

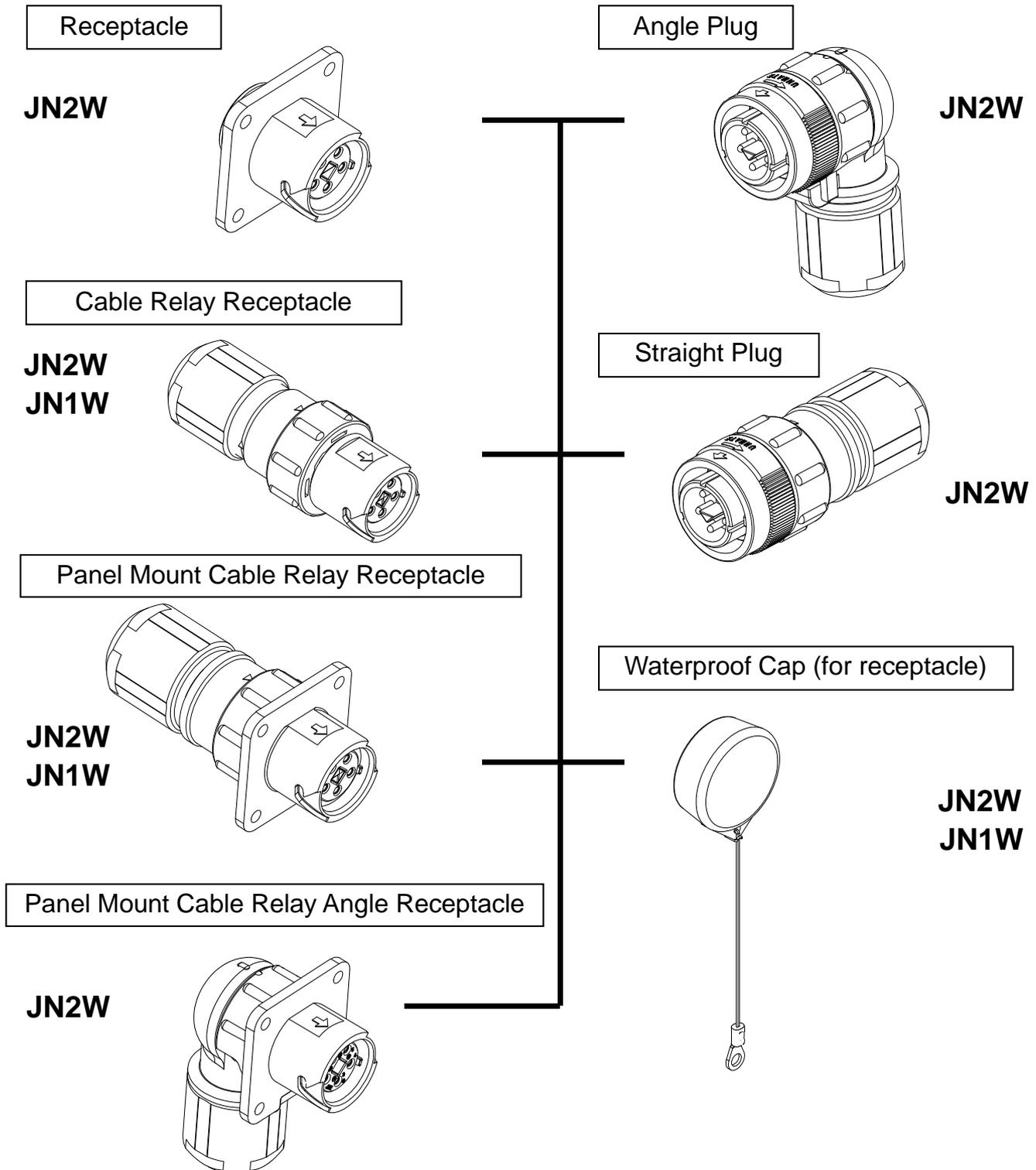
**NEW**

Small Circular Connector  
**JN1W / JN2W Series**

CONNECTOR

MB-0178-6

May 2018



This product series has been developed primarily for industrial device applications. It is available in 5 position for power supply and 15 position for signal, with a larger profile than the existing 4 and 10 position JN1/JN2 Series. The 5 position is at 13 Amp, and the 15 position, utilizing the same crimp contacts as that of the 10 position JN1/JN2, is rated at 3Amp. This compact circular connector series is offered with IP67 waterproof rating and a one-touch locking mechanism. (Patent and design registration applications have been filed).

Please refer to MB-0226 for outdoor use of JN2/W Series.

## Features

### JN1W

- The 15 position crimp type is available in relay and panel mount cable relay receptacles.
- Easy and secure mating/unmating with a one-touch push-in/twist-off locking mechanism.
- Uses the same crimp contacts as that of the JN1 (10 position relay and panel mount cable relay receptacles).
- IP67 rated waterproof and dustproof.
- Superior environmental resistant against vibration and oil ingress.
- Applicable for conduit mounting (attach O-ring to the connector for waterproofing).

### JN2W

- The metal outer shell significantly improved the robustness of the connector (three times the strength), while being compatible with JN1W (15 position).
- The 15 position uses the same crimp contacts as that of the JN1/JN2 10 position.
- 15 position: Receptacle is offered with crimp contacts  
Plug is offered with either crimp or solder termination  
(socket contact for plug can be selected as crimp or soldering)
- 5 position: All solder termination  
Note that 5 position receptacle has an incorporated grounding structure.
- 5 position is a TUV certified product
- Plugs are available in straight and angle types. For the angled type the cable exit direction of the plug can be set in one of four orientations in 90-degree increments.
- For the angled plug mating heights are 50.5 mm (5 position) and 42.5 mm (15 position) from the panel surface.
- IP67 rated waterproof and dustproof.
- Superior environmental resistant against vibration and oil ingress.
- Applicable for conduit mounting (attach O-ring to the connector for waterproofing).
- Mis-mating prevention key can be set in one of four positions (5 position).

## General Specifications

### JN1W

Item	Specifications and Performance
	15 position (cable relay type, panel mount cable relay type)
Rated Current	3A/ position (#22 size contact)
Rated Voltage	200 VAC
Dielectric Withstanding Voltage	900 VAC (per minute)
Insulation Resistance	1000 M ohm min. (DC500V energized )
Waterproof	IP67
Cable Termination	Crimp (AWG #20 to 28)
Product Specification	JACS-5111
Instruction Manual	JAHL-5119-4
Durability	500 mating cycles

Please refer to the drawings for detailed product information.

**JN2W**

Item	Specifications and Performance	
Number of Contacts	15 position	5 position
Rated Current	3A/ position (#22 size contact)	13A/ position (#16 size contact)
Rated Voltage	200 VAC	400 VAC (pollution level 2, over-voltage category II)
Dielectric Withstanding Voltage	900 VAC (per minute)	2000 VAC (per minute)
Insulation Resistance	1000M ohm min. (DC500V energized)	1000M ohm min. (DC500V energized)
Waterproof	IP67	IP67
Cable Termination	Receptacle: Crimp (AWG #20 to 28) Plug: Crimp (AWG #20 to 28) Solder (AWG #20 max.)	Solder (AWG #14 max.)
Product Specification	JACS-5119	JACS-5119-4
Instruction Manual	JAHL-5119-4	JAHL-5119-4
Durability	500 mating cycles	500 mating cycles

Please refer to the drawings for detailed product information.

Please refer to MB-0226 for outdoor use of JN2/W Series.

Materials and Finishes
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**JN1W**

	Component	Material / Finish
Cable Relay Receptacle	Insulator	Synthetic resin
	Assembly nut	Synthetic resin
	Straight endbell	Synthetic resin
	O-Ring	Synthetic rubber
	Bushing (*)	Synthetic rubber (color: black)
	Gland nut	Synthetic resin
	Pin contact (#22)	Copper alloy / Au plating

	Component	Material / Finish
Waterproof Cap	Cap	Synthetic rubber
	Tether	Stainless steel
	Crimp terminal	Copper alloy / Sn plating

\* Waterproof cap (for receptacle) is the same for JN1W and JN2W.

