

**NEW**



# DW3 Series

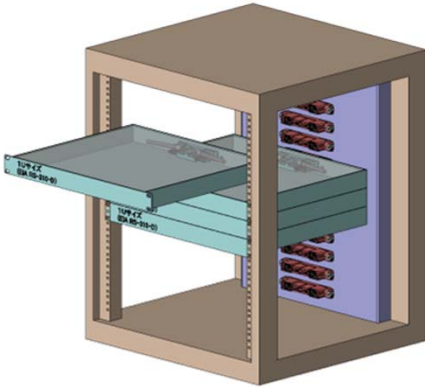
## (UL Recognized Product)

CONNECTOR

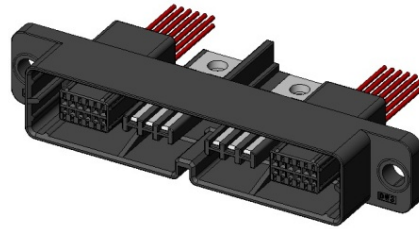
MB-0267-2

January 2014

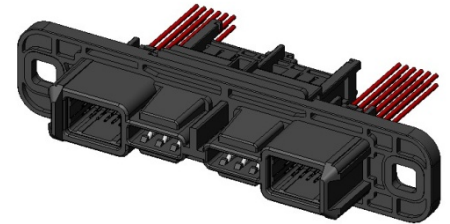
**RoHS Compliant**



Drawing when DW3 is mounted




Plug (DW3P002ZH1)



Receptacle (DW3R002ZH1)

The DW3 Series is a rack and panel connector with 2 contacts for high-current (150A). It enables the connection of the 2 contacts for power supply and the 24 contacts for signal at once. The DW3 Series is suitable for use in a wide range of applications such as storage battery systems, power supply systems, UPS, and other power supply control equipments. The DW3 Series is a UL recognized product.

### Features

- UL Recognized Product: File No.E67741  ■ Signal connector can be attached to the main unit using an exclusive jig.
- High-current: compatible with 150A
- Electrical Shock Prevention: structure that prevents a person's fingers from touching the terminal.
- Floating Amount:  $\pm 2.0\text{mm}$
- Robust housing integrating complex power supply and signal area.
- Low-profile, compact, possible to be equipped on a 19 inch 1U rack.
- Signal area has a 2-point contacting structure contact.
- Connection of receptacle side power supply can be made at once using the bus bar.
- Signal contacts in 3 types enable adjustment of 3-step first mate last break mating.

### General Specifications

- No. of Contacts:
  - 2 pos. (power supply)
  - 24 pos. (signal)
- Rated Current:
  - 150A (power supply)
  - 2A (signal)
- Rated Voltage:
  - 600V (power supply) \*Note 1
  - 100V (signal)
- Contact Resistance:
  - 0.3m $\Omega$  max. (initial) power supply
  - 20m $\Omega$ max. (initial) signal
- Durability: 100 times
- Operating Temperature:
  - 25 Deg. C to +105 Deg. C
- Wire Size: 22AWG, twisted wire with insulation cover outer diameter 1.5mm Dia. (signal)

Note 1: Please contact us when considering use in usage environments that exceed 600V.

Ordering Information

**D W 3 R 0 0 2 Z H 1**

Series

Connector Type  
R: Receptacle

Modification Code

Plating of Contact  
Area H: Ag plating

Connection Type  
Z: Others

No. of Contacts  
002: 2 pos. (shown in 3 digit)

**D W 3 R 0 1 2 A**

Series

Connector Type  
R: Receptacle  
P: Plug

Modification Code

No. of Contacts  
012: 12 pos. (shown in 3 digit)

**D W 3 P 0 4 K 4 F 1**

Series

Connection Type  
S: Crimp, socket  
P: Crimp, pin

Modification Code

Plating of contact  
area F: Sn plating

Applicable Cable Size:  
4: 22AWG

No. of Contacts  
04K: 4000 pcs.

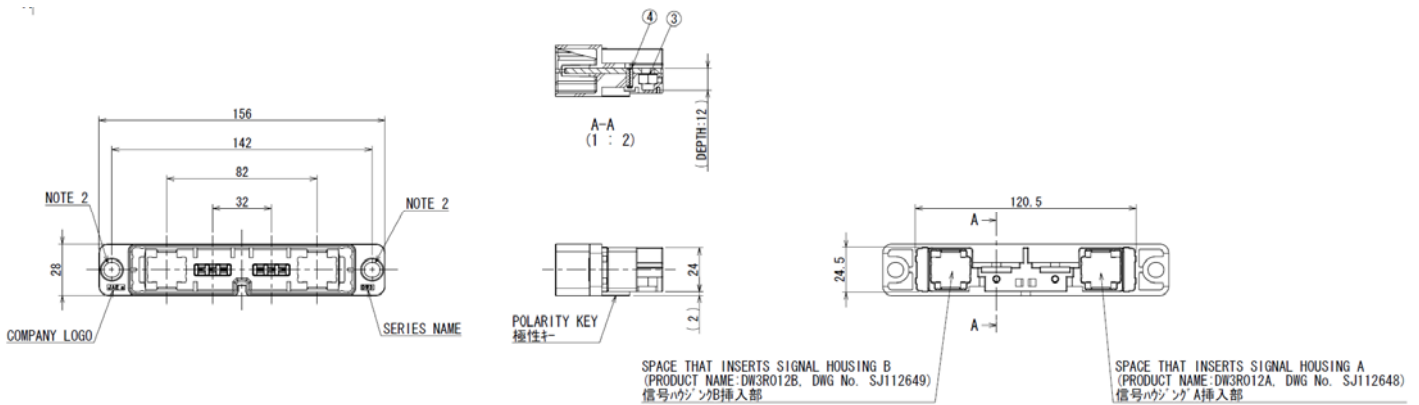
Reel Part Number  
K: unit of 1000 pcs. (Note 1)

**Note 1: An embossed reel contains 4,000 pcs.**

Product Drawing

# 1. Plug (Main Unit)

Part Number	DW3P002ZH1
SJ Drawing	SJ112646



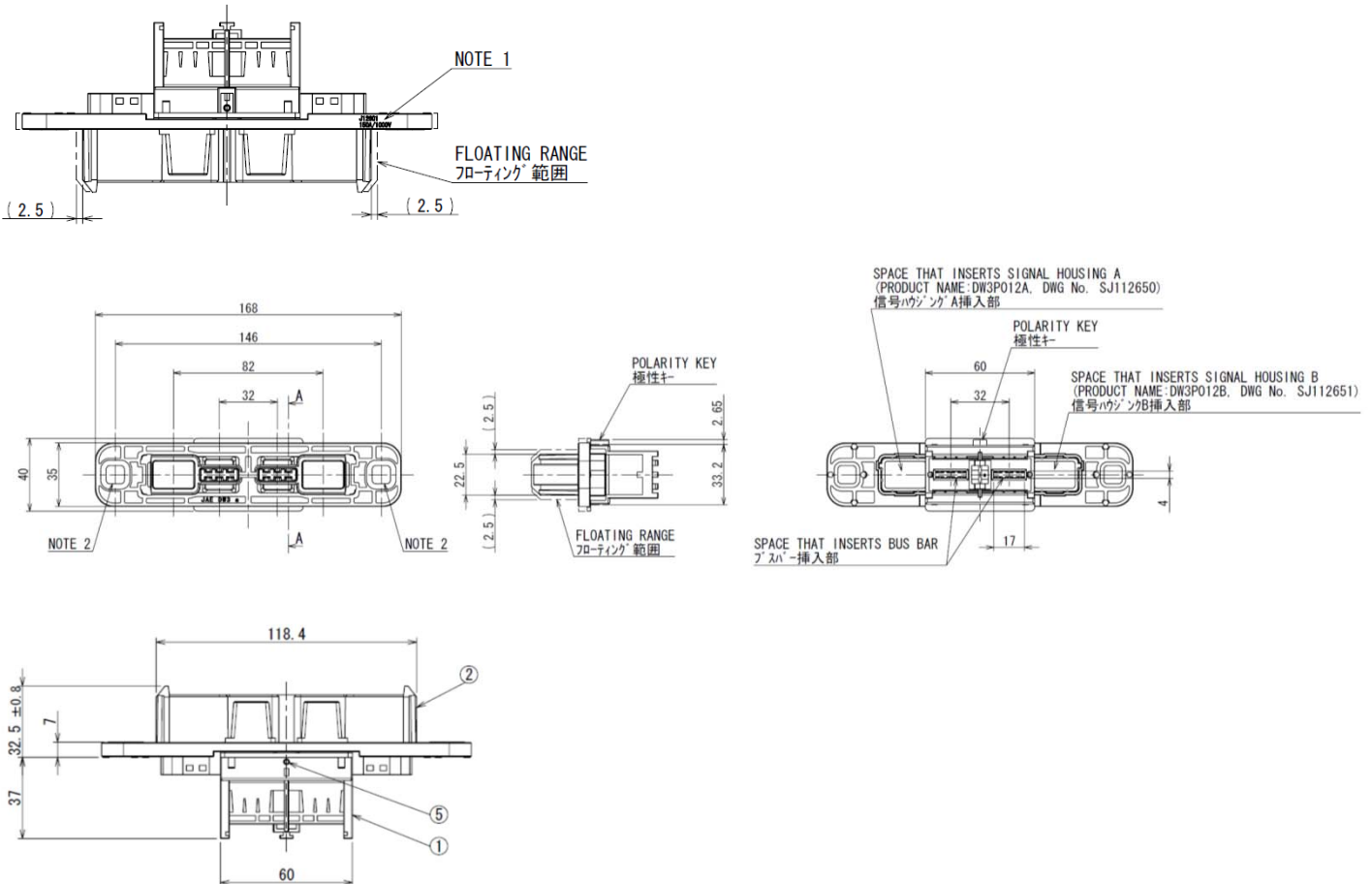
- NOTE 1. PRODUCTION LOT NUMBER AND RATED CURRENT/VOLTAGE IS INDICATED AT THIS LOCATION.  
 NOTE 2. THROUGH HOLE FOR ATTACHMENT SCREW.  
 USE 'SHOULDER BOLT (DWG No. SJ112653)' OR 'M6 SCREW (WITH WASHER)' FOR ATTACHMENT SCREW.  
 ・TIGHTEN SHOULDER BOLT BY 5.2[N·m] ± 0.5[N·m].  
 ・TIGHTEN M6 SCREW BY 2.6[N·m] ± 0.3[N·m].  
 NOTE 3. POWER SUPPLY TERMINAL CONNECTION POSITION.  
 TIGHTEN M6 SCREW BY 5.2[N·m] ± 0.5[N·m].  
 NOTE 4. THE ANGLE BETWEEN PANELS IS NOT INCLINING MORE THAN THE TOLERANCE LEVEL OF THE POSITION GAPS (X, Y: ±2mm) AND THE DISTANCE (Z: ±1.5mm).

