IP67 waterproof protected heavy duty metal shell connectors

JR-W Series

■General Description

JR-W connector is suitable for outdoor applications such as Base stations and wireless equipments with IP67 waterproof protection.

■Features

1. IP67 waterproof protection
under water to 1.8m depth for 48 hours

2.Anti corrosion resistance
reliable black Chrome plating

3.Five polarizing keys for ease of blind mating

4.Wide varieties of pin numbers

■Products abstract

Receptacle
with male (female) contacts

Flange type

Bulk head type

Plug
with female(male) contacts

Cable Clamp

■Material & Finish

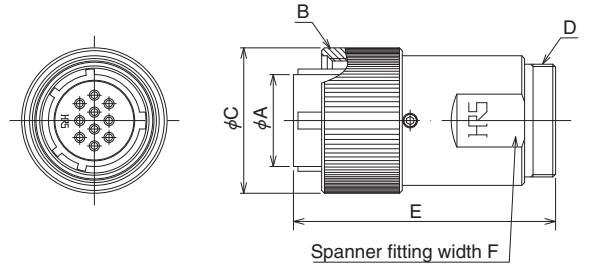
Item	Materials	Finish
Shell	Aluminium alloy, Zinc alloy, Brass	Black chrome plating
Insulator	Synthetic resin	——
Contacts	Copper alloy	Silver or Gold plating

Solder contact type

■Plug

With male contacts

With female contacts



(This shape is one example)

With Male contacts		No. of pins	ϕA	B	ϕC	D	E	F	Description
Silver plating contacts									
HRS No.	Product No.								
114-2001-5-71	JR13WP-3P(71)	3	12.7	M18×1	21.8	M16×0.75	44.7	17	–
114-2002-8-71	JR13WP-5P(71)	5	12.7	M18×1	21.8	M16×0.75	44.7	17	–
114-2003-0-71	JR16WP-7P(71)	7	16.3	M22×1	25.8	M20×0.75	46.5	21	–
114-2004-3-71	JR16WP-10P(71)	10	16.3	M22×1	25.8	M20×0.75	46.5	21	–
114-2005-6-71	JR21WP-10P(71)	10	20.5	M26×1	29.8	M24×0.75	51	25.4	–
114-2006-9-71	JR21WP-16P(71)	16	20.5	M26×1	29.8	M24×0.75	51	25.4	–
114-2007-1-71	JR25WP-4P(71)	4	24.7	M30×1	33.8	M28×0.75	56	29	–
114-2008-4-71	JR25WP-5P(71)	5	24.7	M30×1	33.8	M28×0.75	56	29	–
114-2009-7-71	JR25WP-8P(71)	8	24.7	M30×1	33.8	M28×0.75	56	29	–
114-2010-6-71	JR25WP-16P(71)	16	24.7	M30×1	33.8	M28×0.75	56	29	–
114-2011-9-71	JR25WP-24P(71)	24	24.7	M30×1	33.8	M28×0.75	56	29	–

