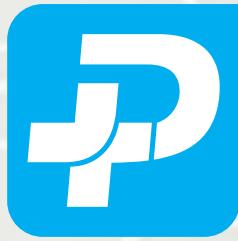


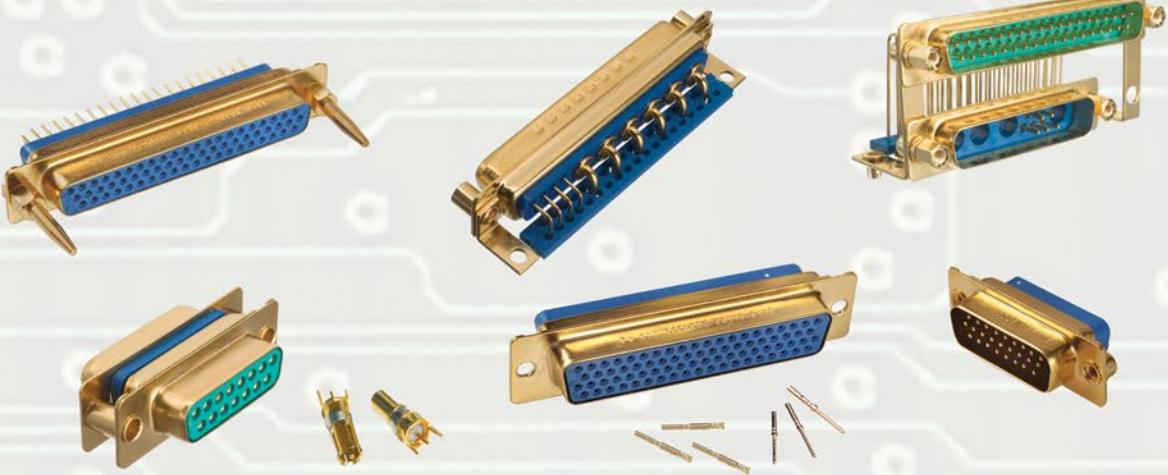
HIGH PERFORMANCE

D-Subminiature Connectors

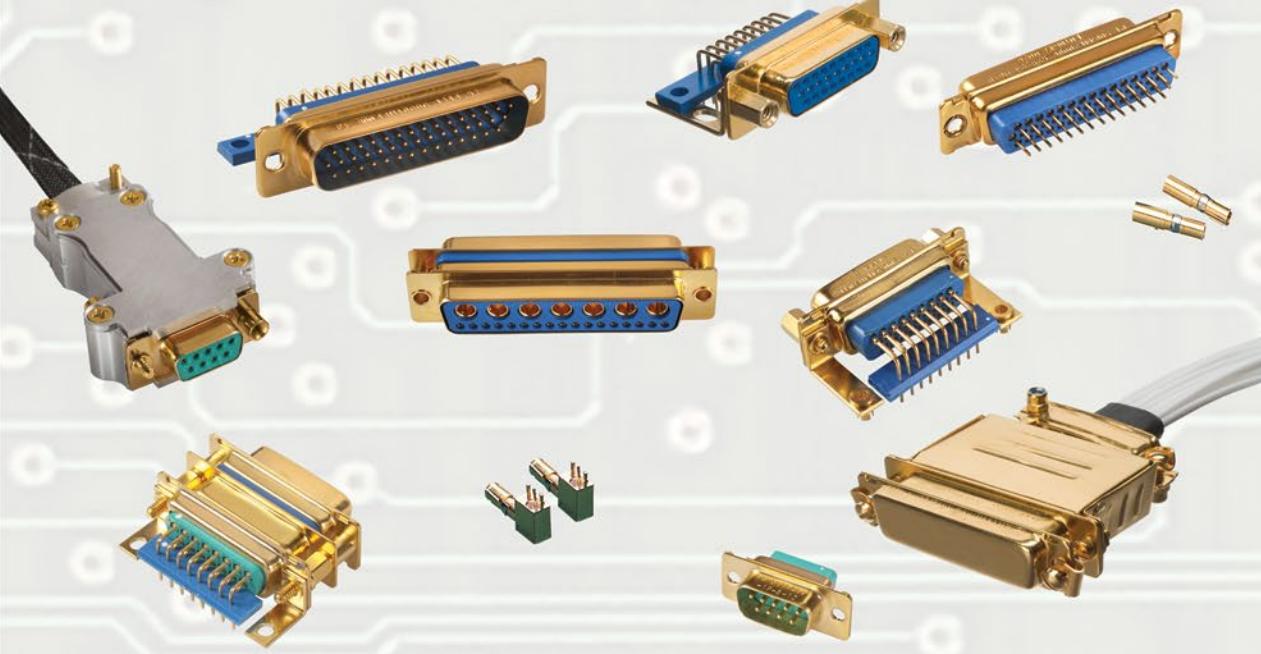


Positronic®

an Amphenol company



Goddard Space Flight Center S-311-P-4
Goddard Space Flight Center S-311-P-10
MIL-DTL-24308 Class M



Connector Excellence®

Positronic Provides Complete Capability

Experience

- Founded in **1966**
- **Involvement** in the development of international connector specifications through EIA®, IEC and ISO as well as PICMG® and VITA.
- Introduction of new and **unique connector products** to the electronics industry.
- Patent holder for many **unique connector features and manufacturing techniques**.
- Vertically integrated manufacturing – raw materials to finished connectors.

Technology

- **Expertise** with solid machined contacts provides a variety of high reliability connectors including high current density power connectors.
- Quality Assurance lab is **capable of testing** to IEC, EIA, UL, C.UL, military and customer-specified requirements.
- **In-house design and development** of connectors based on market need or individual customer requirements.
- **Internal manufacturing capabilities** include automatic precision contact machining, injection molding, stamping, plating operations and connector assembly.
- **Manufacturing locations** in southwest Missouri, U.S.A. (headquarters); Puerto Rico, France, China, Singapore, and India. Total square footage: 369,000.

Support

- **Quality Systems:** Select locations qualified to ISO9001:2000, ISO14001, AS9100, MIL-STD-790 and customer “dock to stock” programs. Applicable products qualified to MIL-DTL-24308, SAE AS39029, DSCC 85039, MIL-DTL-28748, Space D32, GSFC S-311-P-4 and GSFC S-311-P-10.
- Compliance to a variety of international and customer specific **environmental requirements**.
- Large **in-house inventory** of finished connectors. Customer specific **stocking programs**.
- Factory direct **technical sales support** in major cities worldwide.
- **One-on-one customer support** from worldwide factory locations.
- World class **web site**.
- **Value-added solutions** and willingness to **develop custom products** with reasonable price and delivery.

Regional Headquarters

Springfield, MO



Auch, France



Singapore



Products described within this catalog may be protected by one or more of the following US patents:

#4,900,261 #5,255,580 #5,329,697
#6,260,268 #6,835,079 #7,115,002

Patented in Canada, 1992 Other Patents Pending

POSITRONIC® IS AN ITAR REGISTERED COMPANY

Positronic Industries' **FEDERAL SUPPLY CODE** (Cage Code)
FOR MANUFACTURERS is **28198**

Unless otherwise specified, **dimensional tolerances** are:

- 1) ± 0.001 inches [0.03 mm] for male contact mating diameters.
- 2) ± 0.003 inches [0.08 mm] for contact termination diameters.
- 3) ± 0.005 inches [0.13 mm] for all other diameters.
- 4) ± 0.015 inches [0.38 mm] for all other dimensions.

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SND STANDARD DENSITY D-SUBMINIATURE CONNECTORS

Removable or fixed size 20 contacts. Crimp, solder cup, straight and right angle (90°) printed board mount contact terminations. Five connector variants, 9 through 50 contacts. Conforming to applicable material, dimensional and performance requirements of GSFC S-311-P4, GSFC S-311-P10 and MIL-DLT-24308 Class M.



SDD HIGH DENSITY D-SUBMINIATURE CONNECTORS

Removable or fixed size 22 contacts. Crimp, solder, straight and right angle (90°) printed board contact terminations. Six connector variants, 15 through 104 contacts. Conforming to applicable material, dimensional and performance requirements of GSFC S-311-P4 and MIL-DLT-24308 Class M.



SCBM STANDARD DENSITY COMBINATION D-SUBMINIATURE CONNECTORS

Fixed size 20 signal contacts. Size 8 power, shielded and high voltage contacts. Crimp, solder cup, straight and right angle (90°) printed board mount contact terminations. Twenty-two connector variants, 2WK2 through 46W4, using shell sizes 1 through 6. Conforming to applicable material, dimensional and performance requirements of GSFC S-311-P4, GSFC S-311-P10 and DSCC specification 85039.



SCBC STANDARD DENSITY COMBINATION D-SUBMINIATURE CONNECTORS WITH REMOVABLE CRIMP CONTACTS

Removable size 20 signal contacts. Size 8 power, shielded, and high voltage removable contacts. Crimp and solder terminations. Sixteen connector variants, shell sizes 1 through 6. Conforming to applicable material, dimensional and performance requirements of GSFC S-311-P4, GSFC S-311-P10 and DSCC specification 85039.

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SCBDD HIGH DENSITY COMBINATION D-SUBMINIATURE CONNECTORS

Fixed size 22 signal and size 16 power contacts. Size 8 power, shielded, and high voltage contacts. Crimp, solder cup, straight and right angle (90°) printed board terminations. Four connector variants, shell sizes 1 through 4. Conforming to applicable material, dimensional and performance requirements of GSFC S-311-P4, GSFC S-311-P10 and DSCC specification 85039.



SCBCD HIGH DENSITY COMBINATION D-SUBMINIATURE CONNECTORS WITH REMOVABLE CRIMP CONTACTS

Removable size 22 signal and size 16 power contacts. Size 8 power, shielded, and high voltage removable contacts. Crimp and solder terminations. Three connector variants, shell sizes 1, 2 and 4. Conforming to applicable material, dimensional and performance requirements of GSFC S-311-P4, GSFC S-311-P10 and DSCC specification 85039.



SAD, SADD, SACBMP CONNECTOR SAVER / GENDER CHANGER

Standard density, high density and combination connector savers and gender changers for use with SND, SDD, SCBM and SCBC connectors. Conforming to applicable material, dimensional and performance requirements of GSFC S-311-P4, GSFC S-311-P10 and DSCC specification 85039.

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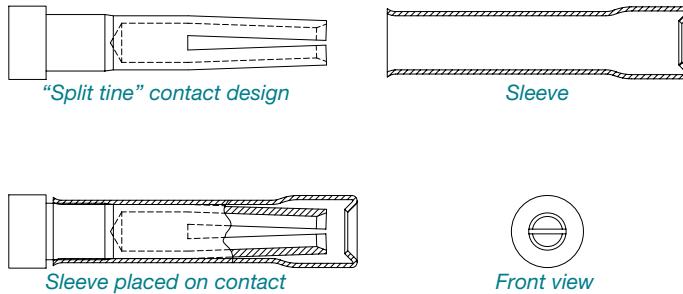
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What Makes Positronic's New "PosiBand®" Contact Interface a Significant Improvement?

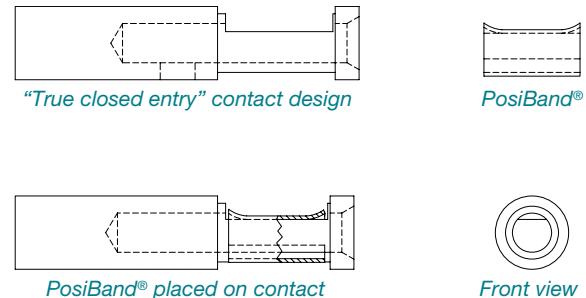
High reliability connectors utilize female **closed entry contacts** that provide an unbroken ring of solid material at the face of the contact. The closed entry feature is **crucial in preventing damage** to female contacts used in harsh environments, repeated mating cycles, blind mate applications and applications requiring highest reliability.

FIGURE 1



The most common **closed entry design** utilized by connector manufacturers is a split tine and sleeve concept. **See figure 1.** With this design, both the mechanical forces and electrical interface are provided only at the tip of the female contact.

FIGURE 2



Positronic's new **PosiBand technology** takes a unique approach to closed entry female contacts.

PosiBand contacts utilize a two-piece contact design. **See figure 2.** Each piece serves a separate function, providing a more mechanically robust contact and more consistent electrical performance.

The main body of the **PosiBand** contact provides a true closed entry opening to enhance robustness. The **PosiBand** spring clip provides normal force on the male contact. Consistent electrical performance is supported through a larger area of contact interface between the male and female contact along the entire "floor" of the contact body. **PosiBand** contacts are QPL listed under **SAE AS39029** and qualified under **GSFC S-311-P4** to the higher 40 gram contact engagement test requirement.

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The PosiBand® contact system has many advantages over the legacy split tine design.

- ✗ **PosiBand** is more robust than the split tine contact, which can be pried open in harsh environments, resulting in reduced normal force and degradation of electrical performance.
- ✗ **PosiBand** has greater surface area at the male and female contact interface, resulting in more consistent electrical performance.
- ✗ **PosiBand** has lower average insertion forces, resulting in greater ease in mating, especially in larger high density connectors. The average lower insertion force is accomplished while meeting or exceeding performance requirements.
- ✗ The **PosiBand's** contact body does not require annealing of the crimp barrels, as does the split tine design. This eliminates concern of unintentionally heat-treating the mating end of the contact, which can cause electrical failure.
- ✗ **PosiBand** is qualified under **SAE AS39029** specification. **PosiBand** is also qualified under **GSFC S-311-P4/08 Rev C** and **GSFC S-311-P4/10 Rev C** to the higher 40 gram contact engagement test requirement.

For more details about the **advantages of the PosiBand®** system, please visit our web site at www.connectpositronic.com.

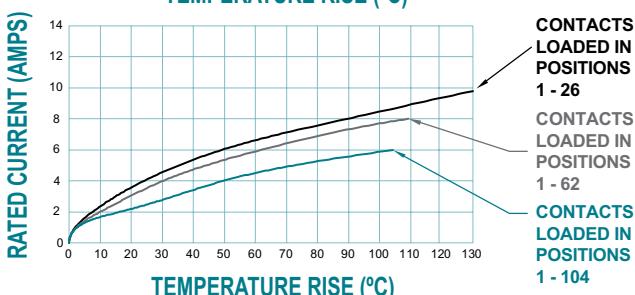
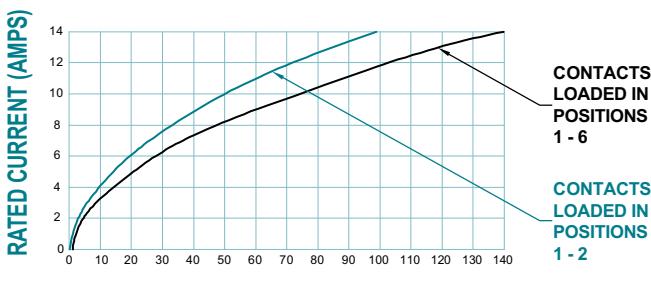
TEMPERATURE RISE CURVES

Test conducted in accordance with UL1977.

Size 20 PosiBand Contacts

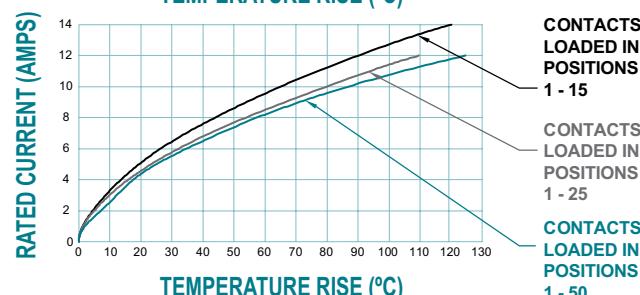
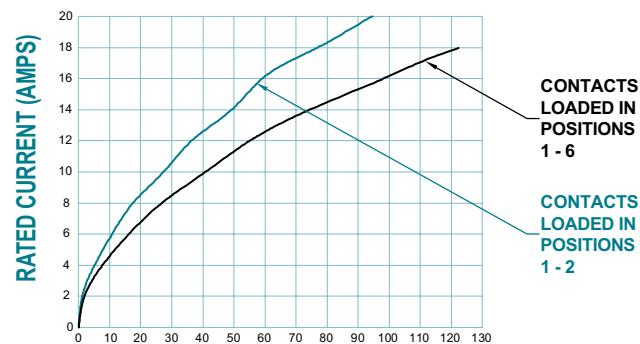
Size 22 PosiBand Contacts

Initial Contact Resistance: 0.005 ohms, maximum.
Curve developed using High Density D-subminiature connectors loaded with size 22 crimp contacts terminated to size 22 AWG wire.



Initial Contact Resistance: 0.004 ohms, maximum.

Curve developed using Standard Density D-subminiature connectors loaded with size 20 crimp contacts terminated to size 20 AWG wire.



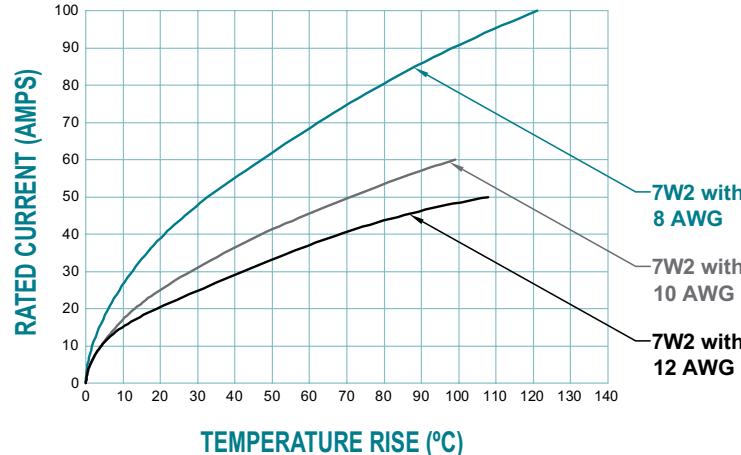
DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.



TEMPERATURE RISE CURVES FOR SIZE 8, 10 AND 12 AWG WIRE

Test conducted in accordance with UL1977. All power contacts under load.

7W2

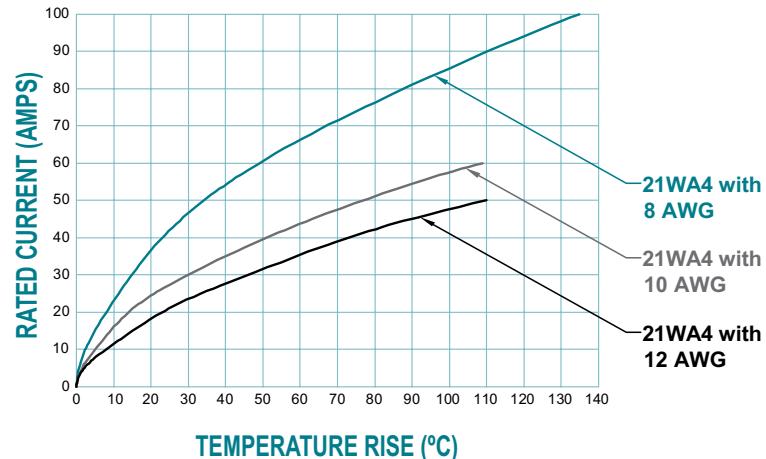


8 AWG: Curve developed using a mated Combination-D 7W2F57 and Combination-D 7W2M loaded with size 8 crimp contacts terminated to 8 AWG wire.

10 AWG: Curve developed using a mated Combination-D 7W2F3 and Combination-D 7W2M loaded with size 8 crimp contacts terminated to 10 AWG wire.

12 AWG: Curve developed using a mated Combination-D 7W2F55 and Combination-D 7W2M loaded with size 8 crimp contacts terminated to 12 AWG wire.

21WA4

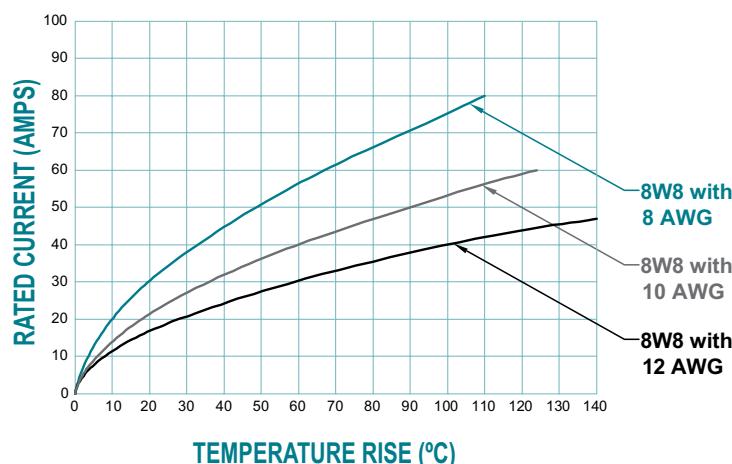


8 AWG: Curve developed using a mated Combination-D 21WA4F57 and Combination-D 21WA4M loaded with size 8 crimp contacts terminated to 8 AWG wire.

10 AWG: Curve developed using a mated Combination-D 21WA4F36 and Combination-D 21WA4M loaded with size 8 crimp contacts terminated to 10 AWG wire.

12 AWG: Curve developed using a mated Combination-D 21WA4F55 and Combination-D 21WA4M loaded with size 8 crimp contacts terminated to 12 AWG wire.