**JN2W**

	Component	Material / Finish
Receptacle	Insulator	Synthetic resin
	Shell	Zinc die-cast / Zinc plating
	Contact	Copper alloy / Au plating (15 position), Silver plating (5 position)
	O-Ring	Synthetic rubber (5 position)
	Mis-mating prevention key	Synthetic resin (5 position)
Cable Relay Receptacle	Insulator	Synthetic resin
	Shell	Zinc die-cast / Zinc plating
	Contact	Copper alloy / Silver plating (5 position)
	Assembly nut	Zinc die-cast / Zinc plating (Angle endbell) Synthetic resin
	Angle endbell	Synthetic resin
	Straight endbell	Synthetic resin
	O-Ring	Synthetic rubber
	Bushing (*)	Synthetic rubber (color: black)
	Grand nut	Synthetic resin
	Mis-mating prevention key	Synthetic resin (5 position)
Plug	Cover insulator	Synthetic resin (15 position)
	Insulator	Synthetic resin
	Coupling nut	Zinc die-cast / Zinc plating
	Assembly nut	Zinc die-cast / Zinc plating (Angle endbell) Synthetic resin (Straight endbell)
	Angle endbell	Synthetic resin
	Straight endbell	Synthetic resin
	O-Ring	Synthetic rubber
	Bushing (*)	Synthetic rubber (color: black)
	Gland nut	Synthetic resin
	Spring	Stainless steel
	Spring pin	Copper alloy / Ni plating (15 position)
	Contact	Copper alloy/ Au plating (15 position), Silver plating (5 pos.)
	Mis-mating prevention key	Synthetic resin (5 position)

\*The modification code shown on the part number stands for the applicable wire.  
(Common for JN1W, JN2W)

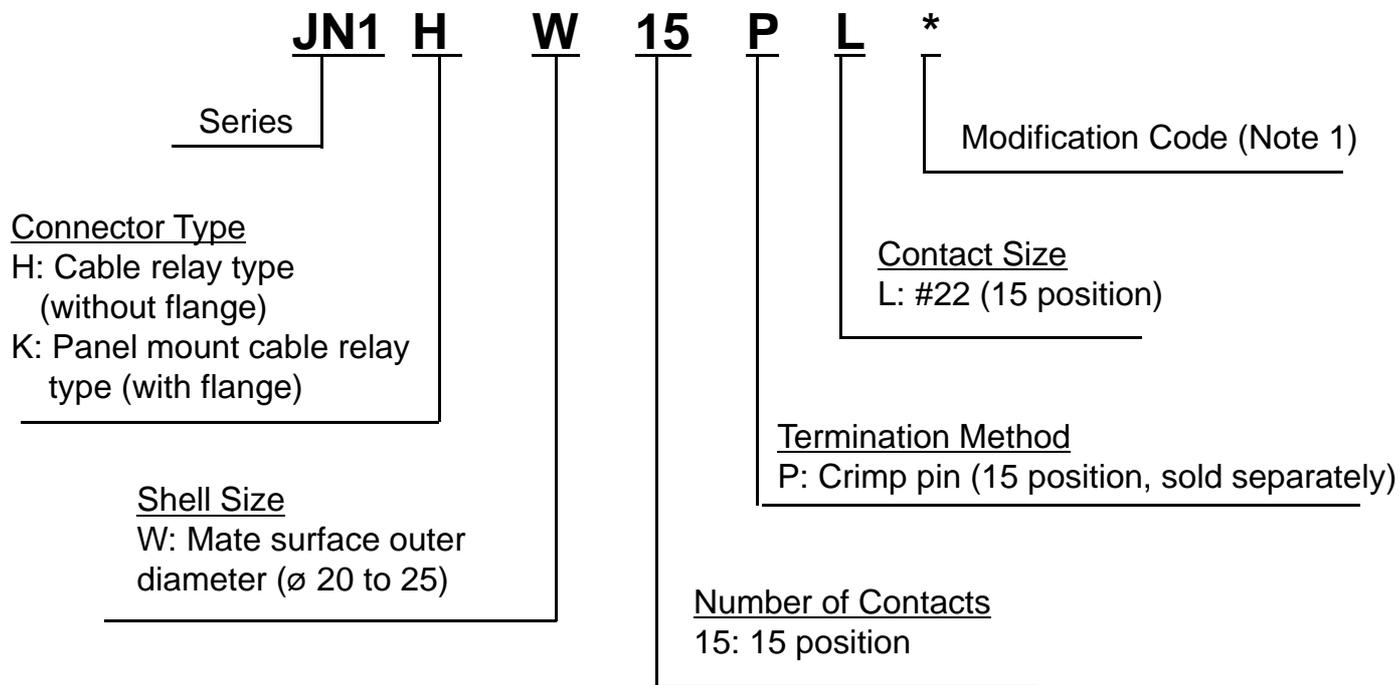
Please refer to the table below for modification code and applicable cable diameter.

Modification Code	Applicable Cable
	5 position, 15 position
1	Ø 8 to 10
2	Ø 10 to 12
3	Ø 4 to 6

Ordering Information

**JN1W**

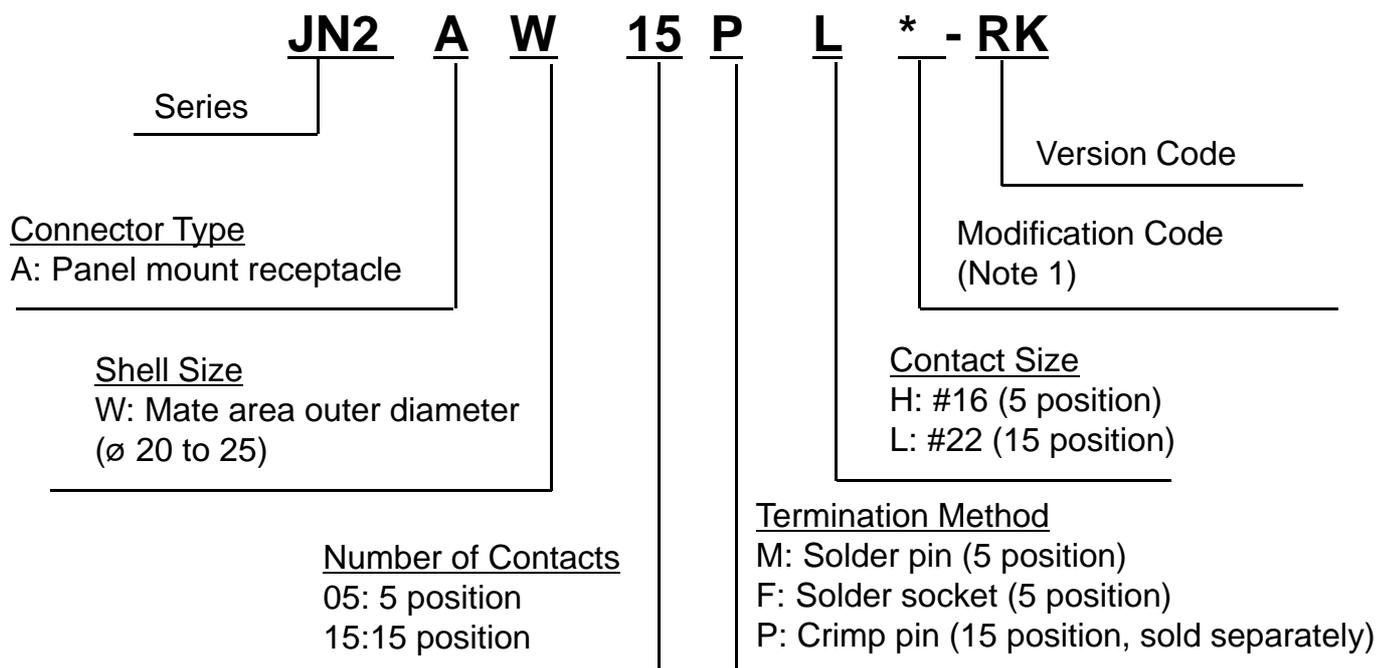
Cable Relay Receptacle



Note1: The modification code is defined differently for each product. Please refer to the drawings for detailed product information