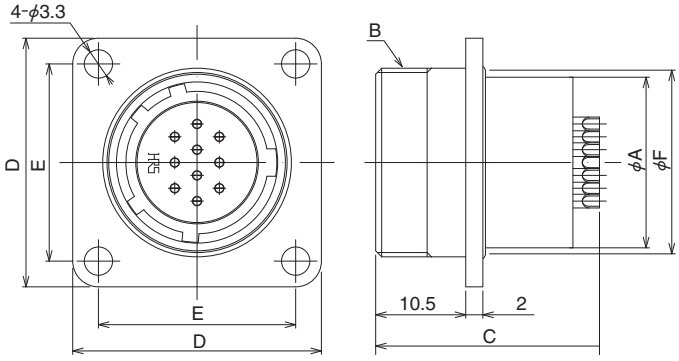
With Female contacts		No. of pins	ϕA	B	ϕC	D	E	F	Description
Silver plating contacts									
HRS No.	Product No.								
114-2012-1-71	JR13WP-3S(71)	3	12.7	M18×1	21.8	M16×0.75	44.7	17	–
114-2013-4-71	JR13WP-5S(71)	5	12.7	M18×1	21.8	M16×0.75	44.7	17	–
114-2013-4-72	JR13WP-5S(72)	5	12.7	M18×1	21.8	M16×0.75	44.7	17	Gasket:Silicon
114-2014-7-71	JR16WP-7S(71)	7	16.3	M22×1	25.8	M20×0.75	46.5	21	–
114-2014-7-72	JR16WP-7S(72)	7	16.3	M22×1	25.8	M20×0.75	46.5	21	Gasket:Silicon
114-2015-0-71	JR16WP-10S(71)	10	16.3	M22×1	25.8	M20×0.75	46.5	21	–
114-2015-0-75	JR16WP-10S(75)	10	16.3	M22×1	25.8	M20×0.75	46.5	21	Gasket:Silicon
114-2016-2-71	JR21WP-10S(71)	10	20.5	M26×1	29.8	M24×0.75	51	25.4	–
114-2017-5-71	JR21WP-16S(71)	16	20.5	M26×1	29.8	M24×0.75	51	25.4	–
114-2018-8-71	JR25WP-4S(71)	4	24.7	M30×1	33.8	M28×0.75	56	29	–
114-2019-0-71	JR25WP-5S(71)	5	24.7	M30×1	33.8	M28×0.75	56	29	–
114-2020-0-71	JR25WP-8S(71)	8	24.7	M30×1	33.8	M28×0.75	56	29	–
114-2021-2-71	JR25WP-16S(71)	16	24.7	M30×1	33.8	M28×0.75	56	29	–
114-2022-5-71	JR25WP-24S(71)	24	24.7	M30×1	33.8	M28×0.75	56	29	–
114-2159-0-71	JR25WP-3S(71)	3	24.7	M30×1	33.8	M28×0.75	56	29	–

■Receptacle

●Flange type

With male contacts

With female contacts



Note 1. This shape is one example.

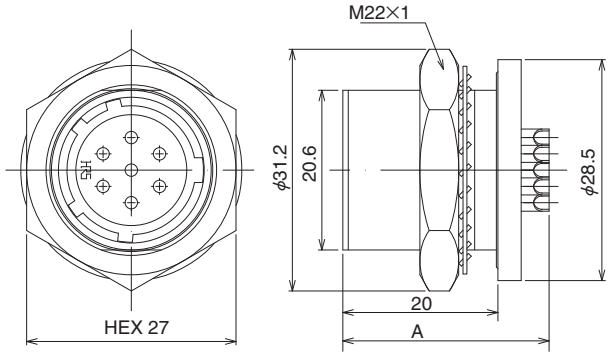
2. ϕF is a hole size of panel cutout.

With Male contacts / Silver plating contacts		No. of pins	ϕA	B	ϕC	D	E	ϕF	Description
HRS No.	Product No.								
114-2023-8-71	JR13WR-3P(71)	3	15.9	M18×1	26.6	26	20	16.3	–
114-2024-0-71	JR13WR-5P(71)	5	15.9	M18×1	26.1	26	20	16.3	–
114-2024-0-72	JR13WR-5P(72)	5	15.9	M18×1	26.1	26	20	16.3	Gasket:Silicon
114-2025-3-71	JR16WR-7P(71)	7	19.9	M22×1	26.6	29	23	20.3	–
114-2025-3-72	JR16WR-7P(72)	7	19.9	M22×1	26.6	29	23	20.3	Gasket:Silicon
114-2026-6-71	JR16WR-10P(71)	10	19.9	M22×1	26.1	29	23	20.3	–
114-2026-6-75	JR16WR-10P(75)	10	19.9	M22×1	26.1	29	23	20.3	Gasket:Silicon
114-2027-9-71	JR21WR-10P(71)	10	23.9	M26×1	26.6	32	26	24.3	–
114-2028-1-71	JR21WR-16P(71)	16	23.9	M26×1	26.1	32	26	24.3	–
114-2029-4-71	JR25WR-4P(71)	4	27.9	M30×1	28	35	29	28.3	–
114-2029-4-72	JR25WR-4P(72)	4	27.9	M30×1	28	35	29	28.3	Gasket:Silicon
114-2030-3-71	JR25WR-5P(71)	5	27.9	M30×1	26.6	35	29	28.3	–
114-2031-6-71	JR25WR-8P(71)	8	27.9	M30×1	26.6	35	29	28.3	–
114-2032-9-71	JR25WR-16P(71)	16	27.9	M30×1	26.6	35	29	28.3	–
114-2033-1-71	JR25WR-24P(71)	24	27.9	M30×1	26.1	35	29	28.3	–
114-2158-7-71	JR25WR-3P(71)	3	27.9	M30×1	29.1	35	29	28.3	–