8W8



8 AWG: Curve developed using a mated Combination-D 8W8F57 and Combination-D 8W8M loaded with size 8 crimp contacts terminated to 8 AWG wire.

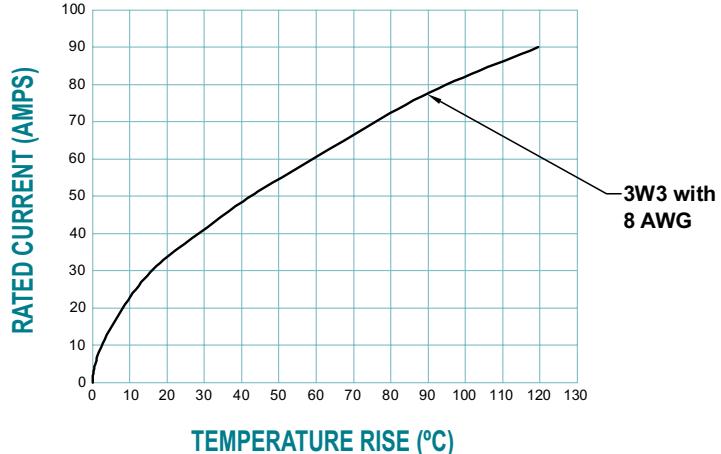
10 AWG: Curve developed using a mated Combination-D 8W8F36 and Combination-D 8W8M loaded with size 8 crimp contacts terminated to 10 AWG wire.

12 AWG: Curve developed using a mated Combination-D 8W8F55 and Combination-D 8W8M loaded with size 8 crimp contacts terminated to 12 AWG wire.

TEMPERATURE RISE CURVE FOR SIZE 8 AND 12 AWG WIRE

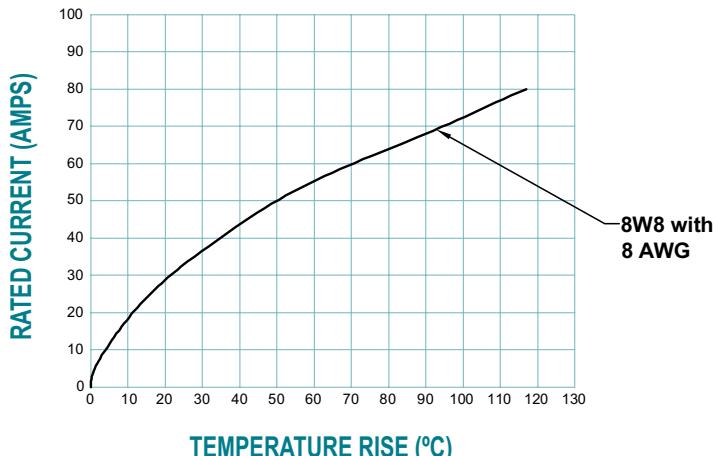
Test conducted in accordance with UL1977. All power contacts under load.

3W3



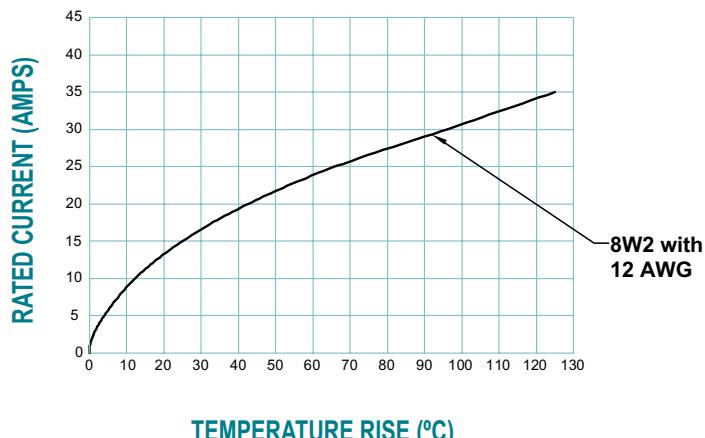
Curve developed using a mated Combination-D 3W3F loaded with size 8 crimp contacts and Combination-D 3W3M loaded with size 8 crimp contacts terminated to 8 AWG wire.

8W8



Curve developed using a mated Combination-D 8W8F loaded with size 8 crimp contacts and Combination-D 8W8M loaded with size 8 crimp contacts terminated to 8 AWG wire.

HIGH DENSITY 8W2



Curve developed using a mated Combination-D 8W2M loaded with size 8 crimp contacts and Combination-D 8W2S loaded with size 8 crimp contacts terminated to 12 AWG wire.



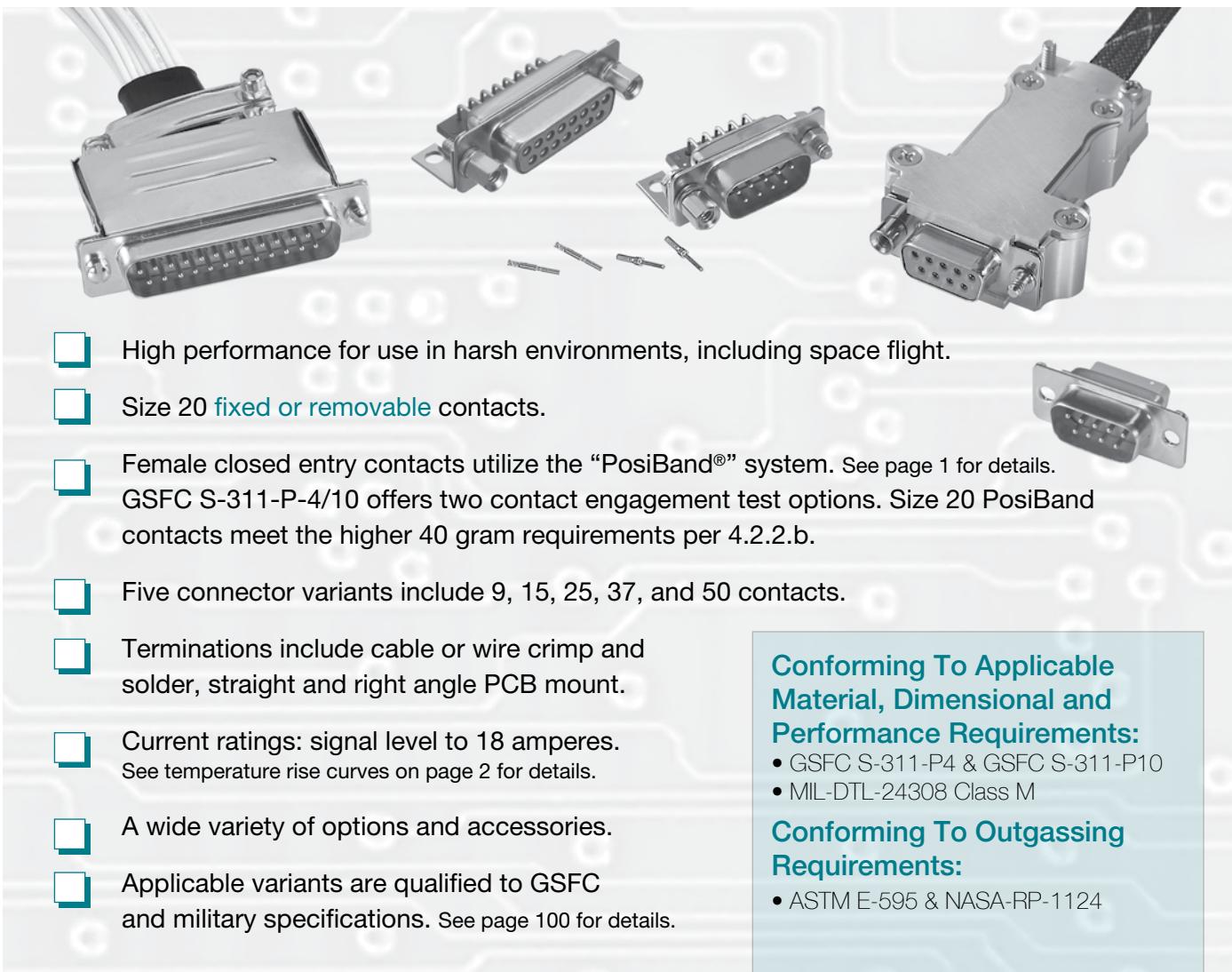
Positronic
connectpositronic.com

SND SERIES

MILITARY / SPACE FLIGHT QUALITY

STANDARD DENSITY FIXED OR REMOVABLE CONTACTS

High
Performance
D-sub



- High performance for use in harsh environments, including space flight.
- Size 20 **fixed or removable** contacts.
- Female closed entry contacts utilize the “PosiBand®” system. See page 1 for details.
- GSFC S-311-P-4/10 offers two contact engagement test options. Size 20 PosiBand contacts meet the higher 40 gram requirements per 4.2.2.b.
- Five connector variants include 9, 15, 25, 37, and 50 contacts.
- Terminations include cable or wire crimp and solder, straight and right angle PCB mount.
- Current ratings: signal level to 18 amperes. See temperature rise curves on page 2 for details.
- A wide variety of options and accessories.
- Applicable variants are qualified to GSFC and military specifications. See page 100 for details.

Conforming To Applicable Material, Dimensional and Performance Requirements:

- GSFC S-311-P4 & GSFC S-311-P10
- MIL-DTL-24308 Class M

Conforming To Outgassing Requirements:

- ASTM E-595 & NASA-RP-1124

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Connector Insert:	Glass-filled DAP per ASTM-D-5948, Type SDG-F, UL 94V-0, ASTM E-595, NASA-RP-1124, green color.
Contacts:	Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.
Connector Housing (Shells):	Brass with 0.000050 inch [1.27 microns] gold over copper plate.
Mounting Spacers and Brackets:	Brass with 0.000050 inch [1.27 microns] gold over copper plate.
Push-On Fasteners:	Phosphor bronze or beryllium copper with 0.000050 inch [1.27 microns] gold over copper plate.
Jackscrew Systems:	Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Cable Adapter (Hood):

Brass with 0.000050 inch [1.27 microns] gold over copper plate; aluminum with electroless nickel plate. Other finishes available, contact Technical Sales.

MECHANICAL CHARACTERISTICS:

Contacts:

Size 20 Fixed:

Male contact 0.040 inch [1.02 mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details.

Size 20 Removable:

Install contact to rear face of connector insert and remove from rear face of connector insert. Size 20 contact, male contact 0.040 inch [1.02 mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details. For removable size 20 contacts, see pages 81 & 82.

TECHNICAL CHARACTERISTICS, *continued*

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MECHANICAL CHARACTERISTICS, *continued*:

Contact Retention in Connector Insert: 9 lbs. [40 N].

Resistance to Solder Iron Heat: 650°F [350°C] for 10 seconds duration per IEC 60512-6, solder cup contacts.

Contact Terminations: Removable, closed barrel crimp - wire sizes 18 AWG [1.0 mm²] through 30 AWG [0.05 mm²]. Removable, closed barrel solder - wire size 20 AWG [0.5 mm²] maximum; see page 82 for details.

Fixed, solder cup - wire size 20 AWG [0.5 mm²] maximum; see page 8 for details. Straight solder printed board mount - 0.028 inch [0.71 mm] termination diameter and 0.024 inch [0.61 mm] termination diameter. Right angle (90°) printed board mount - 0.028 inch [0.71 mm] termination diameter for Inch System footprint, and 0.024 inch [0.64 mm] termination diameter for European Metric footprint. Straight printed circuit board mount, compliant press-fit, see page 10.

Connector Housing (Shells): Male connector housings may be dimpled for EMI/ESD ground paths.

Polarization: Trapezoidally-shaped connector housings and polarized jackscrews.

Mounting to Angle Brackets:

Jackscrews and riveted fasteners with 0.120 inch [3.05 mm] clearance hole, and threaded riveted fasteners with 4-40 thread and polyester lock inserts.

Mounting to Printed Board:

Rapid installation push-on fasteners and mounting posts.

Locking Systems:

Jackscrews.

Mechanical Operations:

1,000 operations minimum per IEC 60512-5.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating, Tested per UL 1977:

18 amperes, 2 contacts energized.
14 amperes, 6 contacts energized.
11 amperes, 15 contacts energized.
10 amperes, 25 contacts energized.
9 amperes, 50 contacts energized.

See temperature rise curves on page 2 for details.

Initial Contact Resistance: 0.004 ohms, maximum.

1,000 V r.m.s.

Insulation Resistance: 5 G ohms.

Clearance and Creepage Distance: 0.039 inch [1.0 mm], minimum.

Working Voltage: 300 V r.m.s.

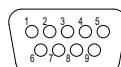
CLIMATIC CHARACTERISTICS:

Temperature Range: -55°C to +125°C.

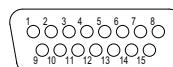
Damp Heat, Steady State: 21 days.

CONTACT VARIANTS

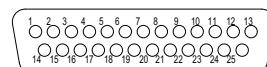
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



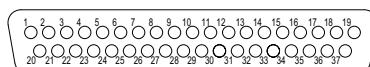
SND 9



SND 15



SND 25



SND 37



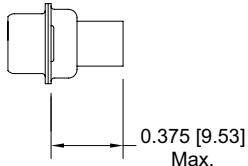
SND 50

For information regarding **REMOVABLE CONTACTS**, see contact illustration drawings and charts on pages 79-87.

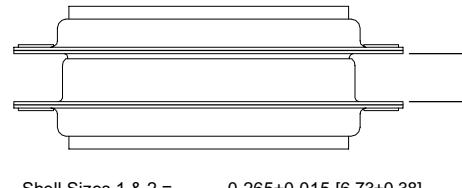


STANDARD CONNECTOR HOUSING (SHELLS) ASSEMBLY

.....CRIMP REMOVABLE.....

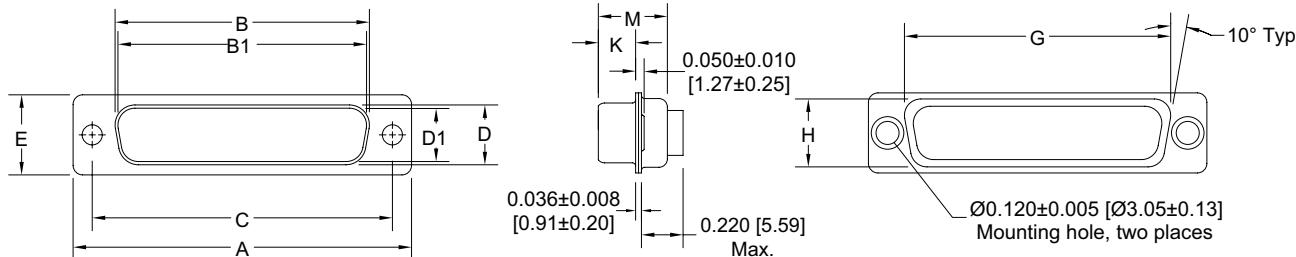


RECOMMENDED MATING DIMENSIONS

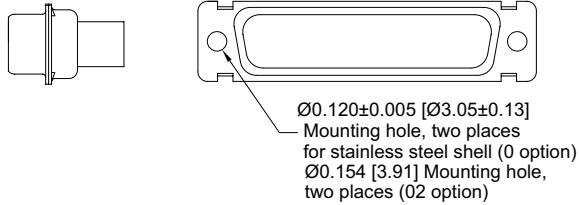


Shell Sizes 1 & 2 = 0.265 ± 0.015 [6.73 \pm 0.38]
Shell Sizes 3, 4, 5 & 6 = 0.256 ± 0.015 [6.50 \pm 0.38]

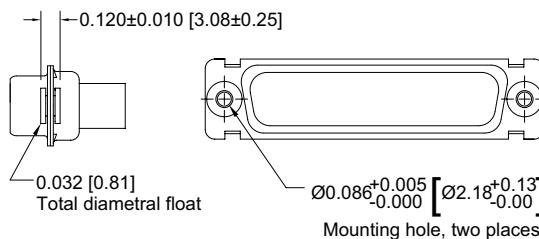
.....BOARD MOUNT.....



OPTIONAL CONNECTOR HOUSING ASSEMBLY (0, 02)



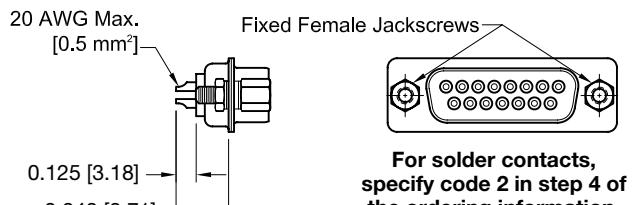
OPTIONAL CONNECTOR HOUSING ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS (F)



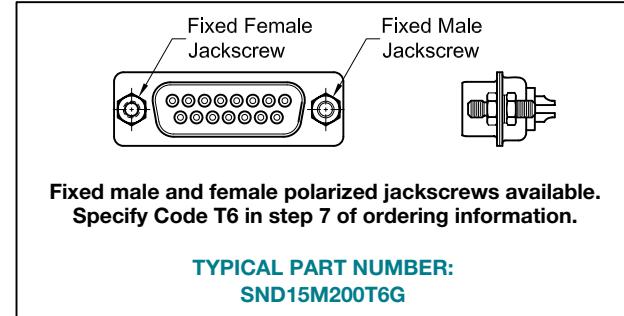
CONNECTOR VARIANT SIZES	GENDER	A ± 0.015 [0.38]	B ± 0.005 [0.13]	B1 ± 0.005 [0.13]	C ± 0.005 [0.13]	D ± 0.005 [0.13]	D1 ± 0.005 [0.13]	E ± 0.015 [0.38]	G ± 0.010 [0.25]	H ± 0.010 [0.25]	K ± 0.005 [0.13]	M ± 0.010 [0.25]
SND 9 (SHELL SIZE 1)	MALE	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	FEMALE	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SND 15 (SHELL SIZE 2)	MALE	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	FEMALE	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SND 25 (SHELL SIZE 3)	MALE	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.088 [53.04]	1.511 [38.38]		1.852 [47.04]	0.311 [7.90]		0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SND 37 (SHELL SIZE 4)	MALE	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.729 [69.32]	2.159 [54.84]		2.500 [63.50]	0.311 [7.90]		0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SND 50 (SHELL SIZE 5)	MALE	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.635 [66.93]	2.064 [52.43]		2.406 [61.11]	0.423 [10.74]		0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.243 [6.17]	0.429 [10.90]

DIMENSIONS ARE IN INCHES [MILLIMETERS].

ALL DIMENSIONS ARE SUBJECT TO CHANGE.



TYPICAL PART NUMBER:
SND15M200T2G



TYPICAL PART NUMBER:
SND15M200T6G



SND15S5R70T2G
(shown left)

SND25M10H0G
(shown middle)

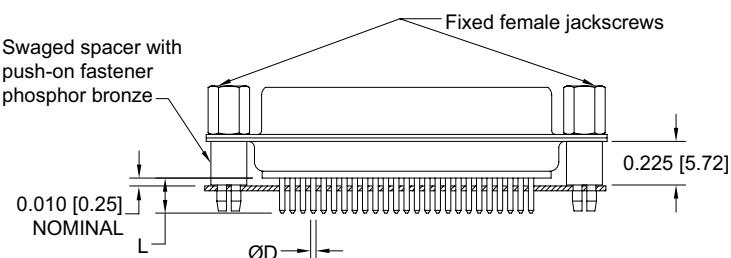
**SND9M000G with
MC6020M contacts**
(shown right)

STRAIGHT SOLDER PRINTED BOARD MOUNT TERMINATION
CODE 3, 32 AND 36

* ¹ CODE NUMBER	L	ØD
3	0.170 [4.32]	0.028 [0.71]
32	0.375 [9.53]	0.028 [0.71]
36	0.236 [6.00]	0.024 [0.61]

NOTE:

*¹ Contact termination code as specified in Step 4 of ordering information.