- 注1. 図示の位置に製造ロットと定格電流/定格電圧を表示する。  
 注2. 取り付けねじ用貫通穴  
 取り付けねじには「M6ねじ(ワッシャー付)」または「ショルダーボルト(図番: SJ112654)」を使用のこと。  
 ・ショルダーボルト締め付けトルク: 5.2[N·m] ± 0.5[N·m].  
 ・M6ねじ締め付けトルク: 2.6[N·m] ± 0.3[N·m].  
 注3. 電源端子接続部・M6ねじ締め付けトルク: 5.2[N·m] ± 0.5[N·m].  
 注4. パネル間の角度は位置ずれ(X, Y: ±2mm)および距離(Z: ±1.5mm)の許容範囲を超えて傾かないこと。

符号 NO.	名称 DESCRIPTION	個数 QTY.	材料 MATERIAL	仕上 FINISH	備考 REMARKS
4	SPRING PIN	2	STAINLESS STEEL	-	-
3	HEXAGON NUT M6	2	BRASS	NICKEL PLATING	-
2	PIN CONTACT	2	COPPER ALLOY	SILVER PLATING	-
1	BASE HOUSING	1	PBT	COLOR: BLACK	-

## 2. Receptacle (Main Unit)

Part Number	DW3R002ZH1
SJ Drawing	SJ112647



- NOTE 1. PRODUCTION LOT NUMBER AND RATED CURRENT/VOLTAGE AS INDICATED.  
 NOTE 2. THROUGH HOLE FOR ATTACHMENT SHOULDER BOLT (DWG No. SJ112654).  
 TIGHTEN SHOULDER BOLT WITH 5.2 [N·m] ± 0.5 [N·m].  
 NOTE 3. DON'T PUT THE FOREIGN BODY IN THE CONNECTOR MOVABLE RANGE.

- 注1. 図示の位置に製造ロットと定格電流/定格電圧を表示する。  
 注2. 取り付けショルダーボルト(図番: SJ112654)用貫通穴  
 ショルダーボルト締め付けトルク: 5.2 [N·m] ± 0.5 [N·m].  
 注3. コネクタ移動範囲のため異物を設けないこと。

5	SPRING PIN	1	STAINLESS STEEL	-	-
4	HELICAL EXTENSION SPRING	6	STAINLESS STEEL	-	-
3	FLOATING CONTACT	12	COPPER ALLOY	SILVER PLATING	-
2	FLOATING HOUSING	1	PBT	COLOR : BLACK	-
1	BASE HOUSING	1	PBT	COLOR : BLACK	-
符号 NO.	名称 DESCRIPTION	個数 QTY.	材料 MATERIAL	仕上 FINISH	備考 REMARKS

### 3. Connector A for Signal (Plug Side)

Part Number	DW3R012A
SJ Drawing	SJ112648

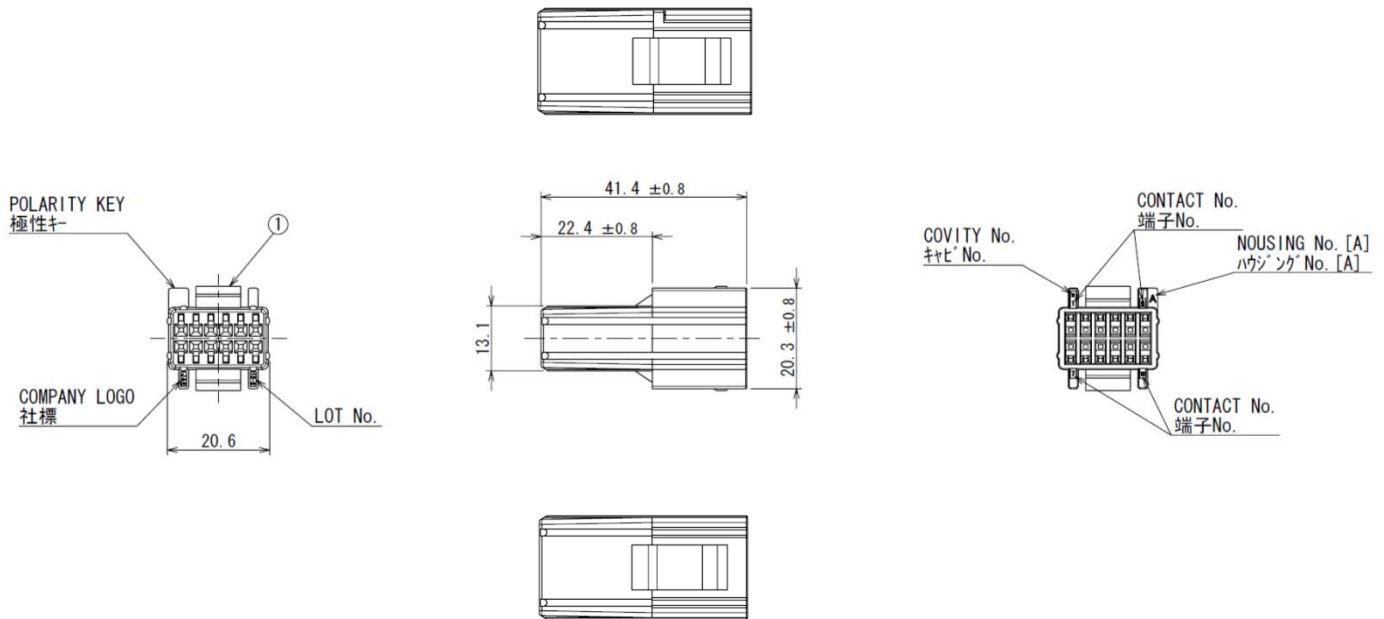


TABLE-1

CONTACT PART No.	SIZE	OUTER DIAMETER	REMARKS
DW1S04K4F1 (SJ111310)	AWG#22	φ 1.5	SOCKET CONTACT

- NOTE 1. CONTACTS ARE SOLD SEPARATELY. THE APPLICABLE CONTACTS ARE LISTED IN THE TABLE-1.  
 NOTE 2. THE POSITION OF THE POLARITY KEY IS DIFFERENT COMPARED WITH THE FOLLOWING PRODUCT.  
 PRODUCT NAME: DW3R012B, DWG No. SJ112649  
 NOTE 3. THIS PRODUCT IS USED IN COMBINATION WITH THE FOLLOWING PRODUCT.  
 PRODUCT NAME: DW3P002ZH1, DWG No. SJ112646

- 注1. 本製品はコネクタ別売り品であり、適用コネクタは表1の通りである。  
 注2. 本製品は下記製品と極性キ位置違い品である。  
 製品名: DW3R012B、図番: SJ112649  
 注3. 本製品は下記製品と組み合わせて使用する。  
 製品名: DW3P002ZH1、図番: SJ112646

