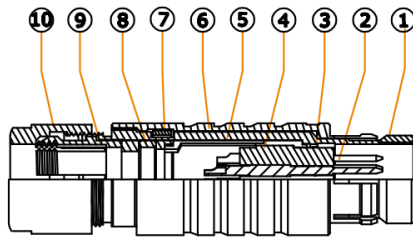
4.1 Electrical

Characteristics	Value	Standard
Shielding Efficiency	at 10 MHZ	>75 dB
	at 1 GHZ	>40 dB

5. Part Section Showing Internal Components

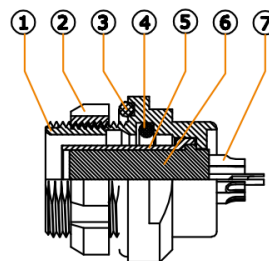
Straight Plug

- ① Latch Sleeve
- ② Male Contact
- ③ Insulator
- ④ Fixed Spacer
- ⑤ Inner Shell
- ⑥ Outer Shell
- ⑦ Gasket
- ⑧ Retaining Ring
- ⑨ Collet
- ⑩ Collet Nut

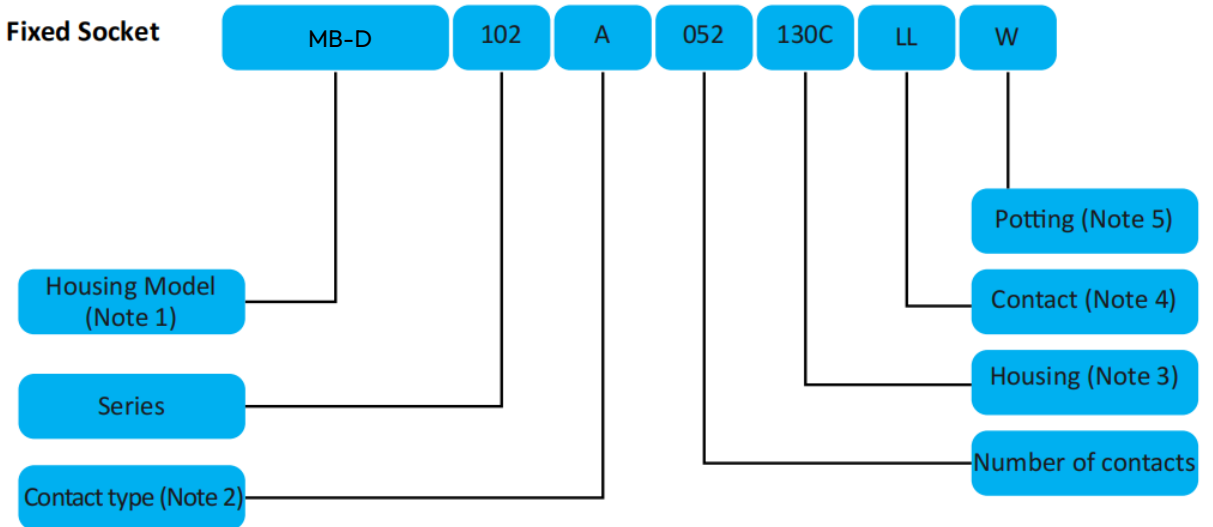
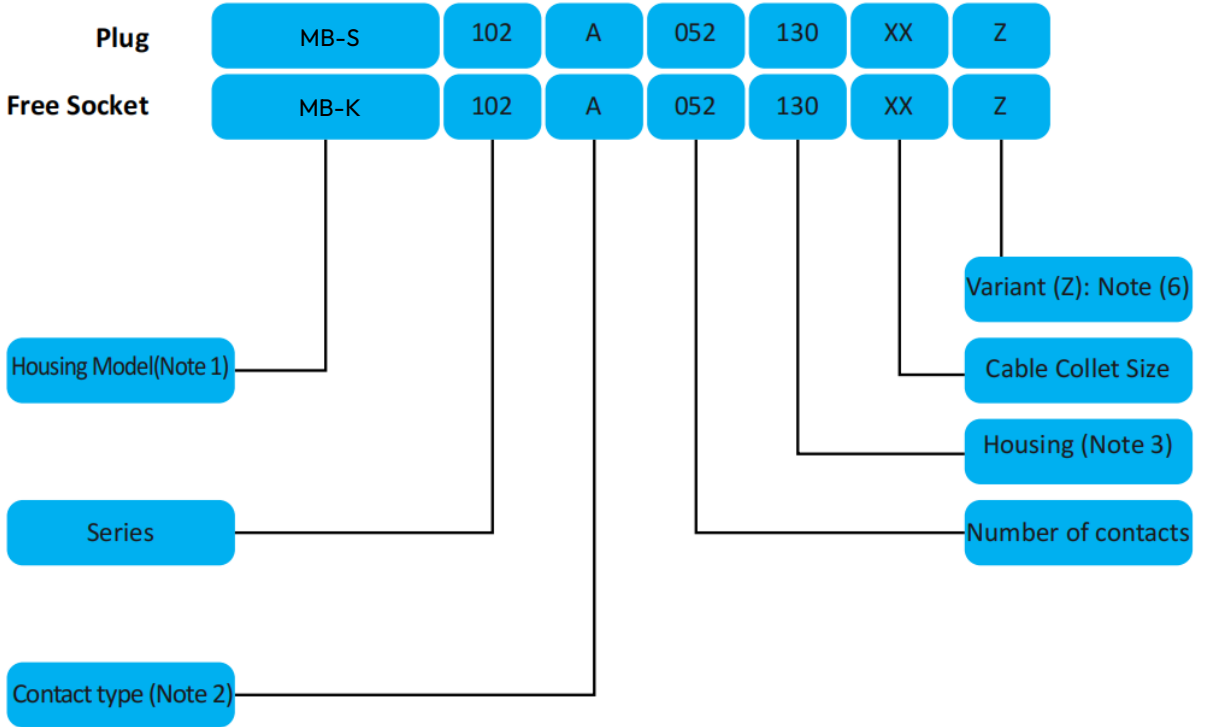


