

ST IP67 Series Part Numbering



Features

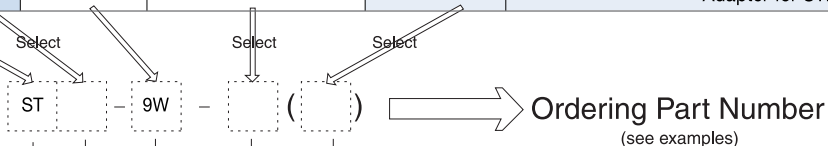
- Super-miniature size with multiple contact
- Safe insert system preventing pin damage
- Protection rating of IP67 with over molding

Applications

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

■ Part Numbering

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



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

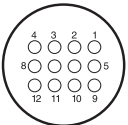
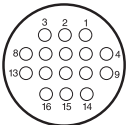
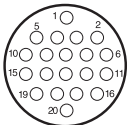
Examples

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

Major Performances / Contact Arrangements

Size / No. of Contacts	Size 9		
Performance	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	$\varnothing$ 0,5	$\varnothing$ 0,5	$\varnothing$ 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.

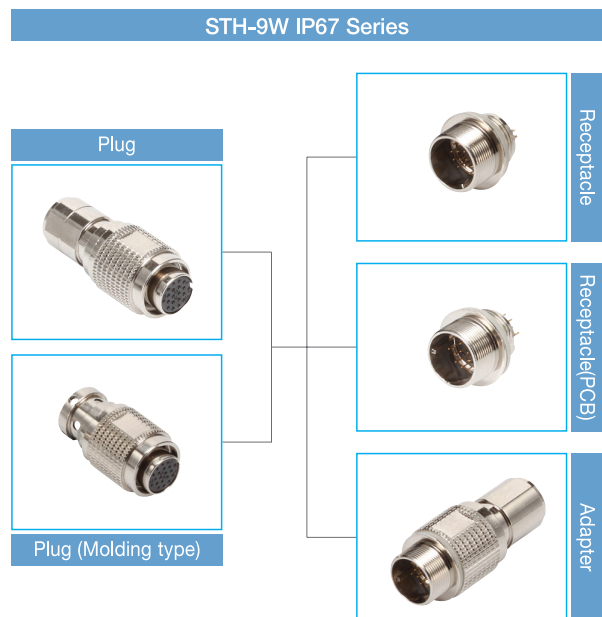
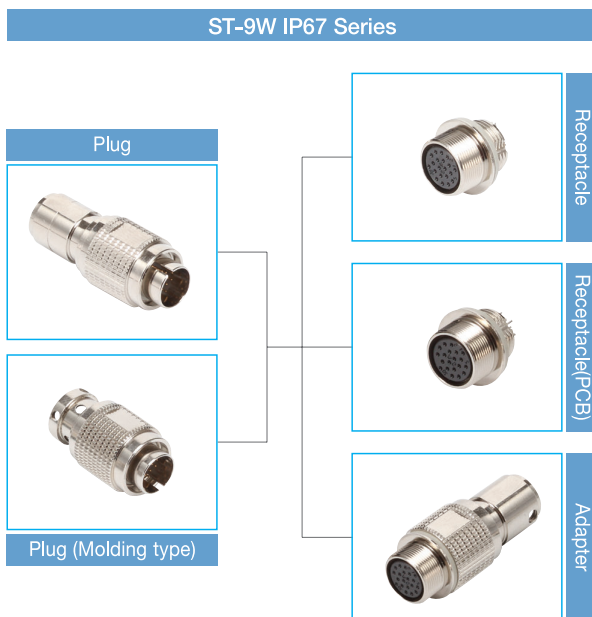
• Consult Sam Woo Electronics for the latest specifications.

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
		Gold Plating

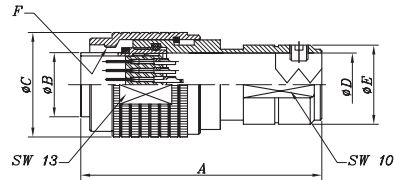
ST IP67 Series Mini-map



ST IP67 Series

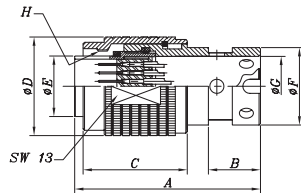
Male Plug, Female Receptacle / Adapter

ST-9W Plug



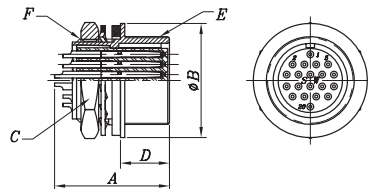
Product Number	A	φ B	φ C	φ D	φ E	F
ST-9W-12(P)						
ST-9W-16(P)	32,3	8,6	14	8,5	10,6	M10,5×0,5P
ST-9W-20(P)						

ST-9W Molding Type Plug



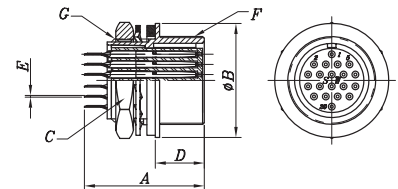
Product Number	A	B	C	φ D	φ E	φ F	φ G	H
ST-9W-12(PLM)								
ST-9W-16(PLM)	26,4	7,4	14,8	14	8,6	11	8,5	M10,5×0,5P
ST-9W-20(PLM)								

ST-9W Solder Type Receptacle



Product Number	A	φ 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)						