With Female contacts / Silver plating contacts		No. of pins	ϕA	B	ϕC	D	E	ϕF	Description
HRS No.	Product No.								
114-2034-4-71	JR13WR-3S(71)	3	15.9	M18×1	28	26	20	16.3	–
114-2035-7-71	JR13WR-5S(71)	5	15.9	M18×1	27	26	20	16.3	–
114-2036-0-71	JR16WR-7S(71)	7	19.9	M22×1	28	29	23	20.3	–
114-2037-2-71	JR16WR-10S(71)	10	19.9	M22×1	27	29	23	20.3	–
114-2038-5-71	JR21WR-10S(71)	10	23.9	M26×1	28	32	26	24.3	–
114-2039-8-71	JR21WR-16S(71)	16	23.9	M26×1	27	32	26	24.3	–
114-2040-7-71	JR25WR-4S(71)	4	27.9	M30×1	28	35	29	28.3	–
114-2041-0-71	JR25WR-5S(71)	5	27.9	M30×1	27.8	35	29	28.3	–
114-2042-2-71	JR25WR-8S(71)	8	27.9	M30×1	27.8	35	29	28.3	–
114-2043-5-71	JR25WR-16S(71)	16	27.9	M30×1	28	35	29	28.3	–
114-2044-8-71	JR25WR-24S(71)	24	27.9	M30×1	27	35	29	28.3	–

●Bulk head type(Rear mount)

With male contacts

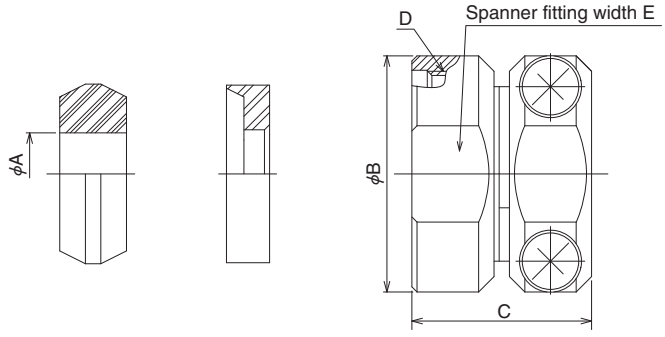


(This shape is one example)

With Male contacts		No. of pins	A
Silver plating contacts			
HRS No.	Product No.		
114-2143-0-71	JR16WRA-7P(71)	7	26.6
114-2096-1-71	JR16WRA-10P(71)	10	26.1

With Female contacts		No. of pins	A
Silver plating contacts			
HRS No.	Product No.		
114-2145-5-71	JR16WRA-10S(71)	10	27

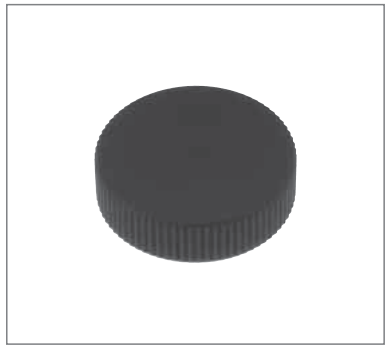
Cable clamp



(This shape is one example)

