RM SERIES SHELL SIZE 12 – 31mm CIRCULAR CONNECTORS

Introduction

RM Series are compact, circular connectors HIROSE has developed as the result of many years of research and proven experience to meet the most stringent demands of communication equipment as well as electronic equipment. RM Series is available in 5 shell sizes: 12, 15, 21, 24, and 31. There are also 16 kinds of contacts: 2, 3, 4, 5, 6, 7, 8, 10, 12, 15, 20, 31, 40, and 55 (contacts 2 and 4 are available in two types). And also available water proof type in special series. The lock mechanisms with thread coupling type, bayonet sleeve type or quick detachable type are easy to use.

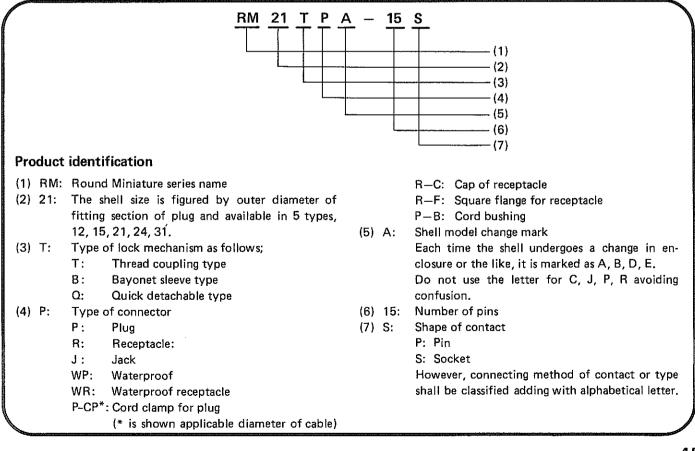
Various kinds of accessories are available.

RM Series are miniaturized in size, rugged and excellent in mechanical and electrical performance thus making it possible to meet the most stringent demands of users. Refer to the contact arrangements of RM series connectors on page $60 \sim 61$.

Main materials (Note that the above may not apply depending on type.)

Part	Material	Finish
Shell	Brass and Zinc alloy	Nickel plated
Insulator	Synthetic resin	
Male contact	Copper alloy	Silver plated
Female contact	Copper alloy	Silver plated

Ordering Information



Standard RM Series

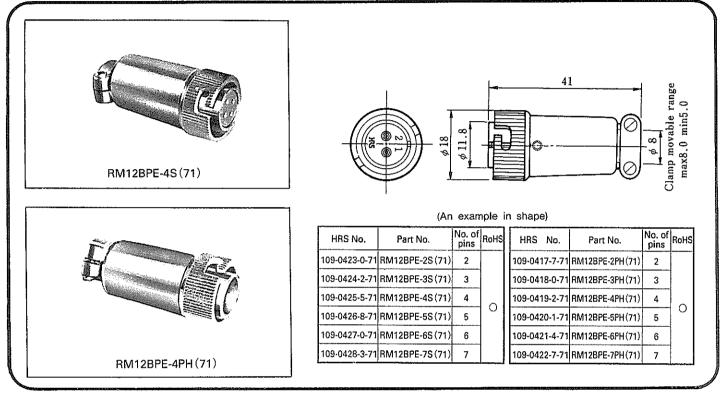
RM12B Connectors

Standard RM series are more compact and higher in performance than our former models. Mechanically stable thanks to its rigid and simple construction. Used widely for all types of equipment, although no special measures are taken for resistance to harsh conditions such as dustproof or waterproof design.