1	FIXED CONNECTOR SIGNAL HOUSING A	1	PBT	COLOR : BLACK	-
符号 No.	名称 DESCRIPTION	個数 QTY.	材料 MATERIAL	仕上 FINISH	備考 REMARKS



# 4. Connector B for Signal (Plug Side)

Part Number	DW3R012B
SJ Drawing	SJ112649

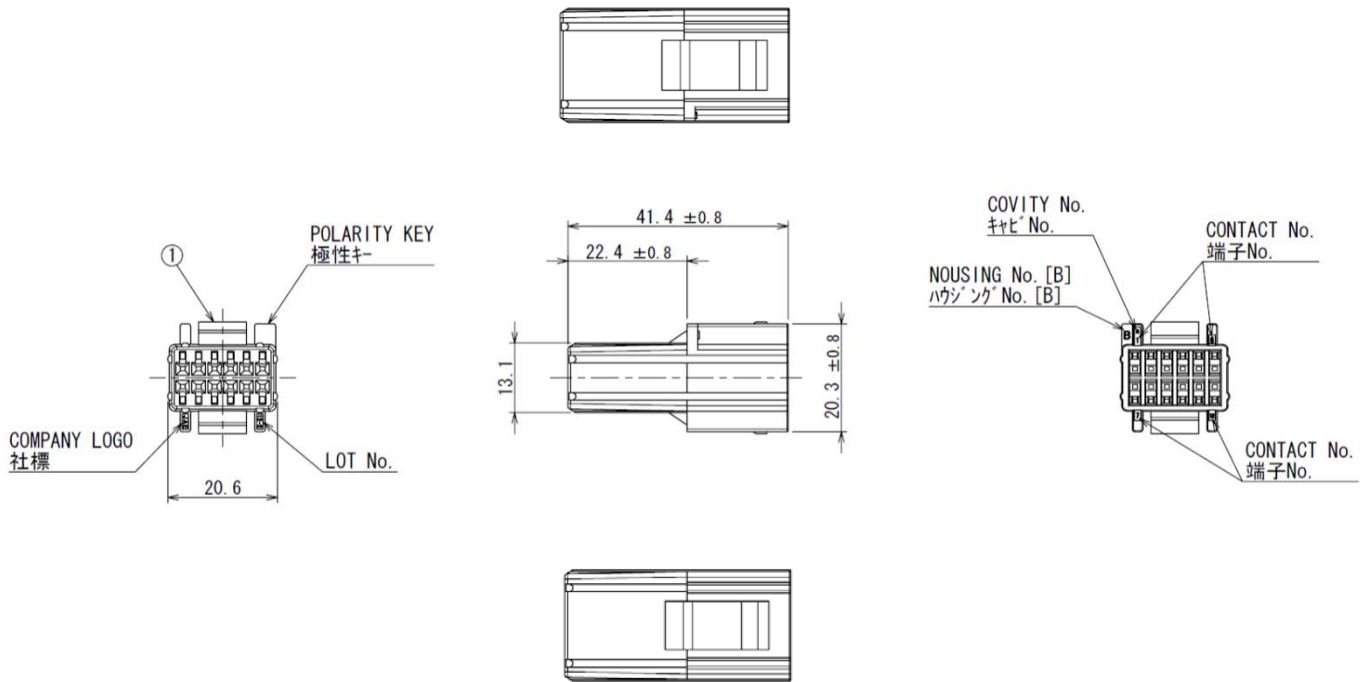


TABLE-1

CONTACT PART No.	SIZE	OUTER DIAMETER	REMARKS
DW1S04K4F1 (SJ111310)	AWG#22	φ 1.5	SOCKET CONTACT

- NOTE 1. CONTACTS ARE SOLD SEPARATELY. THE APPLICABLE CONTACTS ARE LISTED IN THE TABLE-1.  
 NOTE 2. THE POSITION OF THE POLARITY KEY IS DIFFERENT COMPARED WITH THE FOLLOWING PRODUCT.  
 PRODUCT NAME: DW3R012A, DWG No. SJ112648  
 NOTE 3. THIS PRODUCT IS USED IN COMBINATION WITH THE FOLLOWING PRODUCT.  
 PRODUCT NAME: DW3P002ZH1, DWG No. SJ112646

- 注1. 本製品はコネクタ別売り品であり、適用コネクタは表1の通りである。  
 注2. 本製品は下記製品と極性キ位置違い品である。  
 製品名: DW3R012A、図番: SJ112648  
 注3. 本製品は下記製品と組み合わせて使用する。  
 製品名: DW3P002ZH1、図番: SJ112646

1	FIXED CONNECTOR SIGNAL HOUSING B	1	PBT	COLOR : BLACK	-
符号 NO.	名称 DESCRIPTION	個数 QTY.	材料 MATERIAL	仕上 FINISH	備考 REMARKS

## 5. Connector A for Signal (Receptacle Side)

Part Number	DW3P012A
SJ Drawing	SJ112650

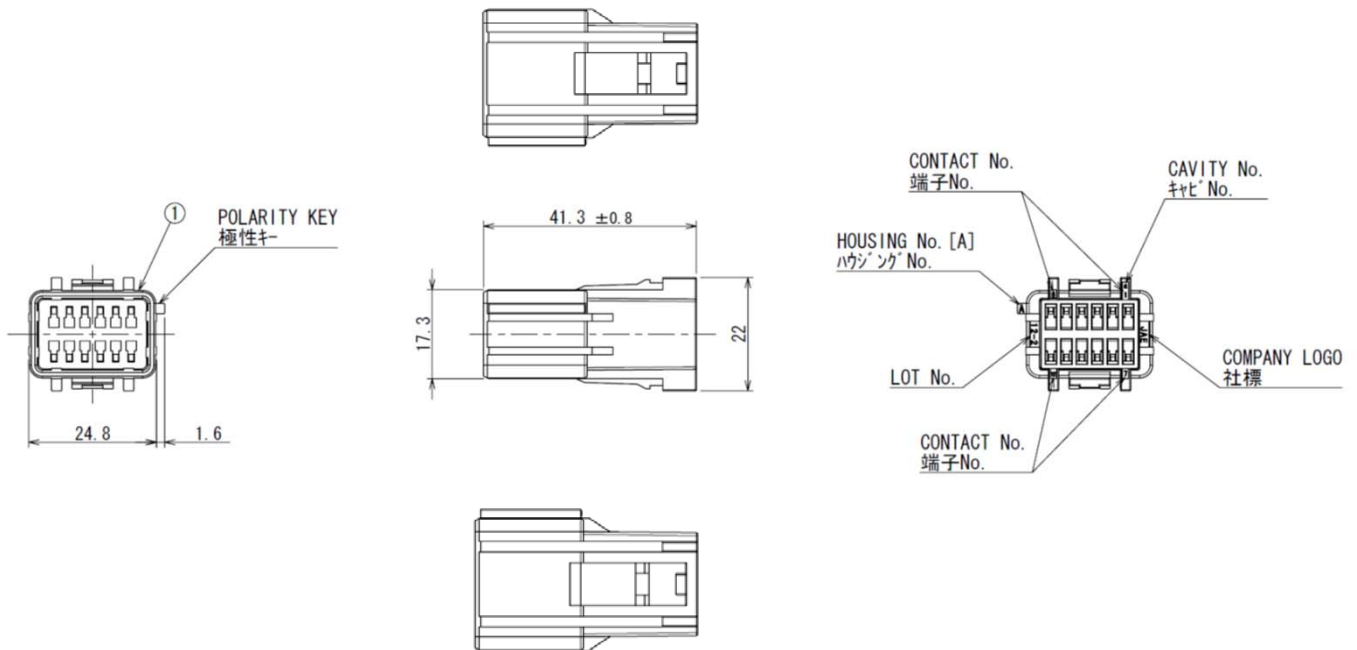


TABLE-1

CONTACT PART No.	SIZE	OUTER DIAMETER	LENGTH: A (FIG. 1)	REMARKS
DW3P04K4F1 (SJ112653)	AWG#22	φ 1.5	20.75	SIGNAL CONTACT
DW1P04K4F1 (SJ111311)	AWG#22	φ 1.5	18.25	SIGNAL CONTACT
DW1P04K4F2 (SJ111312)	AWG#22	φ 1.5	16.75	DETECTED CONTACT

NOTE 1. CONTACTS ARE SOLD SEPARATELY. THE APPLICABLE CONTACTS ARE LISTED IN THE TABLE-1.  
 NOTE 2. THE POSITION OF THE POLARITY KEY IS DIFFERENT COMPARED WITH THE FOLLOWING PRODUCT.  
 PRODUCT NAME: DW3P012B, DWG No. SJ112651  
 NOTE 3. THIS PRODUCT IS USED IN COMBINATION WITH THE FOLLOWING PRODUCT.  
 PRODUCT NAME: DW3R002ZH1, DWG No. SJ112647

注1. 本製品はコネクタ別売り品であり、適用コネクタは表1の通りである。  
 注2. 本製品は下記製品と極性キー位置違い品である。  
 製品名: DW3P012B、図番: SJ112651  
 注3. 本製品は下記製品と組み合わせて使用する。  
 製品名: DW3R002ZH1、図番: SJ112647

1	FLOATING CONNECTOR SIGNAL HOUSING A	1	PBT	COLOR : BLACK	-
符号 NO.	名称 DESCRIPTION	個数 QTY.	材料 MATERIAL	仕上 FINISH	備考 REMARKS

