



Features

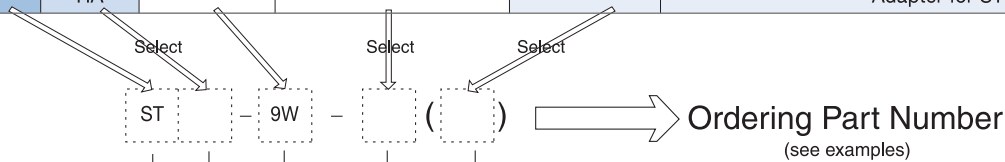
- Super-miniature size with multiple contact
- Safe insert system preventing pin damage
- Protection rating of IP67 with over molding

Applications

- Professional A/V
- Measuring equipment
- Sensors
- Wireless radio
- Medical

Part Numbering

| Product Number | | Size | Number of Contacts | Suffix | Notes |
|----------------|--------|------|--------------------|------------------------|----------------------|
| Series | Prefix | | | | |
| ST | H | 9W | 12,16,20 | P | ST series Plug |
| | | | | PLM | Molding Type ST Plug |
| | | | | R/RPCB | ST Receptacle |
| | | | | P | STH series Plug |
| | PLM | | | Molding Type STH Plug | |
| | R/RPCB | | | STH Receptacle | |
| | A | | | Adapter for ST series | |
| | HA | | | Adapter for STH series | |



Connector Series
 ST series
 STH - reverse contact
 STA - adapter for ST series
 STHA - adapter for STH series

Size & IP67 type
 9W

No. of Contacts
 12,16,20

Shell Type
 P : Plug
 R : Receptacle
 RPCB : Receptacle (PCB termination)
 PLM : Plug (Molding type)
 blank : Adapter

Examples

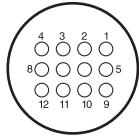
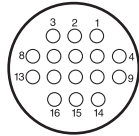
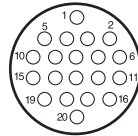
ST - 9W - 12 (P)
 ST IP67 Series - Size 9 Plug -12 Male Contact

STH - 9W - 16 (R)
 STH IP67 Series - Size 9 Receptacle - 16 Female Contact

STA - 9W - 20
 Adapter for ST IP67 Series - Size 9 Adapter - 20 Female Contact

Specifications subject to change without notice. Consult Sam Woo Electronics for the latest specifications.

Major Performances / Contact Arrangements

| Performance | Size / No. of Contacts | | |
|--|---|--|---|
| | 12 | 16 | 20 |
| Withstanding Voltage (per min) ¹ | AC 300V | AC 300V | AC 300V |
| Current | 1A | 1A | 1A |
| Insulation Resistance (Minimum) ² | 1,000M Ω | 1,000M Ω | 1,000M Ω |
| Contact Resistance (Maximum) ³ | 30m Ω | 30m Ω | 30m Ω |
| Solder Pot Inside Diameter | ∅ 0,5 | ∅ 0,5 | ∅ 0,5 |
| Wire Gauge (Maximum) | AWG28 | AWG28 | AWG28 |
| Contact Arrangement |  Receptacle |  Receptacle |  Receptacle |
| IP Protection Rating | IP 67 | | |

¹ Withstanding voltage is the tested voltage value in this table.
² Insulation resistance is measured at DC 100V.
³ Contact resistance is measured at DC 1A.
 • Values are from tested items and may not apply to all connectors.
 • Specifications subject to change without notice.
 • Consult Sam Woo Electronics for the latest specifications.
⁴ Connector contact arrangement is from solder pot.

Material Used / Finish

| | Material | Finish |
|-----------|--------------------|-------------------------------|
| Body | Brass & Zinc alloy | Ni Plating |
| Insulator | PPS resin | Black |
| Contacts | Male | Phosphor bronze and Beryllium |
| | Female | Phosphor bronze |

ST IP67 Series Mini-map

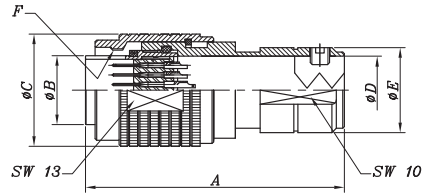
| ST-9W IP67 Series | | STH-9W IP67 Series | |
|---|---|--|---|
|  |  |  |  |
|  |  |  |  |
| |  | |  |

Specifications subject to change without notice. Consult Sam Woo Electronics for the latest specifications.