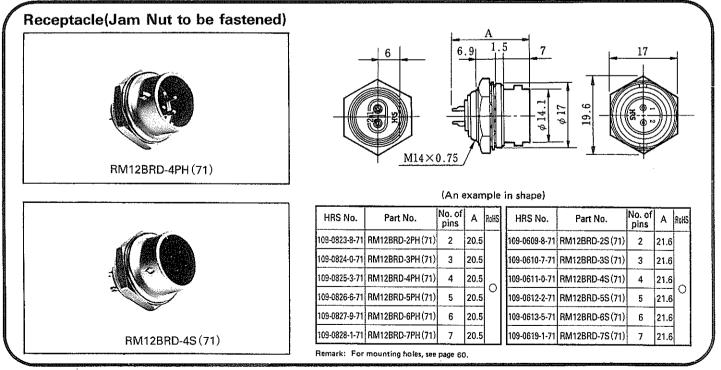
RM12B connectors (bayonet sleeve type) are provided with a bayonet sleeve locking mechanism, the most compact in the series.

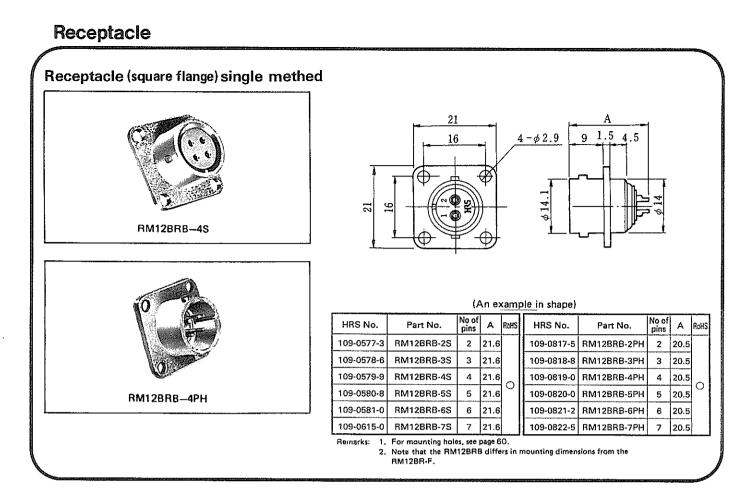
(Bayonet sleeve type)

Plug

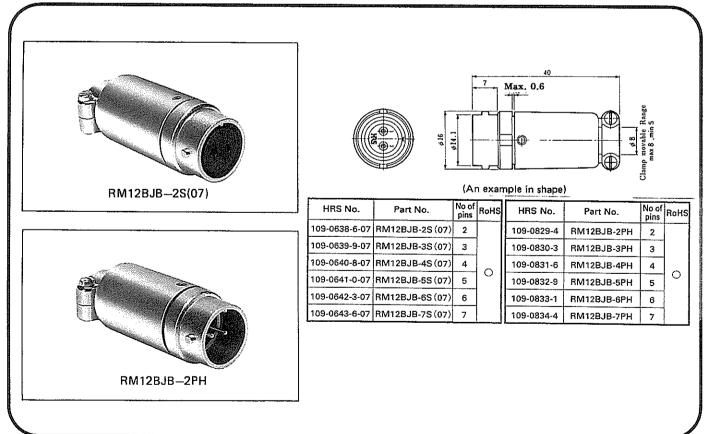


Receptacle





Jack



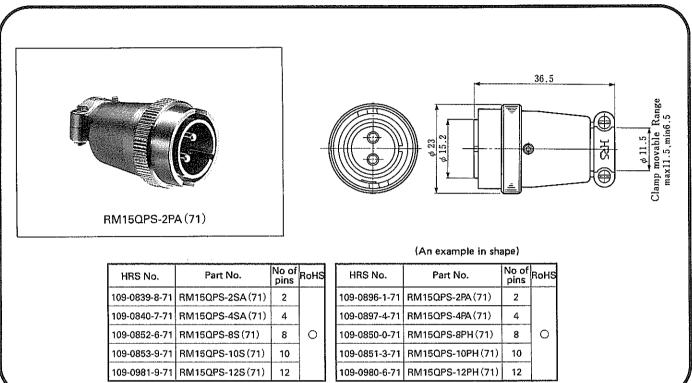
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Model RM15Q Connectors

