



Technical Datasheet

for SH3 Series Plastic 2-Pole

350A High Current Connector

Shenzhen Guchen Electronic Co., Ltd.

2025-06

Revision History

Version	Date	Section	Content Before Change	Content After Change
01	2025/06/06	Available Products	/	Added connector models compatible with 50/70/95 mm ² cables.

Note: Changes to this specification will not be notified to customers as long as they do not reduce product performance or alter the product's condition. The following changes will also not be notified:

1. Addition of new product models, without changes to existing models;
2. Modifications to descriptive text in the specification that do not affect product usage, assembly, or performance;
3. Changes that involve additional technical parameter items or improvements in promised product performance.

1. Product Overview and Available Models



Right-angle Plug: SH3-2TPH-(50)WA
Socket: SH3-2ZPH-A



Right-angle Plug: SH3-2TPH-(50)WA
Socket: SH3-2ZPH-A-01

The SH3 series is a high-voltage interlock, high-current plastic connector designed for power connections between electrical components in new energy vehicles, with a maximum current rating of 350 A. The connector features a plastic housing, and the plug and socket are equipped with a handle-assisted locking mechanism for secure connection and easy operation. The product also offers multiple keying for error-proofing, high-voltage interlock, shielding, and protection against dust and water.

Notes:

1. The plug contacts are terminated by ultrasonic welding, while the socket terminals use M6 bolt connections. Recommended screw torque: 8 N·m.
2. All parts of the plug are fully integrated. Conductors with cross-sections from 50mm² to 95mm² can be selected according to the required current-carrying capacity.

Model Naming:

Name	SH3 Series	SH3	-	2	T	P	H	-	50	C	W	U	A	-01
Separator	-													
Core No.	2 Core													
Plug/Recep.	T-Plug; Z-Receptacle													
Shielding	Default-None, P-Shielded													
HVIL	Default-No Interlock, H-With Interlock													
Separator	-													
Cable Specification	50 mm ² , Default-No Differentiation													
Cable Type	Default-Single-Core Wire, C-Multi-Core Cable													
Plug Wiring Method	Default-Straight, W-Right-Angle													
Receptacle	Default-Plug/Square Panel Socket, U-Wire-Lead Socket													
Keyway	A、B、C、D...													
Re-model	Default, -01, -02													

Available Models

序/N	Model	P/N	Description	Cable Standard	Cable O.D.
1	SH3-2TPH-50WA	21G0-12171-A	Plastic Two-Core 50 mm ² Right-Angle Plug – A	GB/T 1037	φ 17.2±0.4
	SH3-2TPH-50WA-01	21G0-12172-A		LV216	φ 15.5±0.3
2	SH3-2TPH-70WA	21G0-00501-A	Plastic Two-Core 70 mm ² Right-Angle Plug – A	GB/T 1037	φ 19±0.4
	SH3-2TPH-70WA-01	21G0-12173-A		LV216	φ 17.8±0.4
3	SH3-2TPH-95WA	21G0-12174-A	Plastic Two-Core 95 mm ² Right-Angle Plug – A	GB/T 1037	φ 21.5±0.4
	SH3-2TPH-95WA-01	21G0-12175-A		LV216	φ 20.5±0.4
4	SH3-2ZPH-A	21G0-00502-A	Plastic 2-Core Socket	/	φ 1.6±0.1
5	SH3-2ZPH-A-01	21G0-00152-A	Plastic 2-Core Socket-01	/	φ 1.6±0.1

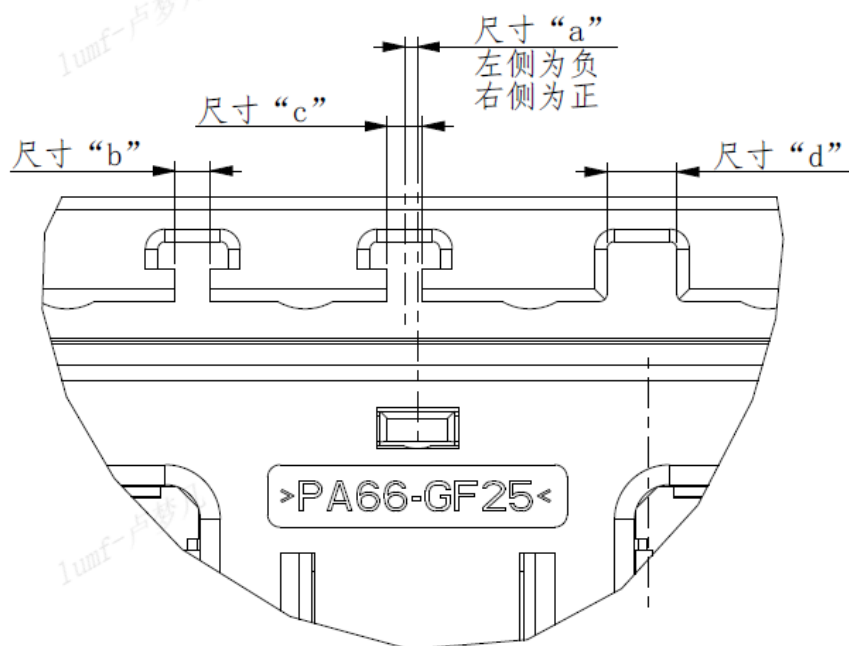
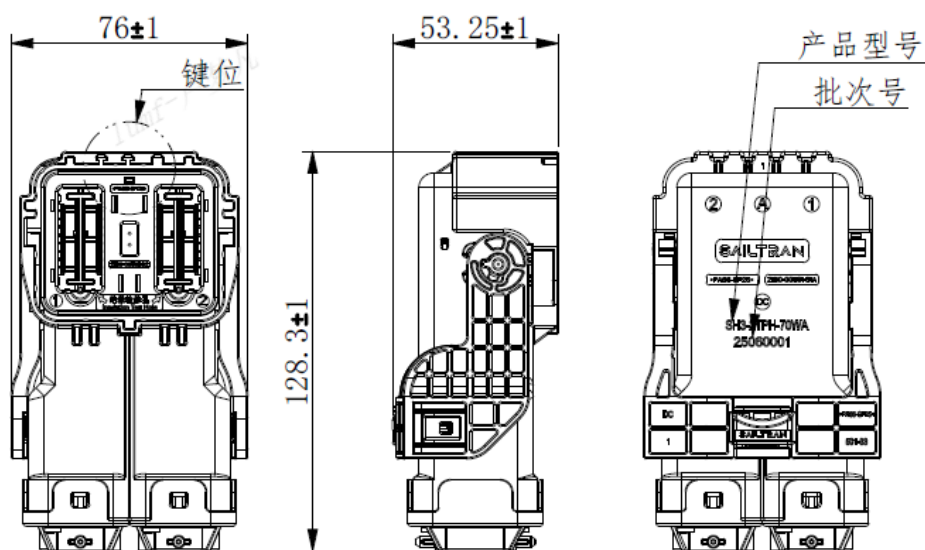
Notes:

- Product models 1-3 are plug products and are compatible with socket products of models 5 and 6. The current-carrying capacity of the mated connector depends on the allowable current of the plug cable.
- The maximum current rating of the socket terminals under an ambient temperature ≤ 85°C is 350 A. The actual current-carrying capacity should be based on the maximum current allowed by the conductors connected with the socket bolts.
- All the above product models have four keying options: A, B, C, and D. To change the keying, simply modify the last letter in the product model and order part number.