Receptacle

- ① Outer Shell
- ② Hexagonal Nut
- ③ Outer O-ring
- ④ Inside O-ring
- ⑤ Retaining Ring
- ⑥ Insulator
- ⑦ Female Contacts



6. Part Numbering System



***Note 1:**

MB-S102A052-13050Z = 0F 3 pins straight plug, code 1, pearl chrome plated brass housing, red dot, PPS insulator, male soldering contact type, 5.0 mm cable collet, nut for fitting bend relief.

MB-K103A053-14060 = 1F 4 pins free receptacle, code 1, black chrome plated brass housing, white dot, PPS insulator, female soldering contact type, 6.0 mm cable collet.

MB-D104A054-240KLL = 2F 5 pins panel mounted socket, code 2, black chrome plated brass housing, white dot, PPS insulator, female soldering contact type, nut fixed.

***Note 2:**

A = Male contacts on plug and Female contacts on receptacle

Z = Female contacts on plug and Male contacts on receptacle

***Note 3:**

130C=Brass plated pearl chrome, code 1

140K=Brass plated black chrome, code 1 (At the end of the model number, adding 'R' indicates a red dot, while adding 'W' indicates a white dot.)

230C=Brass plated pearl chrome, code 2

240K=Brass plated black chrome, code 2 (At the end of the model number, adding 'R' indicates a red dot, while adding 'W' indicates a white dot.)

330C=Brass plated pearl chrome, code 3

340K=Brass plated black chrome, code 3 (At the end of the model number, adding 'R' indicates a red dot, while adding 'W' indicates a white dot.)

To request a ground tab, designate the letter "G" after 130, eg: MB-D104A054-240GKLL

***Note 4:**

A=Male soldering contacts

L=Female soldering contacts

D=Male straight PCB contacts

N=Female straight PCB contacts

W=Male 90° PCB contacts

V=Female 90° PCB contacts

***Note 5:**

W=White silicone sealing

T=Transparent epoxy resin seal

***Note 6:**

To request a model that includes a nut for fitting the bend relief, designate the variant position with the letter "Z" and include the bend relief part numbers MB-GMA.

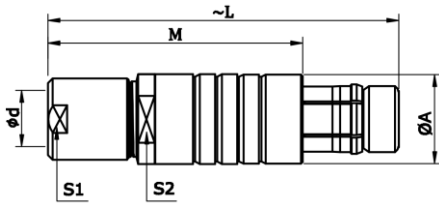
Bend relief color:

N=Black G=Gray A=Blue R=Red J=Yellow V=Green

7. Product Size

MB-S

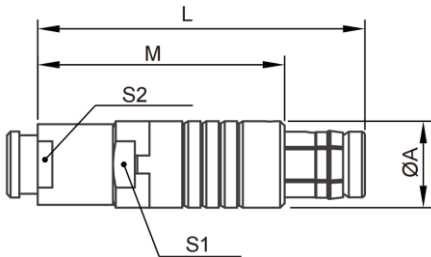
Cable mount plug, code (1, 2, 3), cable collet