HRS No.	Product No.	φA	φB	C	D	E	Description
114-2045-0-71	JR13WCC-4(71)	4	20	17	M16×0.75	17	–
114-2046-3-71	JR13WCC-5(71)	5	20	17	M16×0.75	17	–
114-2047-6-71	JR13WCC-6(71)	6	20	17	M16×0.75	17	–
114-2048-9-71	JR13WCC-7(71)	7	20	17	M16×0.75	17	–
114-2049-1-71	JR13WCC-8(71)	8	20	17	M16×0.75	17	–
114-2050-0-71	JR13WCC-9(71)	9	20	17	M16×0.75	17	–
114-2051-3-71	JR13WCC-10(71)	10	20	17	M16×0.75	17	–
114-2052-6-71	JR16WCC-4(71)	4	23	17.5	M20×0.75	21	–
114-2053-9-71	JR16WCC-6(71)	6	23	17.5	M20×0.75	21	–
114-2054-1-71	JR16WCC-8(71)	8	23	17.5	M20×0.75	21	–
114-2055-4-71	JR16WCC-10(71)	10	23	17.5	M20×0.75	21	–
114-2056-7-71	JR16WCC-12(71)	12	23	17.5	M20×0.75	21	–
114-2057-0-71	JR21WCC-6(71)	6	27	17.5	M24×0.75	25.4	–
114-2058-2-71	JR21WCC-8(71)	8	27	17.5	M24×0.75	25.4	–
114-2059-5-71	JR21WCC-10(71)	10	27	17.5	M24×0.75	25.4	–
114-2060-4-71	JR21WCC-12(71)	12	27	17.5	M24×0.75	25.4	–
114-2061-7-71	JR21WCC-14(71)	14	27	17.5	M24×0.75	25.4	–
114-2062-0-71	JR21WCC-16(71)	16	27	17.5	M24×0.75	25.4	–
114-2063-2-71	JR25WCC-8(71)	8	31	18	M28×0.75	29	–
114-2063-2-72	JR25WCC-8(72)	8	31	18	M28×0.75	29	Gasket:Silicon
114-2064-5-71	JR25WCC-10(71)	10	31	18	M28×0.75	29	–
114-2064-5-72	JR25WCC-10(72)	10	31	18	M28×0.75	29	Gasket:Silicon
114-2065-8-71	JR25WCC-12(71)	12	31	18	M28×0.75	29	–
114-2065-8-72	JR25WCC-12(72)	12	31	18	M28×0.75	29	Gasket:Silicon
114-2066-0-71	JR25WCC-14(71)	14	31	18	M28×0.75	29	–
114-2066-0-72	JR25WCC-14(72)	14	31	18	M28×0.75	29	Gasket:Silicon
114-2067-3-71	JR25WCC-16(71)	16	31	18	M28×0.75	29	–
114-2067-3-72	JR25WCC-16(72)	16	31	18	M28×0.75	29	Gasket:Silicon
114-2068-6-71	JR25WCC-18(71)	18	31	18	M28×0.75	29	–
114-2068-6-72	JR25WCC-18(72)	18	31	18	M28×0.75	29	Gasket:Silicon
114-2157-4-71	JR25WCC-15(71)	15	31	18	M28×0.75	29	–

Cap



Without a chain		ϕA	B	Description
HRS No.	Product No.			
114-2162-4-71	JR16WRC(71)	25	7	–
114-2162-4-75	JR16WRC(75)	25	7	Gasket:Silicon
114-2163-7-71	JR25WRC(71)	33	7	–
114-2163-7-75	JR25WRC(75)	33	7	Gasket:Silicon

With a chain		ϕA	B	Description
HRS No.	Product No.			
114-2170-2-00	JR13WRC3	21	11.5	–
114-2171-5-00	JR16WRC3	25	11.5	–
114-2172-8-00	JR25WRC3	33	11.5	–

Tools

●Hexagon wrench driver(1.27 opposite side)