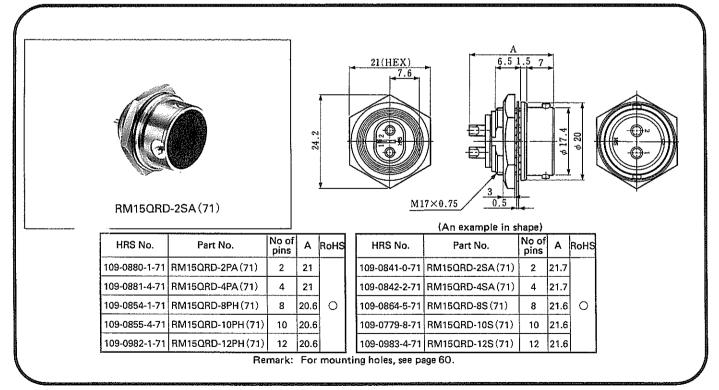
(Quick insertion/extraction system)

The model RM15Q connectors have a quick insertion/ extraction locking mechanism. Developed by HIROSE, this mechanism allows quicker operation than the locking mechanism of a thread coupling or bayonet coupling.

Plug



Receptacle (Jam Nut to be fastened)





(Thread coupling)



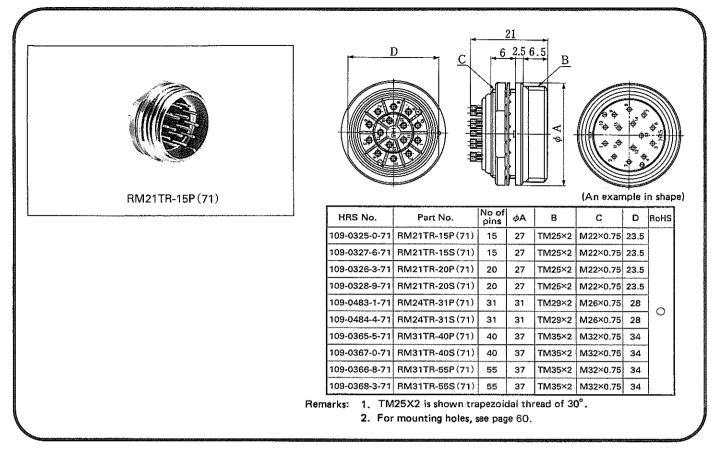
The RM[]T connectors have a screw coupling locking mechanism. Four models of the connectors with shell sizes of 15, 21, 24, and 31 have this locking mechanism. A connector of shell size 15 uses threads of 1 mm pitch. Connectors of shell size 21 and larger use trapezoidal threads for quick operation.

			φ A		n example	in sh			Max. Cord d:ameter
	HRS No.	Part No.	No of pins	φΑ	В	φC	φD	<u> </u>	RoHS
		RM15TP-2SA(71)	2	15.2	M19×1		21.5		
RM15TP-2SA(71)	109-0898-7-71	RM15TP-2PA(71)	2	15.2	M19×1	11.5	21.5	34	
		RM15TP-4SA(71)	4	15.2	M19×1	11.5	21.5	34	
	109-0899-0-71	RM15TP-4PA (71)	4	15.2	M19×1	11.5	21.5	34	
	[]]	RM15TP-8S(71)	8	15.2	M19×1	11.5	21.5	34	
	109-0856-7-71	RM15TP-8PH(71)	8	15.2	M19×1	11.5	21.5	34	
	109-0055-8-71	RM15TP-10S(71)	10	15.2	M19×1	11.5	21.5	34	
	109-0857-0-71	RM15TP-10PH(71)	10	15.2	M19×1	11.5	21.5	34	
	109-0321-0-71	RM21TP-15S(71)	15	21	TM25×2	15	28	37	0
	109-0323-5-71	RM21TP-15P(71)	15	21	TM25×2	15	28	37] 🖸
	109-0322-2-71	RM21TP-20S(71)	20	21	TM25×2	15	28	37	
	109-0324-8-71	RM21TP-20P(71)	20	21	TM25×2	15	28	37	
	109-0481-6-71	RM24TP-31S(71)	31	24.3	TM29×2	19	32	41	
A ist -	109-0482-9-71	RM24TP-31P(71)	31	24.3	TM29×2	19	32	41	
	109-0361-4-71	RM31TP-40S(71)	40	30.8	TM35×2	26	40	47]
RM15TP-2PA(71)	109-0363-0-71	RM31TP-40P(71)	40	30.8	TM35×2	26	40	47	1
	109-0362-7-71	RM31TP-55S(71)	55	30.8	TM35×2	26	40	47	1
	109-0364-2-71	RM31TP-55P(71)	55	30.8	TM35×2	26	40	47	1