Reference		Dimensions(mm)				
Model	Series	A	M	L	S1	S2
MB-S	0F	9.4	26	37.2	8	8
MB-S	1F	12	34	45	9	10
MB-S	1.5F	13	36	46	12	11
MB-S	2F	15	36	48	13	13
MB-S	3F	8.7	43.4	58	16	17

MB-S

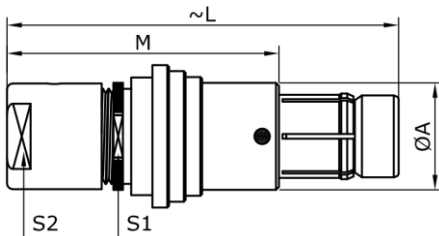
Cable mount plug, code (1, 2, 3), cable collet, nut for fitting bend relief



Reference		Dimensions(mm)				
Model	Series	A	L	M	S1	S2
MB-S	0F	9.5	36	26	8	8
MB-S	1F	12	45	34	9	9
MB-S	1.5F	12.9	47.3	37	11	12
MB-S	2F	15	50	37.5	13	13
MB-S	3F	18.7	58	44.2	16	17

MB-SS

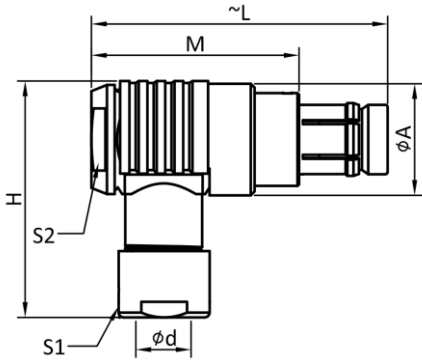
Cable mount plug, code (1, 2, 3), cable collet



Reference		Dimensions(mm)				
Model	Series	A	L	M	S1	S2
MB-SS	0F	9	33	23	8	7
MB-SS	1F	12	37	26	11	12
MB-SS	1.5F	12.3	40	30	11.5	12
MB-SS	2F	15	43	31	13	13

MB-WSO

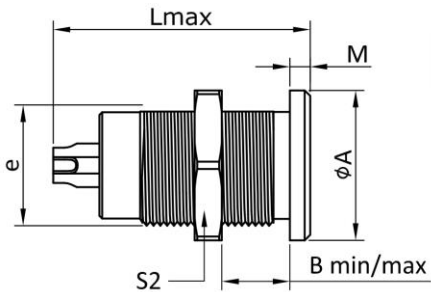
Elbow right-angle cable mount plug, code (1, 2, 3)



Reference		Dimensions(mm)					
Model	Series	A	L	M	H	S1	S2
MB-WSO	0F	12	33	23	25	7	8
MB-WSO	1F	15	38	28.7	31	10	11
MB-WSO	1.5F	17	40	30	33	12	12
MB-WSO	2F	19	45	33	37	13	14

MB-D

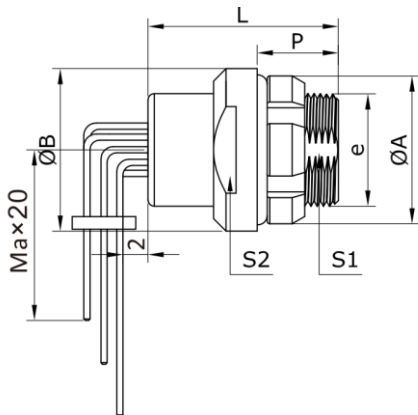
Panel mount receptacle, nut fixing, code (1, 2, 3)



Reference		Dimensions(mm)					
Model	Series	A	B	e	L	M	S2
MB-D	0F	11	0/9	M9*0.5	18.9	1.5	11
MB-D	1F	14	0/8	M12*1.0	23.9	1.5	14
MB-D	1.5F	16	0/10	M14*1.0	23.3	2	17
MB-D	2F	19	0/11	M15*1.0	25.8	2.2	17

MB-DBPC

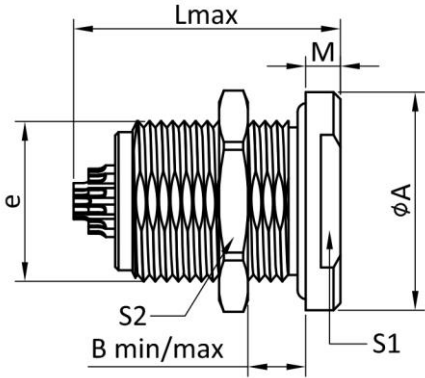
Hermetic panel mount receptacle, elbow 90°PCB contact, code (1, 2, 3)