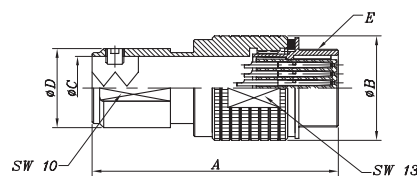
ST-9W PCB Type Receptacle



Product Number	A	φ 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)							

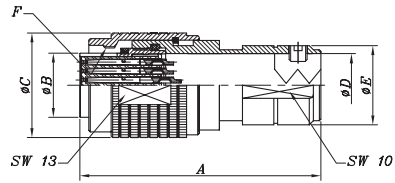
STA-9W Adapter

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



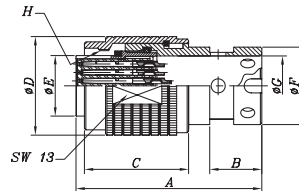
■ STH-9W Plug

Product Number	A	ø B	ø C	ø D	ø 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)						

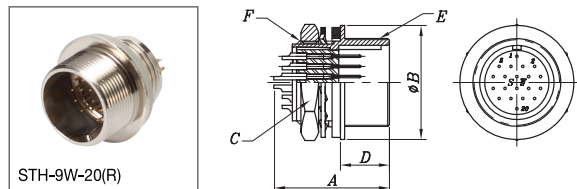


■ STH-9W Molding Type Plug

Product Number	A	B	C	ø D	ø E	ø F	ø 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)								

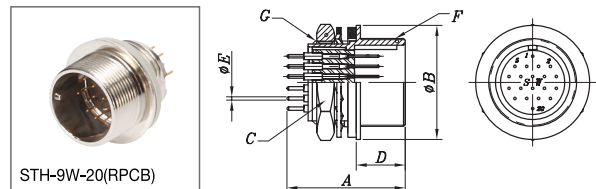


■ STH-9W Solder Type Receptacle



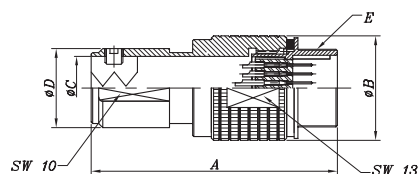
Product Number	A	ø B	C	D	E	F
STH-9W-12(R)						
STH-9W-16(R)	13,6	13,5	12	5,9	M10,5×0,5P	M10×0,75P
STH-9W-20(R)						

■ STH-9W PCB Type Receptacle



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

ST IP67 Series Cable Assembly Instruction

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

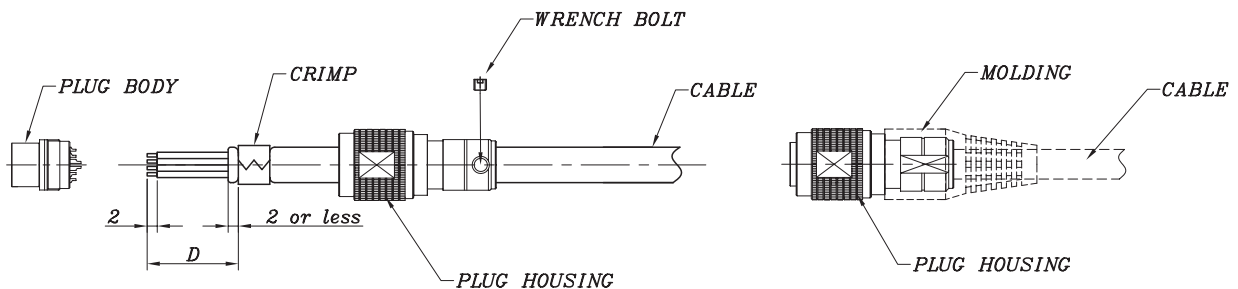


Table 1

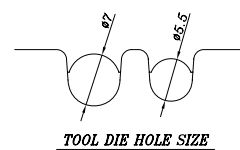
unit : mm

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)

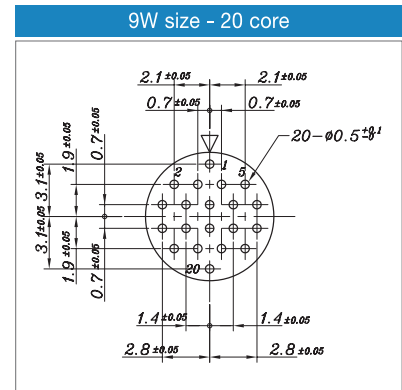
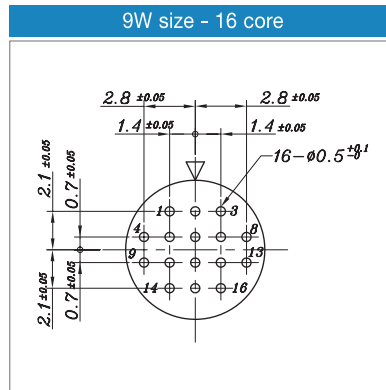
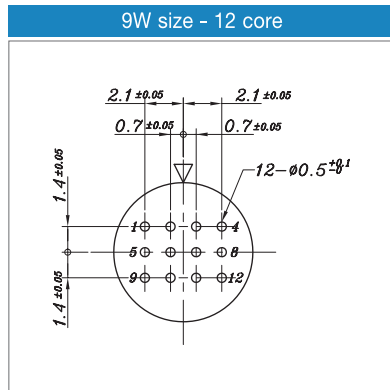


Specially designed for Sam Woo's connector, the low-cost and efficient SA-HCT provides the best crimping results.



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

■ Receptacle PCB Hole Layout



■ Receptacle Panel Layout