TYPICAL PART NUMBER:
SND25S3S60TG

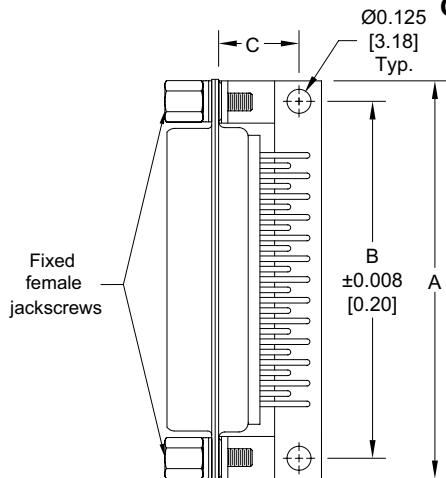


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RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
CODE 42, 0.370 [9.40] CONTACT EXTENSION

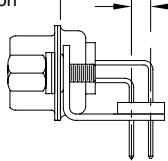


SND**42**** 0.370 [9.40] CONTACT EXTENSION			
PART NUMBER	A	B	
SND9*42****	1.204 [30.58]	0.984 [24.99]	0.420 [10.67]
SND15*42****	1.532 [38.91]	1.312 [33.32]	0.420 [10.67]
SND25*42****	2.072 [52.63]	1.852 [47.04]	0.420 [10.67]
SND37*42****	2.720 [69.09]	2.500 [63.50]	0.420 [10.67]
SND50*42****	2.626 [66.70]	2.406 [61.11]	0.470 [11.94]

Specify code 42
in step 4 of
ordering information

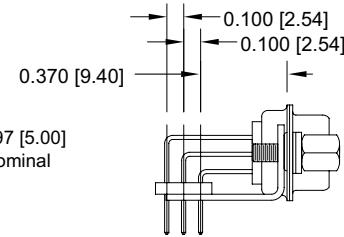
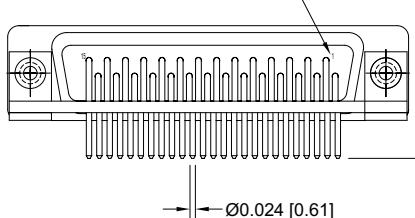
0.370 [9.40]

0.100 [2.54]



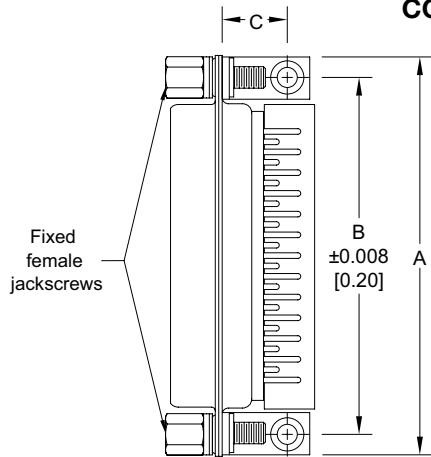
TYPICAL PART NUMBER:
SND25M42B30T2G

Numbering shown is rear view
of male and face view of female.



TYPICAL PART NUMBER:
SND50M42B30TG

RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
CODE 5, 0.283 [7.19] CONTACT EXTENSION

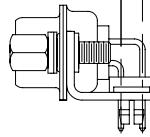


SND**5**** 0.283 [7.19] CONTACT EXTENSION			
PART NUMBER	A	B	
SND9*5****	1.204 [30.58]	0.984 [24.99]	0.339 [8.61]
SND15*5****	1.532 [38.91]	1.312 [33.32]	0.339 [8.61]
SND25*5****	2.072 [52.63]	1.852 [47.04]	0.339 [8.61]
SND37*5****	2.720 [69.09]	2.500 [63.50]	0.339 [8.61]
SND50*5****	2.626 [66.70]	2.406 [61.11]	0.395 [10.03]

Specify code 5
in step 4 of
ordering information

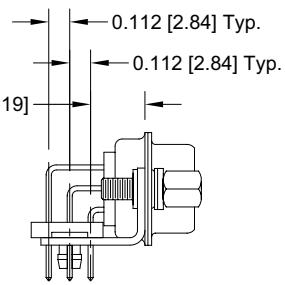
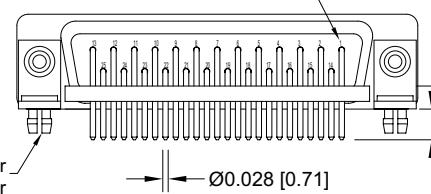
0.283 [7.19]

0.112 [2.84]



TYPICAL PART NUMBER:
SND25M5R7NT2G

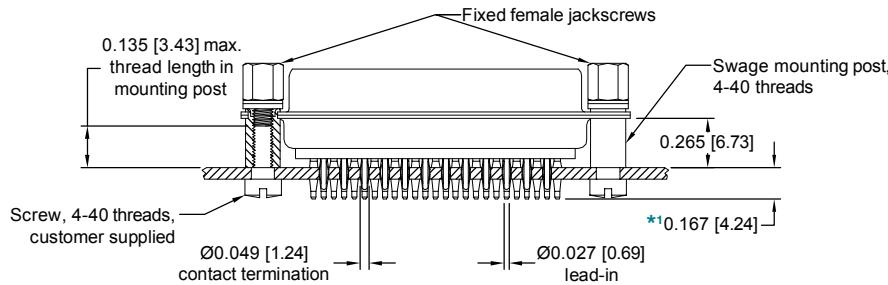
Numbering shown is rear view
of male and face view of female.



TYPICAL PART NUMBER:
SND50S5R7NTG

STRAIGHT COMPLIANT PRESS-FIT TERMINATION CODE 98

Positronic recommends the practice of using mounting hardware to secure connector to printed circuit board.

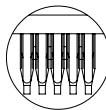


TYPICAL PART NUMBER: SND25S98000G

For straight compliant press-fit contacts, specify code 98 in step 4 of ordering information.

NOTE:

*1 The effective length of the compliant section may also be varied (longer or shorter) and can be selectively positioned and centered at several points along the contact termination length, permitting high or low profile mounting of the connector on printed boards.



Detail of
Omega contacts



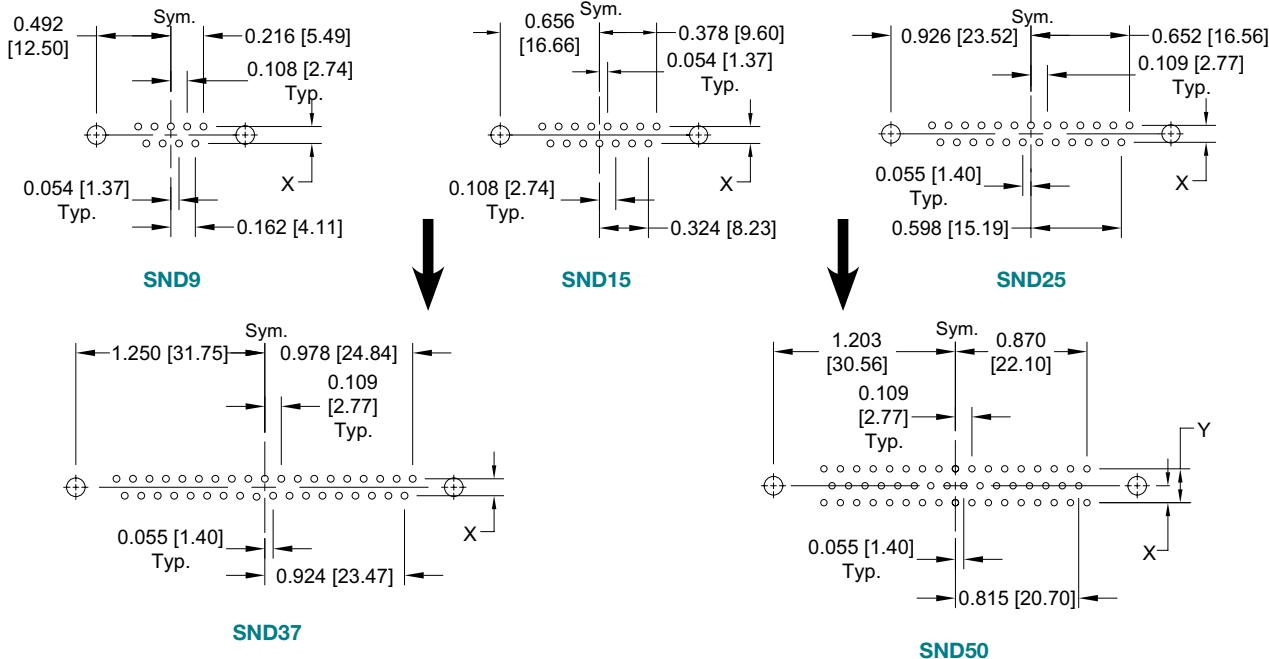
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RIGHT ANGLE (90°) AND STRAIGHT SOLDER PRINTED BOARD CONTACT HOLE PATTERN

HOLE IDENTIFICATION SHOWN FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.
MOUNT CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROWS.



* ¹ CODE NUMBER	X	Y
3		
5	0.112 [2.84]	0.224 [5.69]
32		
36		
* ² 42	0.100 [2.54]	0.200 [5.08]

SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.039 [0.99] Ø hole for 0.024 [0.61] Ø contact termination positions.

Suggest 0.045 [1.14] Ø hole for 0.028 [0.71] Ø contact termination positions.

Suggest 0.123 ± 0.003 [3.12 ± 0.08] Ø hole for mounting connector with push-on fasteners.

NOTE:

*¹ Contact termination code as specified in Step 4 of ordering information.

*² Metric system, European contact hole pattern.

REMOVABLE CONTACT ORDERING ASSISTANCE CHART

SND SERIES CRIMP AND SOLDER CONTACT TERMINATIONS

TYPE	PAGE NUMBER REFERENCE IN CATALOG	CONTACT SIZE	FEMALE PART NUMBER	MALE PART NUMBER	WIRE SIZE AWG [mm ²]
CRIMP	see page 81 for additional information	20	FC6020M2	MC6020M	20 / 22 / 24 [0.5 / 0.3 / 0.25]
			FC6026M2	MC6026M	26 / 28 / 30 [0.12 / 0.08 / 0.05]
	see page 82 for additional information		FC6018M2	MC6018M	18 [1.0] max.
SOLDER	see page 82 for additional information	20	FS6020M2	MS6020M	20 [0.5] max.

NOTE: For ordering crimp contacts on reels, add "R" to part number, see page 79 for details.
Examples: FC6020M2R or MC6020MR

The PosiBand® contact system has many advantages over the legacy split tine design.

- ✗ **PosiBand** is more robust than split tine, which can be pried open in harsh environments, resulting in reduced normal force and degradation of electrical performance.
- ✗ **PosiBand** has greater surface area at the male and female contact interface, resulting in more consistent electrical performance.
- ✗ **PosiBand** has lower average insertion forces, resulting in greater ease in mating, especially in larger high density connectors. The average lower insertion force is accomplished while meeting or exceeding performance requirements.
- ✗ The **PosiBand's** main contact body does not require annealing of the crimp barrels, as does the split tine design. This eliminates concern of unintentionally heat-treating the mating end of the contact, which can cause electrical failure.
- ✗ **PosiBand** is qualified under **SAE AS39029** specification. **PosiBand** is also qualified under **GSFC S-311-P4** to the higher 40 gram contact engagement test requirement.



FC8022M2. Deconstructed contact shown for reference only.

For more information on PosiBand closed entry contacts, see page 1 & 2.

For information regarding **REMOVABLE CONTACTS**, see contact illustration drawings and charts on pages 79-87.

For information regarding **CRIMP TOOLS & CRIMPING TOOL TECHNIQUES**, see page 98.



ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	SND	37	S	5	B3	0	T2	G	

STEP 1 - BASIC SERIES
SND series

STEP 2 - CONNECTOR VARIANTS
9, 15, 25, 37, 50

STEP 3 - CONNECTOR GENDER

M - Male
S - Female - PosiBand closed entry contacts,
see page 1 for more information.

STEP 9 - SPECIAL OPTIONS

SEE APPENDIX ON PAGE 97.

STEP 8 - CONNECTOR HOUSING (SHELLS) OPTIONS

G - Gold over copper plate.
D - Gold over copper plate and dimpled
(male connectors only).

STEP 4 - CONTACT TERMINATION TYPE

- 0 - Contacts ordered separately, see contact chart on page 12 for details.
- 1 - Crimp, 20 AWG - 24 AWG [0.5 mm² - 0.25 mm²].
- 12 - Crimp, 26 AWG - 30 AWG [0.12 mm² - 0.05 mm²].
- 2 - Fixed, solder cup.
- 3 - Solder, straight printed board mount with 0.170 [4.32] tail length.
- 32 - Solder, straight printed board mount with 0.375 [9.52] tail length.
- 36 - Solder, straight printed board mount with 0.236 [5.99] tail length.
- 42 - Solder, metric system right angle (90°) printed board mount with 0.370 [9.40] contact extension.
- 5 - Solder, right angle (90°) printed board mount with 0.283 [7.19] contact extension.
- 98 - Straight printed circuit board mount, compliant press-fit

*1 STEP 5 - MOUNTING STYLE

- 0 - Mounting hole, 0.120[3.05] Ø.
- 02 - Mounting hole, 0.154[3.91] Ø.
- C5 - Swaged spacer, cul-de-sac style, 4-40 threads, 0.350 [8.89] length. For use with cable connectors only.
- C7 - Bracket, mounting, right angle (90°) metal, swaged to connector with cul-de-sac spacer and 4-40 threads with cross bar.
- F - Float mounts, universal.
- P - Threaded post, brass, length varies according to contact termination code. See page 91.
- R2 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 thread fixed female jackscrews with cross bar.
- R6 - Bracket, mounting, right angle (90°) metal, swaged to connector with 0.120 [3.05] Ø mounting hole with cross bar.
- R7 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 threads with cross bar.
- R8 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 locknut with cross bar.
- S - Swaged spacer, 4-40 threads, length varies according to contact termination code. See page 90.
- S2 - Swaged spacer, 4-40 threads, 0.125[3.18] length.
- S5 - Swaged locknut, 4-40 threads.
- S6 - Swaged spacer with push-on fastener, 4-40 threads, length varies according to contact termination code. See page 90.

*1 STEP 7 - LOCKING AND POLARIZING SYSTEMS

- 0 - None.
- T - Fixed female jackscrews.
- T2 - Fixed female jackscrews.
- T6 - Fixed male and female polarized jackscrews.
- E - Rotating male jackscrews.
- E2 - Rotating male screw locks.
- E3 - Rotating male with internal hex for 3/32 hex drives.
- E6 - Rotating male and female polarized jackscrews.

*1 STEP 6 - CABLE ADAPTER (HOOD) AND PUSH-ON FASTENER

- 0 - None.
- H - Cable adapter, top opening, brass.
- AN - Cable adapter, lightweight aluminum, electroless nickel plate, see page 93 for details.
- N - Push-on fastener for right angle (90°) mounting brackets.

NOTE:

*1 For additional information on accessories listed in Step 5, 6, and 7, see the Accessories section, pages 88-96.

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.



High performance for use in harsh environments, including space flight.

Size 22 **fixed or removable** contacts.

Female closed entry contacts utilize the "PosiBand®" system. See page 1 for details.

GSFC S-311-P-4/08 offers two contact engagement test options. Size 22 PosiBand contacts meet the higher 40 gram requirements per 4.2.2.b.

Six connector variants include 15, 26, 44, 62, 78, and 104 contacts.

Terminations include cable or wire crimp and solder, straight and right angle PCB mount.

Current ratings: signal level to 12 amperes. See temperature rise curves on page 2 for details.

A wide variety of options and accessories.

Applicable variants are qualified to GSFC and military specifications. See page 100 for details.



Conforming To Applicable Material, Dimensional and Performance Requirements:

- GSFC S-311-P4
- MIL-DTL-24308 Class M

Conforming To Outgassing Requirements:

- ASTM E-595 & NASA-RP-1124

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Connector Insert:

Glass-filled polyester per ASTM-D-5927, UL 94V-0, ASTM E-595, NASA-RP-1124, blue color.

Contacts:

Precision machined high tensile copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Connector Housing (Shells):

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Mounting Spacers and Brackets:

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Push-On Fasteners:

Phosphor bronze or beryllium copper with 0.000050 inch [1.27 microns] gold over copper plate.

Jackscrew Systems:

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Cable Adapter (Hood):

Brass with 0.000050 inch [1.27 microns] gold over copper plate; aluminum with electroless nickel plate. Other finishes available, contact Technical Sales.

MECHANICAL CHARACTERISTICS:

Contacts:

Size 22 Fixed:

Male contact 0.030 inch [0.76 mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details.

Size 22 Removable:

Install contact to rear face of connector insert and remove from rear face of connector insert. Male contact - 0.030 inch [0.76 mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details. For removable size 22 contacts, see page 80-81.

continued on next page. . .



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SDD SERIES
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HIGH DENSITY REMOVABLE OR PCB CONTACTS

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TECHNICAL CHARACTERISTICS, *continued*

continued from previous page. . . .

MECHANICAL CHARACTERISTICS, *continued*:

Contact Retention in

Connector Insert:

9 lbs. [40 N].

Contact Terminations:

Removable closed barrel crimp - wire sizes 20 AWG [0.5 mm²] through 30 AWG [0.05 mm²]. 0.020 inch [0.51 mm] diameter.

Removable, closed barrel solder - wire size 22 AWG [0.3 mm²] maximum; see page 81 for details.

Straight solder printed board mount - 0.020 inch [0.51 mm] termination diameter.

Right angle (90°) printed board mount - 0.020 inch [0.51 mm] termination diameter.

Straight printed circuit board mount, compliant press-fit, see page 18.

Connector Housing (Shells):

Male connector housings may be dimpled for EMI/ESD ground paths.

Polarization:

Trapezoidally-shaped connector housings and polarized jackscrews.

Mounting to Angle Brackets:

Jackscrews and riveted fasteners with 0.120 inch [3.05 mm] clearance hole, and threaded fasteners with 4-40 threads and polyester lock inserts.

Mounting to Printed Board:

Rapid installation push-on fasteners and mounting posts.

Locking Systems:

Jackscrews.

Mechanical Operations:

1,000 operations, minimum, per IEC 60512-5.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating, Tested per UL 1977:

12 amperes, 2 contacts energized.
10 amperes, 6 contacts energized.
7.5 amperes, 26 contacts energized.
6.5 amperes, 65 contacts energized.
5.0 amperes, 104 contacts energized.

See temperature rise curves on page 2 for details.

Initial Contact Resistance:

0.005 ohms, maximum.

Proof Voltage:

1,000 V r.m.s.

Insulation Resistance:

5 G ohms.

Clearance and Creepage

Distance: 0.042 inch [1.06 mm], minimum.

Working Voltage:

300 V r.m.s.

CLIMATIC CHARACTERISTICS:

Temperature Range:

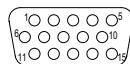
-55°C to +125°C.

Damp Heat, Steady State:

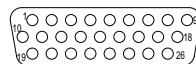
21 days.

CONTACT VARIANTS

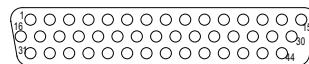
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



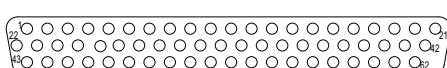
SDD 15



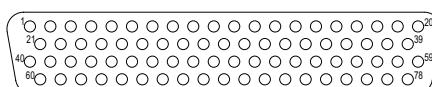
SDD 26



SDD 44



SDD 62



SDD 78



SDD 104

For information regarding **REMOVABLE CONTACTS**, see contact illustration drawings and charts on pages 79-87.