2. Product Performance

Mechanical Performance		
Mechanical Life	50 Cycles	
Mechanical Vibration and Shock	Test VII for Elastomers in Commercial Vehicles, according to GB/T 28046.3	
Electrical Performance		
Rated Current	Cable Cross Section	Rated Current
	95mm ² Aluminum Cable	250 A (Ambient Temperature ≤ 85°C)
	95mm ² Copper Cable	350 A (Ambient Temperature ≤ 85°C)
	70mm ² Aluminum Cable	200 A (Ambient Temperature ≤ 85°C)
	70mm ² Copper Cable	300 A (Ambient Temperature ≤ 85°C)
	50mm ² Aluminum Cable	150 A (Ambient Temperature ≤ 85°C)
	50mm ² Copper Cable	250 A (Ambient Temperature ≤ 85°C)
	0.5 mm ² Signal Wire	5A (Ambient Temperature ≤ 85°C)
Rated Voltage	1000V DC	
Withstand Voltage	Power Contacts: 3000 VAC; Signal Contacts: 500 VAC	
Insulation Resistance	Test Voltage: 1000V; Insulation Resistance: 5000 MΩ (ambient temperature and humidity), 200 MΩ (damp heat condition)	
Shielding	Frequency 9 kHz– 2 MHz: Transfer Impedance < 20 mΩ/m; 2 MHz– 30 MHz: Transfer Impedance < 100 mΩ/m.Frequency range 30 MHz– 330 MHz: Shielding Attenuation 50 dB.	
Environmental Performance		
IP Grade	IP68 (mated, 1 m for 24 h), IPX9K (mated), IPXXB (unmated)	
Working Temp.	-40°C ~ +140°C	
Flame Retardant Rating	Plastic Material: UL94-V0; Rubber Material: UL94-HB	
Salt Spray Rating	Meets 480-hour Neutral Salt Spray Test	
Main Material		
Housing	PA66-GF25	
Insulation	PA66-GF25	
Sealing	Silicone Rubber	
Shielding	Copper Alloy	
Contact	Copper Alloy, Silver Plated	

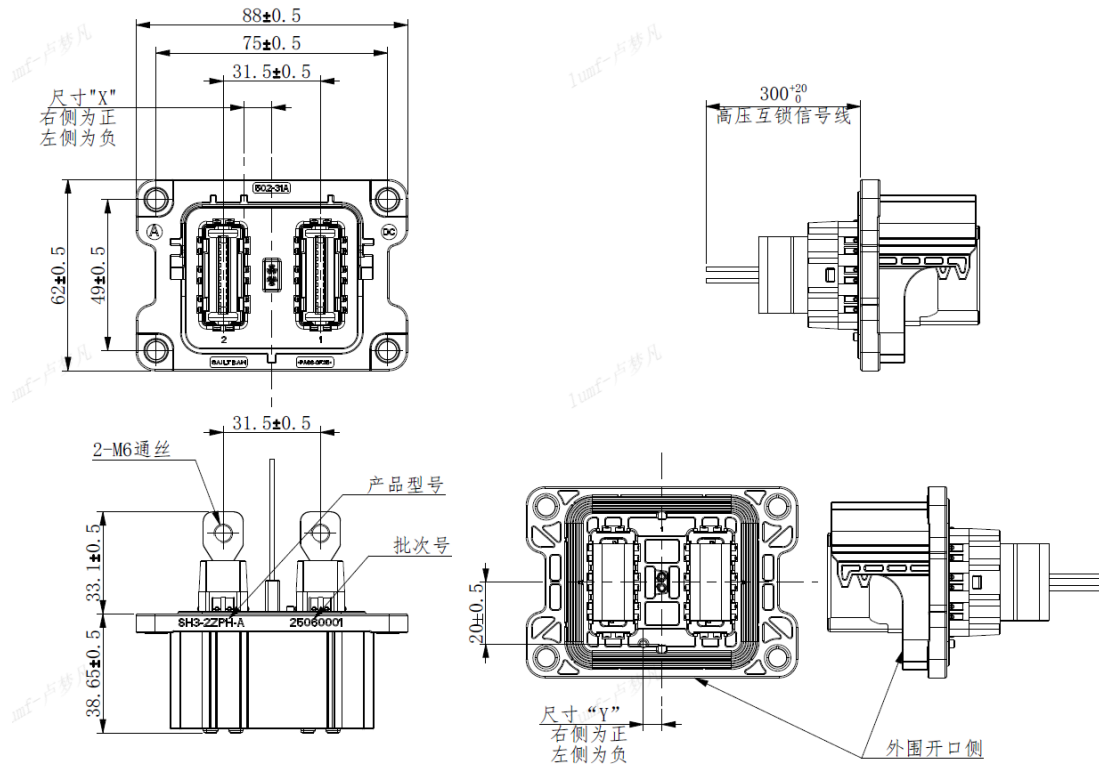
3. Product Outline and Keying Reference Dimensions



键位 (4:1)

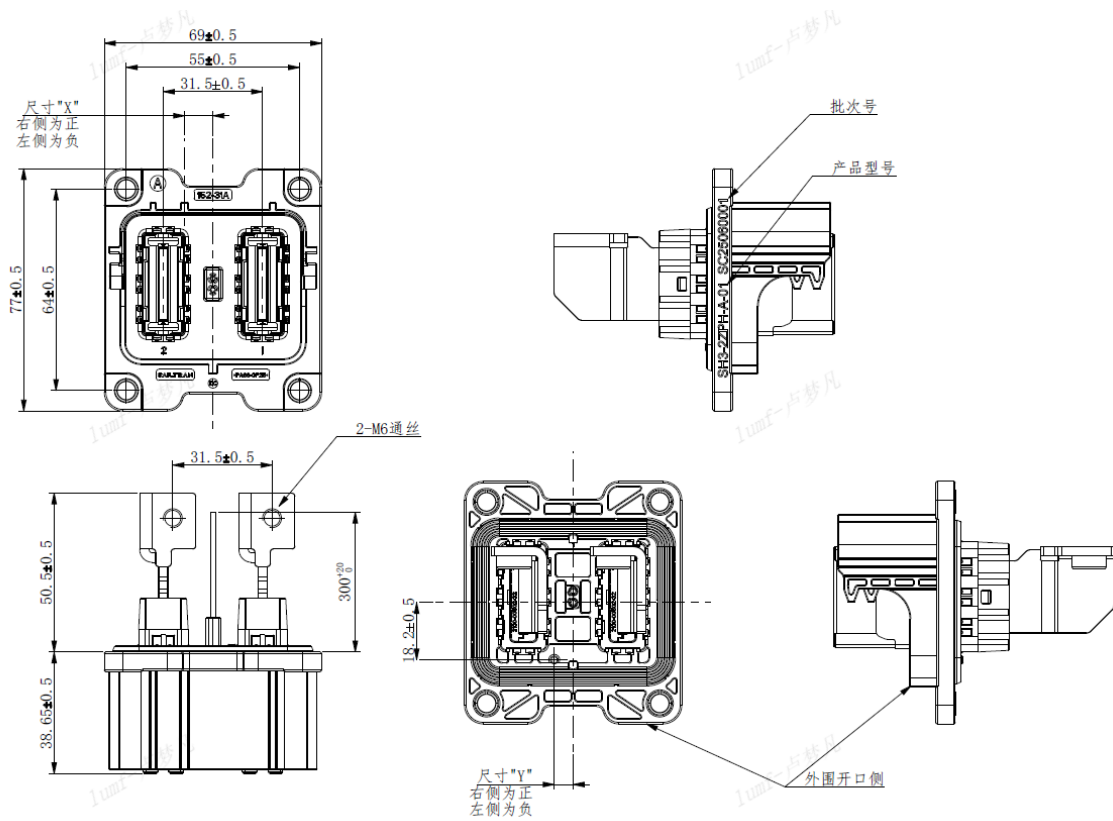
Key Position Dimension Details				
Keyway	Size "a"	Size "b"	Size "c"	Size "d"
Code A	-0.5	1.6	1.6	2.8
Code B	-0.5	1.6	2.8	1.6
Code C	-0.5	2.8	1.6	1.6
Code D	0.5	1.6	2.8	1.6