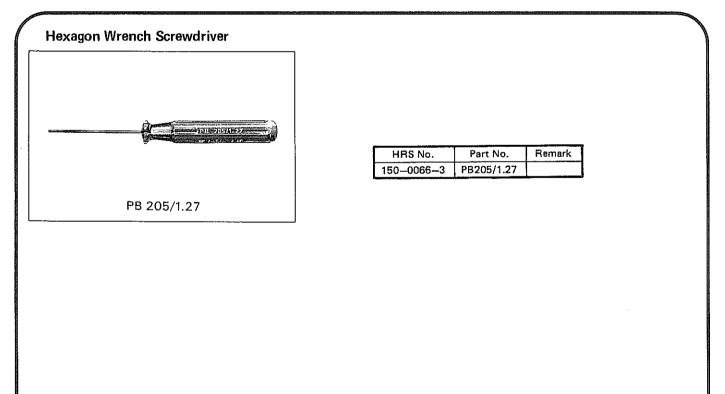
Receptacle (Jam Nut to be fastened)

	21(HEX) 7.6 M17×		M19× 07		
RM15TRH-2PA (71)	HRS No.	Part No.	No of pins	A Ro	онз
		RM15TRH-2PA (71)	2	21	
		RM15TRH-2SA(71)	2	21.7	
		RM15TRH-4PA(71)	4	21	1
	109-0848-9-71	RM15TRH-4SA(71)	4	21.7	0
· ·	109-0858-2-71	RM15TRH-8PH(71)	8	20.6	Ŭ
	109-0868-6-71	RM15TRH-8S(71)	8	21.6	
	109-0859-5-71	RM15TRH-10PH (71)	10	20.6	
	109-0869-9-71	RM15TRH-10S(71)	10	21.6	
	Remark: For m	ounting holes, see page	e0		6

Receptacle



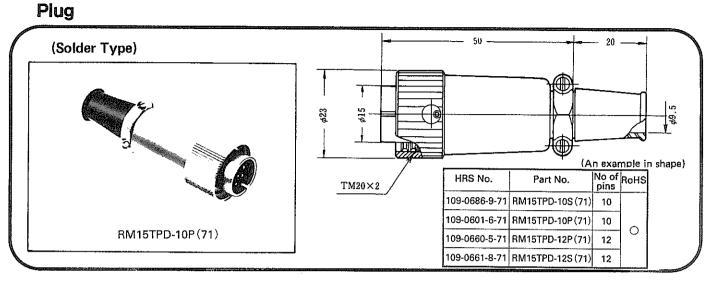
Tool



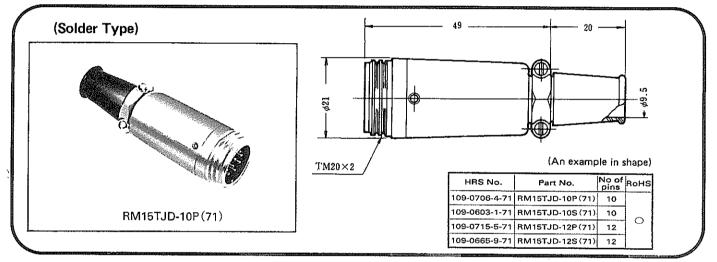
RM15T(D Type) connectors

The RM15T (model D) connectors are designed for high grade of commercial applications such as VTR. These connectors boast a highly refined design.