Reference		Dimensions(mm)						
Model	Series	A	B	e	L	P	S1	S2
MB-DBPC	0F	12	14	M9*0.5	19.2	6.5	8.2	11
MB-DBPC	1F	18	18	M14*1.0	24.8	8	2.5	15
MB-DBPC	1.5F	18	19	M14*1.0	23.1	7	12	15
MB-DBPC	2F	20.8	21	M16*1.0	24.2	8	14.3	16

MB-DEE

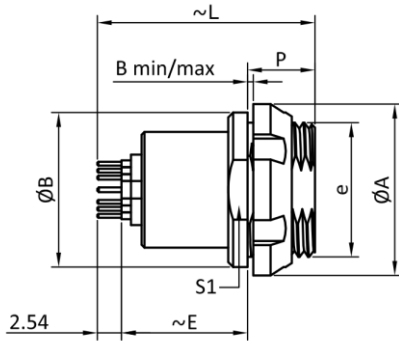
Hermetic panel mount receptacle, nut fixing, code (1, 2, 3)



Reference		Dimensions(mm)						
Model	Series	A	B	e	L	M	S1	S2
MB-DEE	0F	14	8/10	M9*0.5	20	2.5	11	11
MB-DEE	1F	18	0/12	M14*1.0	23.9	3.0	4	17
MB-DEE	1.5F	19	0/12	M14*1.0	23.3	3.0	15	17
MB-DEE	2F	20	0/13	M16*1.0	25.8	4.0	17	19

MB-DBP

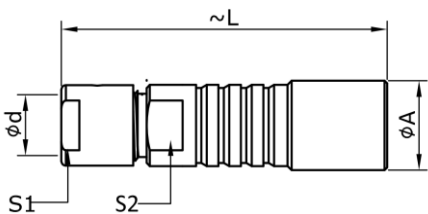
Fixed panel mount receptacle, code (1, 2, 3), solder or PCB type



Reference		Dimensions(mm)						
Model	Series	A	B	P	E	e	L	S1
MB-DBP	0F	12	0/3.5	6.5	10	M9*0.5	20	8.2
MB-DBP	1F	15	0/4.0	8.0	12	M12*1.0	23	12.5
MB-DBP	1.5F	18	0/3.0	7.0	13	M14*1.0	23	12
MB-DBP	2F	16	0/5.0	9.0	11.5	M15*1.0	26	14.3

MB-K

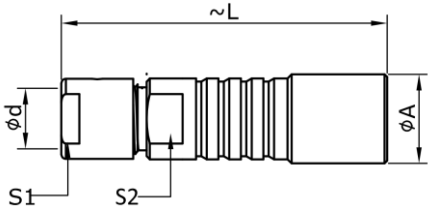
Cable mount receptacle, code (1, 2, 3), cable collet



Reference		Dimensions(mm)			
Model	Series	A	L	S1	S2
MB-K	0F	10	36	7	7
MB-K	1F	13	43	10	10
MB-K	1.5F	13.5	45	12	11
MB-K	2F	16	48	13	12

MB-KE

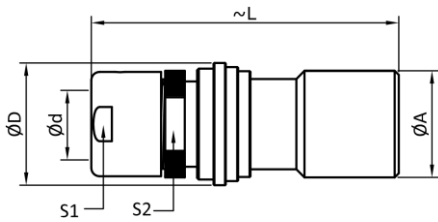
Cable sealed mount receptacle, code (1, 2, 3), cable collet



Reference		Dimensions(mm)			
Model	Series	A	L	S1	S2
MB-KE	0F	10	36	7	7
MB-KE	1F	13	43	10	10
MB-KE	1.5F	13.5	45	12	11
MB-KE	2F	16	48	13	12

MB-KS

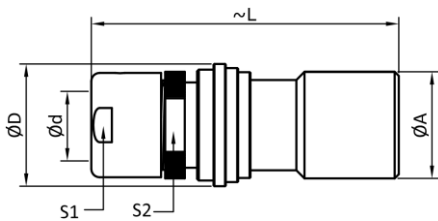
Short cable mount receptacle, code (1, 2, 3), cable collet



Reference		Dimensions(mm)					
Model	Series	A	L	M	d max	S1	S2
MB-KS	0F	10	32	23	3.8	8	8
MB-KS	1F	13	37	26	6.0	11	12
MB-KS	1.5F	13.5	36	30	6.2	11.5	12
MB-KS	2F	16	45	31	8.0	13	13

