

**Safety Shrouded Connector  
to Prevent Unsafe Exposure  
to High Energy Circuits**

- \* Size 12 Power Contacts
- \* Large Surface Area Mating System
- \* Discriminating Locking System
- \* Contact Current Rating to 40 Amperes
- \* Board - Cable / Cable - Cable



**TECHNICAL CHARACTERISTICS**

**MATERIALS AND FINISHES:**

- Insulator:** Glass-filled polyester, UL 94V-0. Contact technical sales for availability of high temperature insulator material.
- Contacts:** Precision machined copper alloy with gold flash over nickel, or 0.000030 inch [0.76µ] gold over nickel, or 0.000050 [1.27µ] gold over nickel. Solder coated terminations optional.
- Push-on Fastener:** Spring tempered copper alloy, tin plate.

**ELECTRICAL CHARACTERISTICS:**

- Contact Current Rating:** 40 amperes continuous, derated per IEC 60512-3, test 5b. Higher currents available with high conductivity contacts, contact Technical Sales
- Initial Contact Resistance:** 0.001 ohms max. per IEC 60512-2, test 2b.
- Insulation Resistance:** 5 G ohms per IEC 60512-2, test 3a.
- Voltage Proof:** 3,000 minimum V r.m.s. per IEC 60512-2, test 4a, method A.
- Clearance and Creepage Distance:** 0.220 [5.60] minimum
- Working Voltage:** 600 minimum V. r.m.s.
- Hot Pluggable [50 couplings per UL 1977 paragraph 15]:** 250 VAC at 20 amperes
- Working Temperature:** -55°C to +125°C  
Contact technical sales for availability of high temperature insulator material.

**MECHANICAL CHARACTERISTICS:**

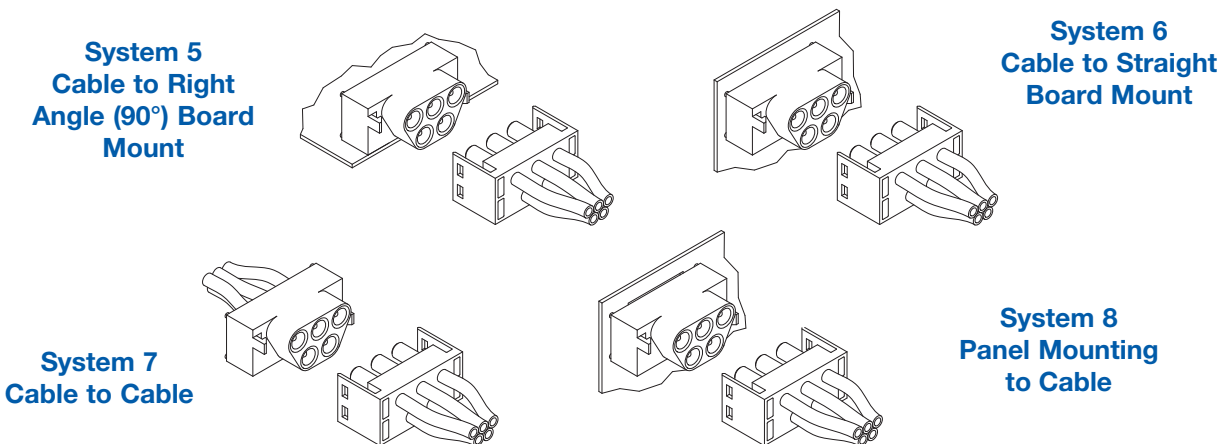
- Removable Contacts:** Rear insertion/ front release. Female contact features "Closed Entry" design for highest reliability. 0.094 [2.39] diameter male contact.
- Removable Contact Retention in Insulator:** 15 lbs. [67N] per IEC 60512-8, test 15a.
- Fixed Contacts:** Printed board terminations, both straight and 90°. Female contact features "Closed Entry" design for highest reliability. 0.094 [2.39] diameter male contact.
- Fixed Contact Retention in Insulator:** 15 lbs. [67N], minimum.
- Resistance to Soldering Iron Heat:** 500°F [260°C] for 10 seconds duration per IEC 60512-6, test 12e, 25 watt soldering iron.
- Contact Terminations:** Crimp removable contacts for wire size 12 AWG [4.0 mm<sup>2</sup>]. Straight and right angle (90°) solder printed board mount, 0.090 [2.29] tail diameter.
- Connection Systems:** Cable to cable, cable to printed board and cable to panel mount.
- Locking System:** Insulators provide locking between cable to cable, cable to printed board and cable to panel mount applications.
- Polarization:** Provided in insulator design.
- Mounting to P.C. Board:** Rapid installation push-on fasteners.
- Mechanical Operations:** 500 operations