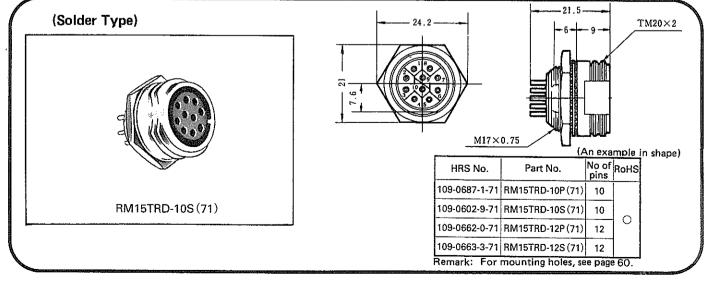
Since the model D uses locking threads of 30° trapezoidal threads, it is incompatible with the RM15T connectors.



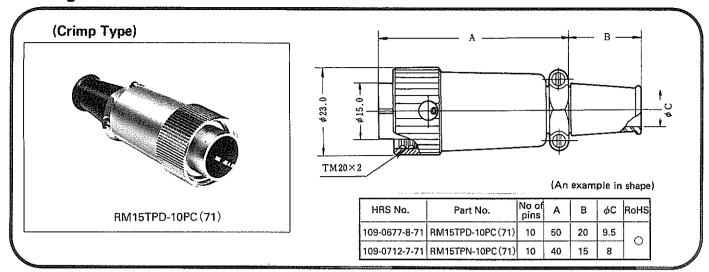
Jack



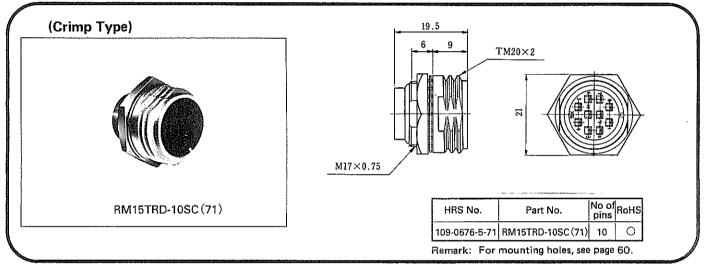
Receptacle



Plug



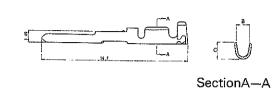
Receptacle



Receptacle

(Dip Type)	Dip	A 19.5 Post 0.8¢ 6	, ,		<u>ŢM20</u>		Key position
RM15TRD-10SB (71)		B. M17×0	.75	+	ē	см (М	
			(,	An ex	ample	in shape	e)
	HRS No.	Part No.	No of pins	A	в	RoHS	1.5 1.5 1.5 1.5 1.5
1	09-0710-1-71	RM15TRD-10SB(71)	10	32.3	8.3		****
land the second s		RM15TRD-10SD(71)		27.8	3.8		
R	emark: For	mounting holes, see	e page	60.		i, i géogra	

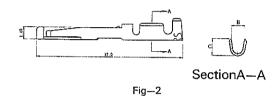




Туре	HRS No.	Part No.	В	С	Applicable wire	RoHS
Loose	109-0668-7	RM-PC-112	1.6	2.0	AWG#20~#24	1
contact	109-0672-4	RM-PC-122	1.45	1,5	AWG#24~#28	
Chain	109-0670-9	RM-PC-212	1.6	2.0	AWG#20~#24	
contact	109-0674-0	RM-PC-222	1.45	1.5	AWG#24~#28	