MB-KSE

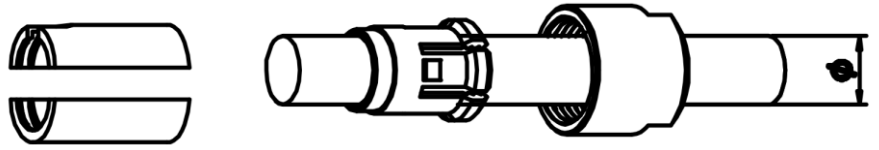
Short sealed cable mount receptacle, code (1, 2, 3), cable collet



Reference		Dimensions(mm)					
Model	Series	A	L	M	d max	S1	S2
MB-KSE	0F	10	32	23	3.8	8	8
MB-KSE	1F	13	37	26	6.0	11	12
MB-KSE	1.5F	13.5	36	30	6.2	11.5	12
MB-KSE	2F	16	45	31	8.0	13	13

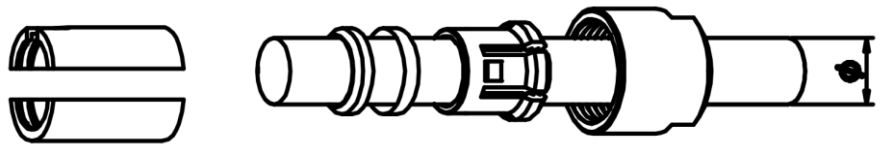
8. Cable Collect Size

MB-OF



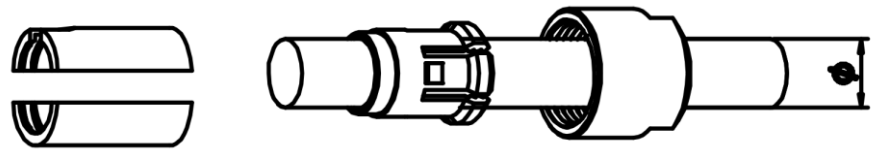
Cable dia Range	Collet Ø (mm)	Cable Clamp Set	Cable dia Range	Collet Ø (mm)	Cable Clamp Set
1.5-2.1	2.1	102 Series	3.6-4.2	4.2	102 Series
2.1-2.7	2.7	102 Series	4.2-4.7	4.7	102 Series
2.6-3.0	3.0	102 Series	4.7-5.2	5.2	102 Series
3.1-3.6	3.6	102 Series	5.0-5.5	5.5	102 Series

MB-OF



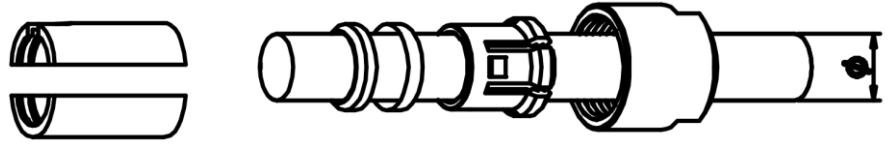
Cable dia Range	Collet Ø (mm)	Cable Clamp Set	Cable dia Range	Collet Ø (mm)	Cable Clamp Set
1.5-2.1	2.1	102 Series	3.6-4.2	4.2	102 Series
2.1-2.7	2.7	102 Series	4.2-4.7	4.7	102 Series
2.6-3.0	3.0	102 Series	4.7-5.2	5.2	102 Series
3.1-3.6	3.6	102 Series	5.0-5.5	5.5	102 Series

MB-1F



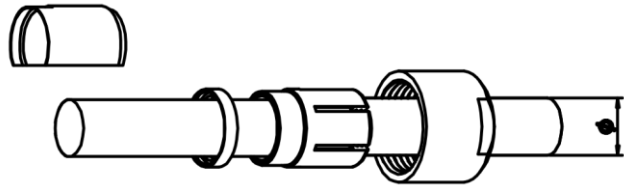
Cable dia Range	Collet Ø (mm)	Cable Clamp Set	Cable dia Range	Collet Ø (mm)	Cable Clamp Set
1.7-2.2	2.2	103 Series	4.2-4.7	4.7	103 Series
2.2-2.7	2.7	103 Series	4.7-5.2	5.2	103 Series
2.7-3.2	3.2	103 Series	5.2-5.7	5.7	103 Series
3.2-3.7	3.7	103 Series	5.7-6.2	6.2	103 Series
3.7-4.2	4.2	103 Series	6.2-7.2	7.2	103 Series