## 6. Connector B for Signal (Receptacle Side)

Part Number	DW3P012B
SJ Drawing	SJ112651

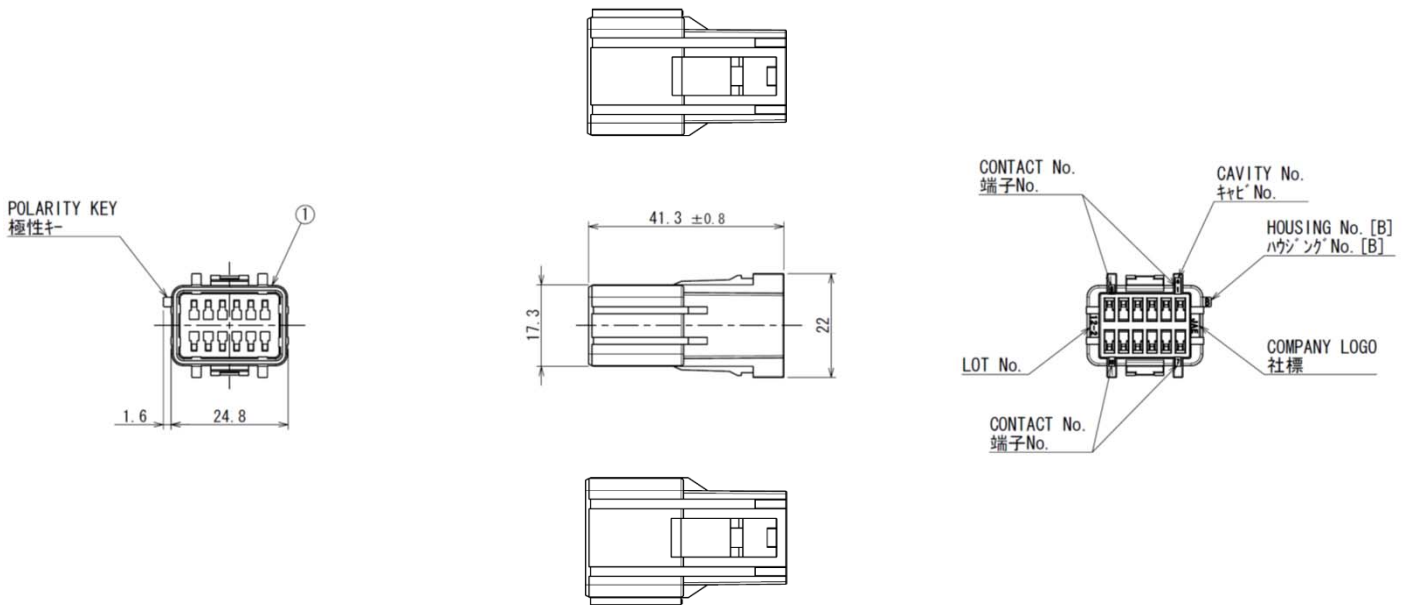


TABLE-1

CONTACT PART No.	SIZE	OUTER DIAMETER	LENGTH: A (FIG. 1)	REMARKS
DW3P04K4F1 (SJ112653)	AWG#22	φ 1.5	20.75	SIGNAL CONTACT
DW1P04K4F1 (SJ111311)	AWG#22	φ 1.5	18.25	SIGNAL CONTACT
DW1P04K4F2 (SJ111312)	AWG#22	φ 1.5	16.75	DETECTED CONTACT

- NOTE 1. CONTACTS ARE SOLD SEPARATELY. THE APPLICABLE CONTACTS ARE LISTED IN THE TABLE-1.  
 NOTE 2. THE POSITION OF THE POLARITY KEY IS DIFFERENT COMPARED WITH THE FOLLOWING PRODUCT.  
 PRODUCT NAME: DW3P012A, DWG No. SJ112650  
 NOTE 3. THIS PRODUCT IS USED IN COMBINATION WITH THE FOLLOWING PRODUCT.  
 PRODUCT NAME: DW3R002ZH1, DWG No. SJ112647

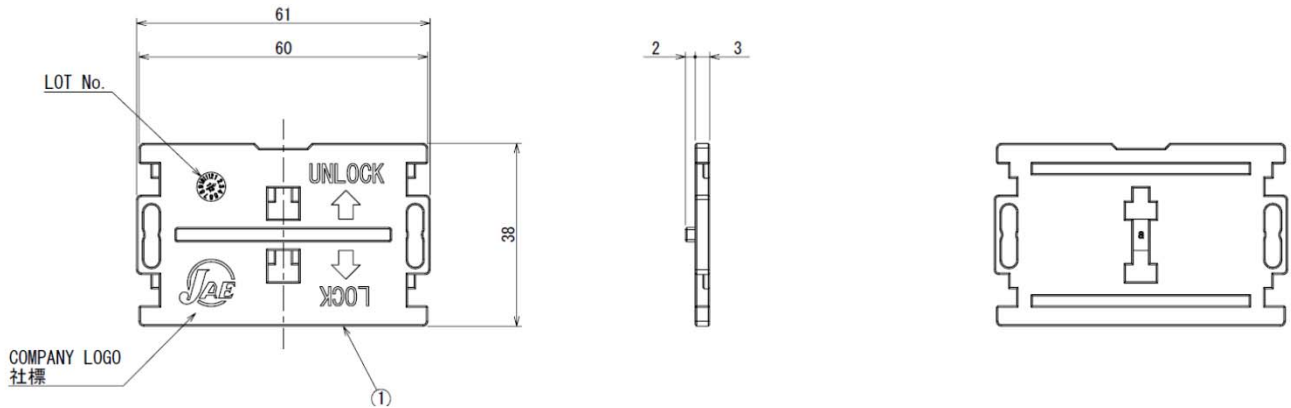
- 注1. 本製品はコネクタ別売り品であり、適用コネクタは表1の通りである。  
 注2. 本製品は下記製品と極性キ位置違い品である。  
 製品名: DW3P012A、図番: SJ112650  
 注3. 本製品は下記製品と組み合わせて使用する。  
 製品名: DW3R002ZH1、図番: SJ112647

1	FLOATING CONNECTOR SIGNAL HOUSING B	1	PBT	COLOR : BLACK	-
符号 NO.	名称 DESCRIPTION	個数 QTY.	材料 MATERIAL	仕上 FINISH	備考 REMARKS



# 7. Bus Bar Cover

Part Number	DW3R002-CV
SJ Drawing	SJ112652



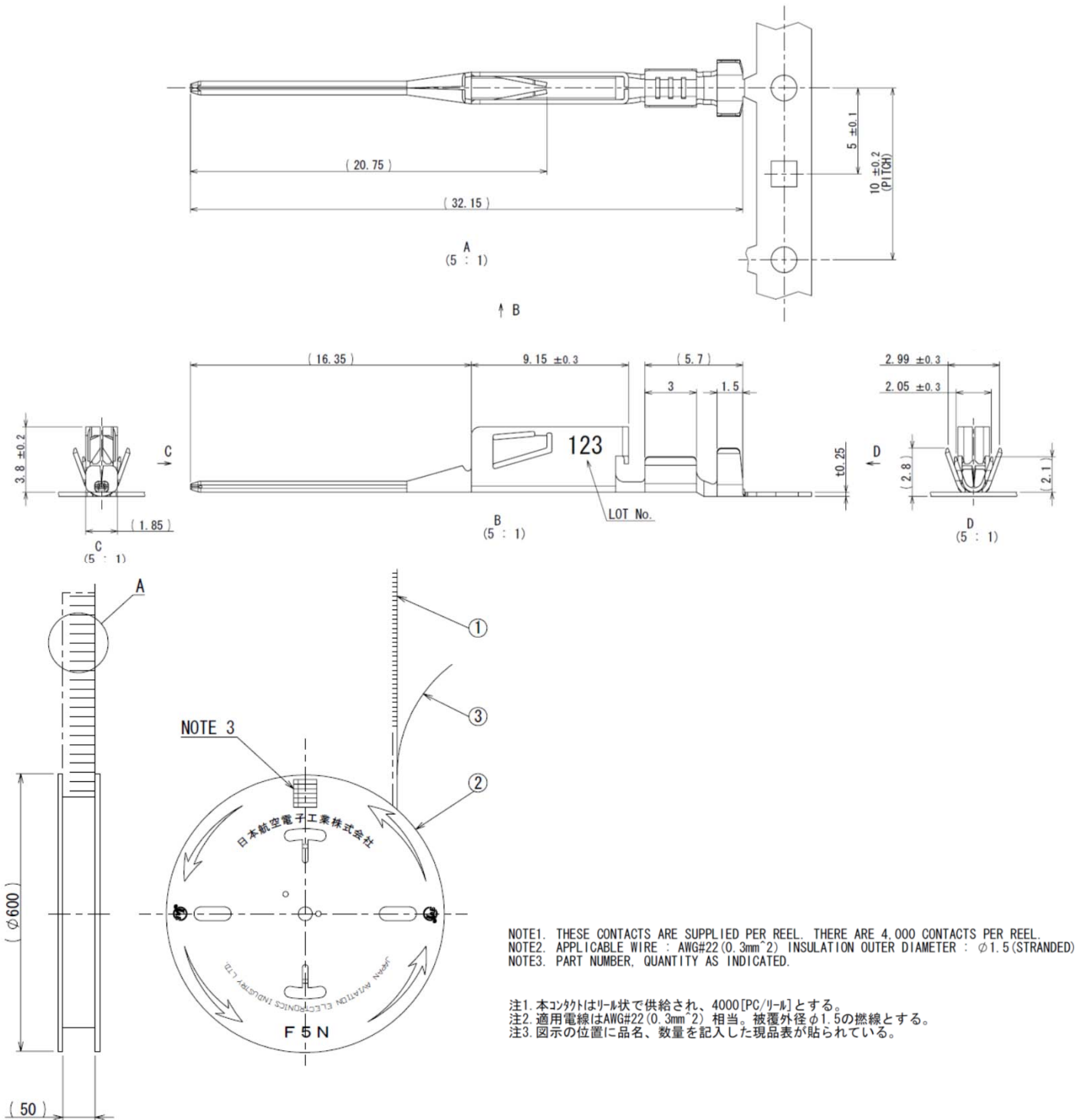
NOTE 1. THIS PRODUCT IS USED IN COMBINATION WITH THE FOLLOWING PRODUCT.  
 PRODUCT NAME: DW3R002ZH1, DWG No. SJ112647