Right-angle Plug: SH3-2TPH-(50)WA



Key Position Dimension Details		
Keyway	Size "X"	Size "Y"
Code A	-9	-6
Code B	0.5	-3
Code C	9	3
Code D	-0.5	6

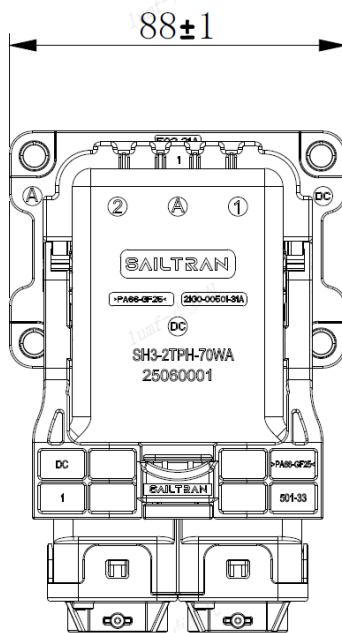
Socket: SH3-2ZPH-A



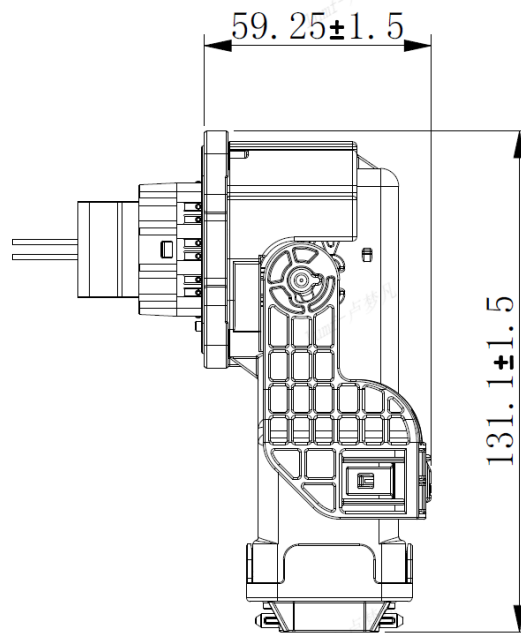
Key Position Dimension Details		
Keyway	Size "X"	Size "Y"
Code A	-9	-6
Code B	0.5	-3
Code C	9	3
Code D	-0.5	6