For RoHS options  
see page 31.

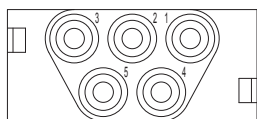


### CONNECTION SYSTEMS

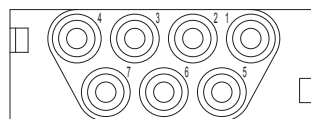


### CONNECTOR VARIANTS

FACE VIEW OF MALE OR REAR VIEW OF FEMALE CONNECTOR



PLS5W5

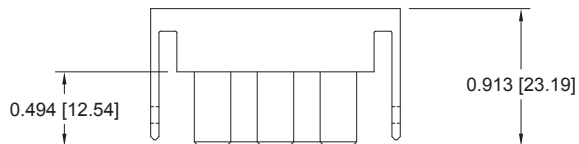


PLS7W7

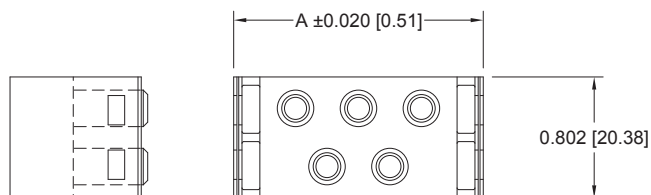
### FEMALE CABLE CONNECTOR FOR CABLE CONNECTORS WITH SIZE 12 REMOVABLE CONTACTS CODE 0

CONTACTS ARE NOT SUPPLIED WITH CONNECTOR AND MUST BE ORDERED SEPARATELY

PART NUMBER	A
PLS5W5F0000	1.655 [42.04]
PLS7W7F0000	2.072 [52.64]



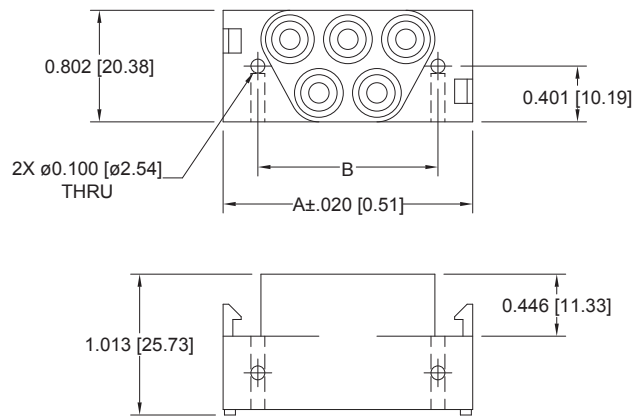
Typical part number:  
PLS5W5F00000



*For information regarding size 12 removable contacts, see Removable Contact section, pages 47-53.*