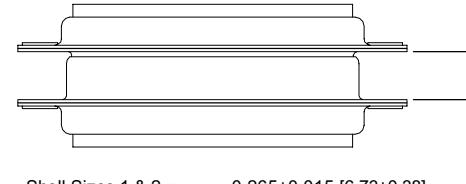
STANDARD CONNECTOR HOUSING (SHELLS) ASSEMBLY



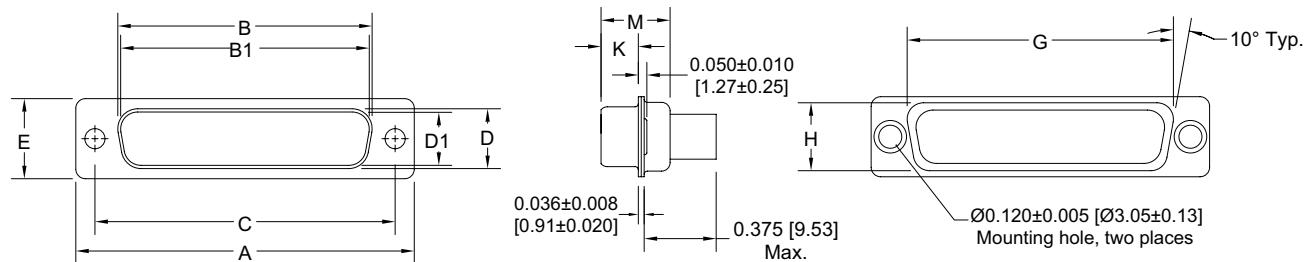
SDD78M0000D

SDD15S0000G

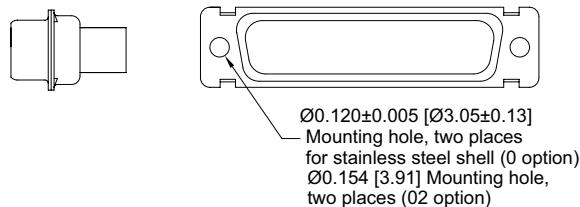
RECOMMENDED MATING DIMENSIONS



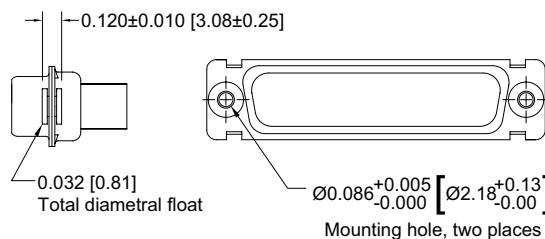
Shell Sizes 1 & 2 = 0.265 ± 0.015 [6.73 \pm 0.38]
Shell Sizes 3, 4, 5 & 6 = 0.256 ± 0.015 [6.50 \pm 0.38]



OPTIONAL CONNECTOR HOUSING ASSEMBLY (0, 02)
STANDARD FOR SIZE 104 CONNECTORS



**OPTIONAL CONNECTOR HOUSING ASSEMBLY
WITH UNIVERSAL FLOAT MOUNTS (F)**



CONNECTOR VARIANT SIZES	GENDER	A ± 0.015 [0.38]	B ± 0.005 [0.13]	B1 ± 0.005 [0.13]	C ± 0.005 [0.13]	D ± 0.005 [0.13]	D1 ± 0.005 [0.13]	E ± 0.015 [0.38]	G ± 0.010 [0.25]	H ± 0.010 [0.25]	K ± 0.005 [0.13]	M ± 0.010 [0.25]
SDD 15 (SHELL SIZE 1)	MALE	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	FEMALE	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SDD 26 (SHELL SIZE 2)	MALE	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	FEMALE	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SDD 44 (SHELL SIZE 3)	MALE	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.088 [53.04]	1.511 [38.38]		1.852 [47.04]	0.311 [7.90]		0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SDD 62 (SHELL SIZE 4)	MALE	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.729 [69.32]	2.159 [54.84]		2.500 [63.50]	0.311 [7.90]		0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SDD 78 (SHELL SIZE 5)	MALE	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.635 [66.93]	2.064 [52.43]		2.406 [61.11]	0.423 [10.74]		0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.243 [6.17]	0.429 [10.90]
SDD 104 (SHELL SIZE 6)	MALE	2.729 [69.32]		2.212 [56.18]	2.500 [63.50]		0.503 [12.78]	0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.729 [69.32]	2.189 [55.60]		2.500 [63.50]	0.485 [12.32]		0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.243 [6.17]	0.429 [10.90]

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



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SDD SERIES
MILITARY / SPACE FLIGHT QUALITY
HIGH DENSITY REMOVABLE OR PCB CONTACTS

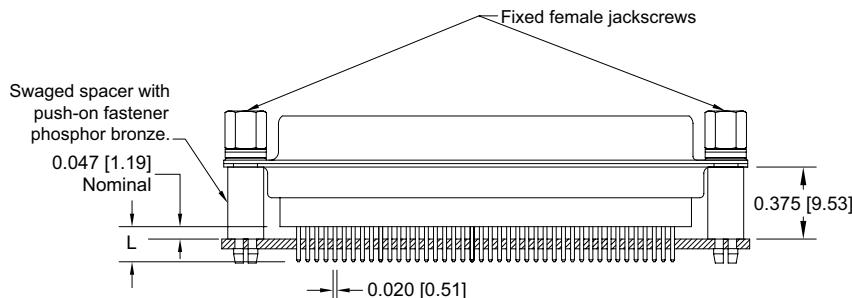
High
Performance
D-sub

STRAIGHT SOLDER PRINTED BOARD MOUNT TERMINATION
CODE 3 AND 32

* ¹ CODE NUMBER	L
3	0.150 [3.81]
32	0.300 [7.62]

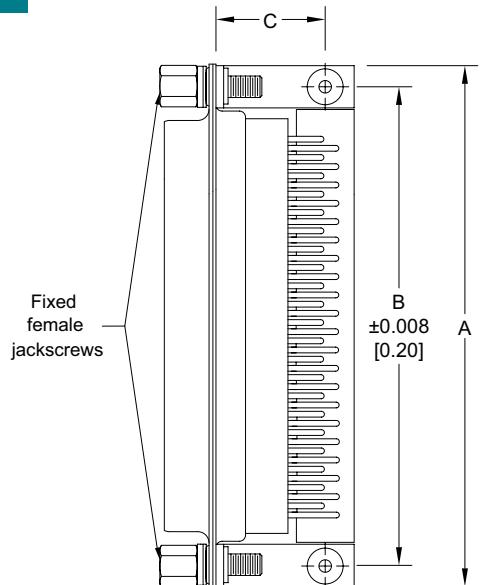
NOTE:

*¹ Contact termination code as specified in Step 4 of ordering information.

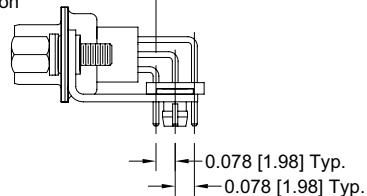


TYPICAL PART NUMBER:
SDD62S3S60T2G

RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
CODE 4, 0.450 [11.43] CONTACT EXTENSION

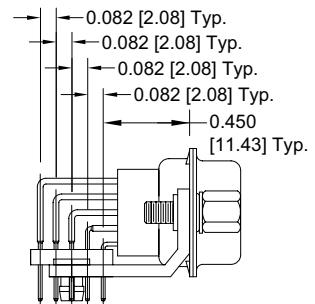


Specify code 4 in step 4 of ordering information

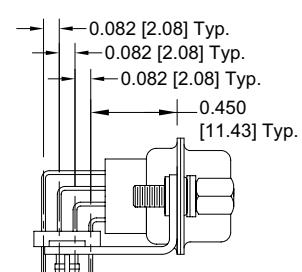
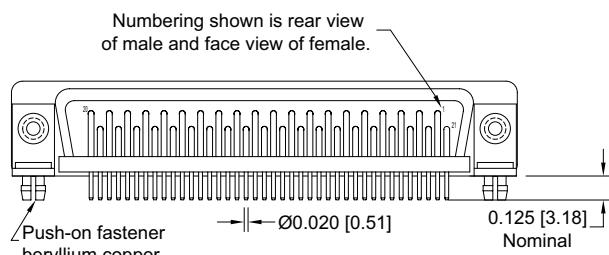


TYPICAL PART NUMBER:
SDD44S4R7NT2G

SDD**4**** 0.450 [11.43] CONTACT EXTENSION			
PART NUMBER	A	B	C
SDD15*4****	1.204 [30.58]	0.984 [24.99]	0.528 [13.41]
SDD26*4****	1.532 [38.91]	1.312 [33.32]	0.528 [13.41]
SDD44*4****	2.072 [52.63]	1.852 [47.04]	0.528 [13.41]
SDD62*4****	2.720 [69.09]	2.500 [63.50]	0.528 [13.41]
SDD78*5****	2.626 [66.70]	2.406 [61.11]	0.573 [14.55]
SDD104*4****	2.720 [69.09]	2.500 [63.50]	0.614 [15.60]



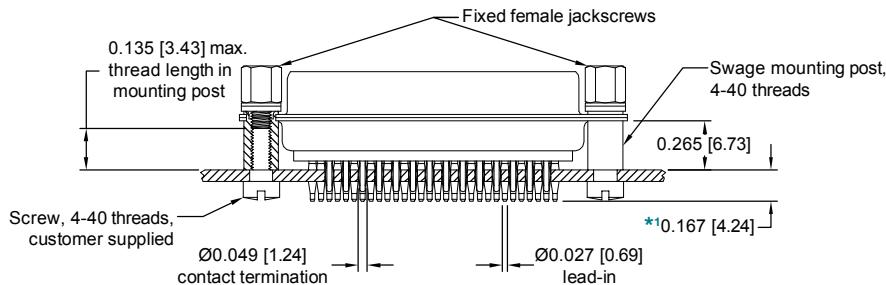
TYPICAL PART NUMBER:
SDD104M4R7NT2G



TYPICAL PART NUMBER:
SDD78M4R7NT2G

STRAIGHT COMPLIANT PRESS-FIT TERMINATION
CODE 98

Positronic recommends the practice of using mounting hardware to secure connector to printed circuit board.

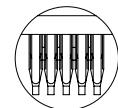


TYPICAL PART NUMBER: SDD44M980T2G

For straight compliant press-fit contacts, specify code 98 in step 4 of ordering information.

NOTE:

*1 The effective length of the compliant section may also be varied (longer or shorter) and can be selectively positioned and centered at several points along the contact termination length, permitting high or low profile mounting of the connector on printed boards.



Detail of
Omega contacts



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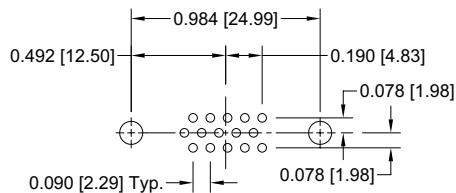
SDD SERIES
MILITARY / SPACE FLIGHT QUALITY
HIGH DENSITY REMOVABLE OR PCB CONTACTS

High
Performance
D-sub

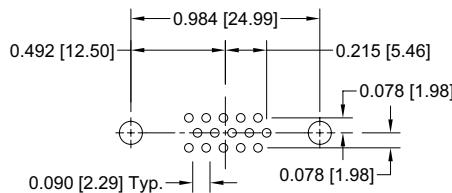
RIGHT ANGLE (90°) AND STRAIGHT SOLDER PRINTED BOARD CONTACT HOLE PATTERN

MOUNT CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROWS.

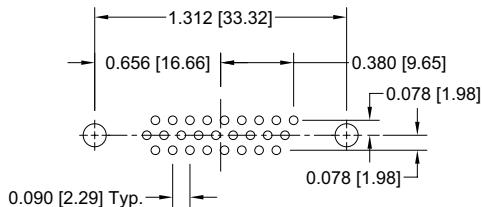
SDD15 MALE



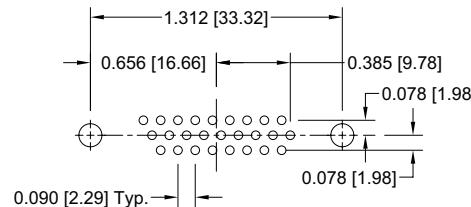
SDD15 FEMALE



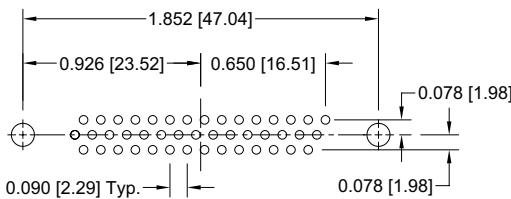
SDD26 MALE



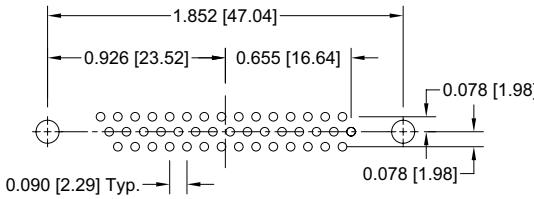
SDD26 FEMALE



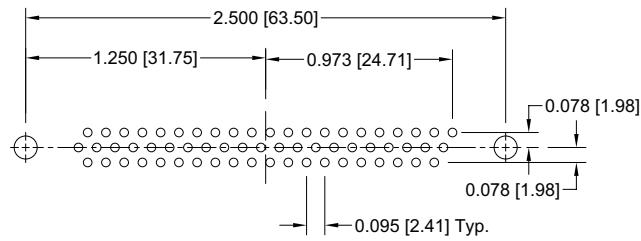
SDD44 MALE



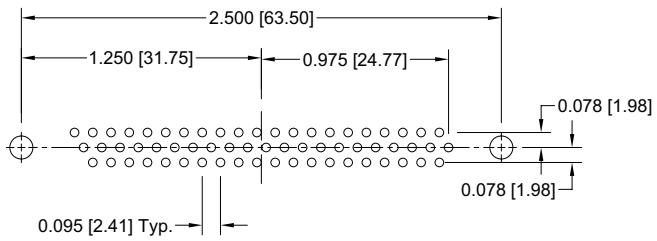
SDD44 FEMALE



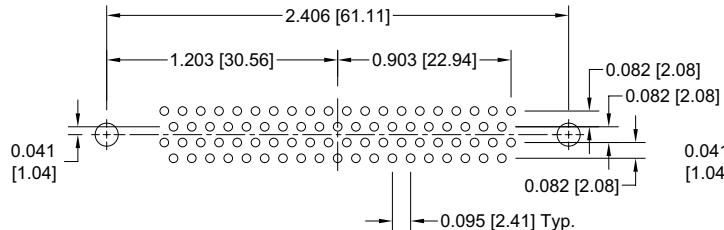
SDD62 MALE



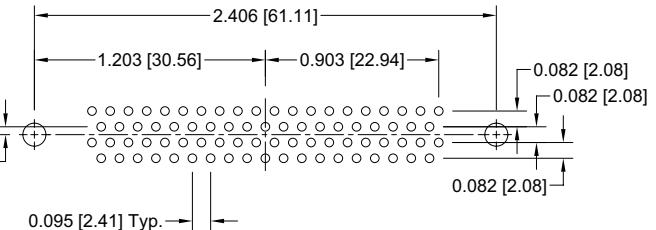
SDD62 FEMALE



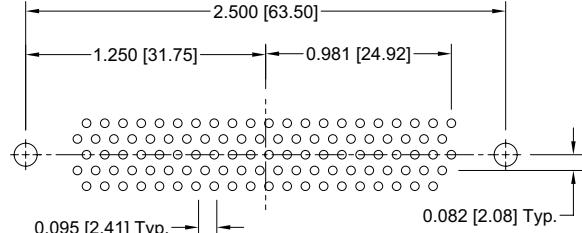
SDD78 MALE



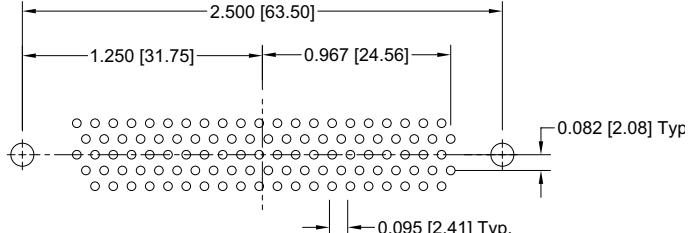
SDD78 FEMALE



SDD104 MALE



SDD104 FEMALE



SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.035 [0.89] Ø hole for contact termination positions.

Suggest 0.123 ± 0.003 [3.12 \pm 0.08] Ø hole for mounting connector with push-on fasteners.

REMOVABLE CONTACT ORDERING ASSISTANCE CHART

SDD SERIES CRIMP AND SOLDER CONTACT TERMINATIONS

TYPE	PAGE NUMBER REFERENCE IN CATALOG	CONTACT SIZE	FEMALE PART NUMBER	MALE PART NUMBER	WIRE SIZE AWG [mm ²]
CRIMP	see page 80 for additional information	22	FC8020M2	MC8020M	20 [0.5] max.
			FC8022M2	MC8022M	$22 / 24 / 26 / 28 / 30$ [0.3 / 0.25 / 0.12 / 0.08 / 0.05]
SOLDER	see page 81 for additional information	22	FS8022M2	MS8022M	22 [0.3] max.

NOTE: For ordering crimp contacts on reels, add "R" to part number, see page 79 for details.
Examples: FC8022M2R or MC8022MR

For information regarding **REMOVABLE CONTACTS**, see contact illustration drawings and charts on pages 79-87.

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.



ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	SDD	62	S	4	R7	N	T6	G	

STEP 1 - BASIC SERIES
SDD series

STEP 2 - CONNECTOR VARIANTS
15, 26, 44, 62, 78, 104

STEP 3 - CONNECTOR GENDER
M - Male
S - Female - PosiBand closed entry contacts,
see page 1 for more information.

STEP 4 - CONTACT TERMINATION TYPE

- 0 - Contacts ordered separately, see contact chart on page 20.
- 1 - Crimp, 22 AWG - 30 AWG [0.3 mm² - 0.05 mm²].
- 3 - Solder, straight printed board mount with 0.150 [3.81] tail length.
- 32 - Solder, straight printed board mount with 0.300 [7.62] tail length.
- 4 - Solder, right angle (90°) printed board mount with 0.450 [11.43] Contact Extension.
- 98 - Straight printed circuit board mount, compliant press-fit

STEP 9 - SPECIAL OPTIONS
SEE APPENDIX ON PAGE 97.

STEP 8 - CONNECTOR HOUSING (SHELLS) OPTION
G - Gold over copper plate.
D - Gold over copper plate and dimpled (male connectors only).

***1 STEP 7 - LOCKING AND POLARIZING SYSTEMS**

- 0 - None.
- T - Fixed female jackscrews.
- T2 - Fixed female jackscrews.
- T6 - Fixed male and female polarized jackscrews.
- E - Rotating male jackscrews.
- E2 - Rotating male screw locks.
- E3 - Rotating male with internal hex for 3/32 hex drives.
- E6 - Rotating male and female polarized jackscrews.

***1 STEP 6 - CABLE ADAPTER (HOOD) AND PUSH-ON FASTENER**

- 0 - None.
- H - Cable adapter, top opening, brass.
- AN - Cable adapter, lightweight aluminum, electroless nickel plate, see page 93 for details.
- N - Push-on fastener for right angle (90°) mounting brackets.

*1 STEP 5 - MOUNTING STYLE

- 0 - Mounting hole, 0.120[3.05] Ø.
- 02 - Mounting hole, 0.154[3.91] Ø.
- B3 - Bracket, mounting, right angle (90°) metal with cross bar.
- C5 - Swaged spacer, cul-de-sac style, 4-40 threads, 0.350 [8.89] length. For use with cable connectors only.
- C7 - Bracket, mounting, right angle (90°) metal, swaged to connector with cul-de-sac spacer and 4-40 threads with cross bar.
- F - Float mounts, universal.
- P - Threaded post, brass, 0.375 [9.53] length.
- R2 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 thread fixed female jackscrews with cross bar.
- R6 - Bracket, mounting, right angle (90°) metal, swaged to connector with 0.120 [3.05] Ø mounting hole with cross bar.
- R7 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 threads with cross bar.
- R8 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 locknut with cross bar.
- S - Swaged spacer, 4-40 threads, 0.375[9.53] length.
- S2 - Swaged spacer, 4-40 threads, 0.125[3.18] length.
- S5 - Swaged locknut, 4-40 threads.
- S6 - Swaged spacer with push-on fastener, 4-40 threads, 0.375[9.53] length.

NOTE:

*1 For additional information on accessories listed in Step 5, 6, and 7, see the Accessories section, pages 88-96.

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.



- High performance for use in harsh environments, including space flight.
- Size 20 **fixed** and Size 8 **removable** contacts.
- All female closed entry signal contacts utilize the “PosiBand®” system. See page 1 for details. GSFC S-311-P-4/10 offers two contact engagement test options. Size 20 PosiBand contacts meet the higher 40 gram requirements per 4.2.2.b.
- Twenty-two connector variants with a mixture of signal, power, shielded and high voltage contacts.
- Terminations include cable or wire crimp and solder, straight and right angle PCB mount.
- Current ratings to 70 amperes. See temperature rise curves on page 3 & 4 for details.
- A wide variety of options and accessories.
- Applicable variants are qualified to GSFC and military specifications. See page 100 for details.

**Conforming To Applicable
Material, Dimensional and
Performance Requirements:**

- GSFC S-311-P4 & GSFC S-311-P10
- DSCC Specification 85039

**Conforming To Outgassing
Requirements:**

- ASTM E-595 & NASA-RP-1124

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Connector Insert:

Glass-filled polyester per ASTM-D-5927, UL 94V-0, ASTM E-595, NASA-RP-1124, blue color.

Contacts:

Size 20:

Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Size 8:

Power:

Precision machined high conductivity copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Shielded:

For material and finishes, see page 79.

High Voltage:

For material and finishes, see page 79.

**Connector Housing
(Shells):**

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

**Mounting Spacers
and Brackets:**

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Push-On Fasteners:

Phosphor bronze or beryllium copper with 0.000050 inch [1.27 microns] gold over copper plate.

Jackscrew Systems:

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Cable Adapter (Hood):

Brass with 0.000050 inch [1.27 microns] gold over copper plate; aluminum with electroless nickel plate. Other finishes available, contact Technical Sales.

continued on next page. . . .



TECHNICAL CHARACTERISTICS, *continued*

continued from previous page. . . .

MECHANICAL CHARACTERISTICS:

Contacts:

Size 20 Fixed:

Male contact - 0.040 inch [1.02 mm] mating diameter. Female contact - PosiBand closed entry design; *see page 1 for details*.

Size 8 Removable:

Power:

Install contact to rear face of connector insert and remove from front face of connector insert. Male contact - 0.142 inch [3.61 mm] mating diameter. Female contact - features Large Surface Area (L.S.A.) closed entry design utilizing BeCu mechanical retention member. *For removable size 8 contacts, see pages 83-87.*

Shielded:

For mechanical characteristics, see page 79.

High Voltage:

For mechanical characteristics, see page 79.

Contact Retention in Connector Insert:

Size 20:

9 lbs. [40N].

Size 8 Power / Shielded:

22 lbs. [98N].

Resistance to Solder Iron Heat:

500°F [260°C] for 10 seconds duration per IEC 60512-6.

Contact Terminations:

Size 20:

Solder cup - wire size 20 AWG [0.5 mm²] maximum; *see page 26 for details.*

Straight solder printed board mount - 0.028 inch [0.71 mm] termination diameter.

Right angle (90°) printed board mount - 0.028 inch [0.71 mm] termination diameter.

Size 8

Power:

Closed barrel crimp or solder cup - wire sizes 8 [10.0 mm²], 10 [4.3 mm²], 12 [4.0 mm²], and 16 [1.5 mm²] AWG.

Straight solder printed board mount - 0.078 inch [1.98 mm], 0.094 inch [2.39 mm] and 0.125 inch [3.18 mm] termination diameters.

Right angle (90°) printed board mount - 0.078 inch [1.98 mm] and 0.125 inch [3.18 mm] termination diameters.

Shielded:

Refer to RF Cable in chart on page 86 for contact terminations.

High Voltage:

Straight and right angle (90°) terminations - 0.041 inch [1.04 mm] minimum hole diameter.

Connector Housing (Shells):

Male connector housings may be dimpled for EMI/ESD ground paths.