Socket: SH3-2ZPH-A-01

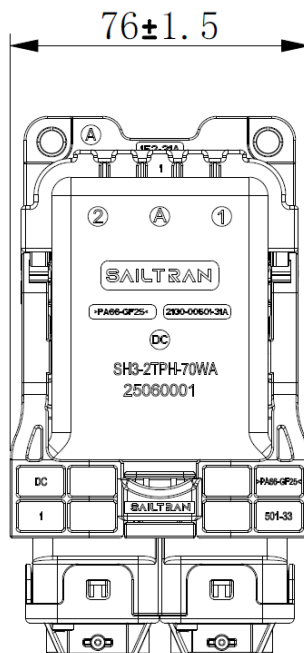
4. Header Mating



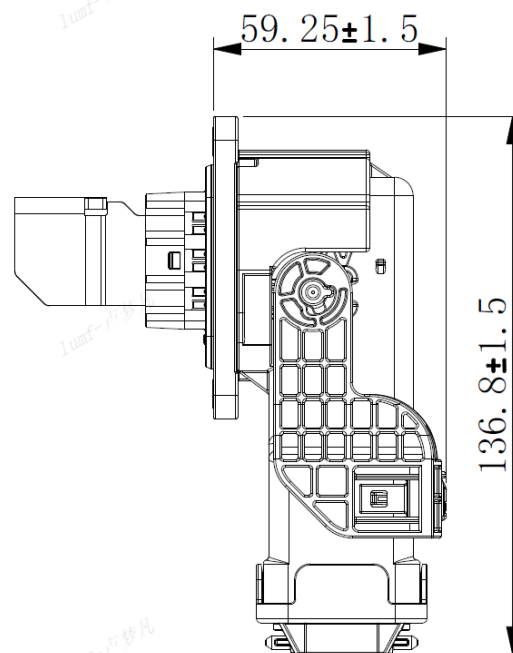
Plug: SH3-2TPH-(50)WA



Socket: SH3-2ZPH-A

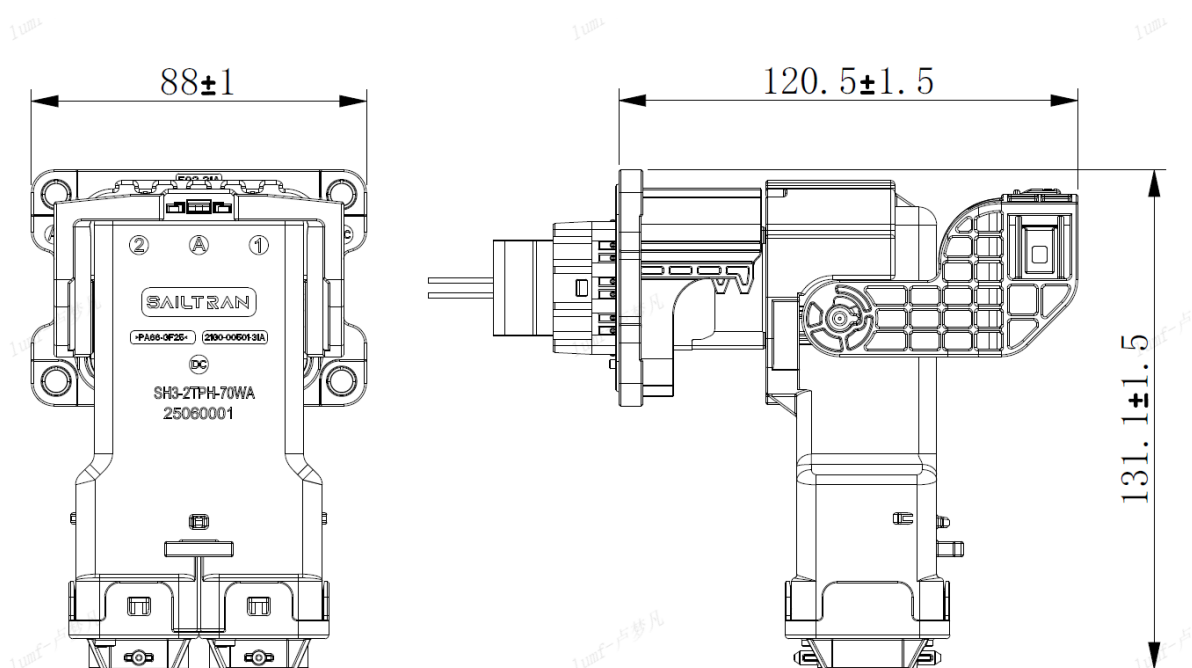


Plug: SH3-2TPH-(50)WA



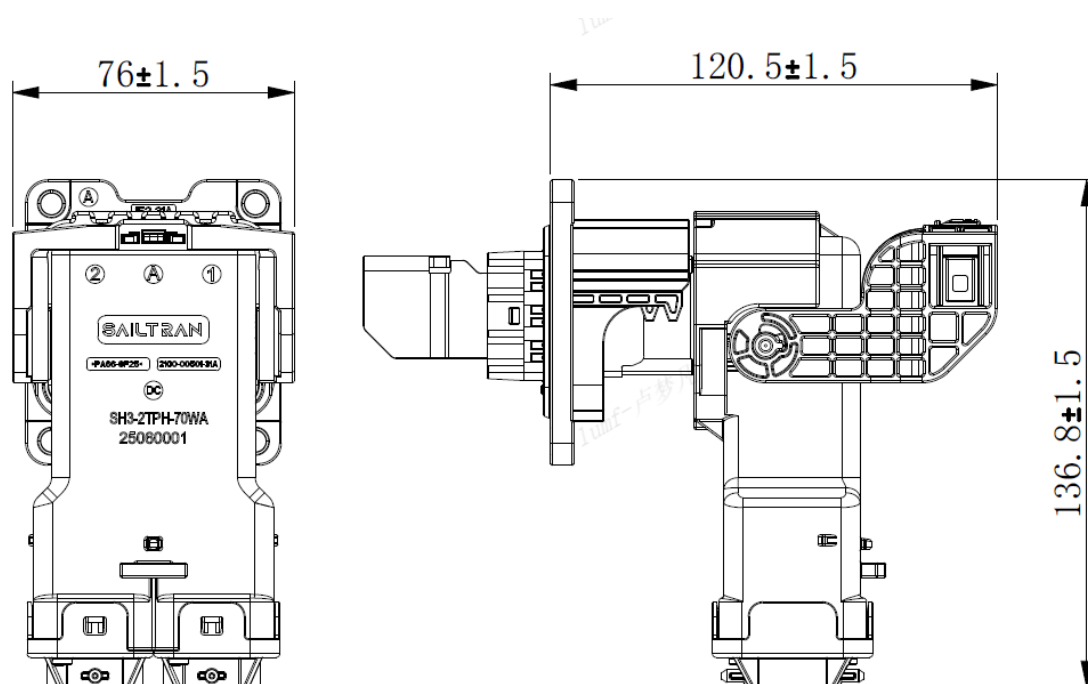
Socket: SH3-2ZPH-A-01

5. Operating Space



Plug: SH3-2TPH-(50)WA

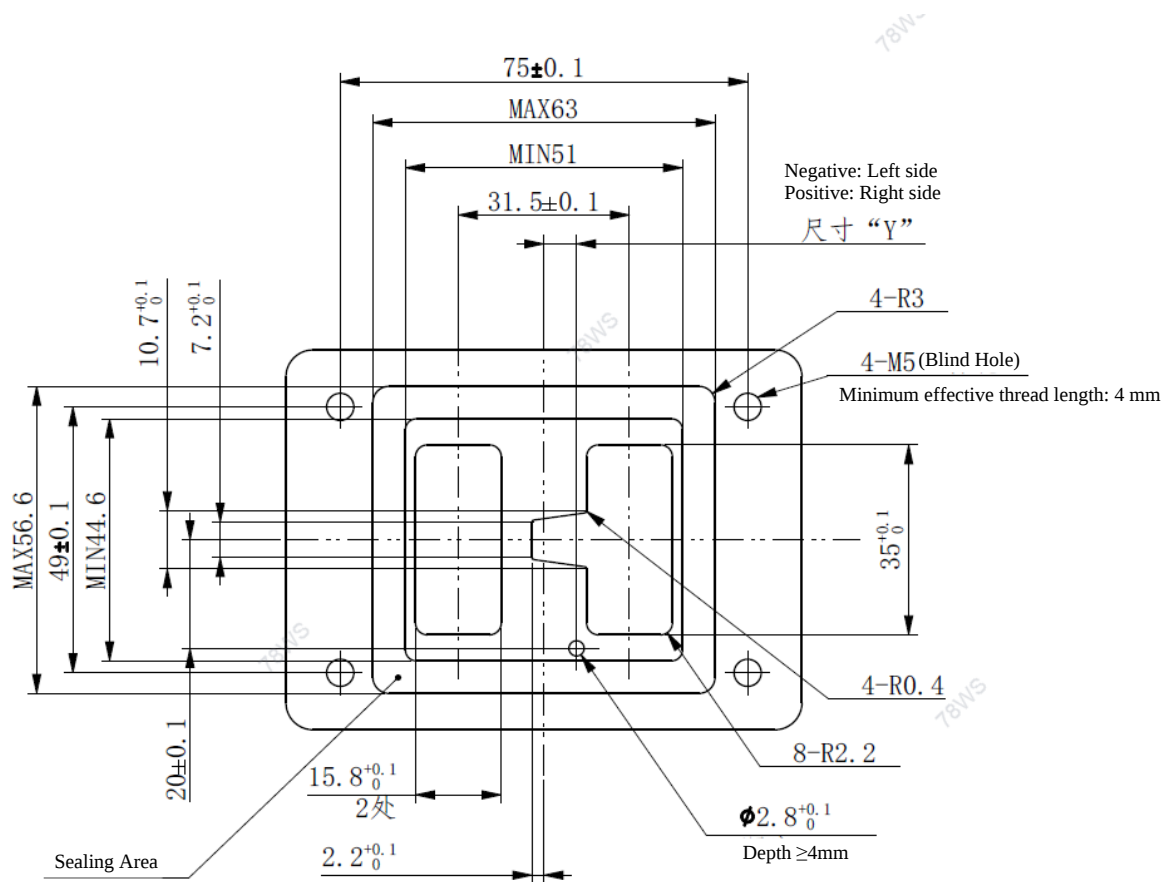
Socket: SH3-2ZPH-A



Plug: SH3-2TPH-(50)WA

Socket: SH3-2ZPH-A-01

6. Installation Panel Dimensions



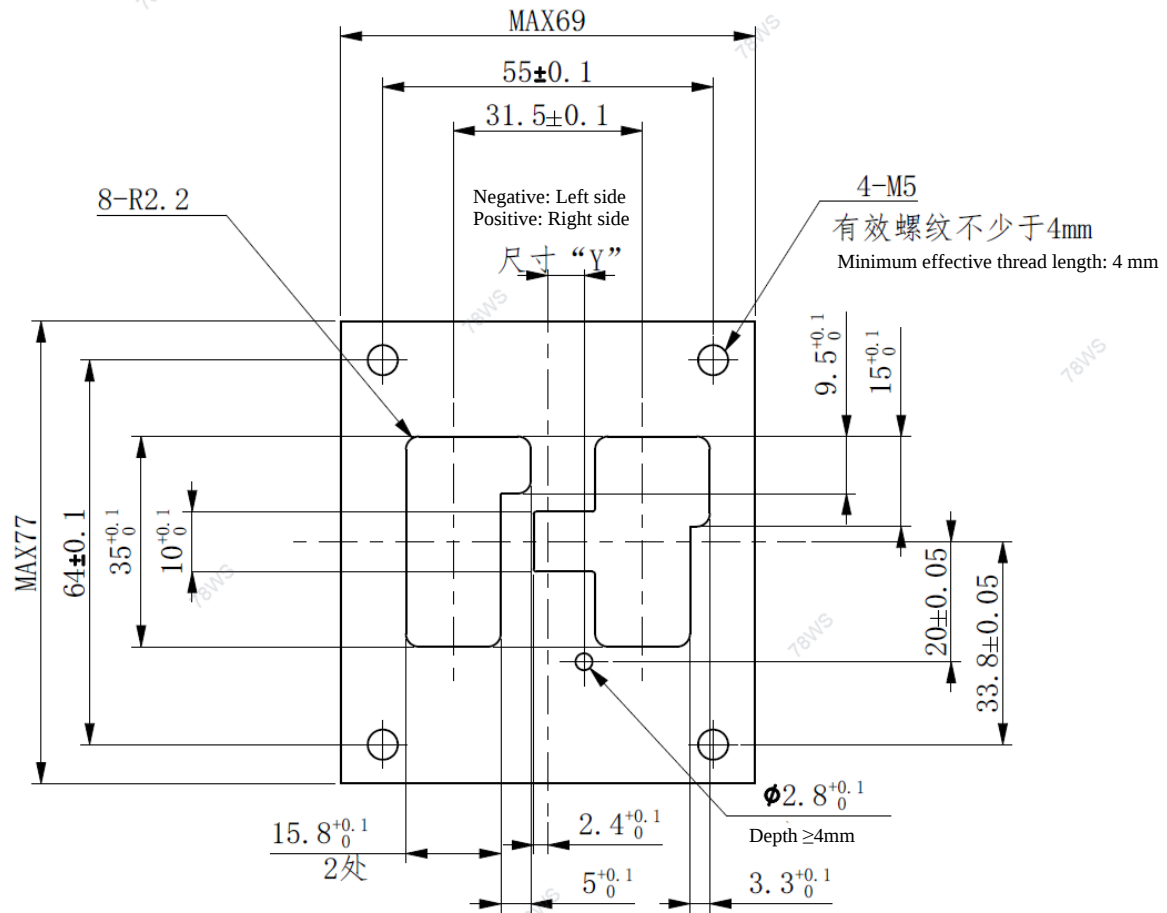
Receptacle: SH3-2ZPH-A

Dimension Table for Installation Anti-Misalignment Step

Keyway	Size "Y"
Code A	6
Code B	3
Code C	-3
Code D	-6

Notes:

1. Recommended tightening torque for M5 screws: 6 N·m.
2. Recommended panel thickness: $2 \text{ mm} \leq \text{panel thickness} \leq 8 \text{ mm}$.