**MALE PANEL MOUNT CONNECTOR  
FOR PANEL MOUNT CONNECTORS WITH SIZE 12 REMOVABLE CONTACTS  
CODE 1**

CONTACTS ARE NOT SUPPLIED WITH CONNECTOR AND MUST BE ORDERED SEPARATELY



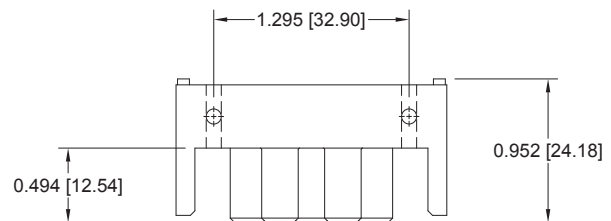
Typical part number:  
**PLS5W5M10000**

PART NUMBER	A	B
PLS5W5M10000	1.795 [45.60]	1.295 [32.90]
PLS7W7M10000	2.213 [56.20]	1.713 [43.50]

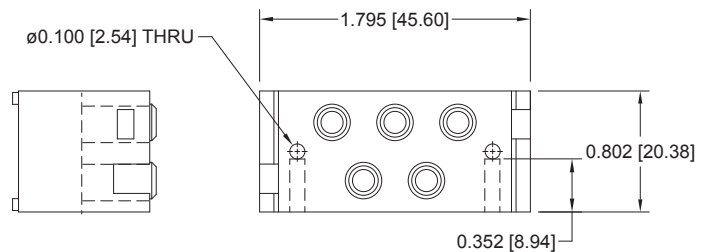
**FEMALE PANEL MOUNT CONNECTOR  
FOR PANEL MOUNT CONNECTORS WITH SIZE 12 REMOVABLE CONTACTS  
CODE 1**

CONTACTS ARE NOT SUPPLIED WITH CONNECTOR AND MUST BE ORDERED SEPARATELY

Typical part number:  
**PLS5W5F10000**



\*CONTACT TECHNICAL SALES  
FOR AVAILABILITY OF 7W7 VARIANT.

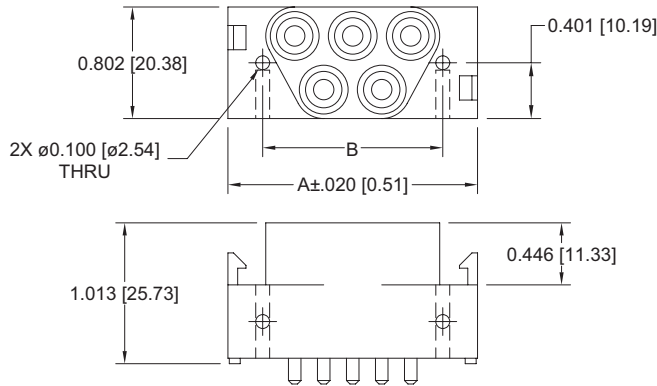


*For information regarding size 12 removable contacts, see Removable Contact section, pages 47-53.*



# STRAIGHT SOLDER AND RIGHT ANGLE (90°) SOLDER PRINTED BOARD CONNECTOR

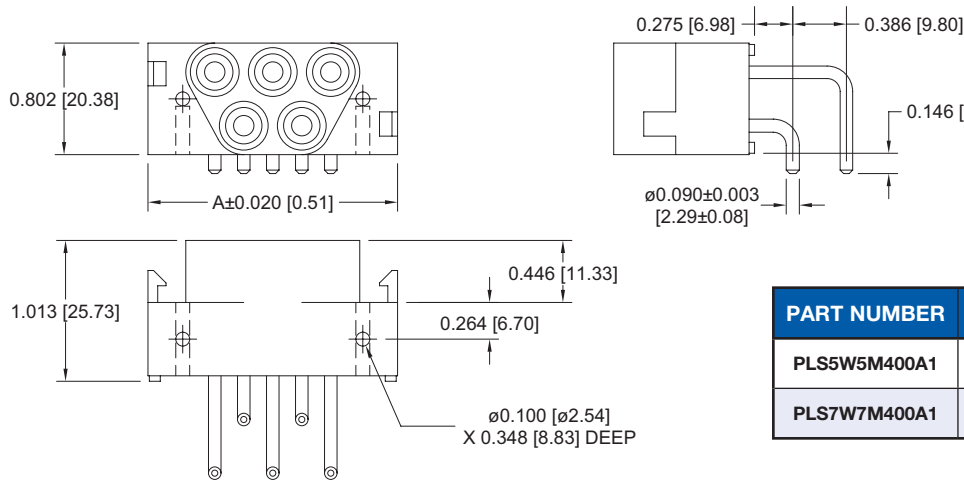
## MALE STRAIGHT PRINTED BOARD MOUNT CONNECTOR CODE 3, 0.146 [3.71] CONTACT EXTENSION