Polarization:

Trapezoidally-shaped connector housing and polarized jackscrews.

Mounting to Angle Brackets:

Jackscrews and riveted fasteners with 0.120 inch [3.05 mm] diameter hole, and threaded riveted fasteners with 4-40 threads and polyester inserts.

Mounting to Printed Board:

Rapid installation push-on fasteners and threaded posts.

Locking Systems:

Jackscrews.

Mechanical Operations:

1,000 operations per IEC 60512-5.

ELECTRICAL CHARACTERISTICS:

SIZE 20 CONTACTS

Contact Current Rating:	7.5 amperes, nominal
Initial Contact Resistance:	0.005 ohms maximum.
Proof Voltage:	1000 V r.m.s.

SIZE 8 CONTACTS

POWER CONTACTS

Contact Current Rating - Tested per U.L. 1977:	
0.078 inches diameter / 12 AWG terminations:	39 amperes.
0.094 inches diameter / 10 AWG terminations:	50 amperes.
0.125 inches diameter / 8 AWG terminations:	70 amperes.

See Temperature Rise Curves on page 3 for details.

Initial Contact Resistance:	0.0005 ohms max. per IEC 60512-2, Test 2b.
-----------------------------	---

SHIELDED CONTACTS

For electrical characteristics, see page 79.

HIGH VOLTAGE CONTACTS

For electrical characteristics, see page 79.

CONNECTOR

Insulation Resistance:	5 G ohms.
Clearance and Creepage Distance:	0.039 inch [1.0 mm], minimum.
Working Voltage:	300 V r.m.s.

CLIMATIC CHARACTERISTICS:

Temperature Range: -55°C to +125°C.

Damp Heat, Steady State: 21 days.

CONTACT VARIANTS

FACE VIEW OF MALE OR REAR VIEW OF FEMALE

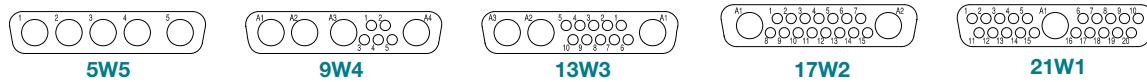
— SHELL SIZE 1 —



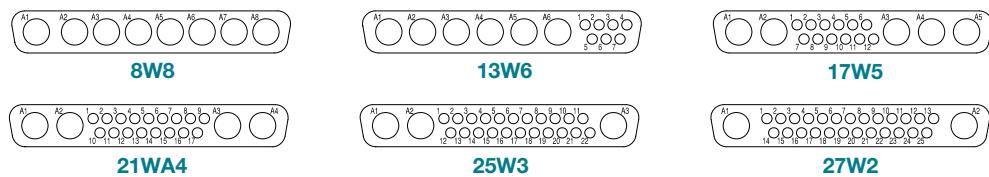
— SHELL SIZE 2 —



— SHELL SIZE 3 —



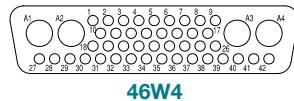
— SHELL SIZE 4 —



— SHELL SIZE 5 —



— SHELL SIZE 6 —



Notes:

*¹ 2WK2 connectors have 1 male and 1 female contacts. Female connector should be loaded with female contact in A2 position.

*² 3WK3 male variant contains 2 male contacts and 1 female contact. Female variant contains 2 female contacts and 1 male contact



STANDARD CONNECTOR HOUSING (SHELLS) ASSEMBLY

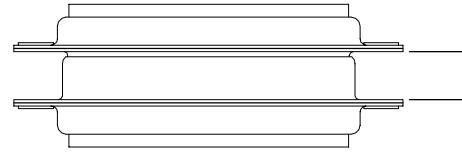


SCBM3W3M0000G

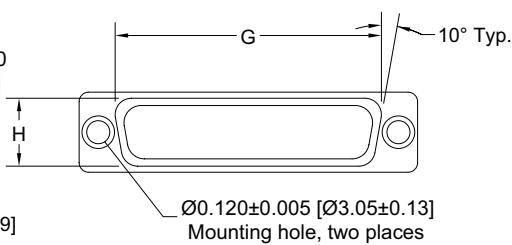
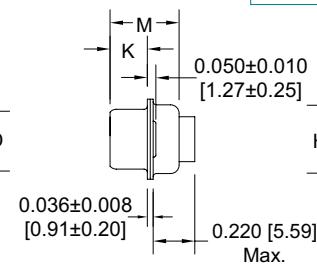
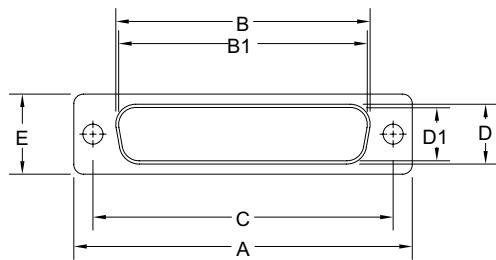


SCBM5W5M0000G

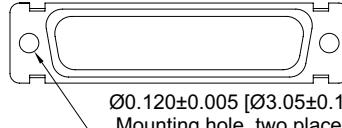
RECOMMENDED MATING DIMENSIONS



Shell Sizes 1 & 2 = 0.265 ± 0.015 [6.73 \pm 0.38]
Shell Sizes 3, 4, 5 & 6 = 0.256 ± 0.015 [6.50 \pm 0.38]

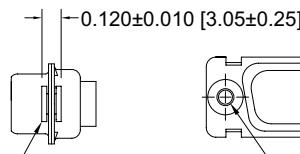


OPTIONAL CONNECTOR HOUSING ASSEMBLY (0, 02)

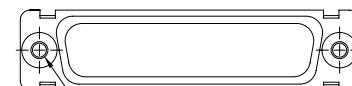


$\varnothing 0.120 \pm 0.005$ [$\varnothing 3.05 \pm 0.13$]
Mounting hole, two places
for stainless steel shell (0 option)
 $\varnothing 0.154$ [3.91] Mounting hole,
two places (02 option)

**OPTIONAL CONNECTOR HOUSING ASSEMBLY
WITH UNIVERSAL FLOAT MOUNTS (F)**



0.120 ± 0.010 [3.05 \pm 0.25]
 0.032 [0.81]
Total diametral float



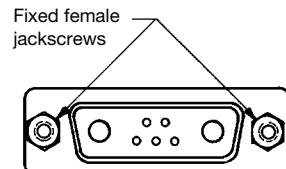
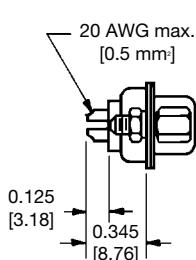
$\varnothing 0.086 \pm 0.005$ [$\varnothing 2.18 \pm 0.13$]
Mounting hole, two places

SHELL SIZE	GENDER	A ± 0.015 [0.38]	B ± 0.005 [0.13]	B1 ± 0.005 [0.13]	C ± 0.005 [0.13]	D ± 0.005 [0.13]	D1 ± 0.005 [0.13]	E ± 0.015 [0.38]	G ± 0.010 [0.25]	H ± 0.010 [0.25]	K ± 0.005 [0.13]	M ± 0.010 [0.25]
1	MALE	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	FEMALE	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
2	MALE	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	FEMALE	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
3	MALE	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.088 [53.04]	1.511 [38.38]		1.852 [47.04]	0.311 [7.90]		0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
4	MALE	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.729 [69.32]	2.159 [54.84]		2.500 [63.50]	0.311 [7.90]		0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
5	MALE	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.635 [66.93]	2.064 [52.43]		2.406 [61.11]	0.423 [10.74]		0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.243 [6.17]	0.429 [10.90]
6	MALE	2.729 [69.32]		2.212 [56.18]	2.500 [63.50]		0.503 [12.78]	0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.729 [69.32]	2.189 [55.60]		2.500 [63.50]	0.485 [12.32]		0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.243 [6.17]	0.429 [10.90]

DIMENSIONS ARE IN INCHES [MILLIMETERS].

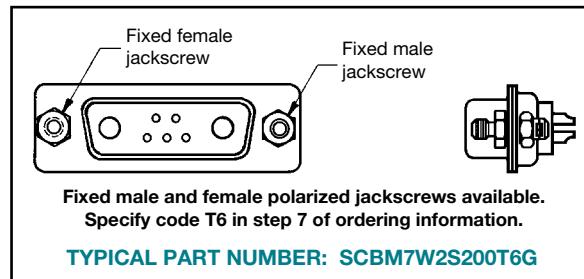
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

SOLDER CUP TERMINATION
CODE 2



For solder cup contacts,
specify code 2 in step 4 of
ordering information.

Typical Part Number:
SCBM7W2M200T2G



Fixed female
jackscrew
Fixed male
jackscrew
Fixed male and female polarized jackscrews available.
Specify code T6 in step 7 of ordering information.

TYPICAL PART NUMBER: SCBM7W2S200T6G

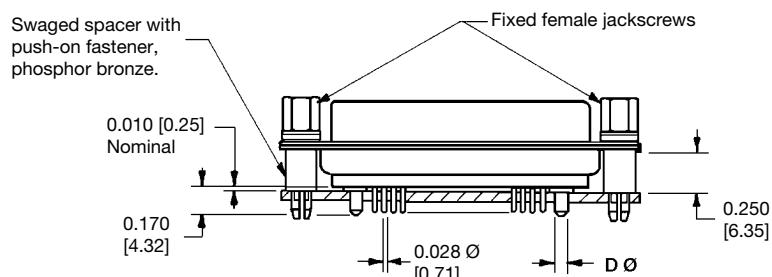


SCBM21WA4M2000G WITH MS4820M

SCBM21WA4S65S00G

STRAIGHT SOLDER PRINTED BOARD MOUNT TERMINATION
CODE 3, 35, 36 AND 37

* ¹ CODE NUMBER	D Ø
3	Size 8 contacts not supplied
35	<u>0.078</u> [1.98]
36	<u>0.094</u> [2.39]
37	<u>0.125</u> [3.18]



TYPICAL PART NUMBER:
SCBM17W2S35S60T2G

NOTE:

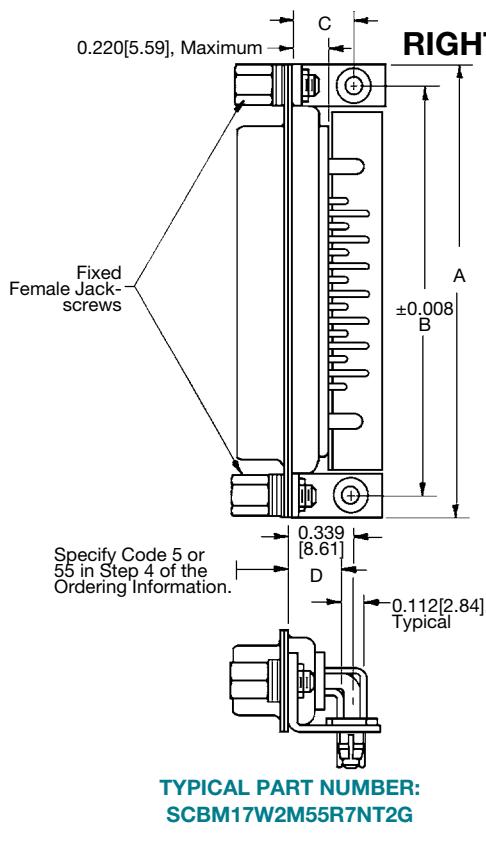
*¹ Contact termination code as specified in Step 4 of ordering information.



Positronic
connectpositronic.com

SCBM SERIES
MILITARY / SPACE FLIGHT QUALITY
STANDARD DENSITY PCB MOUNT

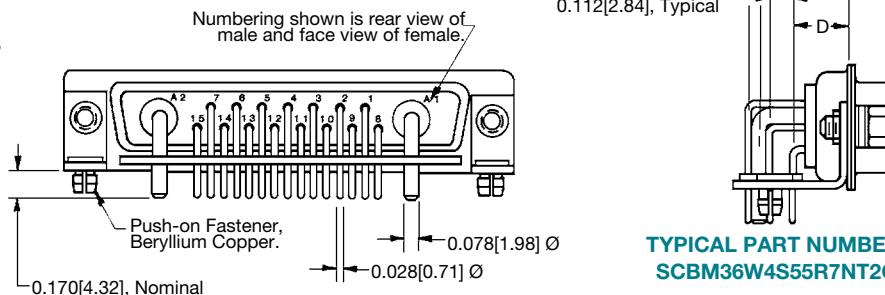
High
Performance
D-sub



**RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
WITH 0.078 [1.98] Ø POWER CONTACTS
CODE 5 AND 55, 0.283 [7.19] CONTACT EXTENSION**

See temperature rise curves on pages 3 and 4

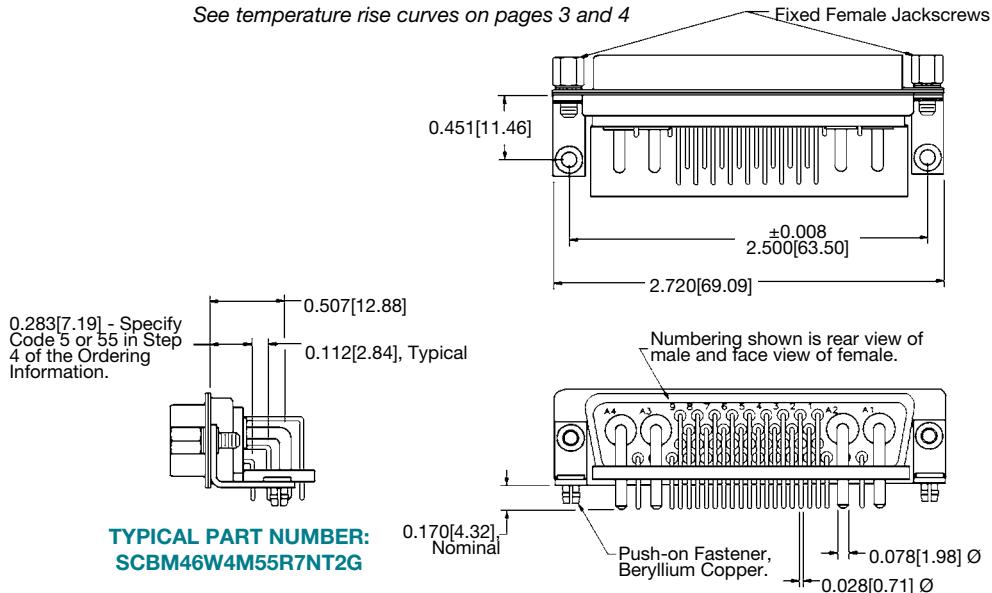
SCBM**(5 or 55)*** 0.283 [7.19] CONTACT EXTENSION				
SHELL SIZE	A	B	C	D
SHELL SIZE 1	1.204 [30.58]	0.984 [24.99]	0.339 [8.61]	0.283 [7.19]
SHELL SIZE 2	1.532 [38.91]	1.312 [33.32]	0.339 [8.61]	0.283 [7.19]
SHELL SIZE 3	2.072 [52.63]	1.852 [47.04]	0.339 [8.61]	0.283 [7.19]
SHELL SIZE 4	2.720 [69.09]	2.500 [63.50]	0.339 [8.61]	0.283 [7.19]
SHELL SIZE 5	2.626 [66.70]	2.406 [61.11]	0.395 [10.03]	0.283 [7.19]

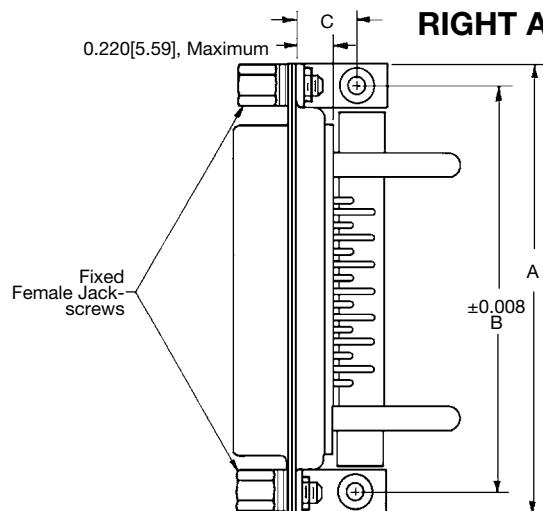


SHELL SIZE 6
**RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
WITH 0.078 [1.98] Ø POWER CONTACTS
CODE 5 AND 55, 0.283 [7.19] CONTACT EXTENSION**

CONNECTOR VARIANT 46W4

See temperature rise curves on pages 3 and 4

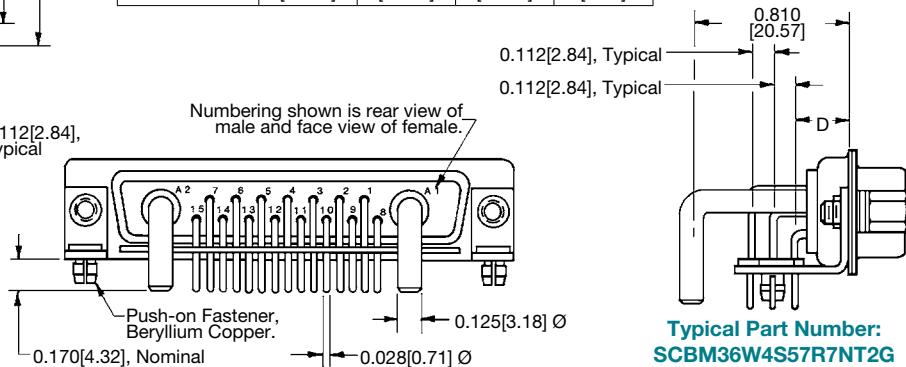




**RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
WITH 0.125 [3.18] Ø POWER CONTACTS
CODE 5 AND 57, 0.283 [7.19] CONTACT EXTENSION**

See temperature rise curves on pages 3 and 4

SCBM**5 or 57**** 0.283 [7.19] CONTACT EXTENSION				
SHELL SIZE	A	B	C	
SHELL SIZE 1	1.204 [30.58]	0.984 [24.99]	0.339 [8.61]	0.283 [7.19]
SHELL SIZE 2	1.532 [38.91]	1.312 [33.32]	0.339 [8.61]	0.283 [7.19]
SHELL SIZE 3	2.072 [52.63]	1.852 [47.04]	0.339 [8.61]	0.283 [7.19]
SHELL SIZE 4	2.720 [69.09]	2.500 [63.50]	0.339 [8.61]	0.283 [7.19]
SHELL SIZE 5	2.626 [66.70]	2.406 [61.11]	0.395 [10.03]	0.283 [7.19]



Typical Part Number:
SCBM36W4S57R7NT2G

SHELL SIZE 6
**RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
WITH 0.125 [3.18] Ø POWER CONTACTS
CODE 5 AND 57, 0.283 [7.19] CONTACT EXTENSION**

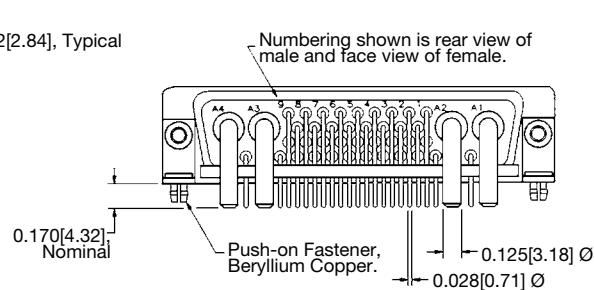
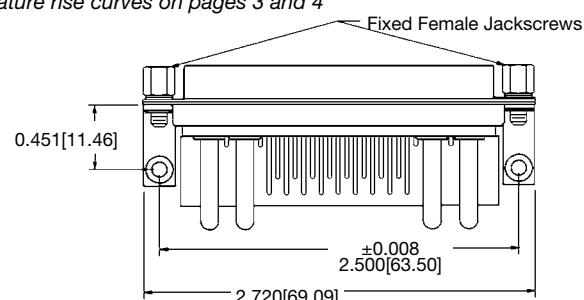
CONNECTOR VARIANT 46W4

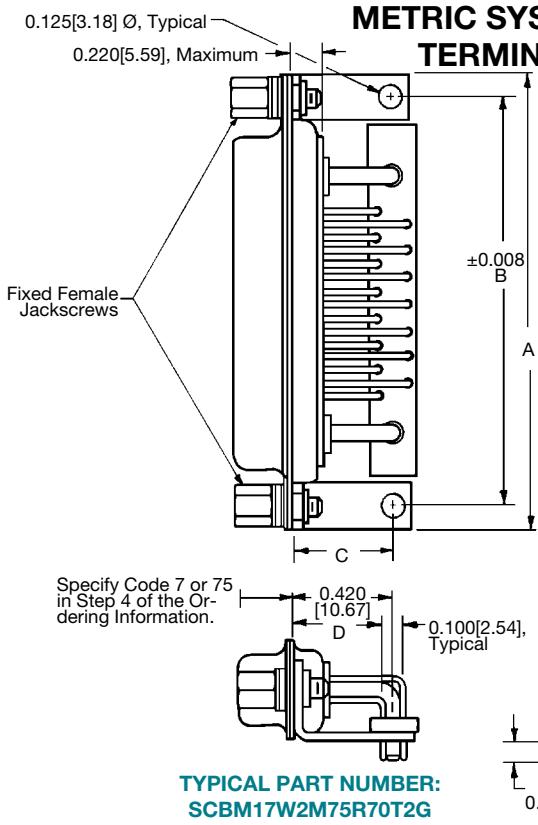
See temperature rise curves on pages 3 and 4

SHELL SIZE 6 CONNECTOR

0.283[7.19] - Specify
Code 5 or 57 in Step
4 of the Ordering
Information.