MB-1F



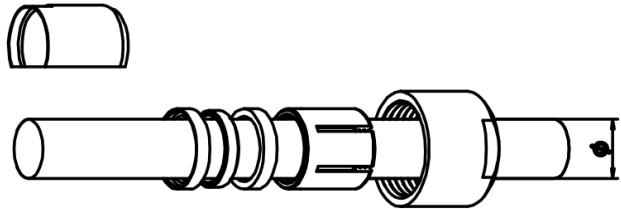
Cable dia Range	Collet Ø (mm)	Cable Clamp Set	Cable dia Range	Collet Ø (mm)	Cable Clamp Set
1.7-2.2	2.2	103 Series	4.2-4.7	4.7	103 Series
2.2-2.7	2.7	103 Series	4.7-5.2	5.2	103 Series
2.7-3.2	3.2	103 Series	5.2-5.7	5.7	103 Series
3.2-3.7	3.7	103 Series	5.7-6.2	6.2	103 Series
3.7-4.2	4.2	103 Series	6.2-7.2	7.2	103 Series

MB-1.5F



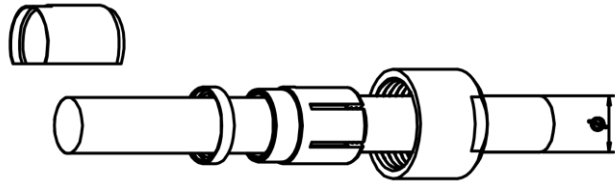
Cable dia Range	Collet Ø (mm)	Cable Clamp Set	Cable dia Range	Collet Ø (mm)	Cable Clamp Set
1.5-2.2	2.2	1031 Series	5.5-6.2	6.2	1031 Series
2.5-3.2	3.2	1031 Series	6.5-7.2	7.2	1031 Series
3.5-4.2	4.2	1031 Series	7.5-8.2	8.2	1031 Series
4.5-5.2	5.2	1031 Series			

MB-1.5F



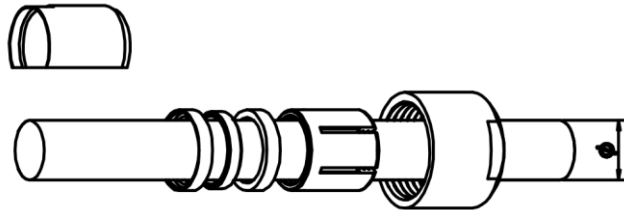
Cable dia Range	Collet Ø (mm)	Cable Clamp Set	Cable dia Range	Collet Ø (mm)	Cable Clamp Set
1.5-2.2	2.2	1031 Series	5.5-6.2	6.2	1031 Series
2.5-3.2	3.2	1031 Series	6.5-7.2	7.2	1031 Series
3.5-4.2	4.2	1031 Series	7.5-8.2	8.2	1031 Series
4.5-5.2	5.2	1031 Series			

MB-2F



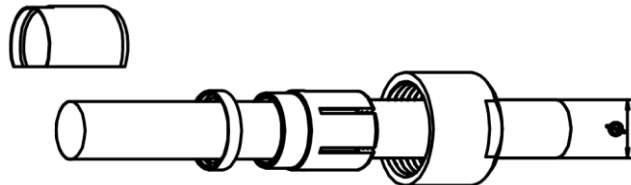
Cable dia Range	Collet Ø (mm)	Cable Clamp Set	Cable dia Range	Collet Ø (mm)	Cable Clamp Set
1.5-2.2	2.2	104 Series	5.5-6.2	6.2	104 Series
2.5-3.2	3.2	104 Series	6.5-7.2	7.2	104 Series
3.5-4.2	4.2	104 Series	7.5-8.2	8.2	104 Series
4.5-5.2	5.2	104 Series	8.5-9.2	9.2	104 Series

MB-2F



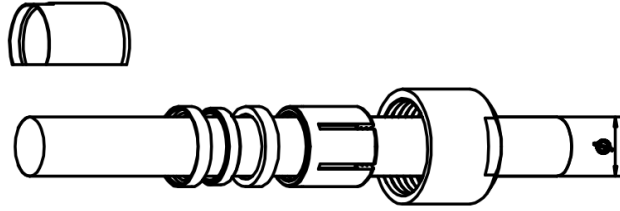
Cable dia Range	Collet Ø (mm)	Cable Clamp Set	Cable dia Range	Collet Ø (mm)	Cable Clamp Set
1.5-2.2	2.2	104 Series	5.5-6.2	6.2	104 Series
2.5-3.2	3.2	104 Series	6.5-7.2	7.2	104 Series
3.5-4.2	4.2	104 Series	7.5-8.2	8.2	104 Series
4.5-5.2	5.2	104 Series	8.5-9.2	9.2	104 Series