Typical part number:  
**PLS5W5M300A1**

PART NUMBER	A	B
PLS5W5M300A1	1.795 [45.60]	1.295 [32.90]
PLS7W7M300A1	2.213 [56.20]	1.713 [43.50]

## MALE RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONNECTOR CODE 4, 0.146 [3.71] CONTACT EXTENSION

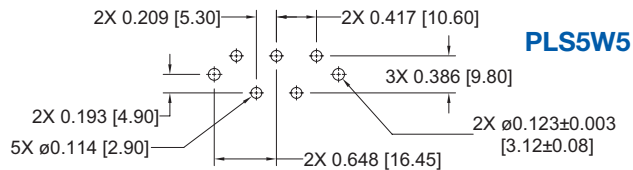


Typical part number:  
**PLS5W5M400A1**

PART NUMBER	A	B
PLS5W5M400A1	1.795 [45.60]	1.295 [32.90]
PLS7W7M400A1	2.213 [56.20]	1.713 [43.50]

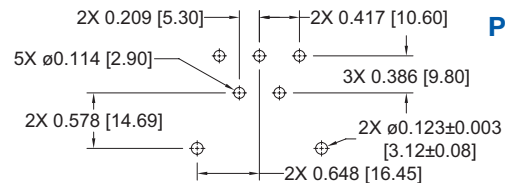
## PRINTED BOARD CONTACT HOLE PATTERNS

### STRAIGHT SOLDER

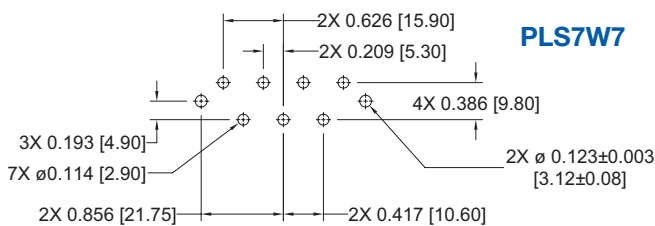


**PLS5W5**

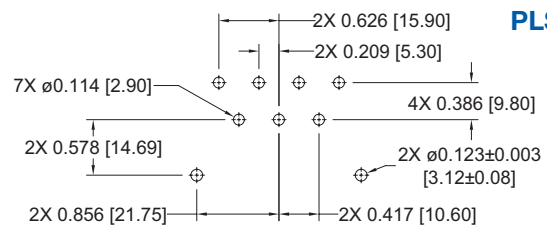
### RIGHT ANGLE (90°)



**PLS5W5**



**PLS7W7**



**PLS7W7**



**ORDERING INFORMATION - CODE NUMBERING SYSTEM**

Specify Complete Connector By Selecting An Option From Step 1 Through 7

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	PLS	5W5	M	4	0	0	A1	/AA	—

**STEP 1 - BASIC SERIES**  
PLS - PLS Series  
PLSH - High conductivity contacts

**STEP 2 - CONNECTOR VARIANTS**  
5W5 - Five size 12 contacts  
7W7 - Seven size 12 contacts

**STEP 3 - CONNECTOR GENDER**  
M - Male  
F - Female

**STEP 4 - CONTACT TERMINATION TYPE**  
0 - Order contacts separately for cable connectors for connection systems 5, 6, 7 and 8, see pages 47-53. Female connectors only. \*\*  
1 - Order contacts separately for Panel Mount connectors for connection system 7, see pages 47-53. For 7W7 female variant consult technical sales.  
3 - Solder, Straight Printed Board Mount with 0.146 [3.71] tail extension for connection system 6. Male connectors only. \*\*\*  
4 - Solder, Right Angle (90°) Printed Board Mount with 0.146 [3.71] tail extension for connection system 5. Male connectors only. \*\*\*