Socket contact

Fig—1

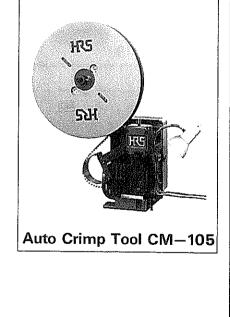


Туре	HRS No.	Part No.	B	с	Applicable wire	RoHS
Loose	109-0669-0	RM-SC-112	1.6	2.0	AWG#20~#24	
contact	109-0673-7	RM-SC-122	1.45	1.5	AWG#24~#28	
Chain	109-0671-1	RM-SC-212	1.6	2.0	AWG#20~#24	
contact	109-0675-2	RM-SC-222	1.45	1.5	AWG#24#28	1

Note: Loose-piece pins are available in pack. Each pack contains 100 pieces. Reel pins are available, one reel contains 8,000 pieces.

Tools

Туре	ltem	HRS No.	Part No.	Applicable terminal	Applicable wire
		150-0006-1	BN-TO-14	RM-PC-112	
Manual	Manual crimping	150-0006-1	RM-TC~11	RM-SC-112	AWG#20~#24
wander	tool	150-0007-4	RM-TC-12	RM-PC-122	
		150-0007-4	HW-10-12	RM-SC-122	AWG#24~#28
	Automatic crimping machine body	901-0005-4	CM~105	_	
Automatic	matio	001-0047-4	AP105-RM-1	RM-PC-212	
Sutomatic	Applicator	901-2017-4		RM-SC-212	AWG # 20~ # 24
	Αρριισαιοί	901-2018-7	AP105-RM-2	RM-PC-222	
		901 2018 7	MF103-RW-2	RM-SC-222	AWG # 24~ # 28
Ε	Extraction	150-0008-7	RM-TP	_	





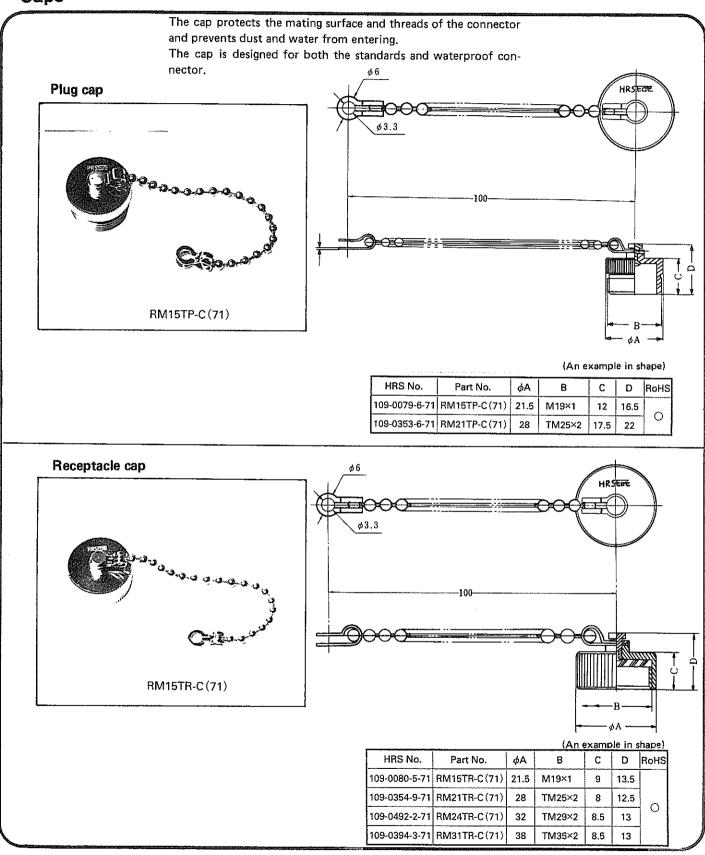


Extraction Tool

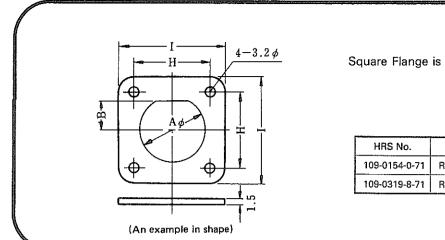
RM Series accessories

The RM series have accessories such as a cap, cord busing, and square flange designed for different applications.