ST IP67 Series

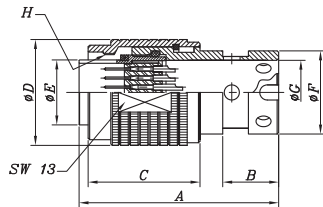
Male Plug, Female Receptacle / Adapter

■ ST-9W Plug



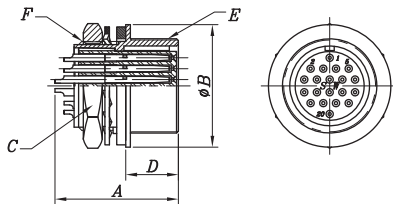
| Product Number | A | ∅ B | ∅ C | ∅ D | ∅ E | F |
|----------------|------|-----|-----|-----|------|------------|
| ST-9W-12(P) | | | | | | |
| ST-9W-16(P) | 32,3 | 8,6 | 14 | 8,5 | 10,6 | M10,5×0,5P |
| ST-9W-20(P) | | | | | | |

■ ST-9W Molding Type Plug



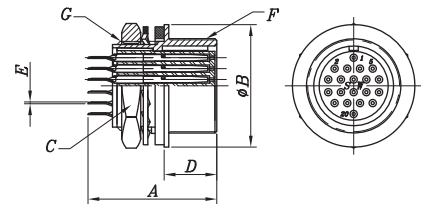
| Product Number | A | B | C | ∅ D | ∅ E | ∅ F | ∅ G | H |
|----------------|------|-----|------|-----|-----|-----|-----|------------|
| ST-9W-12(PLM) | | | | | | | | |
| ST-9W-16(PLM) | 26,4 | 7,4 | 14,8 | 14 | 8,6 | 11 | 8,5 | M10,5×0,5P |
| ST-9W-20(PLM) | | | | | | | | |

■ ST-9W Solder Type Receptacle



| Product Number | A | ∅ B | C | D | E | F |
|----------------|------|------|----|-----|------------|-----------|
| ST-9W-12(R) | | | | | | |
| ST-9W-16(R) | 13,6 | 13,5 | 12 | 5,9 | M10,5×0,5P | M10×0,75P |
| ST-9W-20(R) | | | | | | |

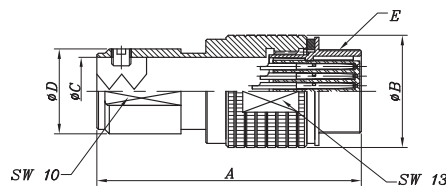
■ ST-9W PCB Type Receptacle



| Product Number | A | ∅ B | C | D | E | F | G |
|----------------|------|------|----|-----|-----|------------|-----------|
| ST-9W-12(RPCB) | | | | | | | |
| ST-9W-16(RPCB) | 14,1 | 13,5 | 12 | 5,9 | 0,4 | M10,5×0,5P | M10×0,75P |
| ST-9W-20(RPCB) | | | | | | | |

■ STA-9W Adapter

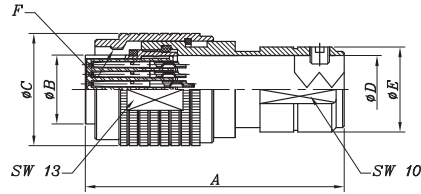
| Product Number | A | ∅ B | ∅ C | ∅ D | E |
|----------------|----|-----|-----|------|------------|
| STA-9W-12 | | | | | |
| STA-9W-16 | 33 | 14 | 8,5 | 10,6 | M10,5×0,5P |
| STA-9W-20 | | | | | |



Specifications subject to change without notice. Consult Sam Woo Electronics for the latest specifications.

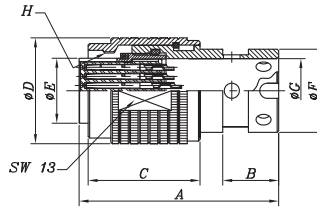
■ STH-9W Plug

| Product Number | A | ∅B | ∅C | ∅D | ∅E | F |
|----------------|------|-----|----|-----|------|------------|
| STH-9W-12(P) | | | | | | |
| STH-9W-16(P) | 32,3 | 8,6 | 14 | 8,5 | 10,6 | M10,5×0,5P |
| STH-9W-20(P) | | | | | | |

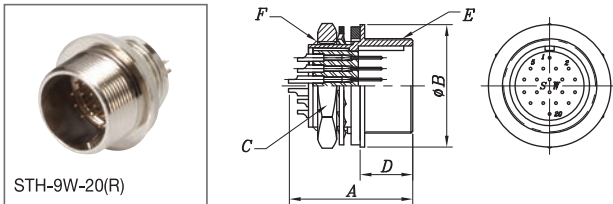


■ STH-9W Molding Type Plug

| Product Number | A | B | C | ∅D | ∅E | ∅F | ∅G | H |
|----------------|------|-----|------|----|-----|----|-----|------------|
| STH-9W-12(PLM) | | | | | | | | |
| STH-9W-16(PLM) | 26,4 | 7,4 | 14,8 | 14 | 8,6 | 11 | 8,5 | M10,5×0,5P |
| STH-9W-20(PLM) | | | | | | | | |