## JN2W

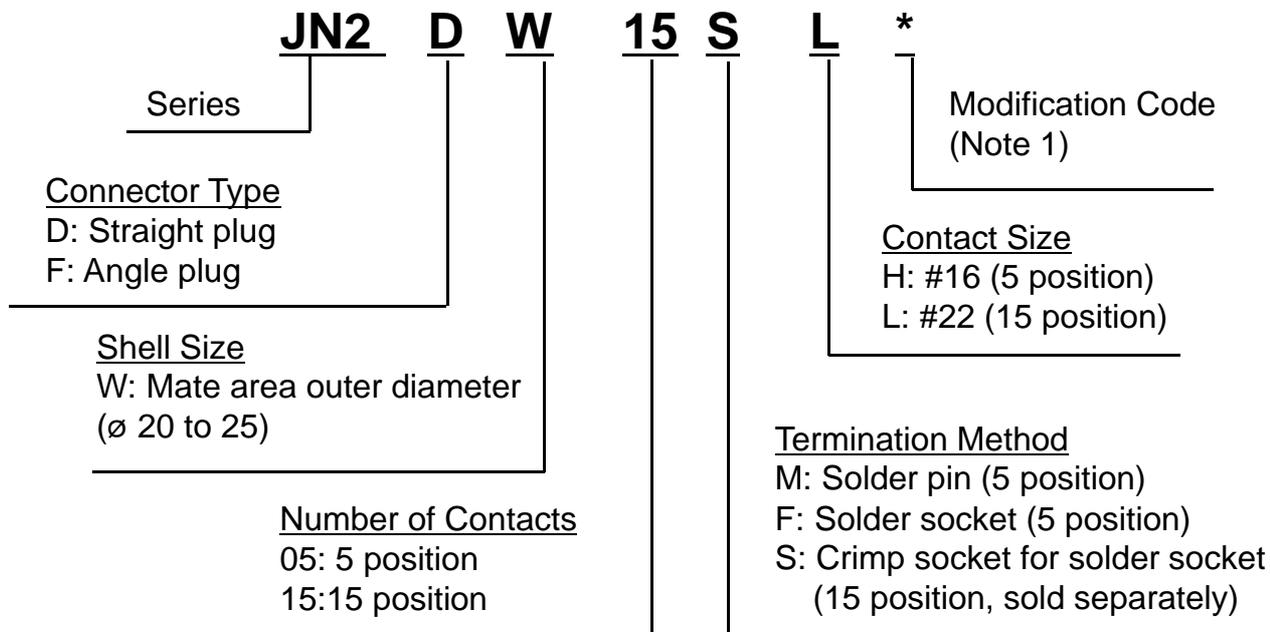
### Receptacle



Note1: The modification code is defined differently for each product.  
Please refer to the drawings for detailed product information

## JN2W

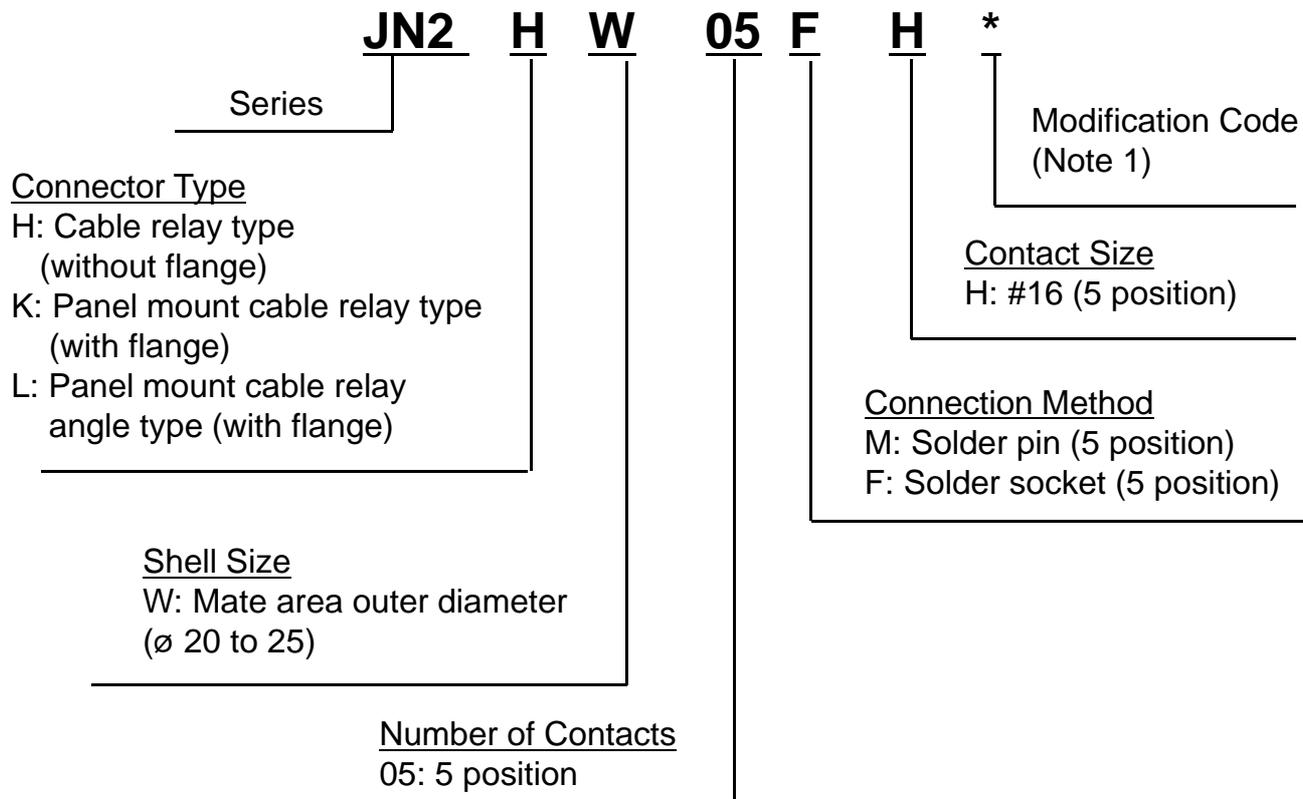
### Plug



Note1: The modification code is defined differently for each product.  
Please refer to the drawings for detailed product information

## JN2W

### Cable Relay Receptacle



Note1: The modification code is defined differently for each product.  
Please refer to the drawings for detailed product information

Ordering Information
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**JN1W 15 Position**

	No. of Cont acts	Type	Part Number	Drawing	Performance / Shape
JN1W	15	Cable Relay Receptacle	JN1HW15PL1	SJ107690	Waterproof (when mated), crimp pin (sold separately), cable diameter $\varnothing$ 8 to 10
		Panel Mount Cable Relay Receptacle	JN1KW15PL1	SJ107691	Waterproof (when mated) crimp pin (sold separately), cable diameter $\varnothing$ 8 to 10
	Waterproof Cap	JN2-AW-DC1-RK	SJ120137	JN1, 2W-15 position, JN2W-5 position for receptacle, IP67, with tether	

\* Uses the same contact as JN1/JN2 series.

**JN2W 15 Position**

	No. of Cont acts	Type	Part Number	Drawing	Performance / Shape
JN2W	15	Receptacle	JN2AW15PL1	SJ105327	Waterproof (when mated), crimp pin (sold separately)
		Straight Plug	JN2DW15SL1	SJ105815	Waterproof (when mated), crimp or soldering socket (sold separately) cable diameter $\varnothing$ 8 to 10
		Angle Plug	JN2FW15SL1	SJ105328	Waterproof (when mated), crimp or soldering socket (sold separately) cable diameter $\varnothing$ 8 to 10
	Waterproof Cap	JN2-AW-DC1-RK	SJ120137	JN1, 2W-15 position, JN2W-5 position for receptacle, IP67, with tether	

\* Uses the same contact as JN1/JN2 series.