3. The surface roughness of the panel mating with the socket should not exceed Ra 1.6; the sealing area requires flatness within 0.1 mm.



Receptacle: SH3-2ZPH-A-01

Dimension Table for Installation Anti-Misalignment Step

Keyway	Size "Y"
Code A	6
Code B	3
Code C	-3
Code D	-6

Notes:

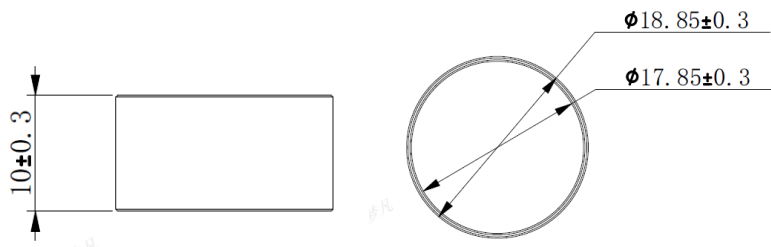
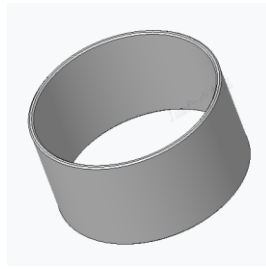
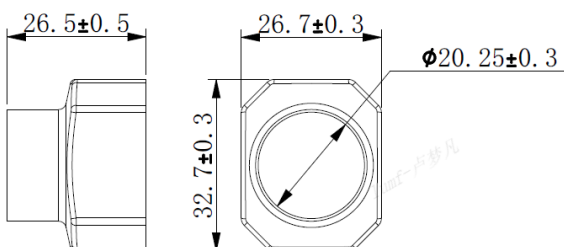
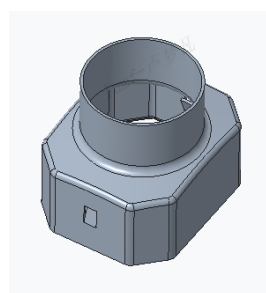
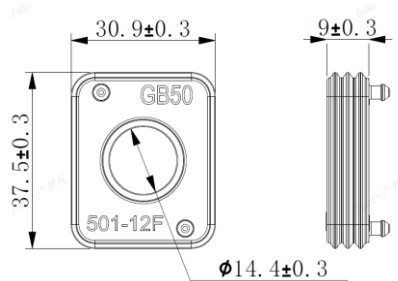
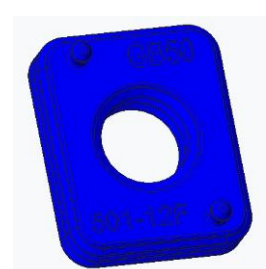
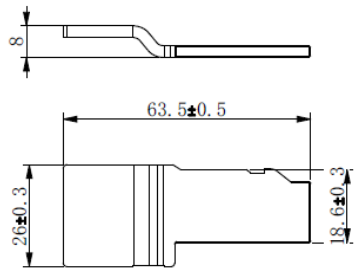
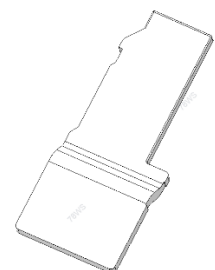
1. Recommended tightening torque for M5 screws: 6 N·m.
2. Recommended panel thickness: $2 \text{ mm} \leq \text{panel thickness} \leq 8 \text{ mm}$.
3. The surface roughness of the panel mating with the socket should not exceed Ra 1.6; the sealing area requires flatness within 0.1 mm.