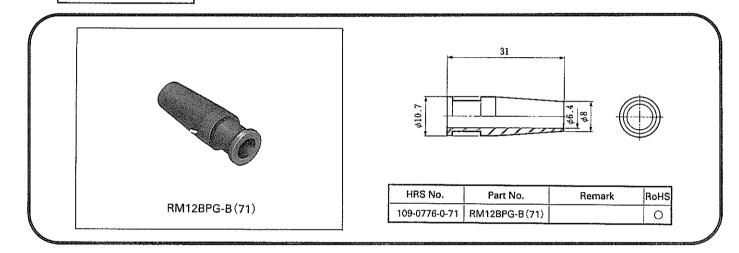
Square Flange



Square Flange is used with Bayonet Lock type receptacle.

HRS No.	Part No.	φA	В	н	I	RoHS
 109-0154-0-71	RM12BR-F(71)	14.1	6	18	26	
109-0319-8-71	RM15TR-F(71)	17.1	7.6	20.6	28	

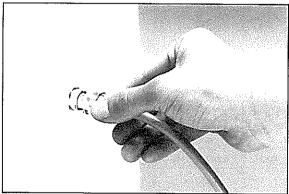
Cord Bushing



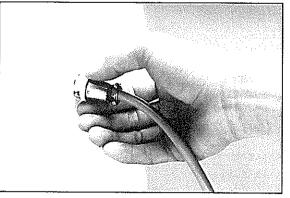
How to use the RM15Q Connectors

(Quick insertion and extraction system)

1. Insertion



Holding the plug body, match the key with the keyway on the receptacle and push straight in. Turn plug 30° to the right, coupling is completed. 2. Extraction



Holding plug sleeve, twist it 30 degrees to the left. Then, pull it straight for easy releasing.

Dimensions of mounting holes

For your reference, the dimensions of receptacle mounting holes are given below for different shell sizes for the nuttightening type and square-flange type.

In the case of the nut-tightening type, the dimensions of a

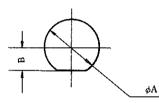
standard connector are the same as those of a waterproof connector. The dimensions of square flanges are those when the flanges are installed on the front surface of a panel. For details, contact our sales or engineering department.

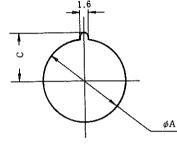
Nut tightening type

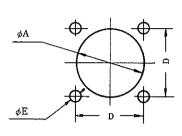
Mounting holes, for shell sizes 21, 24, 31

Square flange type

Mounting holes, for shell sizes 12, 15







Remark: Use a 0.5 \sim 2 mm thickness panel for all shell sizes.

Mounting method		-	Nut tightening					
Locking m	12	1	15	21	24	31	12	
Locking mechanism Sign	BRD•WBR	QRD	TRH•TRD• WTR		TR•WTR		BRB	
φΑ	14.1	17.1	17,1	22.1	26.1	32.1	14.5	
B	6.1	7.6	7.6	_	-	-	-	
С	_			13.3	14.6	18.3		
D	_	_	-	_	_	-	16	
φΕ	_	_				-	2.9	

RM Series contact arrangement

Shell size			}			
12						
Contact arrangement number	2	3	4	5	6	7
Withstanding voltage	AC1800V for a minute	AC1500V for a minute	AC1500V for a minute	AC1000V for a minute	AC1000V for a minute	AC1000V for a minute
Current rating	5A	5A	5A	5A	5A	5A
Insulation resistance	1000MΩ or more					
Contact resistance	4mΩ or less	4mΩ or less	4mΩ or less	$4m\Omega$ or less	$4m\Omega$ or less	4mΩ or less
Inside diameter of solder pot	ø1.1	ø1.1	ø1.1	ø1.1	ø1.1	ø1.1