## Ordering Information

## JN2W 5 Position

	No. of Contacts	Type	Part Number	Drawing	Performance/ Shape
JN2W	5	Receptacle	JN2AW05FH1-RK	SJ120133	Waterproof (when mated), solder socket, incorporated grounding structure
			JN2AW05MH1-RK	SJ120135	Waterproof (when mated), solder pin, incorporated grounding structure
		Cable Relay Receptacle	JN2HW05FH1	SJ107970	Waterproof (when mated), solder socket cable dia. $\phi$ 8 to 10, incorporated grounding structure
			JN2HW05MH1	SJ108152	Waterproof (when mated), solder pin cable dia. $\phi$ 8 to 10, incorporated grounding structure
		Panel Mount Cable Relay Receptacle	JN2KW05FH1	SJ107969	Waterproof (when mated), solder socket cable dia. $\phi$ 8 to 10, incorporated grounding structure
			JN2KW05FH2	SJ107969	Waterproof (when mated), solder socket cable dia. $\phi$ 10 to 12, incorporated grounding structure
			JN2KW05MH3	SJ108151	Waterproof (when mated), solder pin cable dia. $\phi$ 4 to 6, incorporated grounding structure
		Panel Mount Cable Relay Angle Receptacle	JN2LW05FH1	SJ109972	Waterproof (when mated), solder pin cable dia. $\phi$ 8 to 10, incorporated grounding structure
		Straight Plug	JN2DW05MH1	SJ107971	Waterproof (when mated), solder pin cable dia. $\phi$ 8 to 10
			JN2DW05MH2	SJ107971	Waterproof (when mated), solder pin cable dia. $\phi$ 10 to 12
			JN2DW05MH3	SJ107971	Waterproof (when mated), solder pin cable dia. $\phi$ 4 to 6
			JN2DW05FH1	SJ108153	Waterproof (when mated), solder socket cable dia. $\phi$ 8 to 10
		Angle Plug	JN2FW05MH1	SJ107972	Waterproof (when mated), solder pin cable dia. $\phi$ 8 to 10
			JN2FW05FH1	SJ108154	Waterproof (when mated), solder socket cable dia. $\phi$ 8 to 10
		Waterproof Cap	JN2-AW-DC1-RK	SJ108228	For JN1, 2W-15 position, JN2W-5 position receptacle, IP67, with tether

Ordering Information
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**JN1W/JN2W 15 Position**

	No. of Contacts	Type	Connection Type	Packaging	Part Number	Drawing	Performance / Shape
JN1W JN2W	15	Socket Contact	Crimp	In pieces (100 pcs.)	JN1-22-20S-R-PKG100	SJ035503	AWG #20-21 Outer Dia. $\phi$ 1.5 max.
					JN1-22-22S-PKG100	SJ035503	AWG #21-25 Outer Dia. $\phi$ 1.5 max.
					JN1-22-26S-PKG100	SJ035503	AWG #26-28 Outer Dia. $\phi$ 1.1 max.
				In reels (10,000 pcs.)	JN1-22-20S-R-10000	SJ035504	AWG #20-21 Outer Dia. $\phi$ 1.5 max.
					JN1-22-22S-10000	SJ035504	AWG #21-25 Outer Dia. $\phi$ 1.5 max.
					JN1-22-26S-10000	SJ035504	AWG #26-28 Outer Dia. $\phi$ 1.1 max.
			Soldering	In pieces	JN1-22-22F-PKG100	SJ109855	In pieces (100 pcs.), AWG #20 max. Outer Dia. $\phi$ 1.5 max.
					JN1-22-22F-PKG10	SJ109855	In pieces (10 pcs.), AWG #20 max. Outer Dia. $\phi$ 1.5 max.
			Pin Contact	Crimp	In pieces (100 pcs.)	JN1-22-20P-R-PKG100	SJ037430
		JN1-22-22P-PKG100				SJ037430	AWG #21-25 Outer Dia. $\phi$ 1.5 max.
		JN1-22-26P-PKG100				SJ037430	AWG #26-28 Outer Dia. $\phi$ 1.1 max.
		In reels (10,000 pcs.)		JN1-22-20P-R-10000	SJ037431	AWG #20-21 Outer Dia. $\phi$ 1.5 max.	
				JN1-22-22P-10000	SJ037431	AWG #21-25 Outer Dia. $\phi$ 1.5 max.	
				JN1-22-26P-10000	SJ037431	AWG #26-28 Outer Dia. $\phi$ 1.1 max.	

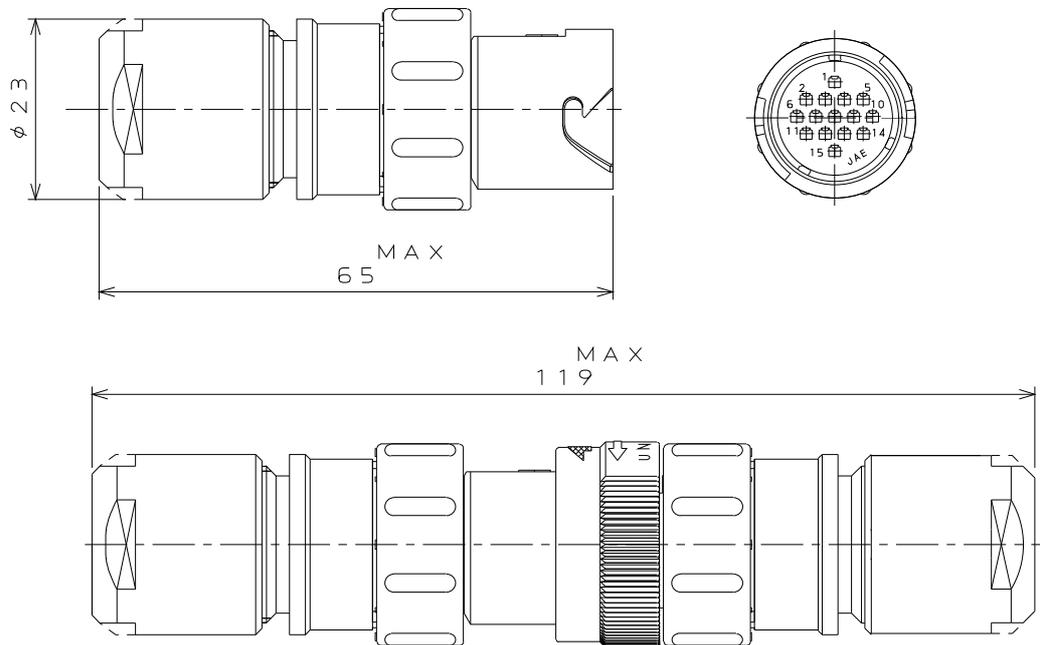
Note 1: Contacts for 15 position JN1W and JN2W are the same as those used for JN1/JN2 series.

Note 2: Contact extraction tool available, Part Number: ET-JN1.

Please refer to the connector handling instruction manual for contact removal.