MB-3F



Cable dia Range	Collet Ø (mm)	Cable Clamp Set	Cable dia Range	Collet Ø (mm)	Cable Clamp Set
2.5-3.2	3.2	105 Series	7.5-8.2	8.2	105 Series
3.5-4.2	4.2	105 Series	8.5-9.2	9.2	105 Series
4.5-5.2	5.2	105 Series	9.5-10.2	10.2	105 Series
5.5-6.2	6.2	105 Series	10.5-11.2	11.2	105 Series
6.5-7.2	7.2	105 Series	11.5-12.2	12.2	105 Series

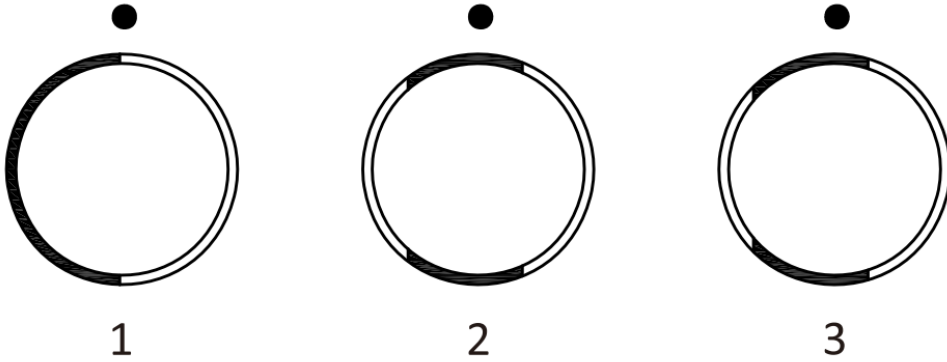
MB-3F



Cable dia Range	Collet Ø (mm)	Cable Clamp Set	Cable dia Range	Collet Ø (mm)	Cable Clamp Set
2.5-3.2	3.2	105 Series	7.5-8.2	8.2	105 Series
3.5-4.2	4.2	105 Series	8.5-9.2	9.2	105 Series
4.5-5.2	5.2	105 Series	9.5-10.2	10.2	105 Series
5.5-6.2	6.2	105 Series	10.5-11.2	11.2	105 Series
6.5-7.2	7.2	105 Series	11.5-12.2	12.2	105 Series

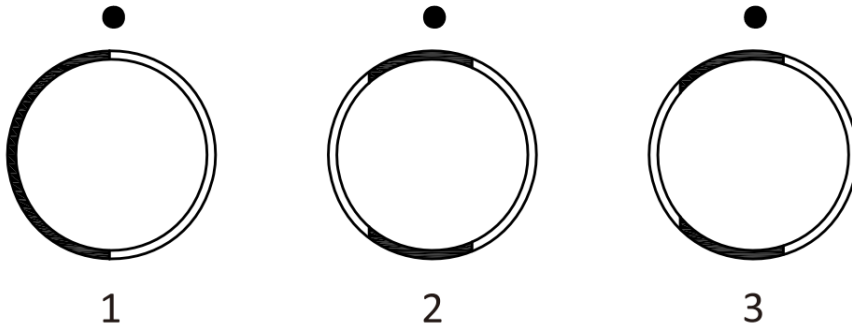
8. Code Option

Code 1 is standard



9. Code Option

Code 1 is standard



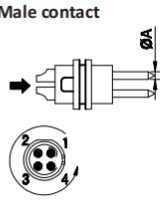
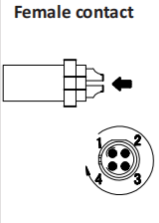
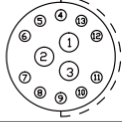
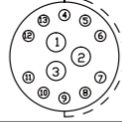
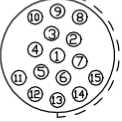
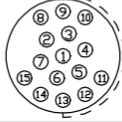













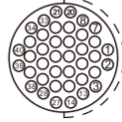
10. F Series Multipole Layout

		Male contact	Female contact	Code	Contact No.	ØA(MM)	Solder contact	PCB straight contact	PCB elbow contact	Test voltage(contact -shell)/v AC-rms	Test voltage(contact -contact)/v AC-rms	Rated current /A
OF			051	2	0.9	●	●	●	1.30	1.05	10.0	
			052	3	0.9	●	●	●	1.20	0.90	8.0	
			053	4	0.7	●	●	●	0.85	0.70	7.0	
			054	5	0.7	●	●	●	1.00	0.70	6.5	
			056	7	0.5	●	●	●	0.80	0.70	2.5	
			059	9	0.5	●	●	●	0.60	0.50	2.0	