TYPICAL PART NUMBER:
SCBM46W4M57R7NT2G

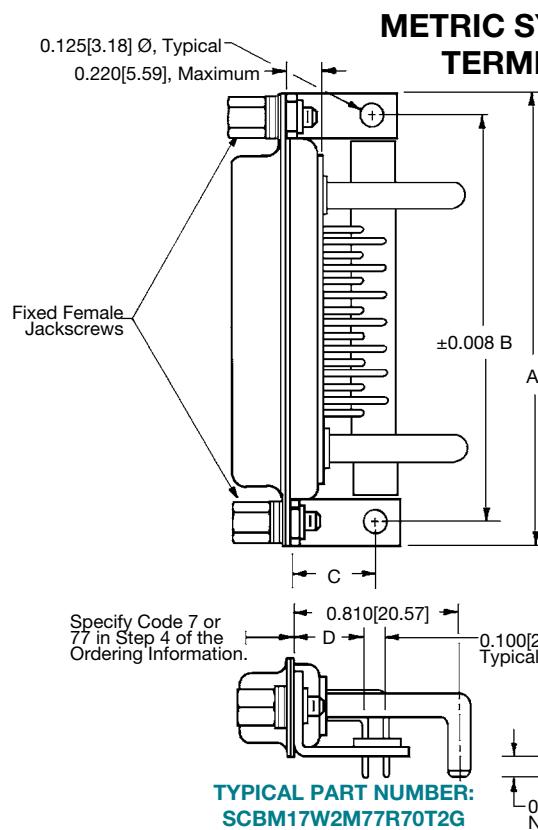
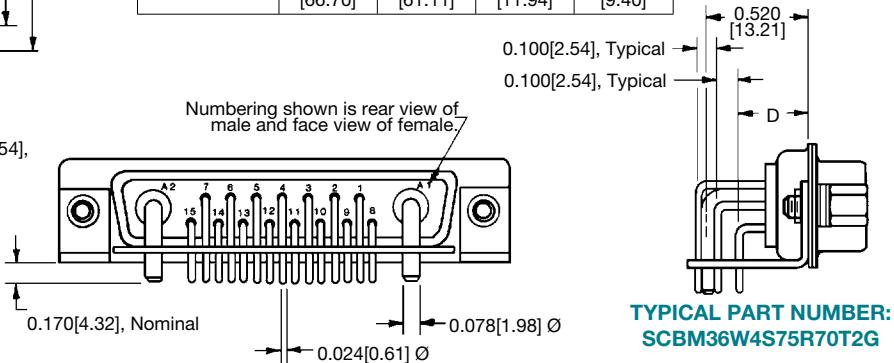




METRIC SYSTEM RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION WITH 0.078 [1.98] Ø POWER CONTACTS
CODE 7 AND 75, 0.370 [9.40] CONTACT EXTENSION

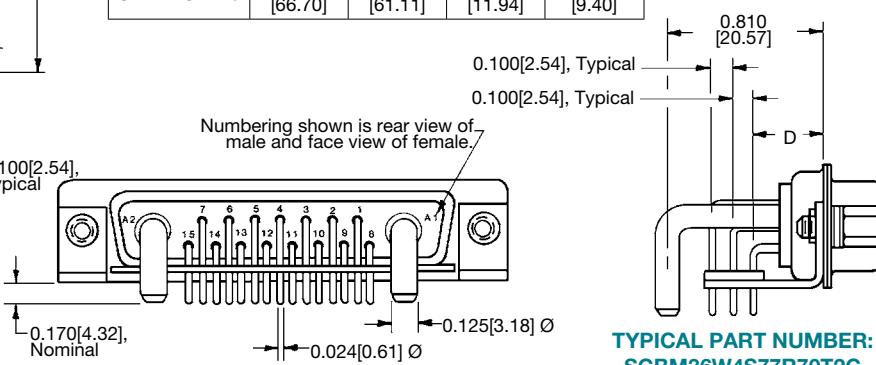
See temperature rise curves on pages 3 and 4

SHELL SIZE	A	B	C	D
SHELL SIZE 1	1.204 [30.58]	0.984 [24.99]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 2	1.532 [38.91]	1.312 [33.32]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 3	2.072 [52.63]	1.852 [47.04]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 4	2.720 [69.09]	2.500 [63.50]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 5	2.626 [66.70]	2.406 [61.11]	0.470 [11.94]	0.370 [9.40]



METRIC SYSTEM RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION WITH 0.125 [3.18] Ø POWER CONTACTS
CODE 7 AND 77, 0.370 [9.40] CONTACT EXTENSION

SHELL SIZE	A	B	C	D
SHELL SIZE 1	1.204 [30.58]	0.984 [24.99]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 2	1.532 [38.91]	1.312 [33.32]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 3	2.072 [52.63]	1.852 [47.04]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 4	2.720 [69.09]	2.500 [63.50]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 5	2.626 [66.70]	2.406 [61.11]	0.470 [11.94]	0.370 [9.40]

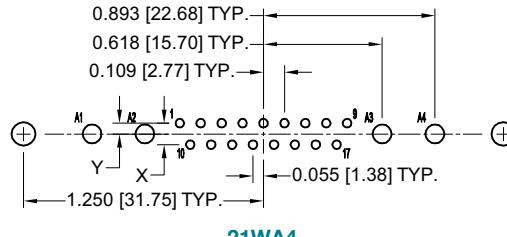
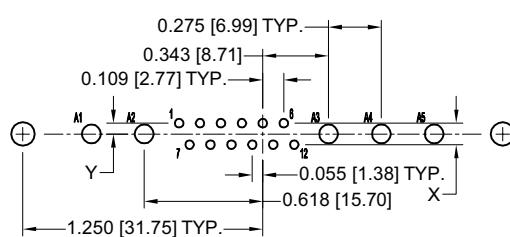
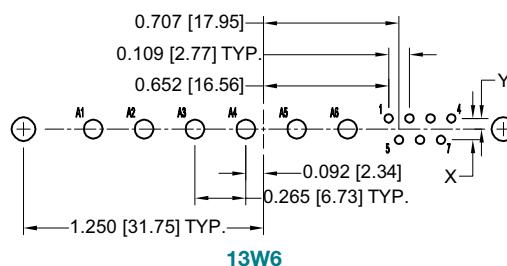
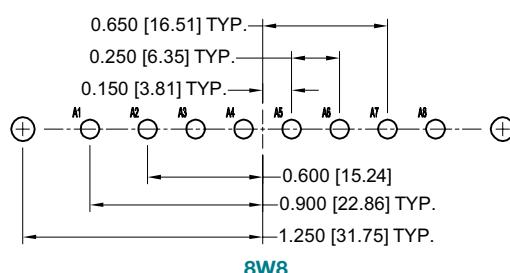
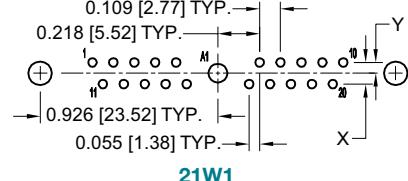
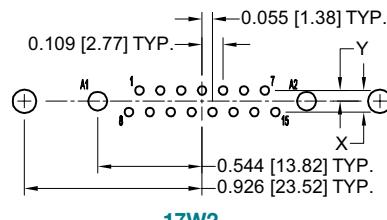
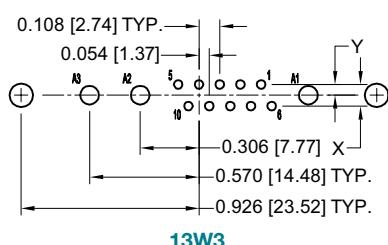
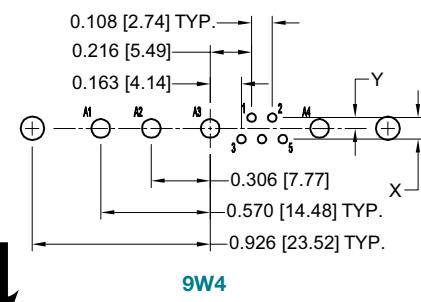
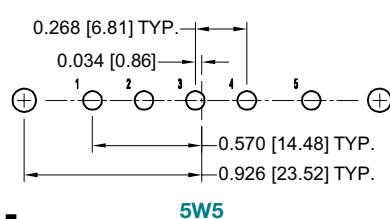
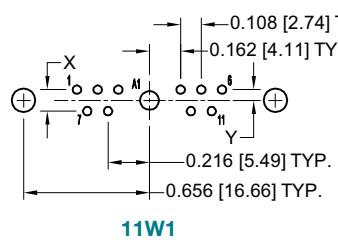
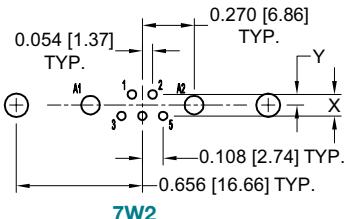
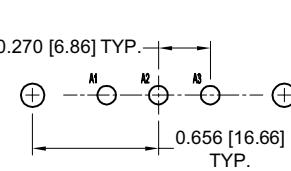
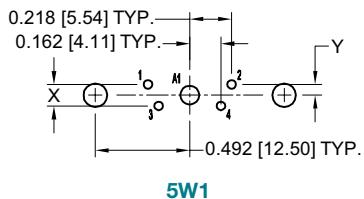
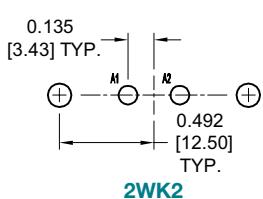


PRINTED BOARD CONTACT HOLE PATTERNS

RIGHT ANGLE (90°) WITH 0.078 [1.98] Ø POWER CONTACTS AND STRAIGHT SOLDER PRINTED BOARD MOUNT WITH 0.078 [1.98] Ø, 0.094 [2.39] Ø AND 0.125 [3.18] Ø POWER CONTACTS

HOLE IDENTIFICATION SHOWN FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.

MOUNT CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROWS.



SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.045 [1.14] Ø hole for size 20 contact termination positions.

Suggest 0.098 [2.49] Ø hole for 0.078 [1.98] Ø power contact termination positions.

Suggest 0.114 [2.90] Ø hole for 0.094 [2.39] Ø power contact termination positions.

Suggest 0.145 [3.68] Ø hole for 0.125 [3.18] Ø power contact termination positions.

Suggest 0.123 ±0.003 [3.12] Ø hole for mounting connector with push-on fasteners.

For "X" and "Y" dimensions, see chart on page 31.

continued on next page. . . .

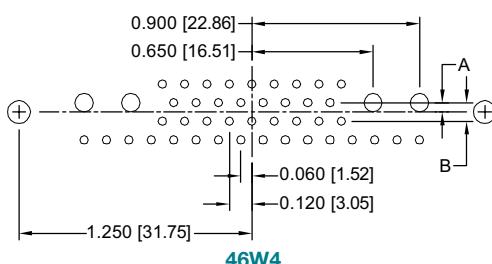
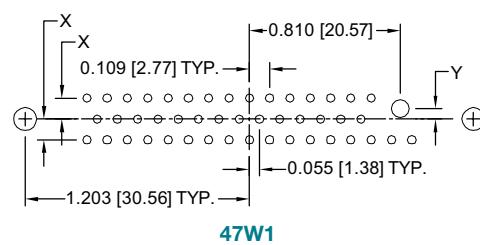
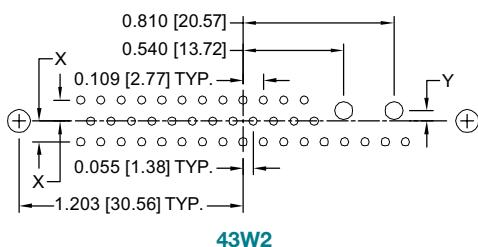
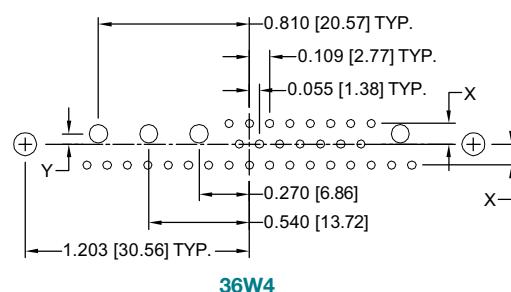
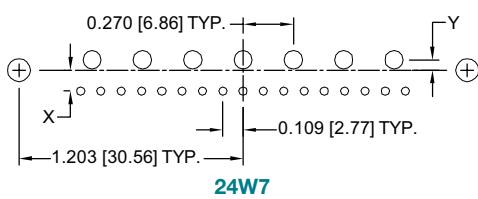
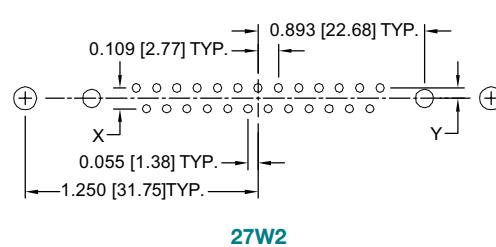
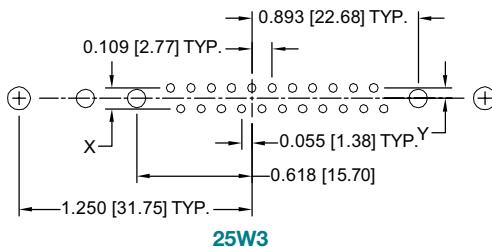


PRINTED BOARD CONTACT HOLE PATTERNS

**RIGHT ANGLE (90°) WITH 0.078 [1.98] Ø POWER CONTACTS AND STRAIGHT SOLDER PRINTED
BOARD MOUNT WITH 0.078 [1.98] Ø, 0.094 [2.39] Ø AND 0.125 [3.18] Ø POWER CONTACTS**

HOLE IDENTIFICATION SHOWN FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.
MOUNT CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROWS.

continued from previous page. . .



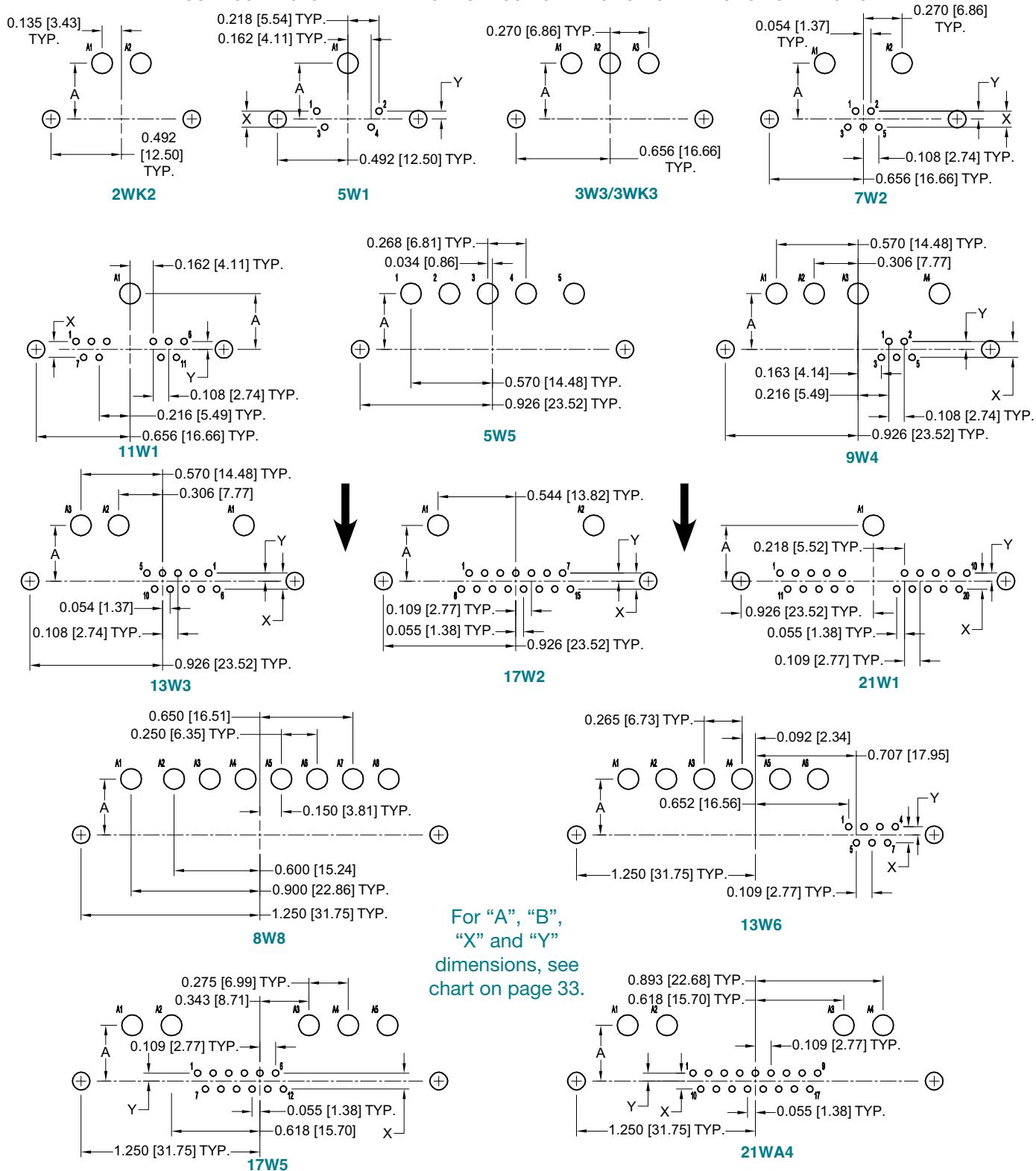
CODE NUMBER	X	Y	A	B
3				
35	0.112 [2.84]	0.056 [1.42]	0.050 [1.27]	0.100 [2.54]
36				
37				
5	0.112 [2.84]	0.056 [1.42]	0.056 [1.42]	0.112 [2.84]
55				
7	0.100 [2.54]	0.050 [1.27]	0.050 [1.27]	0.100 [2.54]
75				

SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.045 [1.14] Ø hole for size 20 contact termination positions.
Suggest 0.098 [2.49] Ø hole for 0.078 [1.98] Ø power contact termination positions.
Suggest 0.114 [2.90] Ø hole for 0.094 [2.39] Ø power contact termination positions.
Suggest 0.145 [3.68] Ø hole for 0.125 [3.18] Ø power contact termination positions.
Suggest 0.123 ±0.003 [3.12] Ø hole for mounting connector with push-on fasteners.

**PRINTED BOARD CONTACT HOLE PATTERN
RIGHT ANGLE (90°) WITH 0.125 [3.18] Ø POWER CONTACTS**

HOLE IDENTIFICATION SHOWN FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.
MOUNT CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROWS.



SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.045 [1.14] Ø hole for size 20 contact termination positions.

Suggest 0.145 [3.68] Ø hole for power contact termination positions.

Suggest 0.123±0.003 [3.12] Ø hole for mounting connector with push-on fasteners.

continued on next page. . . .

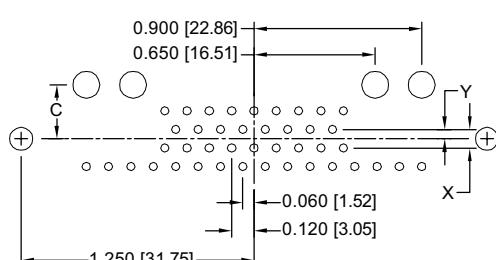
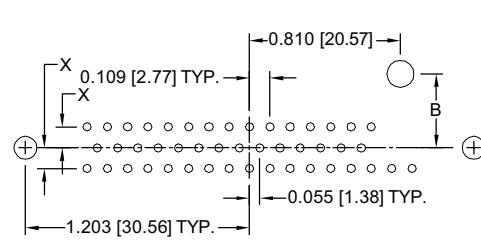
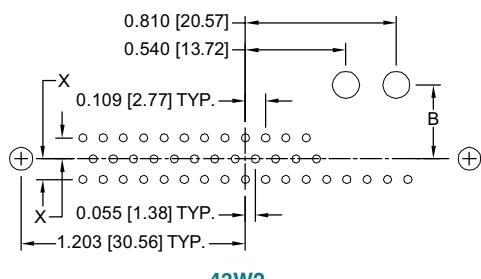
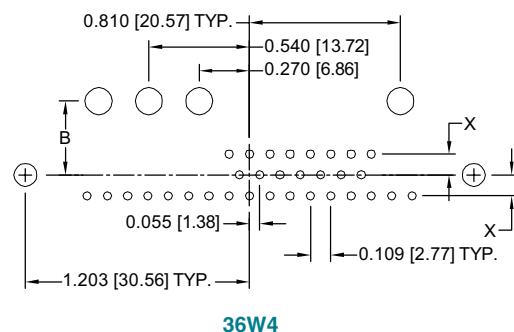
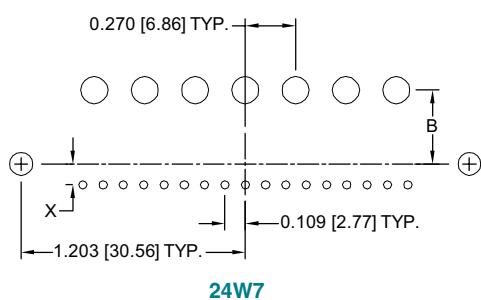
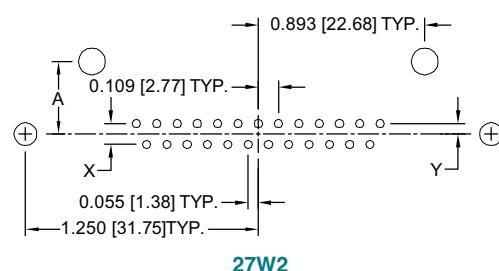
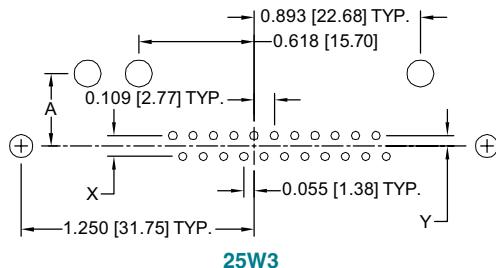


PRINTED BOARD CONTACT HOLE PATTERN

RIGHT ANGLE (90°) WITH 0.125 [3.18] Ø POWER CONTACTS

HOLE IDENTIFICATION SHOWN FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.
MOUNT CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROWS.

continued from previous page. . . .