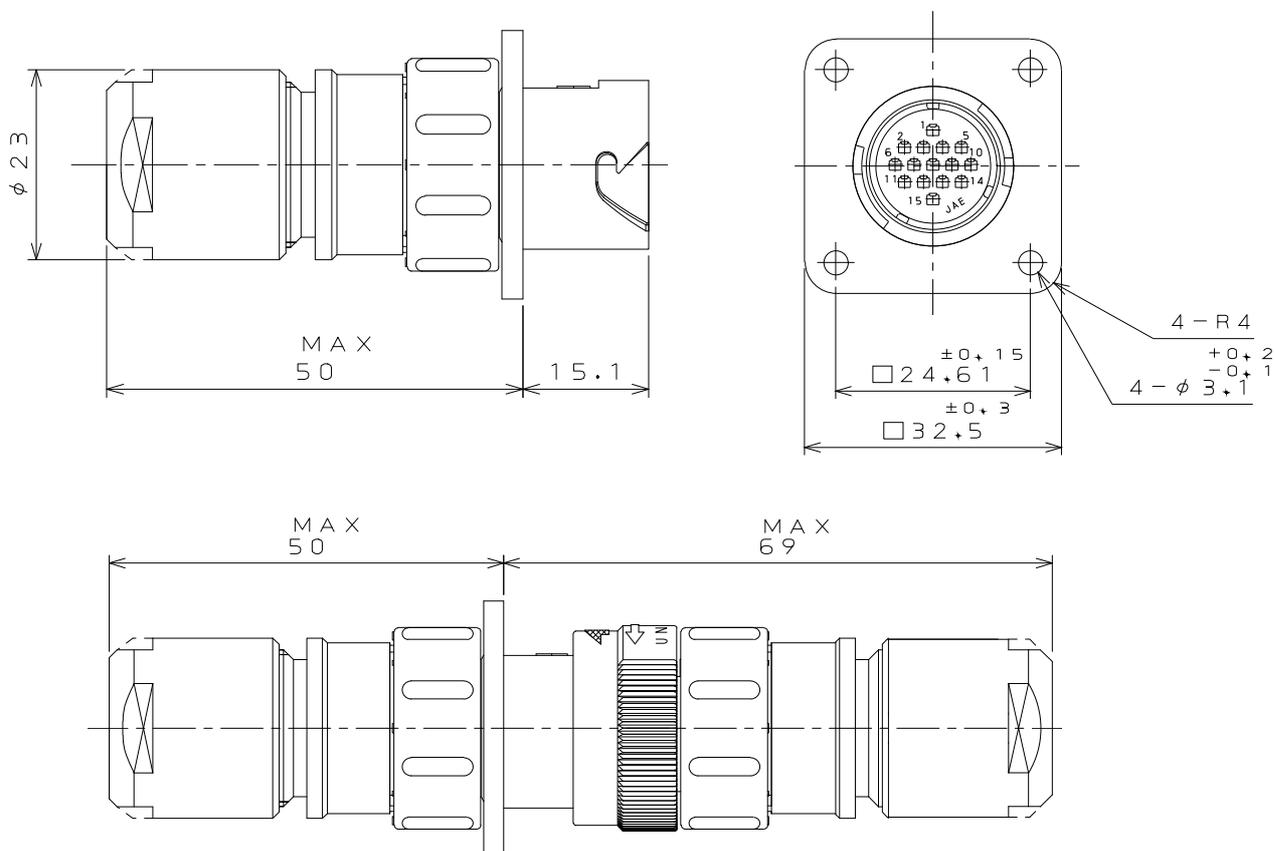
## JN1W 15 Position

### ■ Cable Relay Receptacle JN1HW15PL\*



Drawing (when mated)

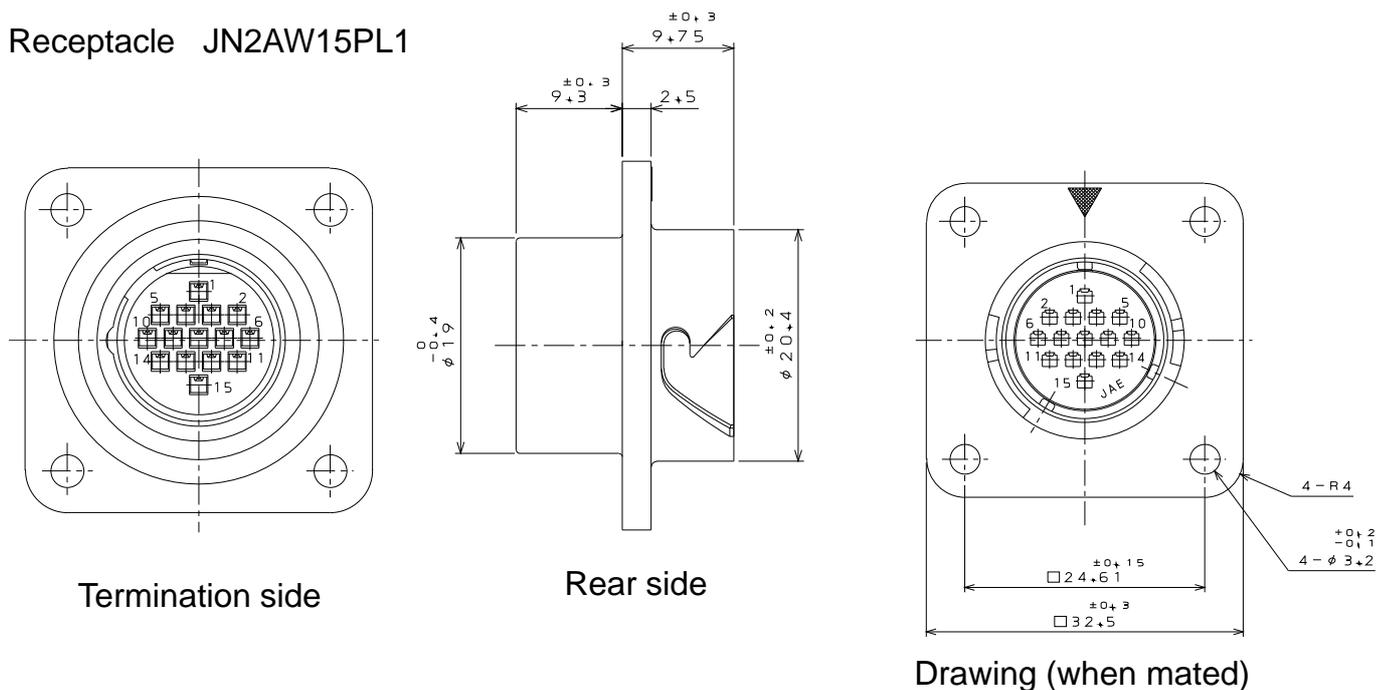
### ■ Panel Mount Cable Relay Receptacle JN1KW15PL\*



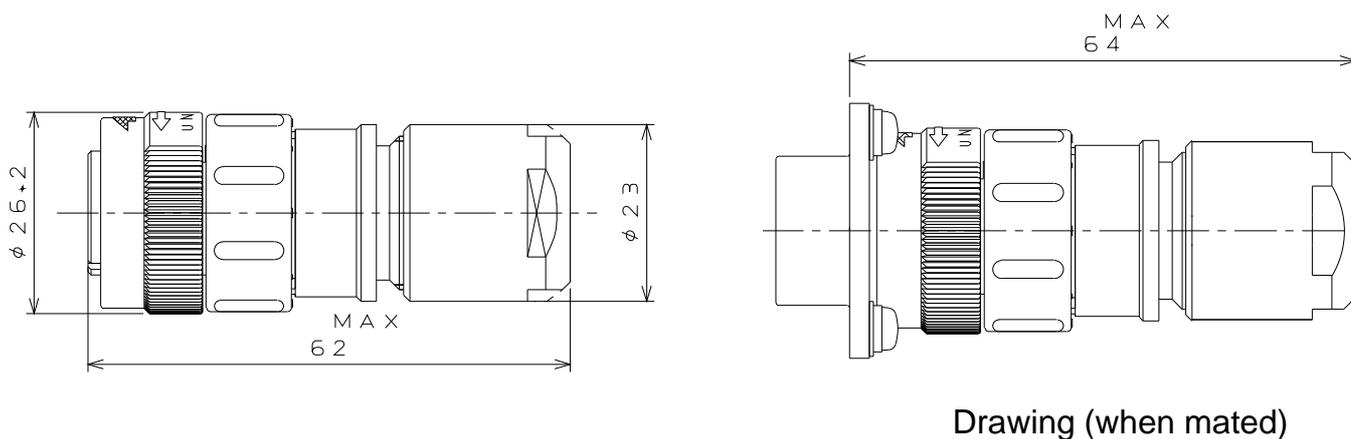
Drawing (when mated)