Contact arrangement

Shell size	_		_		-7-
15					$ \begin{array}{c} $
Contact arrangement number	2	4	8	10	12
Withstanding voltage	AC1800V for a minute	AC1500V for a minute	AC1500V for a minute	AC1000V for a minute	AC1000V for a minute
Current rating	10A	10A	5A	5A	5A
Insulation resistance	1000MΩ or more				
Contact resistance	2mΩ or less	2mΩ or less	4mΩ or less	$4m\Omega$ or less	4mΩ or less
Inside diameter of solder pot	ø1.7	ø1.7	ø1.1	ø1.1	ø1.1

Shell size	-		Shell size	
21			24	
Contact arrangement number	15	20	Contact arrangement number	31
Withstanding voltage	AC1500V for a minute	AC1000V for a minute	Withstanding voltage	AC1500V for a minute
Current rating	5A	5A	Current rating	5A
Insulation resistance	1000MΩ or more	1000MΩ or more	Insulation resistance	1000MΩ or more
Contact resistance	4mΩ or less	4mΩ or less	Contact resistance	4mΩ or less
Inside diameter of solder pot	ø1.1	ø1.1	Inside diameter of solder pot	ø1. 1

Shell size		
31		
Contact arrangement number	40	55
Withstanding voltage	AC1800V for a minute	AC1500V for a minute
Current rating	5A	5A
Insulation resistance	1000MΩ or more	1000MΩ or more
Contact resistance	4mΩ or less	4mΩ or less
Inside diameter of solder pot	ø1.1	¢1.1

Remarks:

- Figures show contact arrangements viewed from the fitting side of socket inserts (connecting side of pin inserts).
- 2. Withstanding voltage is shown in test voltage. In ordinary case, use connectors at about 1/3 of test voltage.
- 3. Insulator resistance is a value measured at DC 500V.
- 4. Contact resistance is a value measured at DC 1A.

Mouser Electronics

Authorized Distributor

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Hirose Electric:

 RM21TP-15S(71)
 RM21TP-20S(71)
 RM21TR-15S(71)
 RM21TR-20S(71)
 RM31TP-55P(71)
 RM31TR-40S(71)

 RM31TR-C(71)
 RM31TR-F
 RM24TP-31S(71)
 RM24TP-31P(71)
 RM24TR-31P(71)
 RM24TR-31S(71)
 RM24TR-40S(71)

 C(71)
 RM21TF-F
 RM215A-T04
 RM215-T03
 RM215TJ-T02
 RM215TP-T01
 RM-TC-11
 RM-TC-12
 RM12BR-6S

 C(71)
 RM24TR-F
 RM215A-T04
 RM215-T03
 RM215TJ-T02
 RM215TP-T01
 RM-TC-11
 RM-TC-12
 RM12BR-6S

 RM12BJB-6S(07)
 RM12BPE-6S(71)
 RM12BRD-6S(71)
 RM15TP-4SA(71)
 RM15TPH-4SA(71)
 RM15QPN-8PB(71)

 RM15QPS-4SA(71)
 RM15QR-8SA(71)
 RM15QRD-4PA(72)
 RM15QRD-4SA(71)
 RM15TPTP-4SA(71)
 RM15TPTP-4SA(72)

 RM15WTJZ-12S(71)
 RM15WTJZ-2S(71)
 RM15WTPZ-4S(72)
 RM15WTPZ-10S(72)
 RM15WTPZ-10S(72)

 RM15WTPZ-2P(72)
 RM15WTPZ-3P(72)
 RM15WTPZ-4S(72)
 RM15WTRZ-4S(72)
 RM15WTRZ-4S(72)

 RM15WTPZ-3S(71)
 RM15WTPZB-3S(72)
 RM15WTRZB-4S(72)
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 RM15WTRZC-3P(72)
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