CODE NUMBER	A	B	C	X	Y
5	0.471 [11.96]	0.415 [10.54]	0.359 [9.12]	0.112 [2.84]	0.056 [1.42]
57					
7	0.390 [9.91]	0.340 [8.64]	0.290 [7.37]	0.100 [2.54]	0.056 [1.42]
77					

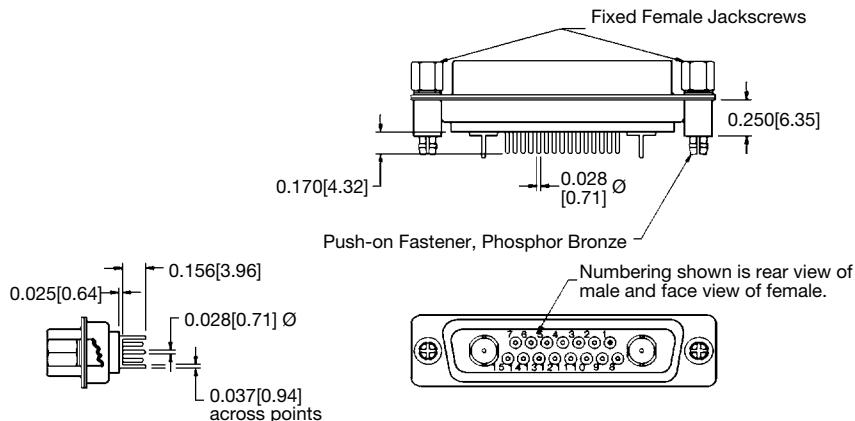
SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.045 [1.14] Ø hole for size 20 contact termination positions.

Suggest 0.145 [3.68] Ø hole for power contact termination positions.

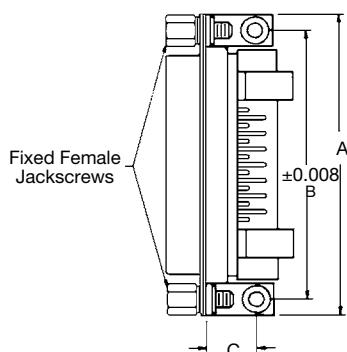
Suggest 0.123±0.003 [3.12] Ø hole for mounting connector with push-on fasteners.

STRAIGHT SOLDER PRINTED BOARD MOUNT TERMINATION WITH SHIELDED CONTACTS
CODE 65, CONNECTOR WITH FDS4201M OR MDS4201M CONTACTS



TYPICAL PART NUMBER:
SCBM17W2M65S60T2G

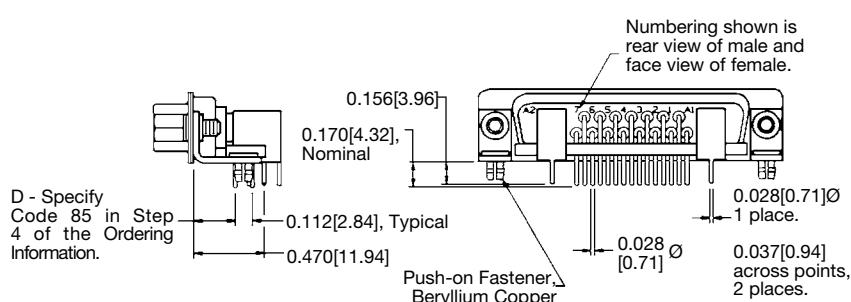
RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION WITH SHIELDED CONTACTS
CODE 85, CONNECTOR WITH FRT4201M OR MRT4201M CONTACTS



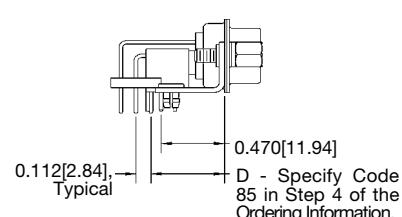
SCBM**85**** 0.283 [7.19] CONTACT EXTENSION				
SHELL SIZE	A	B	C	D
SHELL SIZE 1	1.204 [30.58]	0.984 [24.99]	0.339 [8.61]	0.283 [7.19]
SHELL SIZE 2	1.532 [38.91]	1.312 [33.32]	0.339 [8.61]	0.283 [7.19]
SHELL SIZE 3	2.072 [52.63]	1.852 [47.04]	0.339 [8.61]	0.283 [7.19]
SHELL SIZE 4	2.720 [69.09]	2.500 [63.50]	0.339 [8.61]	0.283 [7.19]
*1 SHELL SIZE 5	2.626 [66.70]	2.406 [61.11]	0.395 [10.03]	0.545 [13.84]

NOTE:

*1 Shell size 5 connectors are supplied inverted when ordered with right angle (90°) printed board mount shielded contacts.



TYPICAL PART NUMBER:
SCBM17W2M85R7NT2G

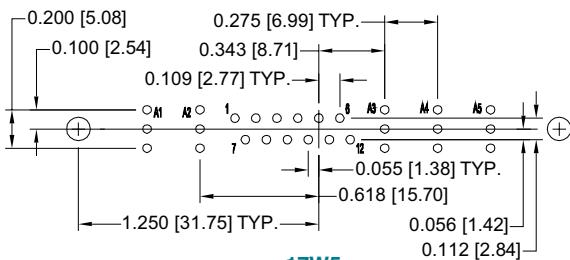
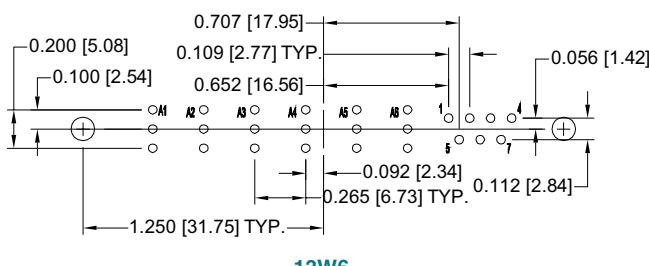
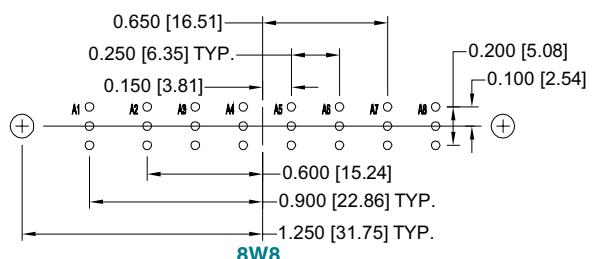
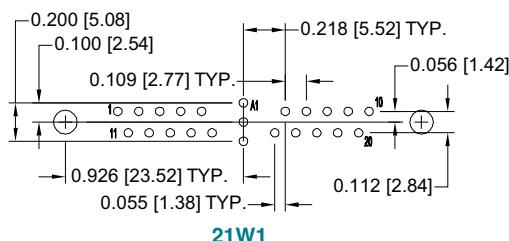
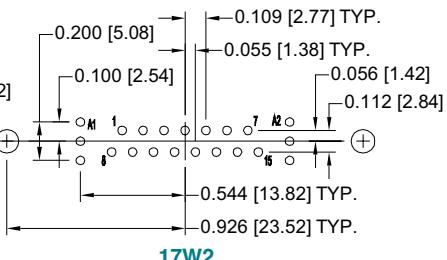
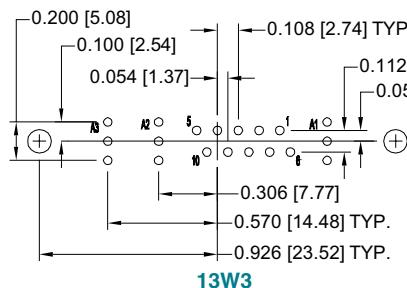
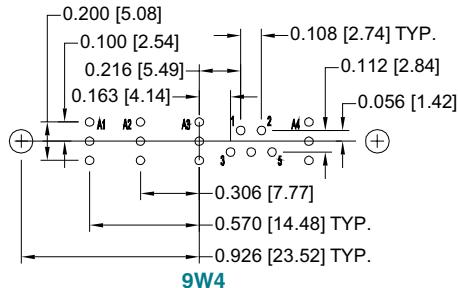
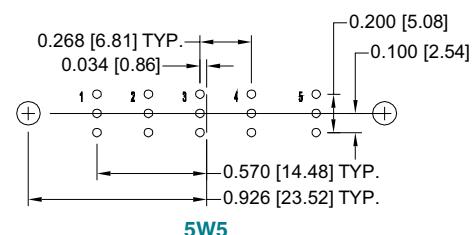
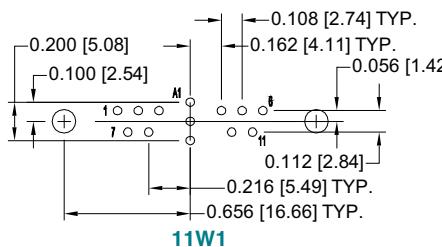
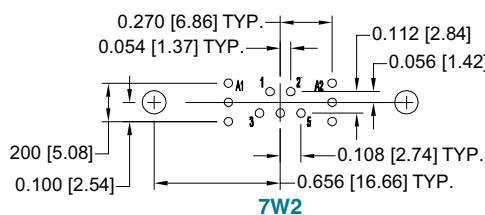
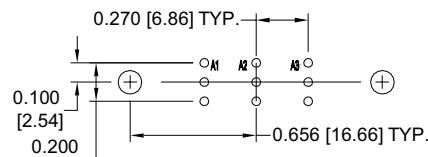
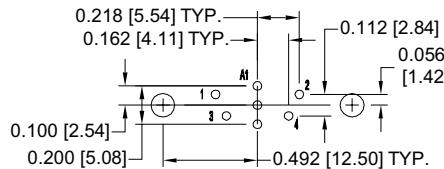
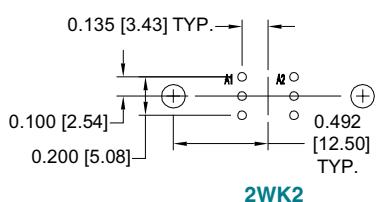


TYPICAL PART NUMBER:
SCBM36W4M85R7NT2G



**STRAIGHT SOLDER PRINTED BOARD MOUNT CONTACT HOLE PATTERN
WITH FDS4201M AND MDS4201M SHIELDED CONTACTS**

HOLE IDENTIFICATION SHOWN FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.



continued on next page. . . .

SUGGESTED PRINTED BOARD HOLE SIZES:

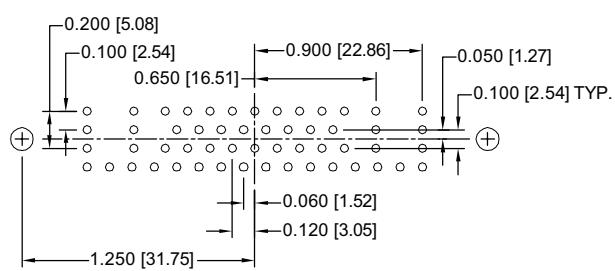
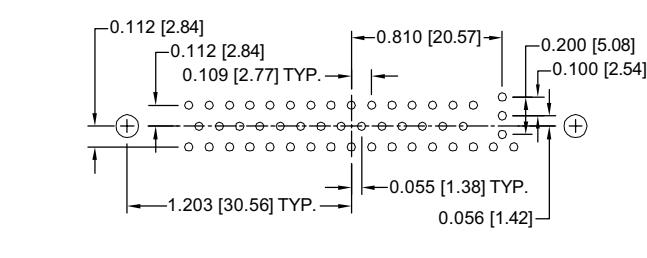
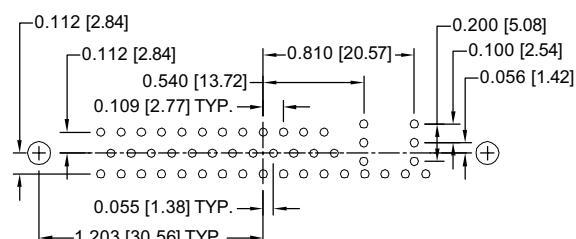
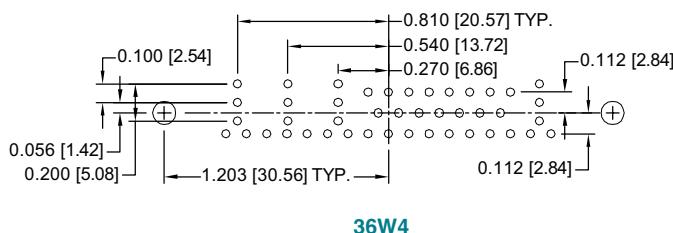
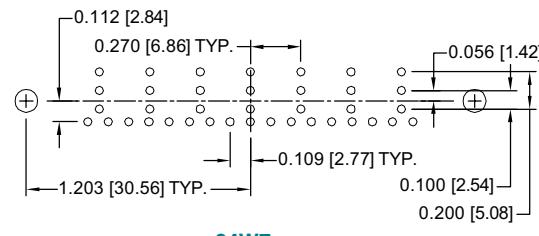
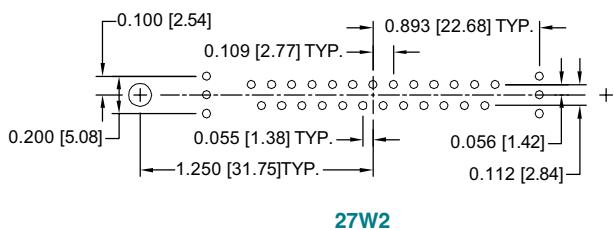
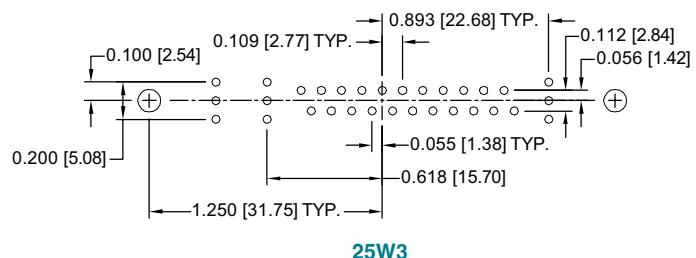
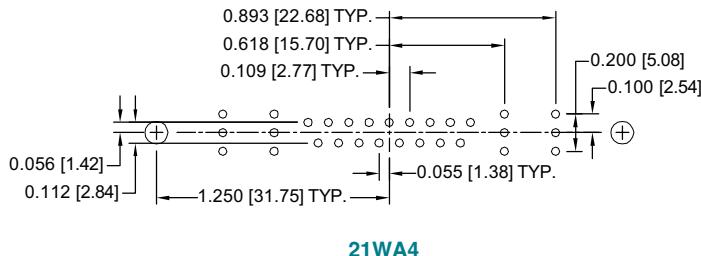
Suggest 0.045 [1.14] Ø hole for size 20 contact termination position.

Suggest 0.123±0.003 [3.12] Ø hole for mounting connector with push-on fasteners.

**STRAIGHT SOLDER PRINTED BOARD MOUNT CONTACT HOLE PATTERN
WITH FDS4201M AND MDS4201M SHIELDED CONTACTS**

HOLE IDENTIFICATION SHOWN FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.

continued from previous page. . .



SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.045 [1.14] Ø hole for size 20 contact termination position.

Suggest 0.123±0.003 [3.12] Ø hole for mounting connector with push-on fasteners.

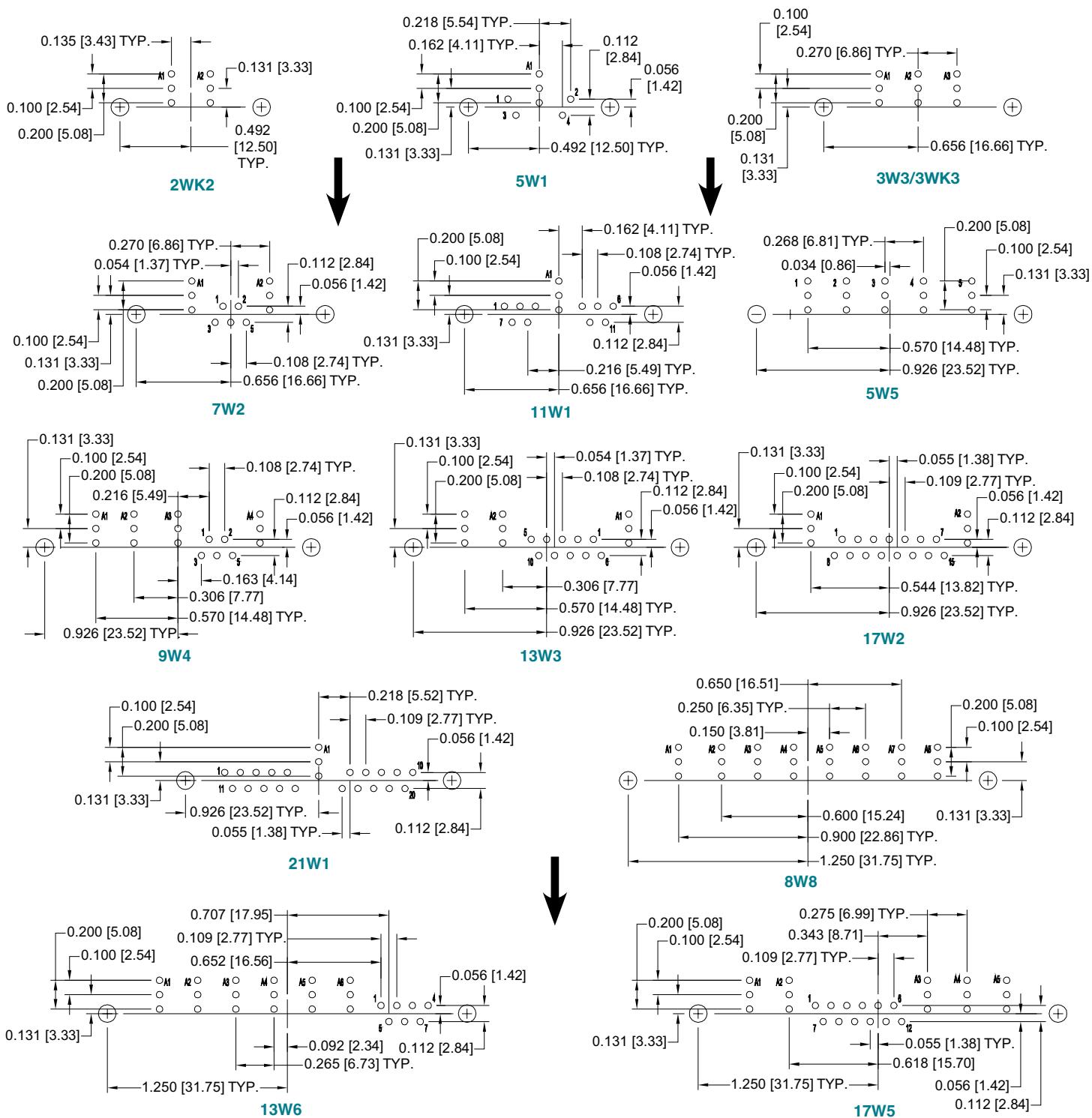
DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.



**RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONTACT HOLE PATTERN
WITH FRT4201M AND MRT4201M SHIELDED CONTACTS**

HOLE IDENTIFICATION SHOWN IS FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.

MOUNT CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROW.



continued on next page. . .

SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.045 [1.14] Ø hole for size 20 contact termination position.