## JN2W 15 Position

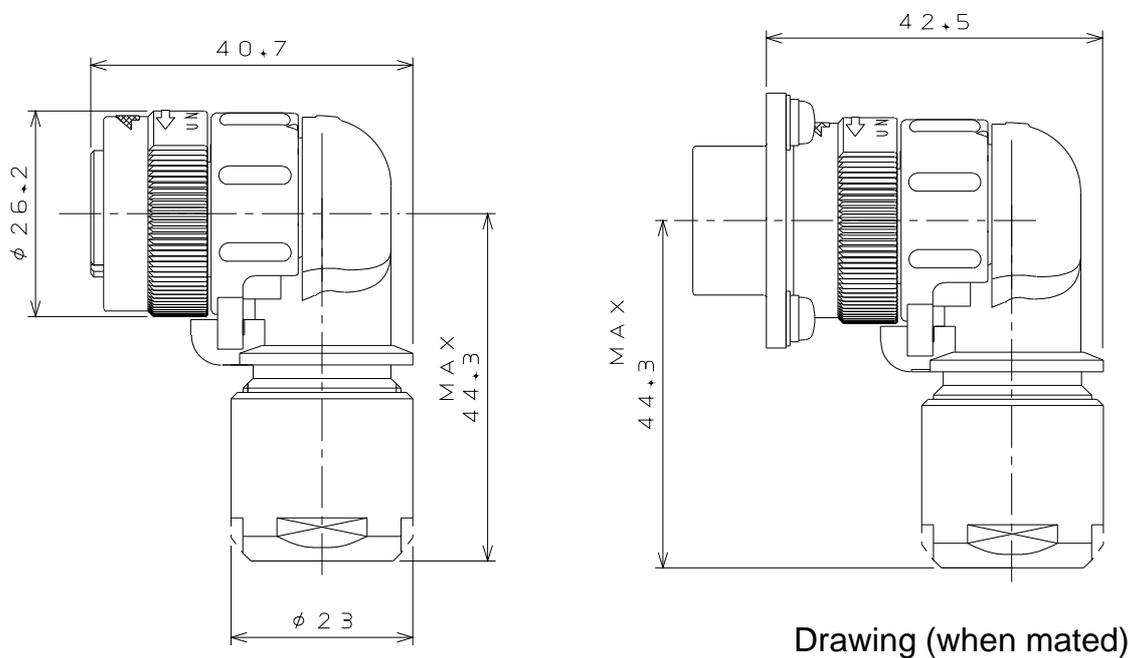
### ■ Receptacle JN2AW15PL1



### ■ Straight Plug JN2DW15SL\*

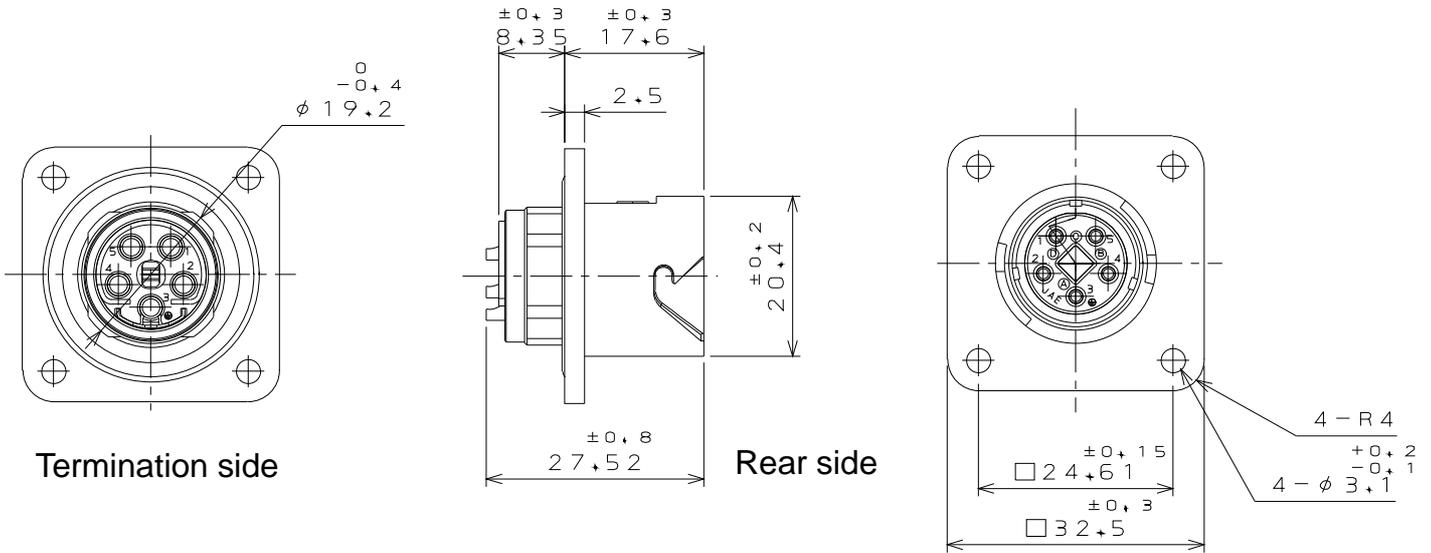


### ■ Angle Plug JN2FW15SL\*

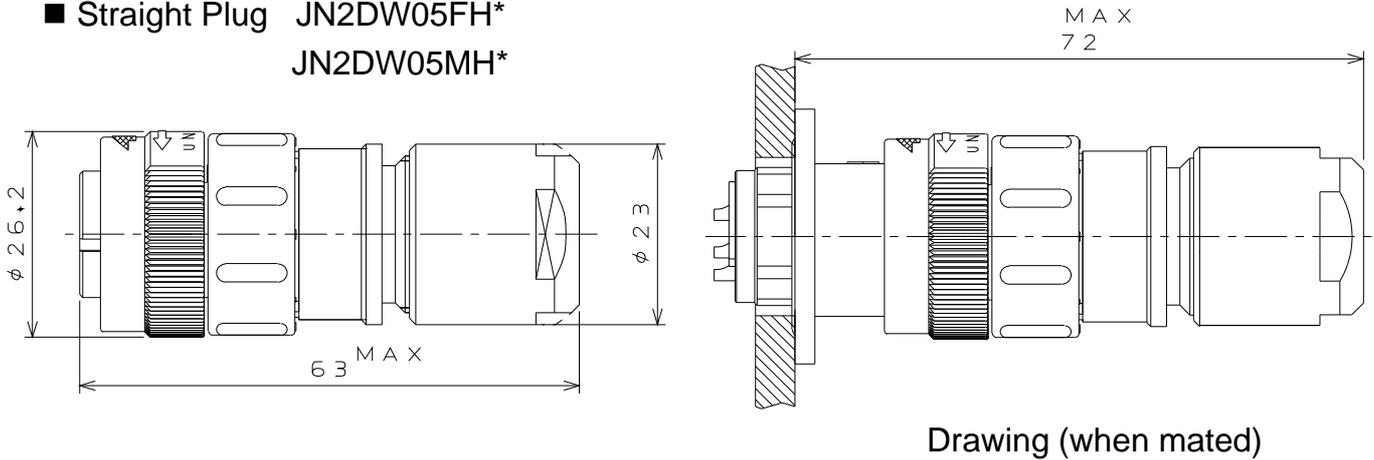


### JN2W 5 Position

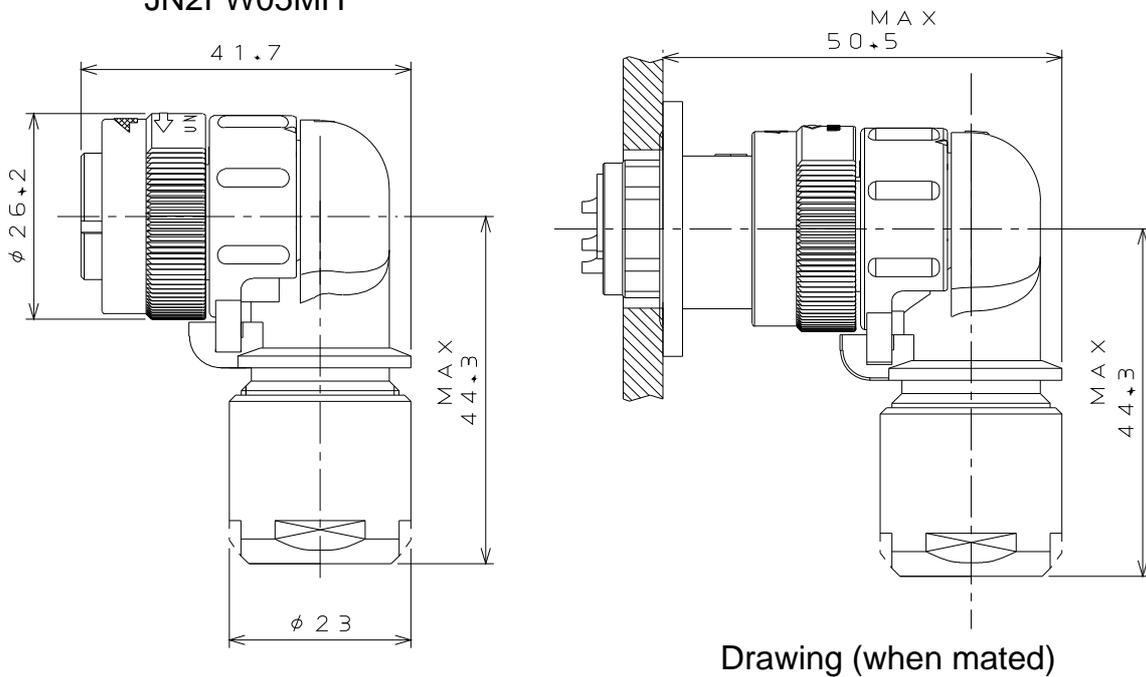