**STEP 5 - MOUNTING STYLE**  
0 - None.  
N - Push-on Fastener for Straight Printed Board Mount Connectors

**NOTE:** Once you have made a connector selection, contact Technical Sales if you would like to receive a drawing in DXF, PDF format or a 3-D IGES, STEP, or SOLIDWORKS file.

2-D Drawing

3-D Model

**STEP 9 - SPECIAL OPTIONS**  
CONTACT TECHNICAL SALES FOR SPECIAL OPTIONS



**STEP 8 - ENVIRONMENTAL COMPLIANCE OPTIONS**  
/AA - Compliant per EU Directive 2002/95/EC (RoHS)

**NOTE:** If compliance to environmental legislation is not required, this step will not be used. Example: PLS5W5M400A1

**STEP 7 - CONTACT PLATING FOR PRINTED BOARD CONNECTORS**  
0 - Crimp Contacts ordered separately, see pages 47-53.  
A1 - Gold flash over nickel on mating end and termination end.  
A2 - Gold flash over nickel on mating end and 0.00020 inch [5.00µ] tin-lead solder coat on termination end.  
C1 - 0.000030 inch [0.76µ] gold over nickel on mating end and termination end.  
C2 - 0.000030 inch [0.76µ] gold over nickel on mating end and 0.00020 inch [5.00µ] tin-lead solder coated termination end.  
D1 - 0.000050 inch [1.27µ] gold over nickel on mating end and termination end.  
D2 - 0.000050 inch [1.27µ] gold over nickel on mating end and 0.00020 inch [5.00µ] tin-lead solder coated termination end.

**STEP 6 - CABLE ADAPTER**  
0 - None  
5 - Top Opening Hood, see accessories section page 60.

\*\* Consult technical sales for availability of male version of contact type 0.  
\*\*\* Consult technical sales for availability of female version of contact type 3 and 4.

SAFETY SHROUD

# REMOVABLE CRIMP CONTACT

FOR USE WITH SHROUDED AND POWER INPUT CONNECTORS

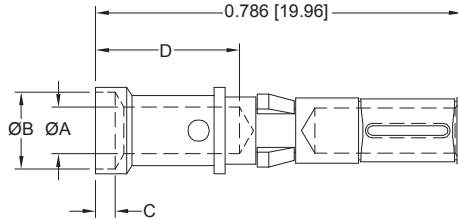
CONTACTS MUST BE ORDERED SEPARATELY

**SIZE 12**

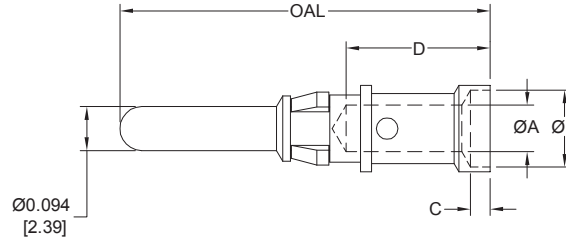
See page 33  
for current ratings.

*Note: Connectors can be kitted with all applicable crimp/solder contacts, contact Technical Sales for connector part number.*

**FEMALE CONTACT**



**MALE CONTACT**



PART NUMBER	WIRE SIZE AWG/[mm <sup>2</sup> ]	ØA	ØB	C	D
FC610N2S	10 [6.0]	0.147 [3.73]	N/A	N/A	0.254 [6.45]
FC612N2	12 [4.0]	0.100 [2.54]	0.165 [4.19]	0.042 [1.06]	0.309 [7.85]

“S” in  
part number  
indicates high  
conductivity  
material.