HRS No.	Product No.
150-0066-3	PB205/1.27

■Plug assemblies procedure

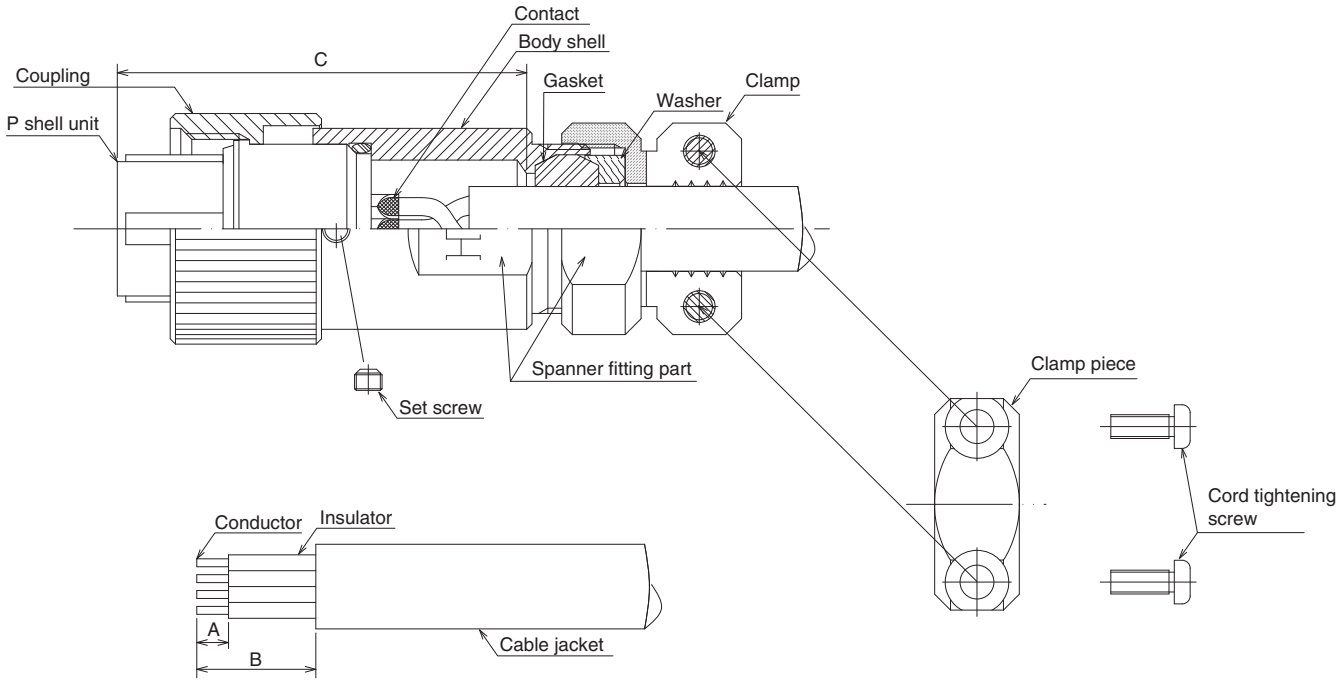


Table 1(Solder type) [Unit:mm]

Shell size	A	B	C
13	(3)	(12)	37 or below
16	(3)	(14)	39 or below
21	(3)	(17)	42 or below
25	(3)	(20)	37 or below

Table 2 Tightning torque[Unit:N·m]

Shell size	C
13	2 to 2.5
16	3 to 3.5
21	4 to 4.5
25	5 to 5.5

■Work procedure

1.Disassembly of connector

(1)To remove the plug, remove the set screw, fit a receptacle adaptive to the P shell unit to fix, and remove he cord tube.
(2)To remove the cord clamp, remove the cord tightening screws.