- Receptacle JN2AW05FH1-RK  
JN2AW05MH1-RK



- Straight Plug JN2DW05FH\*  
JN2DW05MH\*

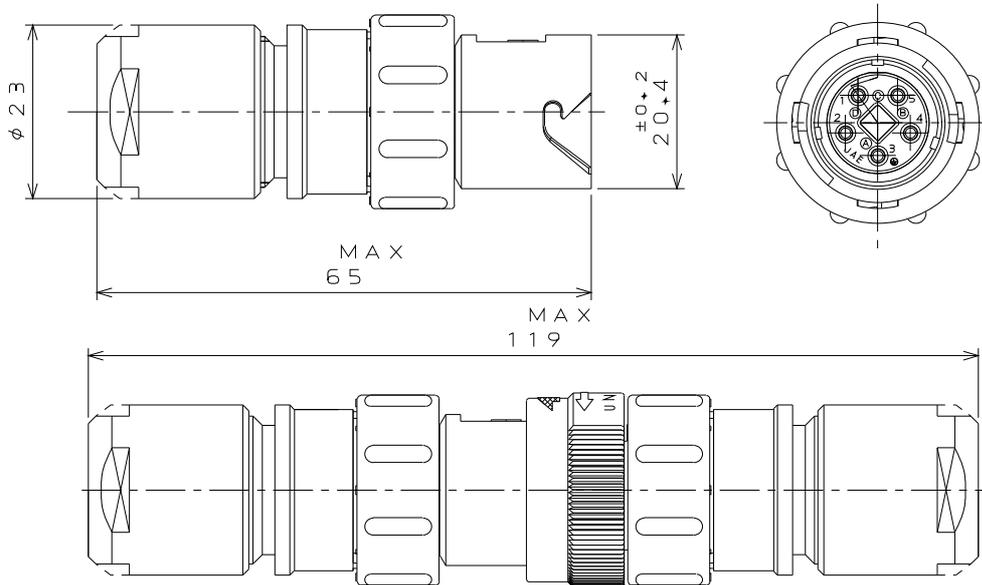


- Angle Plug JN2FW05FH\*  
JN2FW05MH\*



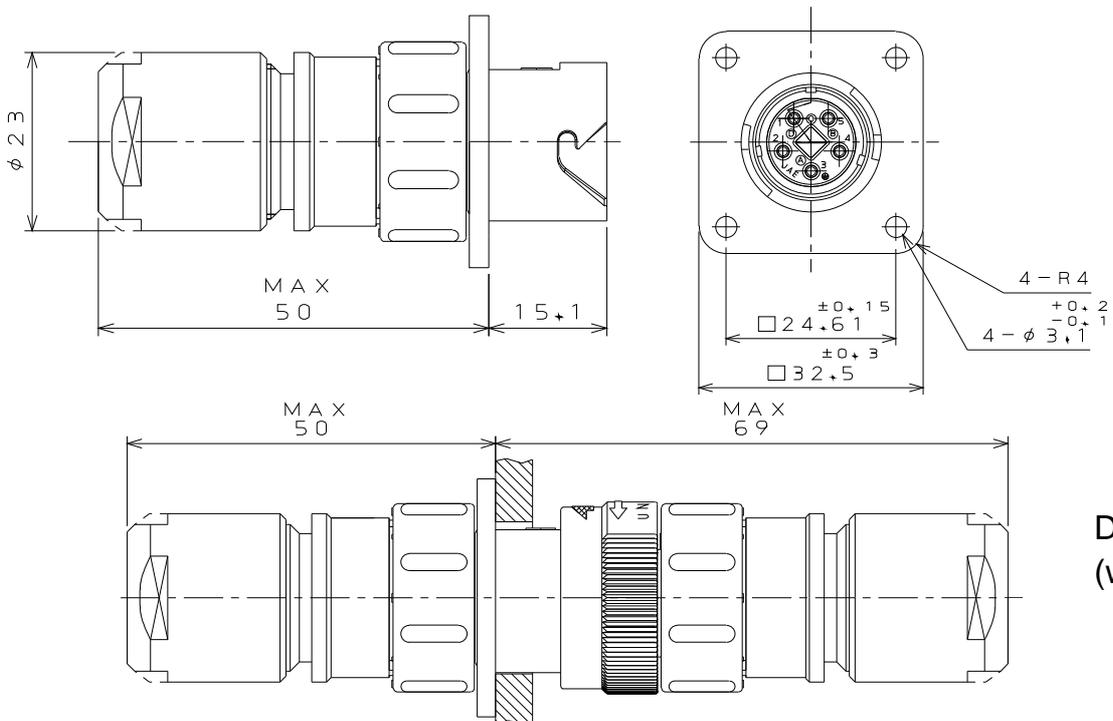
## JN2W 5 Position

- Cable Relay Receptacle JN2HW05FH\*  
JN2HW05MH\*



Drawing  
(when mated)