7. Detailed List of Loose Parts and Semi-Finished Products

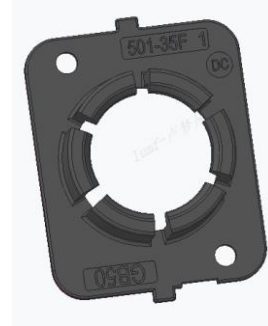
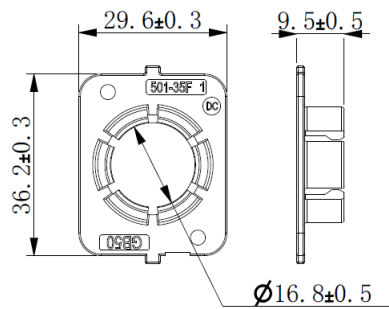
Model	Finished/Semi-finished Product		Component Parts		
Product Model	Description/P.N.	QTY	Component Name	P.N.	QTY
SH3-2TPH-50WA	Plastic 2-Core 50 mm ² Right-Angle Plug – A (Compatible with GB Standard Cable) P/N: 21G0-12171-A	1	Shielding Inner Ring-GB50	21G0-00501-42F	2
			Outer Crimping Ring-GB50	21G0-00501-43F	2
			Wire Seal-GB50-Blue	21G0-00501-12F	2
			Plug Terminal-350-Bright Silver Plated	21G0-01124-41	2
			Wire Clip-GB50-Black	21G0-00501-35F	2
			End Cap-GB50-Orange	21G0-00501-36F	2
SH3-2TPH-50WA-01	Plastic 2-Core 50mm ² Right-Angle Plug-A (Compatible with LV Cable) P/N: 21G0-12172-A	1	Shielding Inner Ring-LV50	21G0-00501-42G	2
			Outer Crimping Ring-GB50	21G0-00501-43F	2
			Wire Seal-LV50-Gray	21G0-00501-12G	2
			Plug Terminal-350-Bright Silver Plated	21G0-01124-41	2
			Wire Clip-LV50-Black	21G0-00501-35G	2
			End Cap-LV50-Orange	21G0-00501-36G	2
SH3-2TPH-70WA	Plastic 2-Core 70mm ² Right-Angle Plug-A (Compatible with GB Standard Cable) P/N: 21G0-00501-A	1	Shielding Inner Ring-GB70	21G0-00501-42D	2
			Outer Crimping Ring-GB70	21G0-00501-43D	2
			Wire Seal-GB70-Green	21G0-00501-12D	2
			Plug Terminal-350-Bright Silver Plated	21G0-01124-41	2
			Wire Clip-GB70-Black	21G0-00501-35D	2
			End Cap-GB70-Orange	21G0-00501-36D	2
SH3-2TPH-70WA-01	Plastic 2-Core 70mm ² Right-Angle Plug-A (Compatible with LV Cable) P/N: 21G0-12173-A	1	Shielding Inner Ring-LV70	21G0-00501-42E	2
			Outer Crimping Ring-GB70	21G0-00501-43D	2
			Wire Seal-LV70-Brown	21G0-00501-12E	2
			Plug Terminal-350-Bright Silver Plated	21G0-01124-41	2
			Wire Clip-LV70-Black	21G0-00501-35E	2
			End Cap-LV70-Orange	21G0-00501-36E	2
SH3-2TPH-95WA	Plastic 2-Core 95mm ² Right-Angle Plug-A (Compatible with GB Standard Cable) P/N: 21G0-12174-A	1	Shielding Inner Ring-GB95	21G0-00501-42B	2
			Outer Crimping Ring-GB95	21G0-00501-43B	2
			Wire Seal-GB95-Blue	21G0-00501-12B	2
			Plug Terminal-350-Bright Silver Plated	21G0-01124-41	2
			Wire Clip-GB95-Black	21G0-00501-35B	2
			End Cap-GB95-Orange	21G0-00501-36B	2

Model	Finished/Semi-finished Product		Component Parts		
Product Model	Description/P.N.	QTY	Component Name	P.N.	QTY
SH3-2TPH-95WA-01	Plastic Two-Pin 95 mm ² Angled Plug – A (for LV Cable) 21G0-12175-A	1	Shielding Inner Ring– LV95	21G0-00501-42C	2
			Outer Crimping Ring – GB95	21G0-00501-43C	2
			Wire Seal – LV95 – Gray	21G0-00501-12C	2
			Plug Terminal – 350 – Bright Silver Plated	21G0-01124-41	2
			Wire Clip – LV95 – Black	21G0-00501-35C	2
			End Cap – LV95 – Orange	21G0-00501-36C	2
SH3-2ZPH-A	Plastic 2-Pin Recep. (Profile-Type Terminal) 21G0-00502-A	1	/	/	/
SH3-2ZPH-A-01	Plastic 2-Pin Recep. -01 (Stamped Terminal) 21G0-00152-A	1	/	/	/

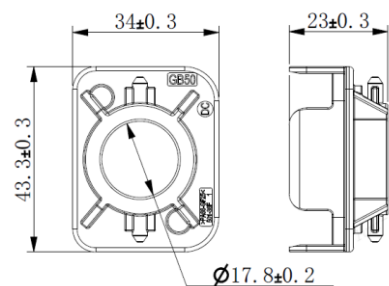
9. Detailed Dimensions of Loose Components (For Inspection Purposes)

SH3-2TPH-50WA (21G0-12171-A)		
Shielding Inner Ring – GB50	P/N: 21G0-00501-42F	Material: SUS304 Stainless Steel
		
Outer Crimping Ring – GB50	P/N: 21G0-00501-43F	Material: H65 Brass, Tin Plated
		
Wire Seal – GB50 - Blue	P/N: 21G0-00501-12F	Material: Oil-Resistant Silicone Rubber
		
Plug Terminal – 350 - Bright Silver Plated	P/N: 21G0-01124-41	Material: Copper, Silver Plated
		

Wire Clip – GB50 - Black P/N: 21G0-00501-35F Material: Nylon PA66

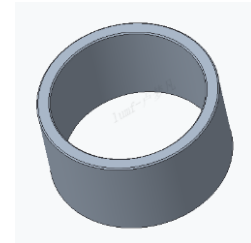
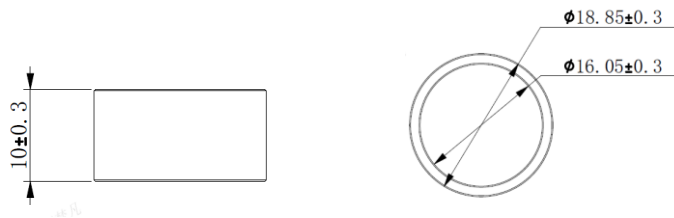


End Cap – GB50 – Orange P/N: 21G0-00501-36F Material: Nylon PA66

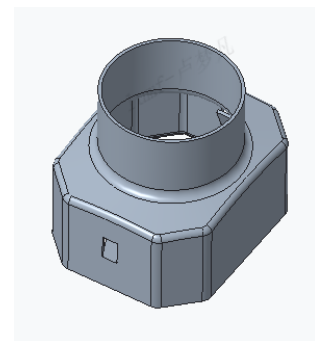
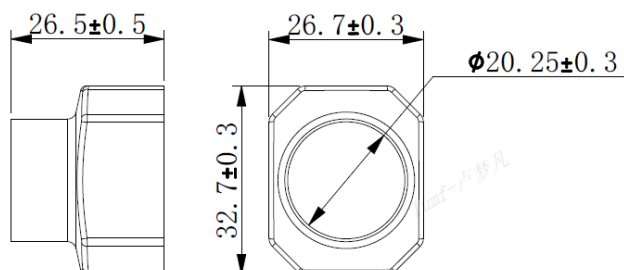