注1. 本製品は下記製品と組み合わせて使用する。  
 製品名: DW3R002ZH1、図番: SJ112647

1	BUS BAR COVER	1	PBT	COLOR : BLACK	-
符号 NO.	名 称 DESCRIPTION	個 数 QTY.	材 料 MATERIAL	仕 上 FINISH	備 考 REMARKS

# 8. Pin Contact for Signal (for Receptacle)

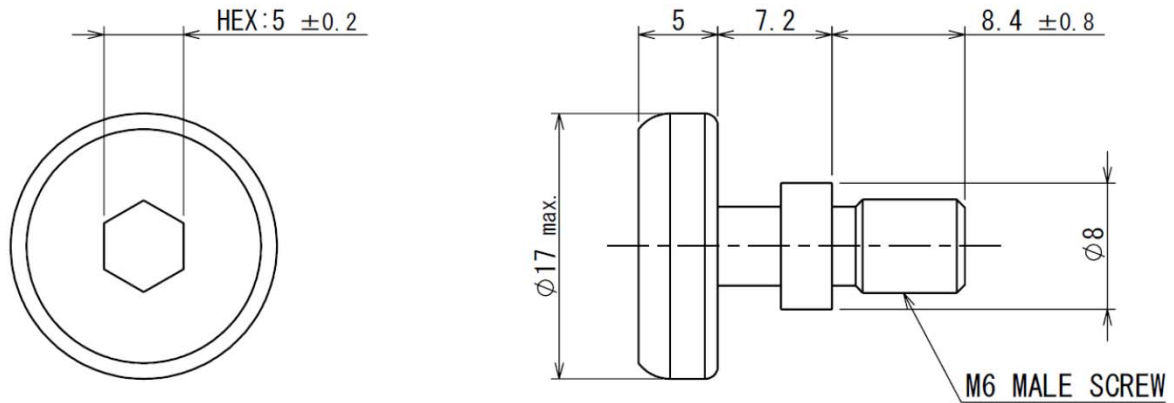
Part Number	DW3P04K4F1
SJ Drawing	SJ112653



3	PAPER TAPE	1	PAPER	-	-
2	MAGAZINE	1	PAPER	-	-
1	PIN CONTACT	4000	COPPER ALLOY	TIN PLATE	-
符号 NO.	名称 DESCRIPTION	個数 QTY.	材料 MATERIAL	仕上 FINISH	備考 REMARKS

# 9. Shoulder Bolt

Part Number	D250-50632
SJ Drawing	SJ112654



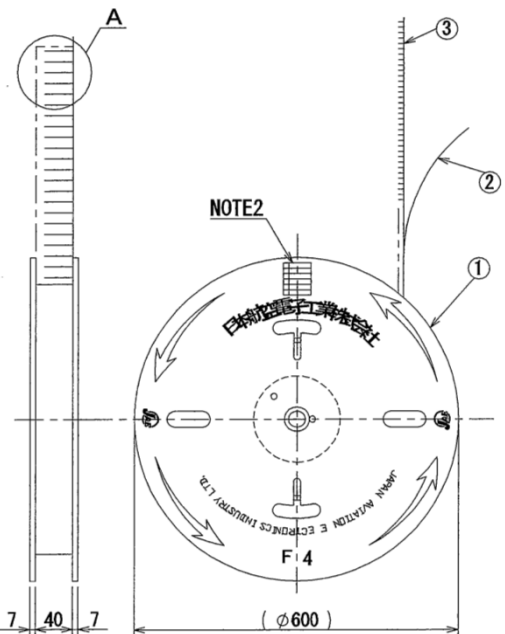
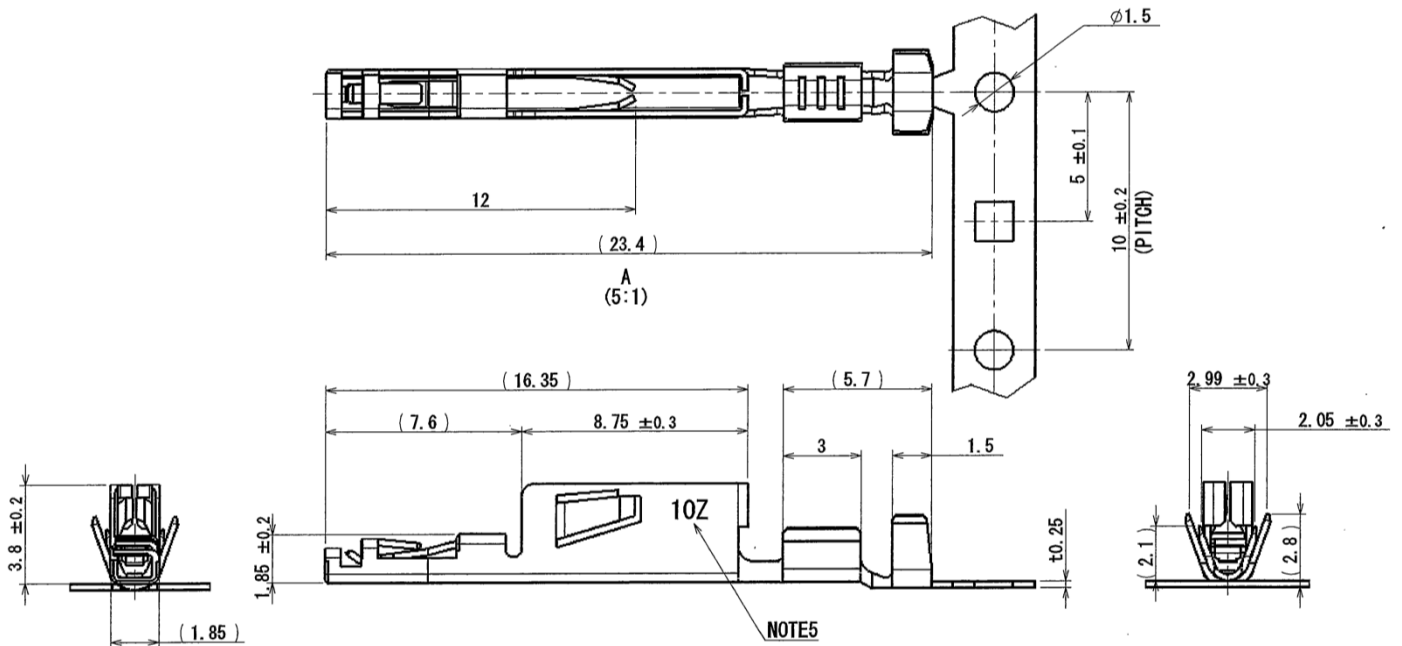
NOTE 1. TIGHTEN SHOULDER BOLT BY 5.2 [N·m] ±0.5 [N·m].

注1. ショルダーボルト締め付けトルク : 5.2 [N·m] ±0.5 [N·m]