- Panel Mount Cable Relay Receptacle JN2KW05FH\*  
JN2KW05MH\*

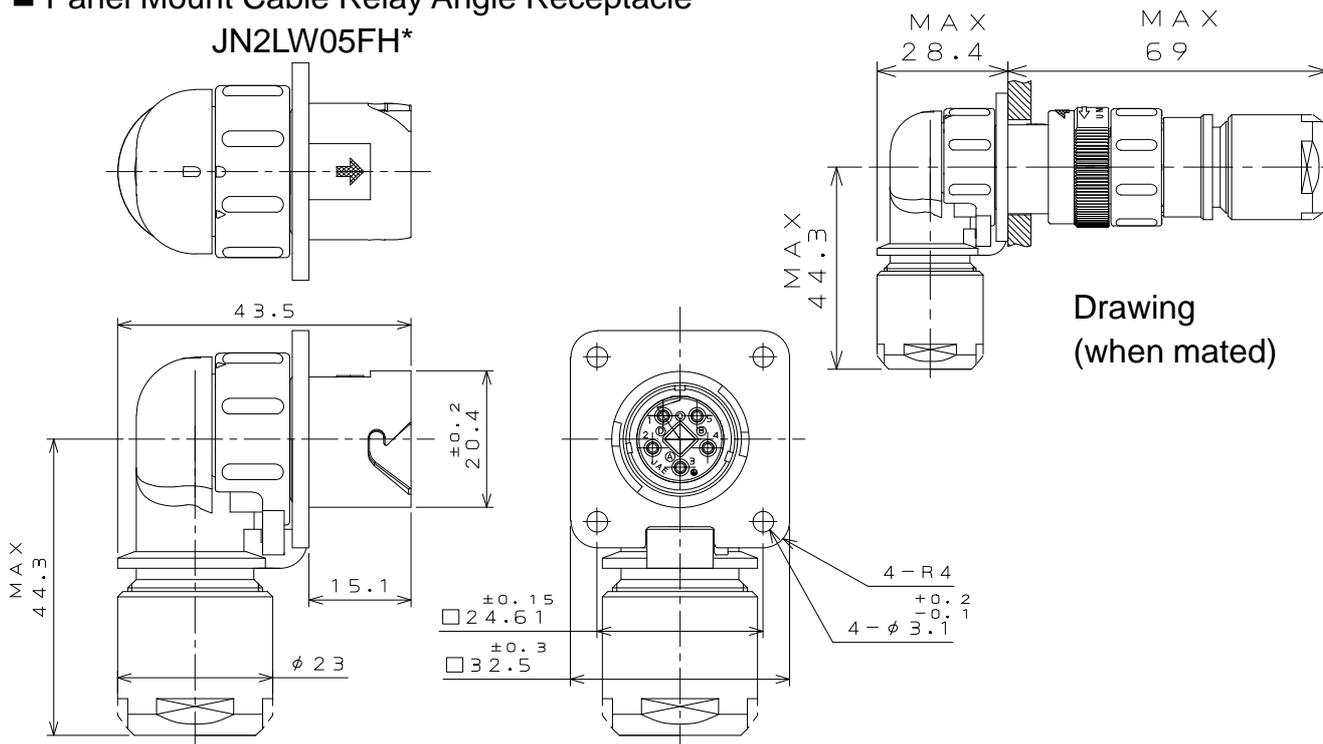


Drawing  
(when mated)

## JN2W 5 Position

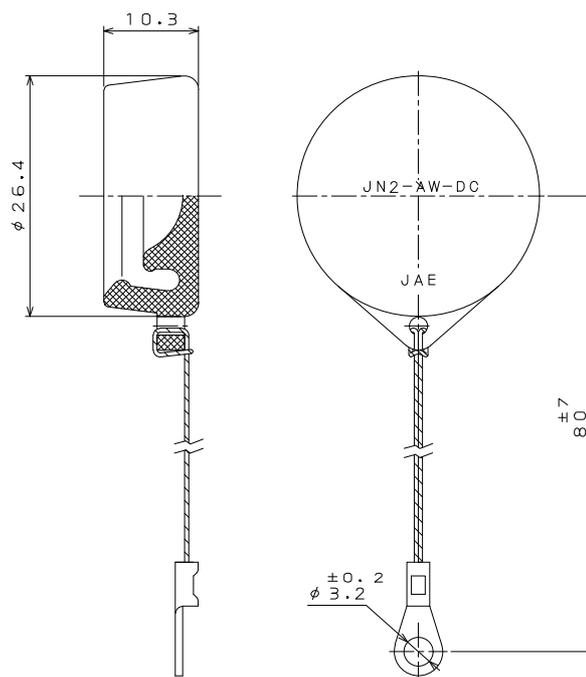
### ■ Panel Mount Cable Relay Angle Receptacle

JN2LW05FH\*



### ■ Waterproof Cap

JN2-AW-DC1-RK



Rear side

Drawing (when mated)

### About The Mis-Mating Prevention Key

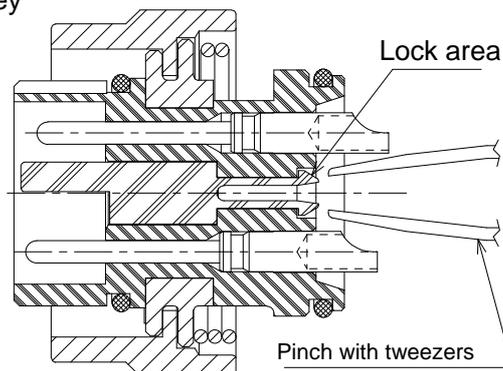
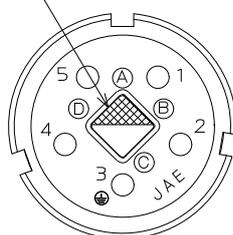
Default setting of mis-mating prevention key is "position A" for the JN2W5 Series.

Release the lock of the mis-mating prevention key with a pair of tweezers to change the position to B, C or D.

(Refer to drawing on right side.)

Shaded area:  
Mis-mating prevention key

(Position A)



## Crimp Contact Part Number and Applicable Wires and Tooling

Type of Tool	Instruction Manual for Tooling	Applicable Tooling	Applicable Wire	Outer Diameter	Part Number of Applicable Contact (Note 1)
Hand Crimp (for contacts in pieces)	T700253	CT150-2-JN1-D	AWG #20, 21	ø1.3 to 1.5	JN1-22-20*-R-PKG100
			AWG #25	ø0.8 to 1.0	JN1-22-22*-PKG100
		CT150-2-JN1-E	AWG #21, 23	ø1.0 to 1.5	JN1-22-22*-PKG100
			AWG #25	ø0.8 to 1.0	
	T700238	CT150-2-JN1-B	AWG #22, 24	ø1.0 to 1.3	JN1-22-22*-PKG100
			AWG #26, 28	ø0.8 to 1.0	JN1-22-26*-PKG100
Semi-Automatic Crimp (for reel contacts)	T703294	350-JN1-2C (Old model) Note 4	AWG #20 to 28	ø0.8 to 1.5	JN1-22-20*-R-10000 JN1-22-22*-10000 JN1-22-26*-10000
	T703413	3502-JN1-2C (New model)			

Note 1: The \* in the part number denotes P: Pin contact, S: Socket contact.

Note 2: Contact extraction tool available, Part Number: ET-JN1.

Please refer to the connector handling instruction manual for contact removal.

Note 3: Please contact us concerning cable termination tools, contact extraction tool and RoHS compliance of tools for the JN1W and 2W series.

Note 4: New model Part number is 3502-JN1-2C.

Please note that the old model became obsolete in March 2009.

#### ■ Suggested Conduit

Part Number	Application
N2KY20-SP491 (for SANFLEKI ROBO)	Flexible resin
KMKYP16-SP492 (for KEIFLEX)	Flexible metal

Please consult with Sankei Seisakusho regarding use of conduit.

**Notice:**

1. The values specified in this brochure are only for reference. The products and their specifications are subject to change without notice. Contact our sales staff for further information before considering or ordering any of our products. For purchase, a product specification must be agreed upon.

2. Users are requested to provide protection circuits and redundancy circuits to ensure safety of the equipment, and sufficiently review the suitability of JAE's products to the equipment.

3. The products presented in this brochure are designed for the uses recommended below.

We strongly suggest you contact our sales staff when considering use of any of the products in any other way than the recommended applications or for a specific use that requires an extremely high reliability.

(1) Applications that require consultation:

(i) Please contact us if you are considering use involving a quality assurance program that you specify or that is peculiar to the industry, such as:

Automotive electrical components, train control, telecommunications devices (mainline), traffic light control, electric power, combustion control, fire prevention or security systems, disaster prevention equipment, etc.

(ii) We may separately give you our support with a quality assurance program that you specify, when you think of a use such as :

Aviation or space equipment, submarine repeaters, nuclear power control systems, medical equipment for life support, etc.

(2) Recommended applications include:

Computers, office appliances, telecommunications devices (terminals, mobile units), measuring equipment, audiovisual equipment, home electric appliances, factory automation equipment, etc.

**Japan Aviation Electronics Industry, Limited**

\* The specifications in this brochure are subject to change without notice. Please contact JAE for information.