2.Connection

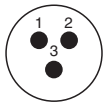
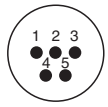
2.1 Soldering type
(1)Use the cable so that the conductor can be soldered properly into the solder cup with the cable sheath diameter adaptive to each cord clamp.
(2)After the terminal treatment of the cable with a size given in Table 1, thread on the ccable the clamp, washer, gasket, cord tube and coupling in this order and direction as shown above.
(3) Solder to connect the conductors to the terminals of the P shell unit. Shrinkable tube is recommended to be used at the connecting part because insulating performance might deteriorate due to solder whiskers or dewing. After connecting, adjust to meet the C size. (Note2)

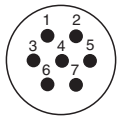
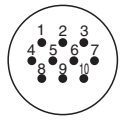
3.Assembly of connector

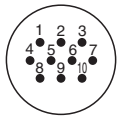
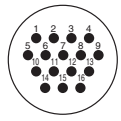
(1)Fit the connected P shell unit to the receptacle fixed with a vice or the like. Torque the cord tube to the level as given in Table3.
(2)Fit the gasket, washer and clamp. Torque the clamp to the level as given in Table3 while preventing the cable from being ratated. And, Loctite Japan Co Ltd. is recommended to be applied as locking.(Note3)
(3)Torque the set screw to 0.2 to 0.25 N·m.
(4)Torque the cord tightening screw(two positions) to 0.65 to 0.7 N·m.(Note 4)

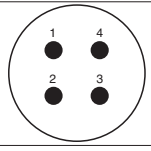
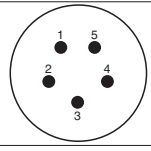
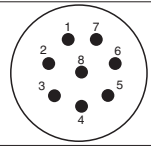
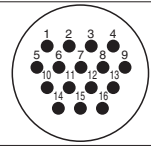
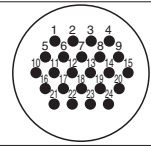
Note2. keep the size until assembling is completed
Note3. After tightening, check water proof performance before using.
Note4. Check the clamp strenrth before using.

■Contacts arrangement and specifications

shell size		
13		
No.of pins	3	5
Voltage resistance	1,000V AC for 1 minute	1,000V AC for 1 minute
Current capacity	10A	5A
Insulation resistance	1000M ohm or above	1000M ohm or above
Contact resisitance	5m ohm or below	5m ohm or below
Solder pot inner diameter	ϕ1.7	ϕ1.1

shell size		
16		
No.of pins	7	10
Voltage resistance	1000V AC for 1 minute	1000V AC for 1 minute
Current capacity	10A	5A
Insulation resistance	1000M ohm or above	1000M ohm or above
Contact resisitance	5m ohm or below	5m ohm or below
Solder pot inner diameter	ϕ1.7	ϕ1.1

shell size		
21		
No.of pins	10	16
Voltage resistance	1000V AC for 1 minute	1000V AC for 1 minute
Current capacity	10A	5A
Insulation resistance	1000M ohm or above	1000M ohm or above
Contact resisitance	5m ohm or below	5m ohm or below
Solder pot inner diameter	ϕ1.7	ϕ1.1

shell size					
25					
No.of pins	4	5	8	16	24
Voltage resistance	3000V AC for 1 minute	3000V AC for 1 minute	3000V AC for 1 minute	3000V AC for 1 minute	1000V AC for 1 minute
Current capacity	30A	10A	10A	10A	5A
Insulation resistance	10,000M ohm or above	10,000M ohm or above	10,000M ohm or above	1000M ohm or above	1000M ohm or above
Contact resisitance	5m ohm or below	5m ohm or below	5m ohm or below	5m ohm or below	5m ohm or below
Solder pot inner diameter	ϕ3.4	ϕ1.7	ϕ1.7	ϕ1.7	ϕ1.1

Remarls: 1.Illustrations show the fitting faces of connectors having male terminals.
2.The voltage resistance is indicated at a test voltage value. The regular voltage value. The regular voltage is one tenth or below of the test voltage value.

■Notes in Use

1.Be sure to turn off the power to the circuit before connecting or disconnecting the connector.
2.Be sure to use the connector having famale terminals on the power side to the circuit.
3.Be sure to use the connector with the screw lock activated(thoroughly tightened).
4.Use the connector as the combination of water-proof types.