1	SHOULDER BOLT	1	STEEL	TRIVALENT CHROMATE	-
符号 NO.	名称 DESCRIPTION	個数 QTY.	材料 MATERIAL	仕上 FINISH	備考 REMARKS

# 10. Socket Contact for Signal (for Plug)

Part Number	DW1S04K4F1
SJ Drawing	SJ111310



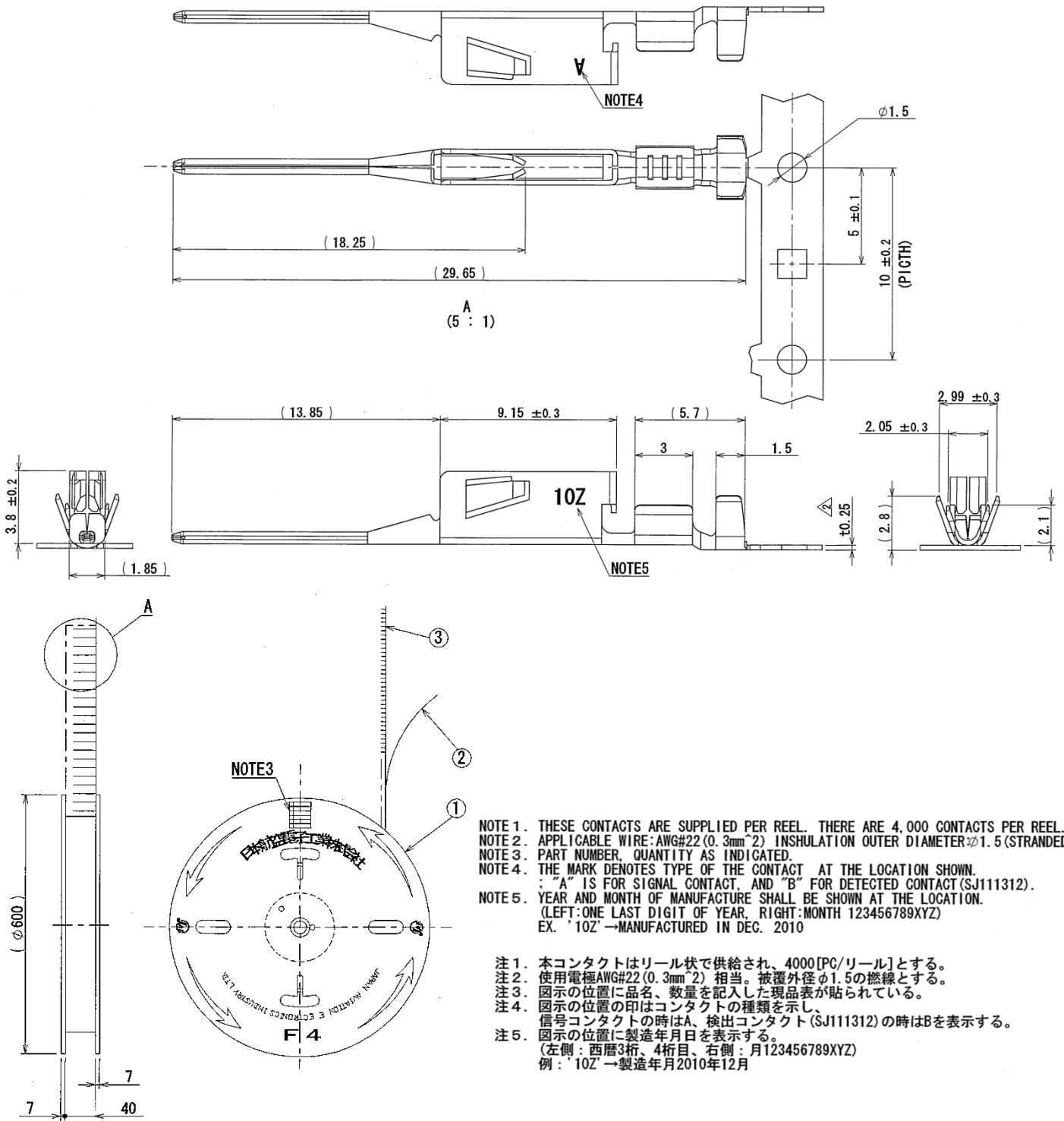
NOTE 1. THESE CONTACTS ARE SUPPLIED PER REEL. THERE ARE 4,000 CONTACTS PER REEL.  
 NOTE 2. APPLICABLE MATING PIN :  $\square 0.64 \pm 0.05$ /  
 NOTE 3. APPLICABLE WIRE: AWG#22 ( $0.3\text{mm}^2$ ) INSULATION OUTER DIAMETER:  $\phi 1.5$  (STRANDED)  
 NOTE 4. PART NUMBER, QUANTITY AS INDICATED.  
 NOTE 5. YEAR AND MONTH OF MANUFACTURE SHALL BE SHOWN AT THE LOCATION.  
 (LEFT: ONE LAST DIGIT OF YEAR, RIGHT: MONTH 123456789XYZ)  
 EX. '10Z' → MANUFACTURED IN DEC. 2010

注 1. 本コンタクトはリール状で供給され、4000[PC/リール]とする。  
 注 2. 挿入ピンは板厚  $0.64 \pm 0.05$  とする。  
 注 3. 使用電極 AWG#22 ( $0.3\text{mm}^2$ ) 相当。被覆外径  $\phi 1.5$  の燃線とする。  
 注 4. 図示の位置に品名、数量を記入した現品表が貼られている。  
 注 5. 図示の位置に製造年月日を表示する。  
 (左側: 西暦3桁、4桁目、右側: 月123456789XYZ)  
 例: '10Z' → 製造年月2010年12月。

符号 NO.	名称 DESCRIPTION	個数 QTY.	材料 MATERIAL	仕上 FINISH	備考 REMARKS
3	SOCKET CONTACT	4000	COPPER ALLOY	TIN PLATE	—
2	PAPER TAPE	1	PAPER	—	—
1	MAGAZINE	1	PAPER	—	—

# 11. Pin Contact Long for Signal (for Receptacle)

Part Number	DW1P04K4F1
SJ Drawing	SJ111311

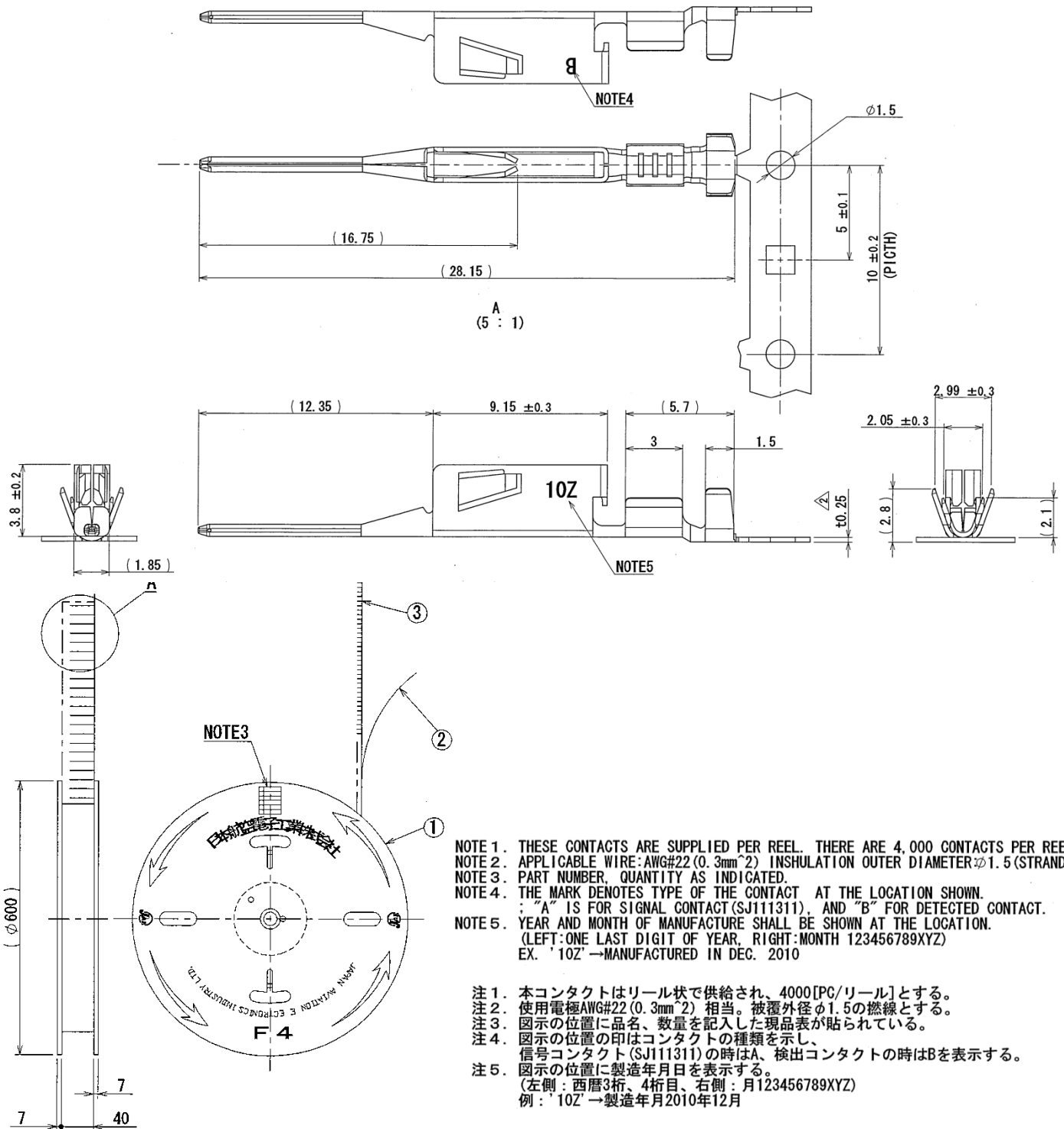


3	PIN CONTACT	4000	COPPER ALLOY	TIN PLATE	—
2	PAPER TAPE	1	PAPER	—	—
1	MAGAZINE	1	PAPER	—	—
符号 NO.	名称 DESCRIPTION	個数 QTY.	材料 MATERIAL	仕上 FINISH	備考 REMARKS