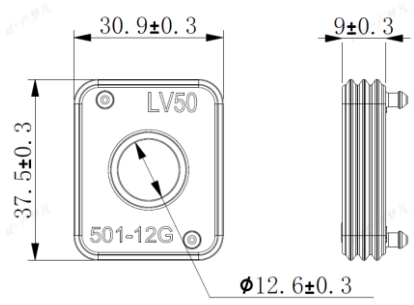
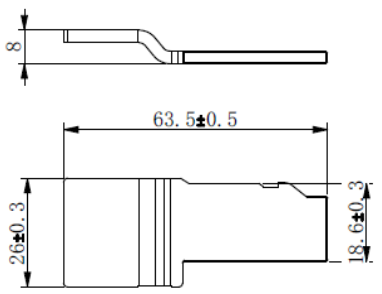
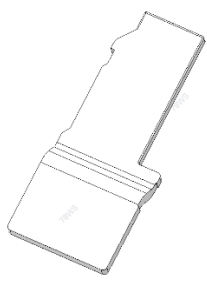
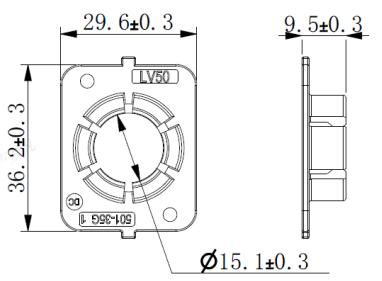
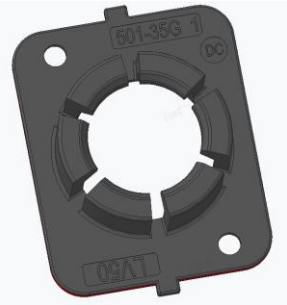
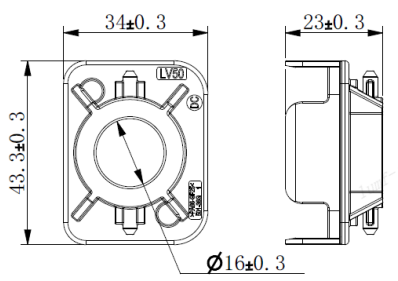
SH3-2TPH-50WA-01 (21G0-12172-A)

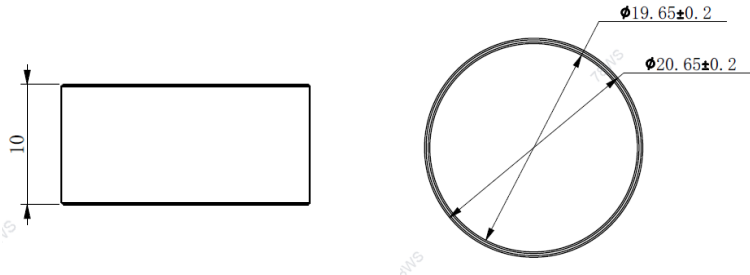
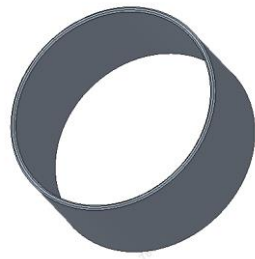
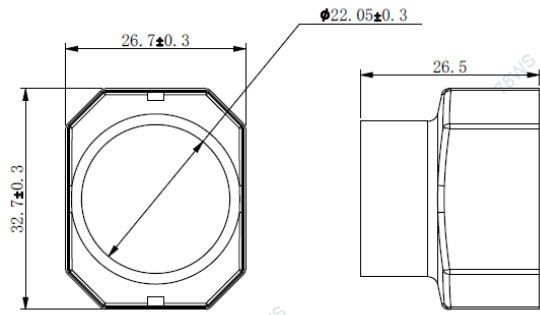
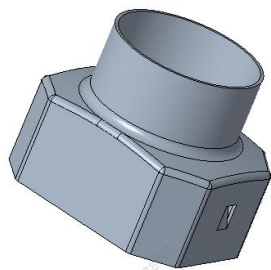
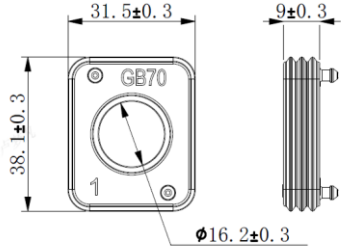
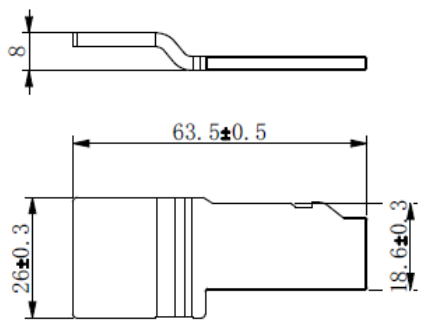
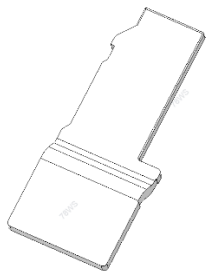
Shielding Inner Ring – LV50 P/N: 21G0-00501-42G Material: Aluminum Alloy

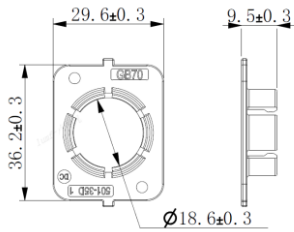
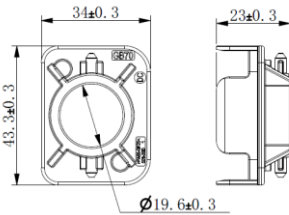
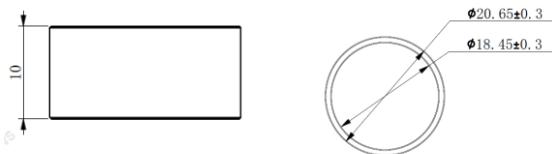
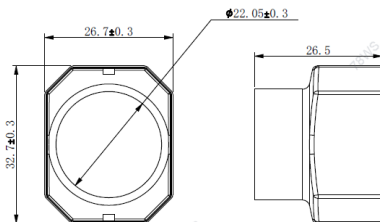
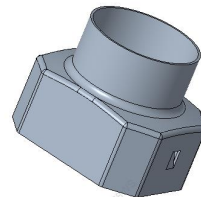
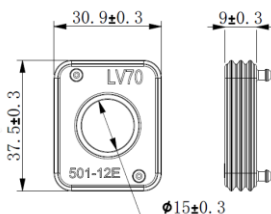


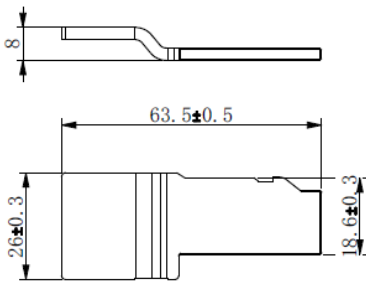
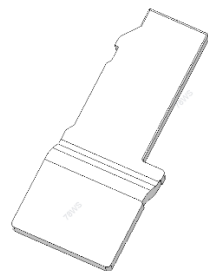
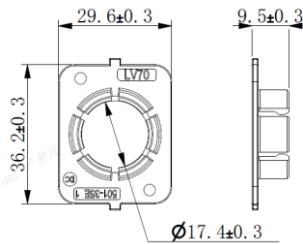
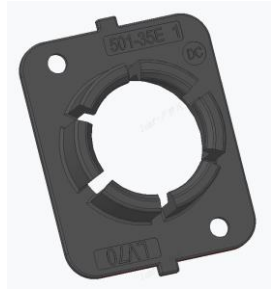
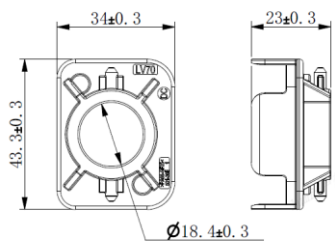
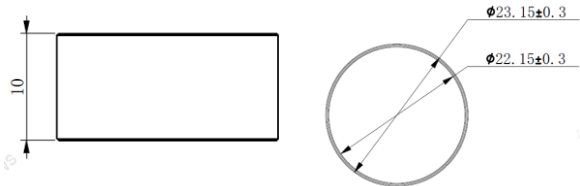
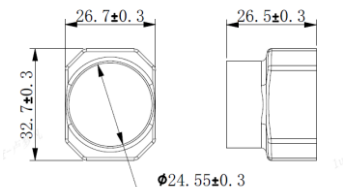
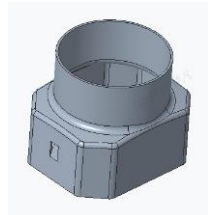
Outer Crimping Ring – GB50 P/N: 21G0-00501-43F Material: H65 Brass, Tin Plated