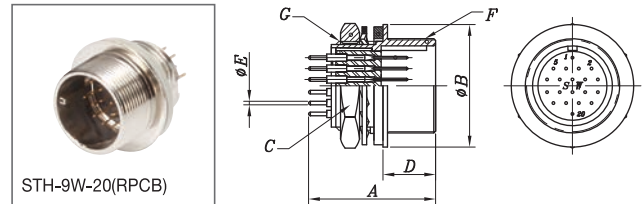


■ STH-9W Solder Type Receptacle



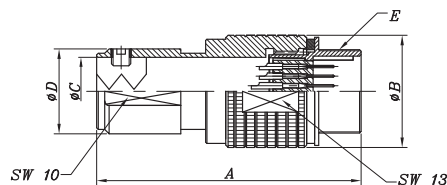
| Product Number | A | ∅B | C | D | E | F |
|----------------|------|------|----|-----|------------|-----------|
| STH-9W-12(R) | | | | | | |
| STH-9W-16(R) | 13,6 | 13,5 | 12 | 5,9 | M10,5×0,5P | M10×0,75P |
| STH-9W-20(R) | | | | | | |

■ STH-9W PCB Type Receptacle



| Product Number | A | ∅B | C | D | E | F | G |
|-----------------|------|------|----|-----|-----|------------|-----------|
| STH-9W-12(RPCB) | | | | | | | |
| STH-9W-16(RPCB) | 14,1 | 13,5 | 12 | 5,9 | 0,4 | M10,5×0,5P | M10×0,75P |
| STH-9W-20(RPCB) | | | | | | | |

■ STHA-9W Adapter



| Product Number | A | ∅B | ∅C | ∅D | E |
|----------------|----|----|-----|------|------------|
| STHA-9W-12 | | | | | |
| STHA-9W-16 | 33 | 14 | 8,5 | 10,6 | M10,5×0,5P |
| STHA-9W-20 | | | | | |

General Instruction / Information

- Diagram 1 shows a sample wiring for ST series.
- Soldering must be done quickly and carefully to prevent damage to insulator.
- Receptacles do not require additional instructions.
- Specification of Nut

| Size | Nut Specification | Nut tightening force |
|---------|-------------------|----------------------|
| ST - 9W | M10×0,75P | 20~23(kgf · cm) |

Wiring Sequence

- ① Select cable according to outer diameter and cross section, lower than 0,08mm²(AWG#28).
- ② Insert Plug Housing to cable.
- ③ Strip cable per dimension given and loosen braid.
- ④ Secure Plug Body to jig for soldering.
- ⑤ Solder stripped cable to pin.
- ⑥ Fasten Crimp using hand crimp tool(SA-HCT^①).
- ⑦ Lock Plug Housing and Plug Body using tightening force displayed on Table 1.
- ⑧ Tighten Wrench Bolt using 0,3N force onto one of two embossed parts of crimp.
- ⑨ Plug Housing must be over molded in order to achieve IP67 rating.

^① See below for information on SA-HCT.

Diagram 1

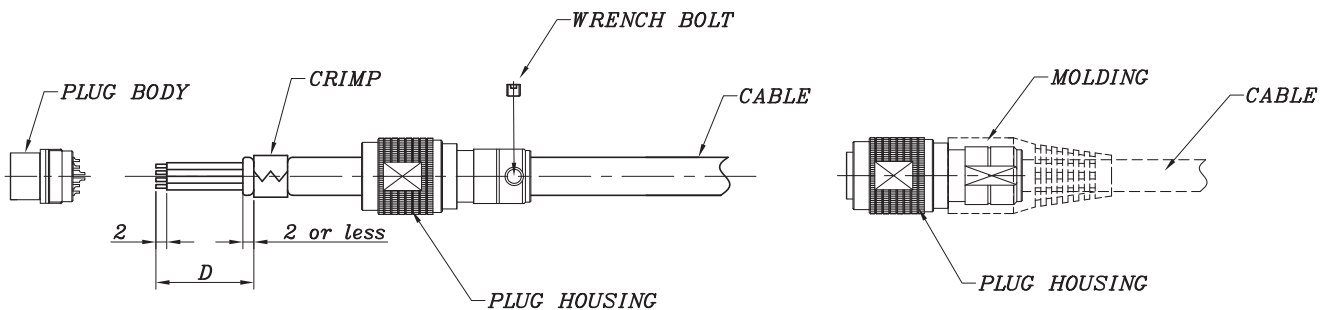


Table 1

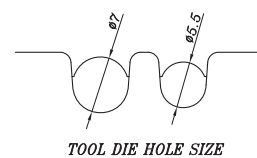
unit : mm

| Size | Spanner Jaw | D (Dimension) | Tightening Force | Notes |
|-------|-------------|---------------|-----------------------|------------------------|
| ST-9W | 10 | 15 | 1,0N · m (10kgf · cm) | SA-HCT size ϕ 7,0 |