# 12. Pin Contact Short for Signal (for Receptacle)

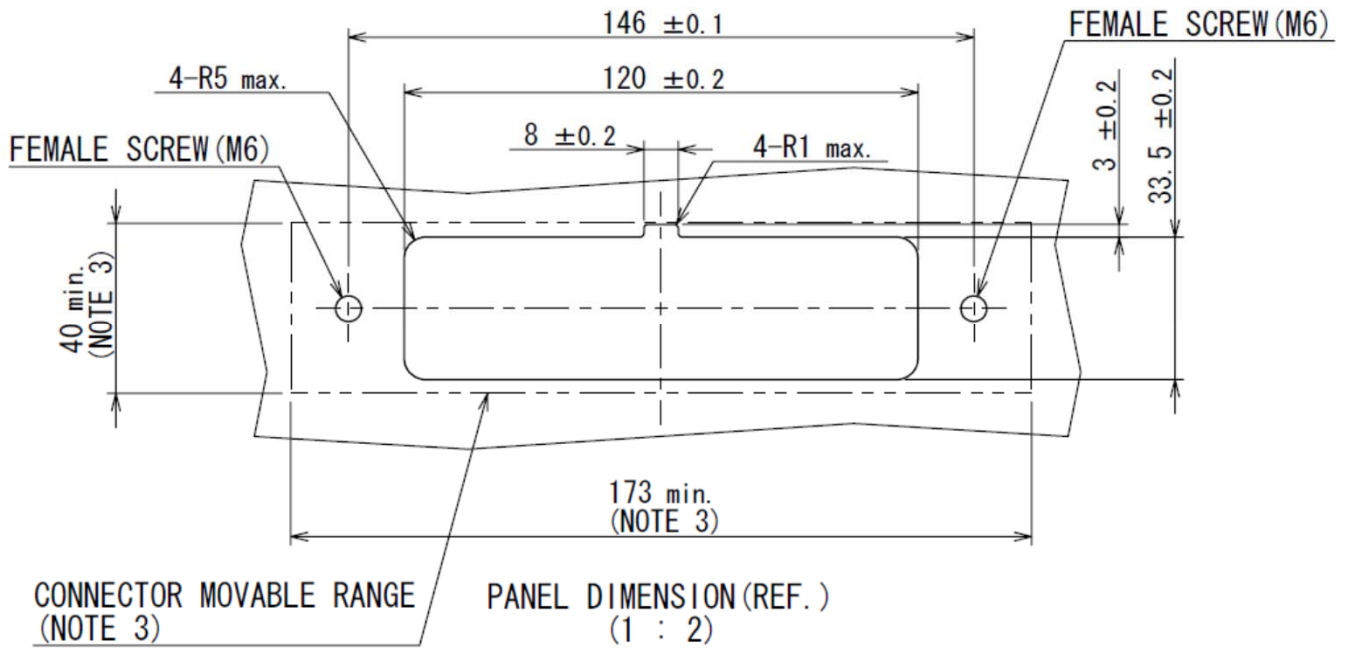
Part Number	DW1P04K4F2
SJ Drawing	SJ111312



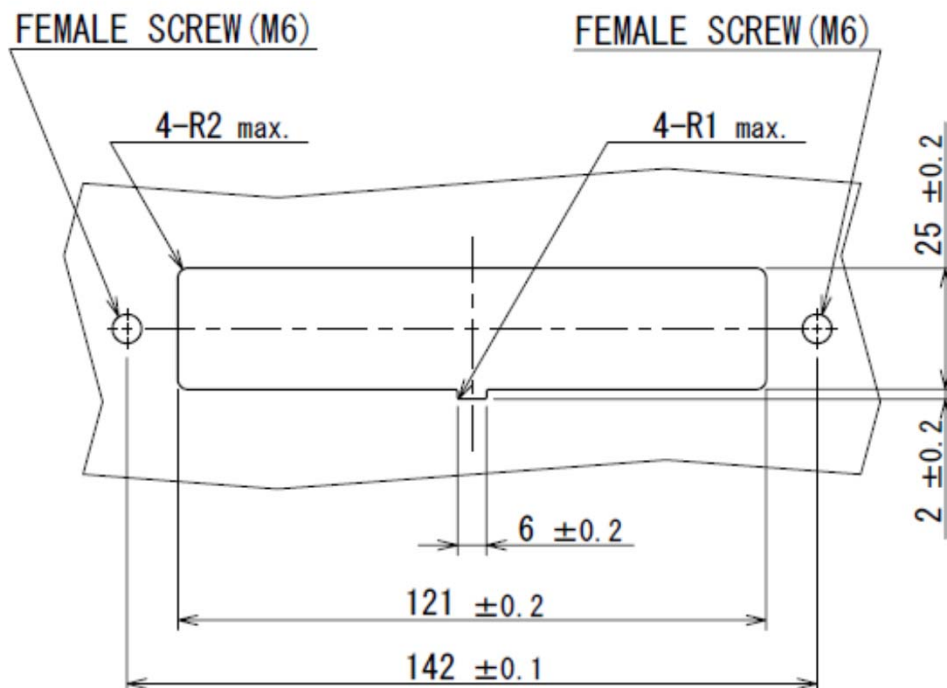
3	PIN CONTACT	4000	COPPER ALLOY	TIN PLATE	—
2	PAPER TAPE	1	PAPER	—	—
1	MAGAZINE	1	PAPER	—	—
符号 NO.	名称 DESCRIPTION	個数 QTY.	材 料 MATERIAL	仕 上 FINISH	備 考 REMARKS

## Applicable Board Dimensions (for reference)

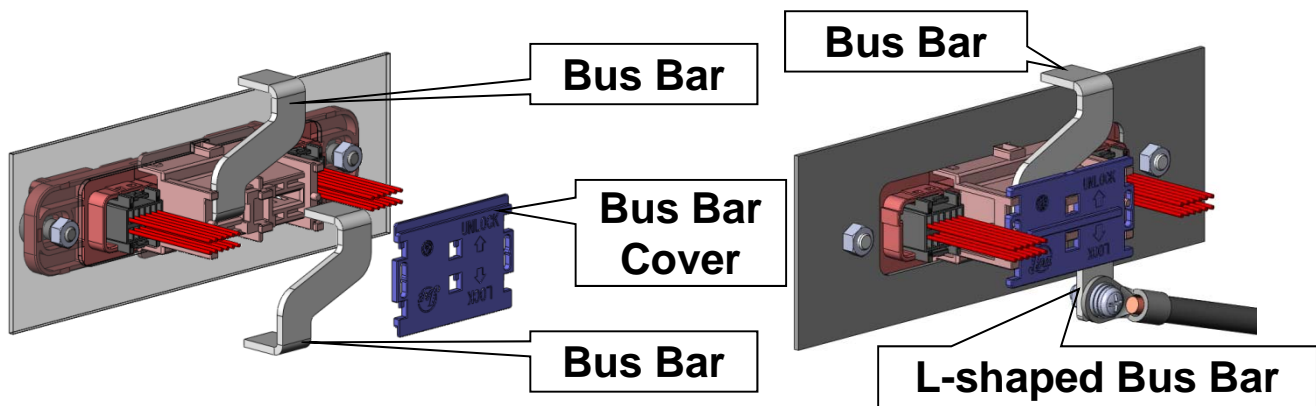
### Receptacle Side



### Plug Side



## Connection Diagram of Receptacle Side Bus Bar

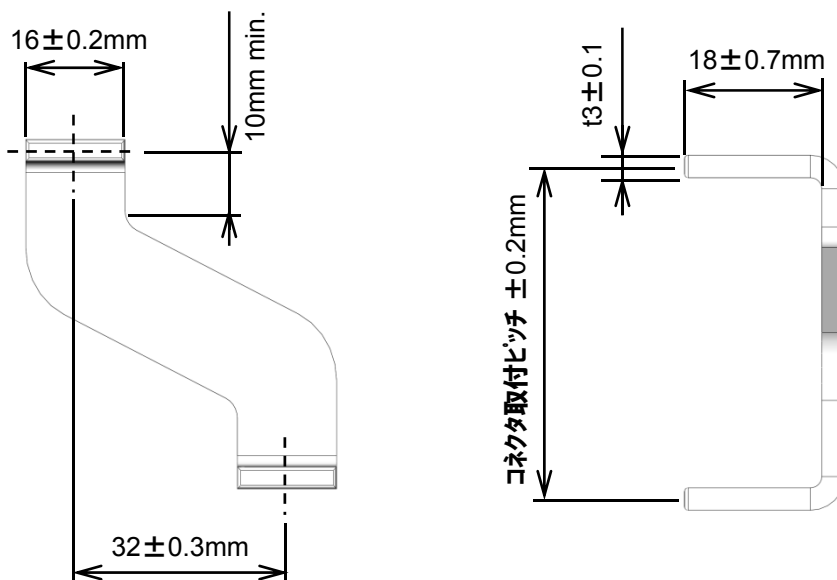


Connection between batteries using Bus Bar

Connection of the terminal ends using Bus Bar.

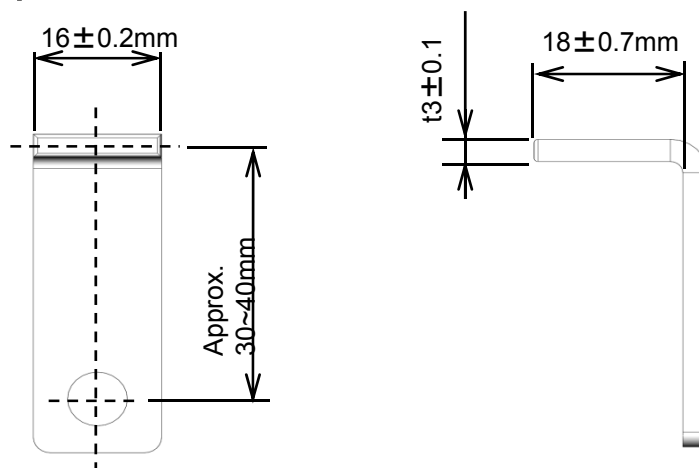
**Note:** By applying bus bar cover electrical shock will be prevented. Also, noise countermeasure for signal cable is taken in to consideration.