	Male contact 	Female contact 	Code	Contact No.	ØA(MM)	Solder contact	PCB straight contact	PCB elbow contact	Test voltage(contact -shell)k/v AC-rms	Test voltage(contact -contact)k/v AC-rms	Rated current /A
1F			051	2	1.3	●	●	●	1.50	1.35	15.0
			052	3	1.3	●	●	●	1.30	1.55	12.0
			053	4	0.9	●	●	●	1.35	1.45	10.0
			054	5	0.9	●	●	●	1.25	1.15	9.0
			056	6	0.7	●	●	●	1.05	1.2	7.0
			057	7	0.7	●	●	●	0.95	1.05	7.0
			058	8	0.7	●	●	●	0.95	1.15	5.0
			010	10	0.5	●	●	●	0.90	1.50	2.5
			062	12	0.5	●	●	●	0.80	1.2	2.0
			065	16	0.5	●	●	●	0.80	1.25	1.5
1.5F			010	10	0.7	●	●	●	1.4	1.5	4.5
			012	12	0.7	●	●	●	1.4	1.5	4.2
			019	19	0.7	●	●	●	0.9		2.54

2F	Male contact	Female contact	Code	Contact No.	ØA(MM)	Solder contact	PCB straight contact	PCB elbow contact	Test voltage(contact -shell)/k/v AC-rms	Test voltage(contact -contact)/k/v AC-rms	Rated current /A
			051	2	1.6	●	○	○	1.80	2.20	20
			040	3	1.6	●	○	○	1.6	2.0	18.0
			037	4	1.3	●	○	○	1.80	2.20	15
			087	5	1.3	●	○	○	1.75	2.20	14
			065	6	0.9	●	○	○	1.7	2.0	6.5
			054	7	0.9	●	●	●	1.50	1.80	6.5
			066	8	0.9	●	○	○	1.50	1.50	6.20
			055	9	1 1.3	●	●	●	2.4	2.2	12
		8 0.9			6.0						
			056	11	0.9	●	●	●	1.5	1.4	5.5
			086	16	0.7	●	○	○	1.0	1.50	4.0
			092	19	0.7	●	○	○	0.80	1.20	3.50

3F	Male contact	Female contact	Code	Contact No.	ØA(MM)	Solder contact	PCB straight contact	PCB elbow contact	Test voltage(contact-shell)/v AC-rms	Test voltage(contact-contact)/v AC-rms	Rated current /A
			087	2P	3.0	●	●	●	2.5	3.0	25A
			052	3P	2.0	●	●	●	2.0	2.5	23A
			053	4P	2.0	●	●	●	2.0	2.5	16A
			064	5P	1.6	●	●	●	1.8	2.2	16A
			065	6P	1.6	●	●	●	1.8	2.2	16A
			066	7P	1.6	●	●	●	1.8	2.2	16A
			054	7P (6+1)	2.0 1.3	●	●	●	3.0	2.0	16A 6A
			057	8P	1.3	●	●	●	1.7	2.0	16A
			067	8P (9-1)	1.3	●	●	●	1.7	2.0	16A
			062	10P	1.3	●	●	●	1.7	2.0	16A
			069	12P	1.3	●	●	●	1.7	2.0	16A

3F	 										
	Code	Contact No.	ØA(MM)	Solder contact	PCB straight contact	PCB elbow contact	Test voltage(contact -shell)k/v AC-rms	Test voltage(contact -contact)k/v AC-rms	Rated current /A		
		104	13P (10+3)	1.3 0.7	●	●	●	1.5	1.3	16A	
		058	15P	0.9	●	●	●	1.6	1.4	7A	
		060	16P	0.9	●	●	●	1.6	1.4	16A	
		056	16P (12+4)	1.6 0.7	●	●	●	1.6	1.3	16A	
		038	18P (19-1)	0.9	●	●	●	1.4	1.6	16A	
		086	19P	0.9	●	●	●	1.4	1.6	5A	
		093	24P	0.7	●	●	●	1.2	1.5	4A	
		102	27P	0.7	●	●	●	1.2	1.5	3A	
		122	40P	0.5	●	●	●	1.2	0.9	1A	