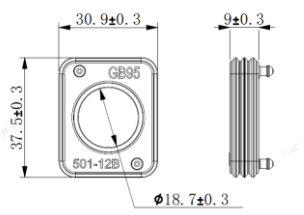
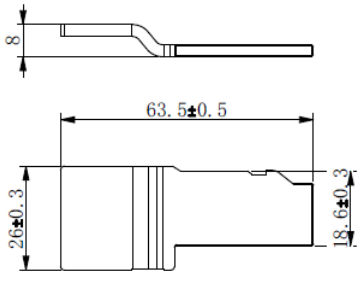
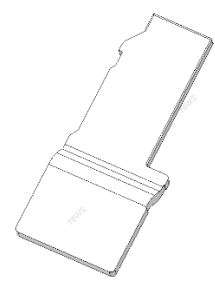
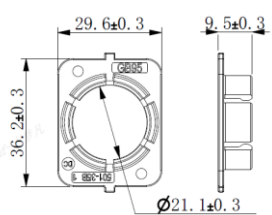
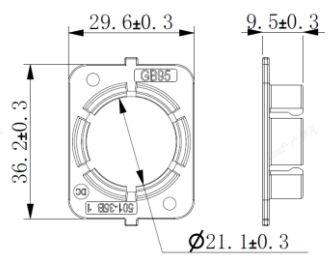
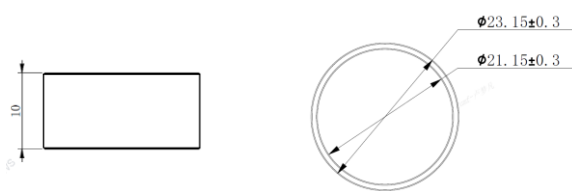


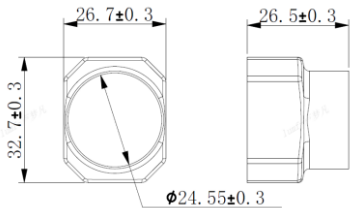
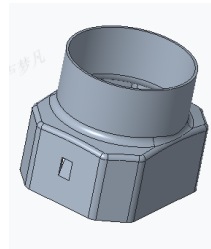
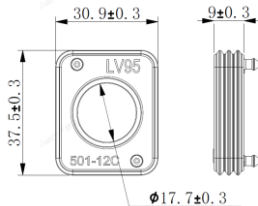
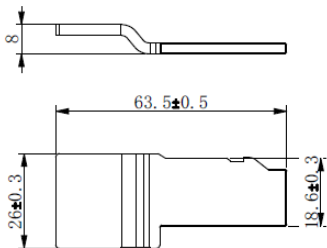
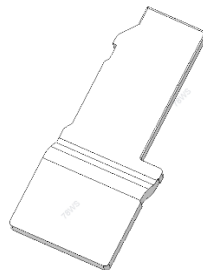
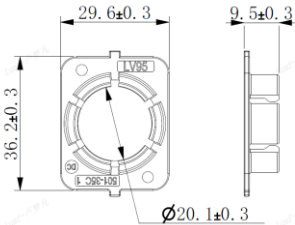
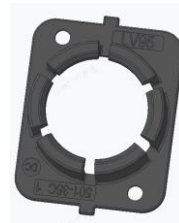
Wire Seal – LV50 – Gray P/N: 21G0-00501-12G Material: Oil-Resistant Silicone Rubber		
		
Plug Terminal – 350 – Bright Silver Plated P/N: 21G0-01124-41 Material: Copper, Silver Plated		
		
Wire Clip – LV50 – Black P/N: 21G0-00501-35G Material: Nylon PA66		
		
End Cap – LV50 – Orange P/N: 21G0-00501-36G Material: Nylon PA66		
		

SH3-2TPH-70WA (21G0-00501-A)		
Shielding Inner Ring – GB70	P/N: 21G0-00501-42D	Material: SUS304 Stainless Steel
		
Outer Crimping Ring – GB70	P/N: 21G0-00501-43D	Material: H65 Brass, Tin Plated
		
Wire Seal – GB70 – Green	P/N: 21G0-00501-12D	Material: Oil-Resistant Silicone Rubber
		
Plug Terminal – 350 – Bright Silver Plated	P/N: 21G0-01124-41	Material: Copper, Silver Plated
		

Wire Clip – GB70 – Black P/N: 21G0-00501-35D Material: Nylon PA66		
		
End Cap – GB70 – Orange P/N: 21G0-00501-36D Material: Nylon PA66		
		
SH3-2TPH-70WA-01 (21G0-12173-A)		
Shielding Inner Ring – LV70 P/N: 21G0-00501-42E Material: SUS304 Stainless Steel		
		
Outer Crimping Ring – GB70 P/N: 21G0-00501-43D Material: H65 Brass, Tin Plated		
		
Wire Seal – LV70 – Brown P/N: 21G0-00501-12E Material: Oil-Resistant Silicone Rubber		
		

Plug Terminal – 350 – Bright Silver Plated P/N: 21G0-01124-41 Material: Copper, Silver Plated		
		
Wire Clip – LV70 – Black P/N: 21G0-00501-35E Material: Nylon PA66		
		
End Cap – LV70 – Orange P/N: 21G0-00501-36E Material: Nylon PA66		
		
SH3-2TPH-95WA (21G0-12174-A)		
Shielding Inner Ring – GB95 P/N: 21G0-00501-42B Material: SUS304 Stainless Steel		
		
Outer Crimping Ring – GB95 P/N: 21G0-00501-43B Material: H65 Brass, Tin Plated		
		

Wire Seal – GB95 – Blue P/N: 21G0-00501-12B Material: Oil-Resistant Silicone Rubber	
	
Plug Terminal – 350 – Bright Silver Plated P/N: 21G0-01124-41 Material: Copper, Silver Plated	
	
Wire Clip – GB95 – Black P/N: 21G0-00501-35B Material: Nylon PA66	
	
End Cap – GB95 – Orange P/N: 21G0-00501-36B Material: Nylon PA66	
	
SH3-2TPH-95WA-01 (21G0-12175-A)	
Shielding Inner Ring – LV95 P/N: 21G0-00501-42C Material: SUS304 Stainless Steel	
	

Outer Crimping Ring – LV95 P/N: 21G0-00501-43B Material: H65 Brass, Tin Plated	
	
Wire Seal – LV95 – Gray 21G0-00501-12C Material: Oil-Resistant Silicone Rubber	
	
Plug Terminal – 350 – Bright Silver Plated 21G0-01124-41 Material: Copper (Silver Plated)	
	
Wire Clip – LV95 – Black 21G0-00501-35C Material: Nylon PA66	
	
End Cap – LV95 – Orange 21G0-00501-36C Material: Nylon PA66	