## Bus Bar Outer Dimensions (for reference)



- Material: pure copper system material
- Surface Finish: Ag plating

## L-shaped Bus Bar Outer Dimensions (for reference)

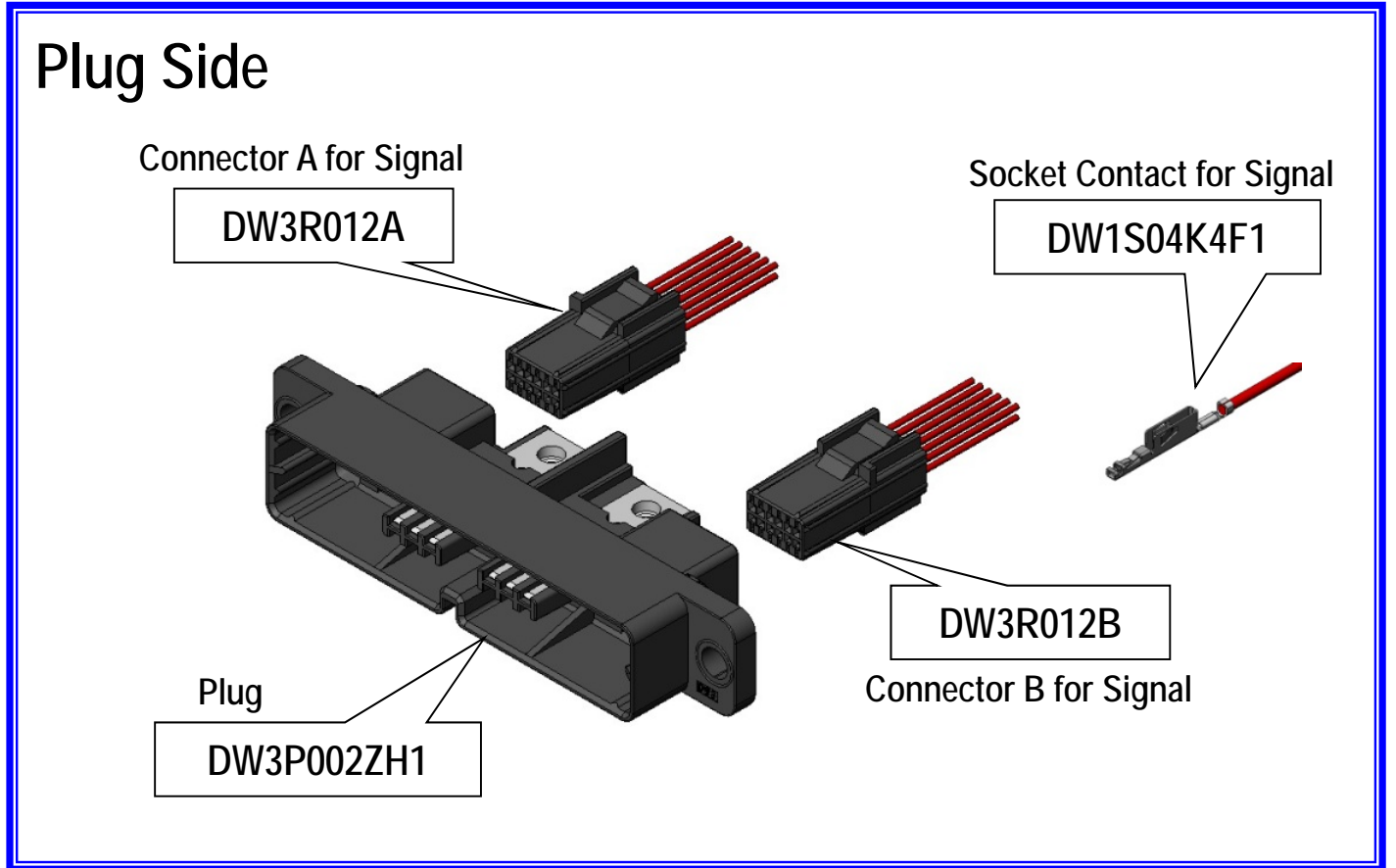
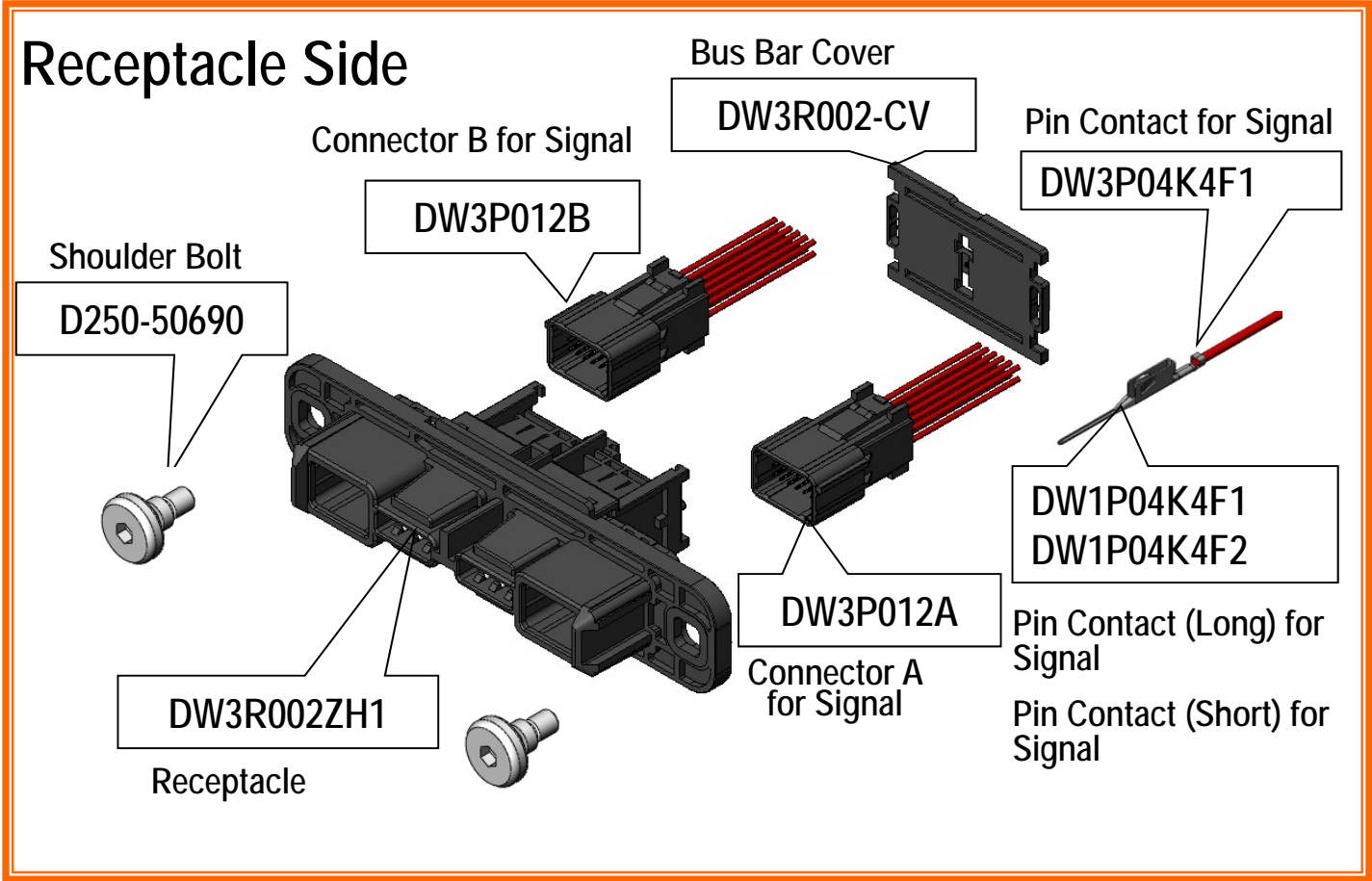


- Material: pure copper system material
- Surface Finish: Ag plating

\*Above Dimensions are for reference, please contact us for more information on bus bar.

**DW3 Series**

\*Contact is Reel Part Number



Technical Documents
---------------------

	Technical Document No. (Document Content)
Product Drawings	SJ112646 (DW3 Plug) SJ112647 (DW3 Receptacle) SJ112648 (DW3 Connector A for Signal Plug Side) SJ112649 (DW3 Connector B for Signal Plug Side) SJ112650 (DW3 Connector A for Signal Receptacle Side) SJ112651 (DW3 Connector B for Signal Receptacle Side) SJ112652 (Bus Bar Cover) SJ112654 (Shoulder Bolt) SJ112653 (DW3 Pin Contact for Signal Receptacle Side) SJ111310 (DW1 Socket Contact for Signal Plug Side) SJ111311 (DW1 Pin Contact Long for Signal Receptacle Side) SJ111312 (DW1 Pin Contact Short for Signal Receptacle Side)
Specifications	JACS-30260
Handling Instructions	JAHL-30260
Crimp Applicator Handling Instructions	T703488 (for semi-automatic crimping machine) * Please contact us regarding automatic crimp tool.
Hand Crimp Tool Handling Instructions	T700315

**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**

Product Marketing Division

Aobadai Building, 3-1-19, Aobadai, Meguro-ku, Tokyo 153-8539

Phone: +81-3-3780-2882 FAX: +81-3-3780-2946

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



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