Compatible with  
PLBH3W3  
or PLSH  
PCB mount  
connectors.  
See ordering  
information.

PART NUMBER	WIRE SIZE AWG/[mm <sup>2</sup> ]	ØA	ØB	C	D	OAL
MC610NS	10 [6.0]	0.147 [3.73]	N/A	N/A	0.254 [6.45]	0.795 [20.19]
MC610NS-228.2	10 [6.0]	0.147 [3.73]	N/A	N/A	0.254 [6.45]	0.714 [18.14]
MC612N	12 [4.0]	0.100 [2.54]	0.165 [4.19]	0.042 [1.06]	0.309 [7.85]	0.795 [20.19]
MC612N-228.2	12 [4.0]	0.100 [2.54]	0.165 [4.19]	0.042 [1.06]	0.309 [7.85]	0.714 [18.14]

For information regarding **CRIMP TOOLS & CRIMPING TOOL TECHNIQUES**, see page 54.

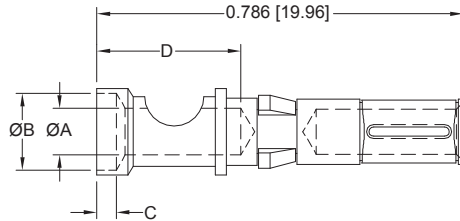
# REMOVABLE SOLDER CUP CONTACT

FOR USE WITH SHROUDED AND POWER INPUT CONNECTORS  
**CONTACTS MUST BE ORDERED SEPARATELY**  
**SIZE 12**

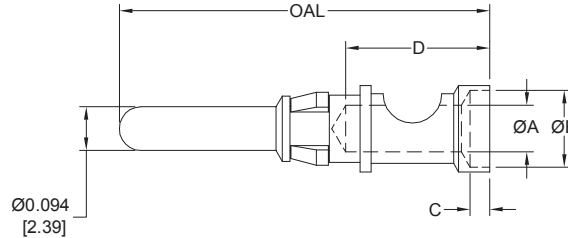
*Note: Connectors can be kitted with all applicable crimp/solder contacts, contact Technical Sales for connector part number.*

See page 33  
 for current ratings.

## FEMALE CONTACT



## MALE CONTACT



PART NUMBER	WIRE SIZE AWG/[mm <sup>2</sup> ]	ØA	ØB	C	D
FS610N2S	10 [6.0]	0.147 [3.73]	N/A	N/A	0.254 [6.45]
FS612N2	12 [4.0]	0.100 [2.54]	0.165 [4.19]	0.042 [1.06]	0.309 [7.85]

“S” in part number indicates high conductivity material.  
 Compatible with PLBH3W3 or PLSH PCB mount connectors. See ordering information.

PART NUMBER	WIRE SIZE AWG/[mm <sup>2</sup> ]	ØA	ØB	C	D	OAL
MS610NS	10 [6.0]	0.147 [3.73]	N/A	N/A	0.254 [6.45]	0.795 [20.19]
MS610NS-228.2	10 [6.0]	0.147 [3.73]	N/A	N/A	0.254 [6.45]	0.714 [18.14]
MS612N	12 [4.0]	0.100 [2.54]	0.165 [4.19]	0.042 [1.06]	0.309 [7.85]	0.795 [20.19]
MS612N-228.2	12 [4.0]	0.100 [2.54]	0.165 [4.19]	0.042 [1.06]	0.309 [7.85]	0.714 [18.14]

REMOVABLE CONTACT

DIMENSIONS ARE IN INCHES [MILLIMETERS].  
 ALL DIMENSIONS ARE SUBJECT TO CHANGE.