SA-HCT (Hand Crimp Tool)

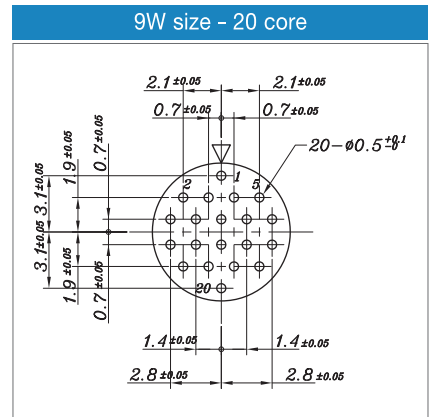
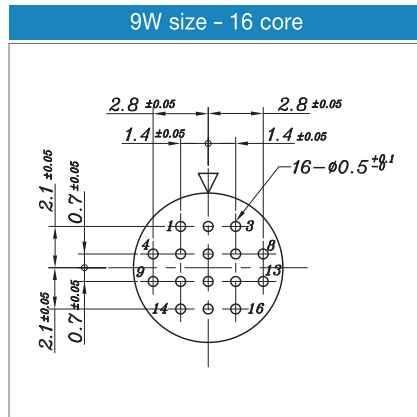
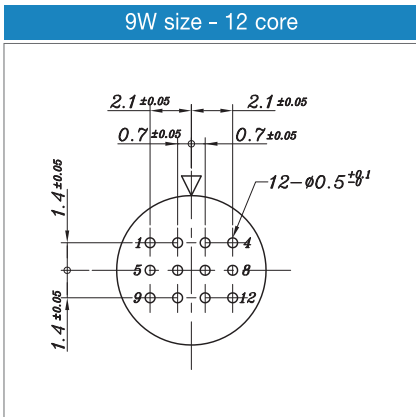


Specially designed for Sam Woo's connector, the low-cost and efficient SA-HCT provides the best crimping results.

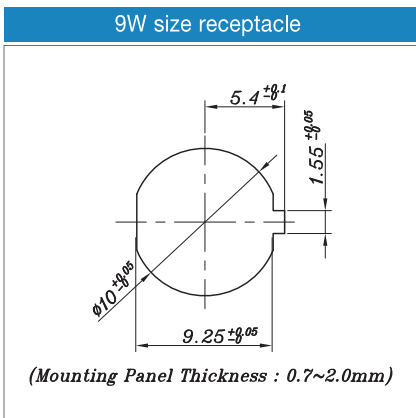


Specifications subject to change without notice. Consult Sam Woo Electronics for the latest specifications.

■ Receptacle PCB Hole Layout



■ Receptacle Panel Layout





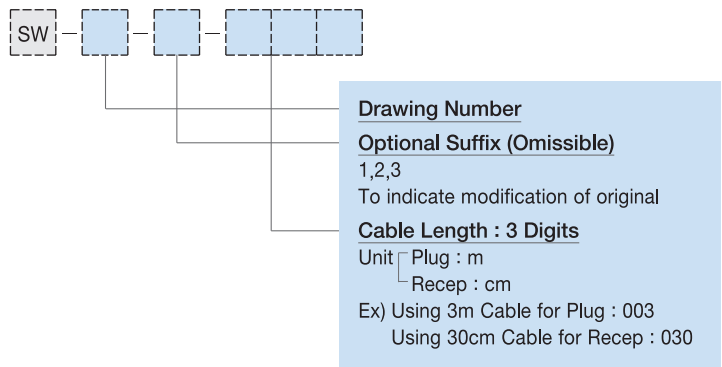
Features

- Super-miniature size with multiple contact
- Safe insert system preventing pin damage
- Protection rating of IP67 with over molding
- Standard and Custom Design

Applications

- Professional A/V
- Measuring equipment
- Sensors
- Wireless radio
- Medical

■ **Part Numbering**



■ **Plug Cable Assembly**



| Type | Construction |
|------|---|
| A | ST IP67 Connector + Cable + Housing |
| B | ST IP67 Connector + Cable + ST IP67 Connector |

※ Design and Customization Service Available

■ **Receptacle Cable Assembly**



| Type | Construction |
|------|--|
| A | ST IP67 Connector + wire + open end |
| B | ST IP67 Connector + wire + Housing |
| C | ST IP67 Connector + wire + Housing with core |

※ Design and Customization Service Available

Specifications subject to change without notice. Consult Sam Woo Electronics for the latest specifications.