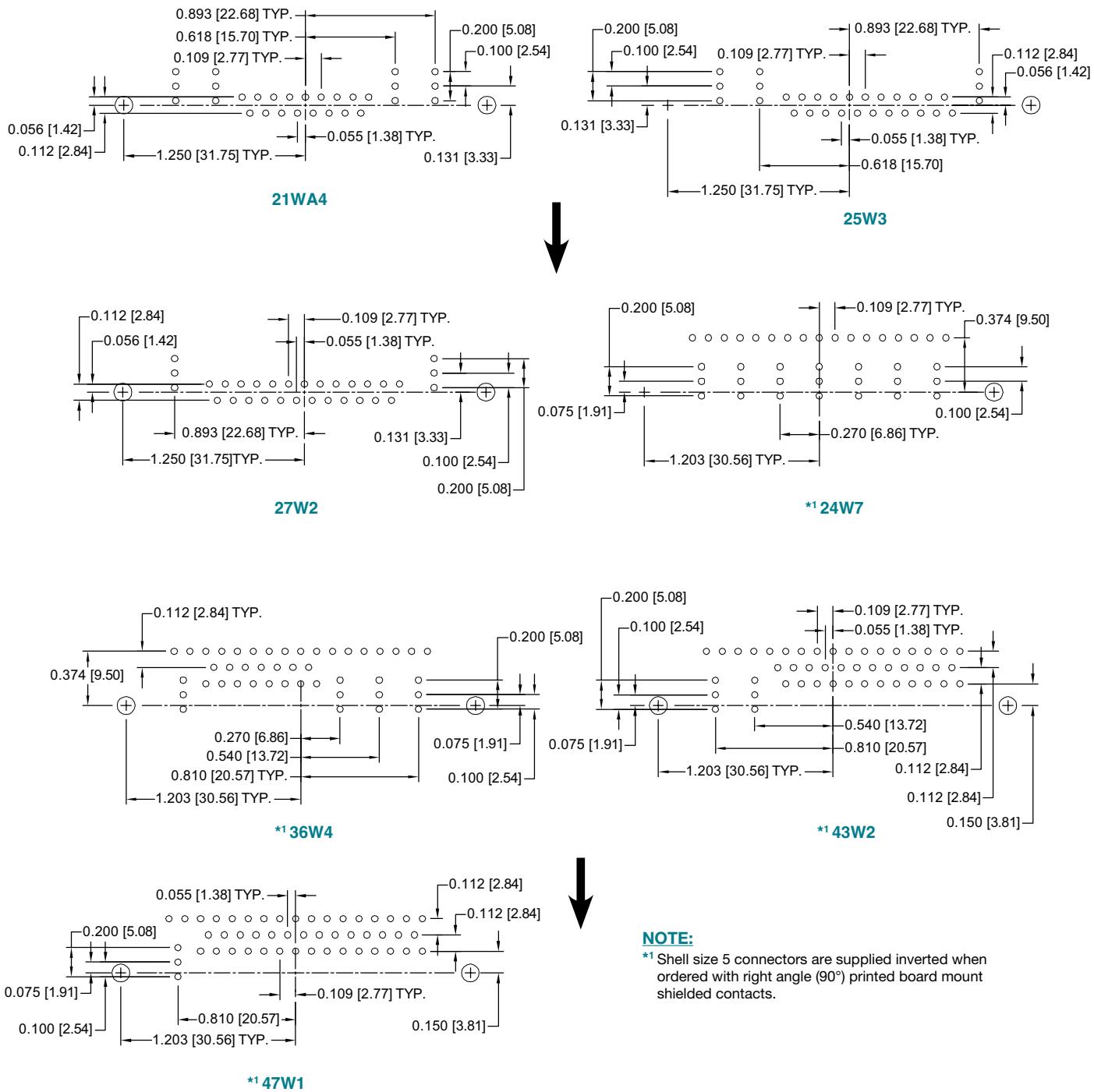
Suggest 0.123±0.003 [3.12] Ø hole for mounting connector with push-on fasteners.

**RIGHT ANGLE (90°) PRINTED BOARD MOUNT CONTACT HOLE PATTERN
WITH FRT4201M AND MRT4201M SHIELDED CONTACTS**

HOLE IDENTIFICATION SHOWN IS FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.

MOUNT CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROW.

continued from previous page. . . .



SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.045 [1.14] Ø hole for size 20 contact termination position.

Suggest 0.123±0.003 [3.12] Ø hole for mounting connector with push-on fasteners.

DIMENSIONS ARE IN INCHES [MILLIMETERS].

ALL DIMENSIONS ARE SUBJECT TO CHANGE. **38**



REMOVABLE CONTACT ORDERING ASSISTANCE CHART

SCBM SERIES CRIMP AND SOLDER CUP TERMINATION CONTACTS

TYPE	PAGE NUMBER REFERENCE IN CATALOG	CONTACT SIZE	FEMALE PART NUMBER	MALE PART NUMBER	WIRE SIZE AWG [mm ²]
CRIMP	see page 83 for additional information	8	FC4008M	MC4008M	8 [10.0]
			FC4010M	MC4010M	10 [5.3]
			FC4012M	MC4012M	12 [4.0]
			FC4016M	MC4016M	16 [1.5]
SOLDER CUP	see page 84 for additional information	8	FS4008M	MS4008M	8 [10.0]
			FS4012M	MS4012M	12 [4.0]
			FS4016M	MS4016M	16 [1.5]
HIGH VOLTAGE <i>Straight Solder Wire</i>	see page 85 for additional information	8	FS4820M	MS4820M	20 [0.5]
HIGH VOLTAGE <i>Right Angle (90°) Solder Wire</i>			FS4920M	MS4920M	20 [0.5]
SHIELDED	see page 86 for additional information	SOLDER / CRIMP	FC4101M	MC4101M	RG 178 B/U, 196 B/U
			FC4102M	MC4102M	RG 179 B/U, 316 B/U
			FC4103M	MC4103M	RG 180 B/U
			FC4104M	MC4104M	RG 58 B/U
		SOLDER / SOLDER	FS4101M	MS4101M	RG 178 B/U, 196 B/U
			FS4102M	MS4102M	RG 179 B/U, 316 B/U
			FS4103M	MS4103M	RG 180 B/U
			FS4104M	MS4104M	RG 58 B/U
		CRIMP / CRIMP	FCC4101M	MCC4101M	RG 178 B/U, 196 B/U
			FCC4102M	MCC4102M	RG 179 B/U, 316 B/U
			FCC4103M	MCC4103M	RG 180 B/U
			FCC4104M	MCC4104M	RG 58 B/U

NOTE: For ordering crimp contacts on reels, add "R" to part number, see page 79 for details. Examples: FC4008MR or MC4008MR

SCBM SERIES PRINTED BOARD MOUNT TERMINATION CONTACTS

TERMINATION TYPE	PAGE NUMBER REFERENCE IN CATALOG	CONTACT SIZE	FEMALE PART NUMBER	MALE PART NUMBER	TERMINATION LENGTH	TERMINATION DIMENSION
STRAIGHT SOLDER PRINTED BOARD MOUNT	see page 84 for additional information	8	FDS4314M	MDS4314M	0.170 [4.32]	0.078 [1.98] Ø
			FDS4312M	MDS4312M		0.094 [2.39] Ø
			FDS4310M	MDS4310M		0125 [3.18] Ø
	see page 87 for additional information	SHIELDED	FDS4201M	MDS4201M	0.156 [3.96]	SHIELDED
RIGHT ANGLE (90°) PRINTED BOARD MOUNT	see page 85 for additional information	8	FRT4314M	MRT4314M	0.339 [8.61]	0.078 [1.98] Ø
			FRT4414M	MRT4414M	0.451 [11.56]	0.078 [1.98] Ø
			FRT4714M	MRT4714M	0.420 [10.67]	0.078 [1.98] Ø
			FRT4814M	MRT4814M	0.520 [13.21]	0.078 [1.98] Ø
			FRT4310M	MRT4310M	0.810 [20.57]	0125 [3.18] Ø
			FRT4410M	MRT4410M	0.810 [20.57]	0125 [3.18] Ø
	see page 87 for additional information	SHIELDED	FRT4201M	MRT4201M	0.162 [6.10]	SHIELDED

NOTE: Positronic recommends printed circuit board contacts be supplied factory installed in the connector. Contact technical sales.

For information regarding **REMOVABLE CONTACTS**, see contact illustration drawings and charts on pages 79-87.

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.

ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	SCBM	17W2	S	55	R7	N	T2	G	

STEP 1 - BASIC SERIES
SCBM series

STEP 2 - CONNECTOR VARIANTS
Shell Size 1 - 2WK2, 5W1
Shell Size 2 - 3W3, 3WK3, 7W2, 11W1
Shell Size 3 - 5W5, 9W4, 13W3, 17W2, 21W1
Shell Size 4 - 8W8, 13W6, 17W5, 21W4, 25W3, 27W2
Shell Size 5 - 24W7, 36W4, 43W2, 47W1
Shell Size 6 - 46W4

STEP 3 - CONNECTOR GENDER
M - Male
S - Female - PosiBand closed entry contacts, see page 1 for more information.

STEP 4 - CONTACT TERMINATION TYPE

*¹0 - Connector ordered without size 8 power shielded or high voltage removable contacts, see contact chart on page 39 for details.
2 - Fixed, solder cup, signal contacts only.
3 - Solder, straight printed board mount with signal contacts only, 0.170 [4.32] tail length.
35 - Solder, straight printed board mount with signal and 0.078 [1.98] Ø power contacts, 0.170 [4.32] tail length.
36 - Solder, straight printed board mount with signal and 0.094 [2.39] Ø power contacts, 0.170 [4.32] tail length.
37 - Solder, straight printed board mount with signal and 0.125 [3.18] Ø power contacts, 0.170 [4.32] tail length.
5 - Solder, right angle (90°) printed board mount with signal contacts only, 0.283 [7.19] signal contact extension.
55 - Solder, right angle (90°) printed board mount with signal and 0.078 [1.98] Ø power contacts, 0.283 [7.19] signal contact extension.
57 - Solder, right angle (90°) printed board mount with signal and 0.125 [3.18] Ø power contacts, 0.283 [7.19] signal contact extension.
65 - Solder, straight printed board mount with signal and shielded contacts, MDS/FDS 4201M footprint, 0.170 [4.32] signal contact tail length.
7 - Solder, metric system right angle (90°) printed board mount with signal contacts only, 0.370 [9.40] signal contact extension.
75 - Solder, metric system right angle (90°) printed board mount with signal and 0.078 [1.98] Ø power contacts, 0.370 [9.40] signal contact extension.
77 - Solder, metric system right angle (90°) printed board mount with signal and 0.125 [3.18] Ø power contacts, 0.370 [9.40] signal contact extension.
*²85 - Solder, right angle (90°) printed board mount with signal and shielded contacts, MRT/FRT 4201M footprint, 0.283 [7.19] signal contact extension.

STEP 9 - SPECIAL OPTIONS
SEE APPENDIX ON PAGE 97.

STEP 8 - CONNECTOR HOUSING (SHELLS) OPTION
G - Gold over copper plate.
D - Gold over copper plate and dimpled (male connectors only).

***³ STEP 7 - LOCKING AND POLARIZING SYSTEMS**

0 - None.
T - Fixed female jackscrews.
T2 - Fixed female jackscrews.
T6 - Fixed male and female polarized jackscrews.
E - Rotating male jackscrews.
E2 - Rotating male screw locks.
E3 - Rotating male with internal hex for 3/32 hex drives.
E6 - Rotating male and female polarized jackscrews.

***³ STEP 6 - CABLE ADAPTER (HOOD) AND PUSH-ON FASTENER**

0 - None.
H - Cable adapter, top opening, brass.
AN - Cable adapter, lightweight aluminum, electroless nickel plate, see page 93 for details.
N - Push-on fastener for right angle (90°) mounting brackets.

***³ STEP 5 - MOUNTING STYLE**

0 - Mounting hole, 0.120 [3.05] Ø.
02 - Mounting hole, 0.154 [3.91] Ø.
B3 - Bracket, mounting, right angle (90°) metal with cross bar.
C5 - Swaged spacer, cul-de-sac style, 4-40 threads, 0.350 [8.89] length. For use with cable connectors only.
*⁶C7 - Bracket, mounting, right angle (90°) metal, swaged to connector with cul-de-sac spacer and 4-40 threads with cross bar.
F - Float mounts, universal.
P - Threaded post, brass, 0.250 [6.35] Length.
*⁵R - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 thread fixed female jackscrews.
*⁴R2 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 thread fixed female jackscrews with cross bar.
*⁵R3 - Bracket, mounting, right angle (90°) metal, swaged to connector with 0.120 [3.05] Ø mounting hole.
*⁵R4 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 threads.
*⁵R5 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 locknut.
*⁴R6 - Bracket, mounting, right angle (90°) metal, swaged to connector with 0.120 [3.05] Ø mounting hole with cross bar.
*⁴R7 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 threads with cross bar.
*⁴R8 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 locknut with cross bar.
S - Swaged spacer, 4-40 threads, 0.250 [6.35] length.
S2 - Swaged spacer, 4-40 threads, 0.125 [3.18] length.
S5 - Swaged locknut, 4-40 threads.
S6 - Swaged spacer with push-on fastener, 4-40 threads, 0.250 [6.35] length.

NOTES:

- *¹ Available on 2WK2, 3W3, 3WK3, 5W5 and 8W8 variants only.
- *² Not available on shell size 6, SCBM 46W4.
- *³ For additional information on accessories listed in Step 5, 6, and 7, see the Accessories section, pages 88-96.
- *⁴ Not available on 2WK2, 3W3, 3WK3, 5W5 and 8W8 variants when choosing code 57, 77 or 85 in Step 4.
- *⁵ For use with 2WK2, 3W3, 3WK3, 5W5, 8W8 variants when choosing code 57, 77 or 85 in step 4.
- *⁶ 2WK2, 3W3, 3WK3, 5W5, AND 8W8 variants will be supplied without an alignment bar.

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.

DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE. 40

SCBM SERIES



Positronic
connectpositronic.com

SCBC SERIES

MILITARY / SPACE FLIGHT QUALITY

STANDARD DENSITY REMOVABLE CONTACTS

High
Performance
D-sub



- High performance for use in harsh environments, including space flight.
- Size 20 and Size 8 **removable** contacts.
- All female closed entry signal contacts utilize the “PosiBand®” system. See page 1 for details. GSFC S-311-P-4/10 offers two contact engagement test options. Size 20 PosiBand contacts meet the higher 40 gram requirements per 4.2.2.b.
- Sixteen connector variants with a mixture of signal, power, shielded and high voltage contacts.
- Terminations include cable or wire crimp and solder.
- Current ratings to 70 amperes. See temperature rise curves on page 3 & 4 for details.
- A wide variety of options and accessories.
- Applicable variants are qualified to GSFC and military specifications. See page 100 for details.

Conforming To Applicable Material, Dimensional and Performance Requirements:

- GSFC S-311-P4
- DSCC Specification 85039

Conforming To Outgassing Requirements:

- ASTM E-595 & NASA-RP-1124

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Connector Insert:

Glass-filled polyester per ASTM-D-5927, UL 94V-0, ASTM E-595, NASA-RP-1124 blue color.

Contacts:

Size 20:

Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate.

Size 8:

Power:

Precision machined high conductivity copper alloy. 0.000050 inch [1.27 microns] gold over copper plate.

Shielded:

For material and finishes, see page 79.

High Voltage:

For material and finishes, see page 79.

Connector Housing

(Shells):

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Mounting Spacers and Brackets:

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Jackscrew Systems:

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Cable Adapter (Hood):

Brass with 0.000050 inch [1.27 microns] gold over copper plate; aluminum with electroless nickel plate. Other finishes available, contact Technical Sales.

continued on next page. . . .

TECHNICAL CHARACTERISTICS, *continued*

continued from previous page. . . .

MECHANICAL CHARACTERISTICS:

Size 20 Removable:	Male contact - 0.040 inch [1.02 mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details. <i>For removable size 20 contacts, see page 81-83.</i>	Connector Housing (Shells):	Male connector housings may be dimpled for EMI/ESD ground paths.
Size 8 Removable:		Polarization:	Trapezoidally-shaped connector housings and polarized jackscrews.
Power:	Male contact - 0.142 inch [3.61 mm] mating diameter. Female contact - features Large Surface Area (L.S.A.) closed entry design utilizing BeCu mechanical retention member. <i>For removable size 8 contacts, see pages 83-87.</i>	Locking Systems:	Jackscrews.
Shielded:	<i>For mechanical characteristics, see page 79.</i>	Mechanical Operations:	1,000 operations per IEC 60512-5.
High Voltage:	<i>For mechanical characteristics, see page 79.</i>		
Contact Retention in Connector Insert:			
Size 20:	9 lbs. [40 N].	SIZE 20 CONTACTS	
Size 8 Power / Shielded:	22 lbs. [98 N].	Contact Current Rating:	7.5 amperes, nominal
Contact Terminations:		Initial Contact Resistance:	0.004 ohms maximum.
Size 20:	Closed barrel crimp - wire sizes 18 AWG [1.0 mm ²] through 30 AWG [0.05 mm ²].	Proof Voltage:	1000 V r.m.s.
	Closed barrel solder - wire size 20 AWG [0.5 mm ²] maximum; see page 82 for details.		
Size 8:		SIZE 8 CONTACTS	
Power:	Closed barrel crimp or solder cup - wire sizes 8 [10.0 mm ²], 10 [5.3 mm ²], 12 [4.0 mm ²], and 16 [1.5 mm ²] AWG.	POWER CONTACTS	<i>For electrical characteristics, see page 23.</i>
Shielded:	<i>Refer to RF Cable in chart on page 86 for contact terminations.</i>	SHIELDED CONTACTS	<i>For electrical characteristics, see page 79.</i>
High Voltage:	Straight and right angle (90°) terminations 0.041 inch [1.04 mm] minimum hole diameter.	HIGH VOLTAGE CONTACTS	<i>For electrical characteristics, see page 79.</i>
		CONNECTOR	
		Insulation Resistance:	5 G ohms.
		Clearance and Creepage Distance:	0.039 inch [1.0 mm], minimum.
		Working Voltage:	300 V r.m.s.

ELECTRICAL CHARACTERISTICS:

SIZE 20 CONTACTS

Contact Current Rating:	7.5 amperes, nominal
Initial Contact Resistance:	0.004 ohms maximum.
Proof Voltage:	1000 V r.m.s.

SIZE 8 CONTACTS

POWER CONTACTS	<i>For electrical characteristics, see page 23.</i>
-----------------------	---

SHIELDED CONTACTS	<i>For electrical characteristics, see page 79.</i>
--------------------------	---

HIGH VOLTAGE CONTACTS

<i>For electrical characteristics, see page 79.</i>

CONNECTOR

Insulation Resistance:	5 G ohms.
Clearance and Creepage Distance:	0.039 inch [1.0 mm], minimum.
Working Voltage:	300 V r.m.s.

CLIMATIC CHARACTERISTICS:

Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	21 days.



SCBM13W6M55R200D
(shown left)

SCBC13W6S1000G WITH FC4008M CONTACTS
(shown right)



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SCBC SERIES

MILITARY / SPACE FLIGHT QUALITY

STANDARD DENSITY REMOVABLE CONTACTS

High
Performance
D-sub

*1 CONTACT VARIANTS

FACE VIEW OF MALE OR REAR VIEW OF FEMALE

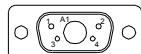
— SHELL SIZE 1 —

NOTES:

*1 Additional contact variants may be tooled at customer request.

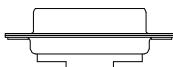
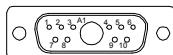
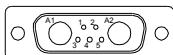
*2 13W6 and 27W2 variant currently available in female only. Contact Technical Sales for availability of male connector.

— SHELL SIZE 1 —



5W1

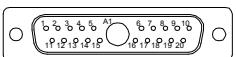
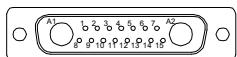
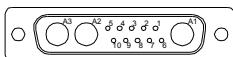
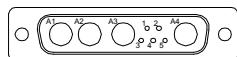
— SHELL SIZE 2 —



7W2

11W1

— SHELL SIZE 3 —



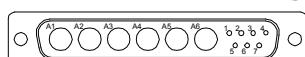
9W4

13W3

17W2

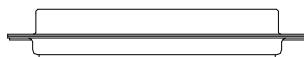
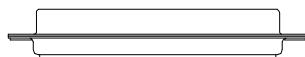
21W1

— SHELL SIZE 4 —



*2 13W6

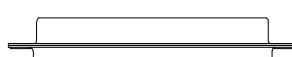
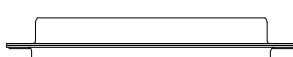
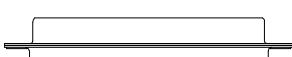
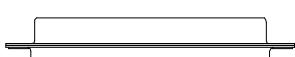
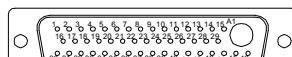
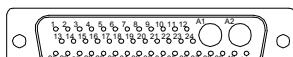
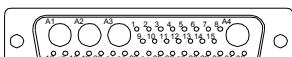
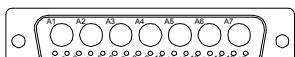
21WA4



25W3

*2 27W2

— SHELL SIZE 5 —



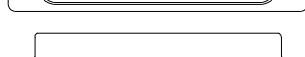
24W7

36W4

43W2

47W1

— SHELL SIZE 6 —



46W4

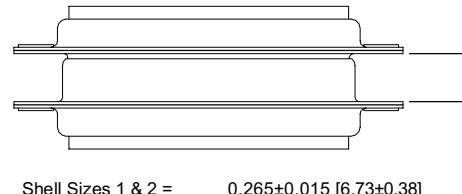
STANDARD CONNECTOR HOUSING (SHELLS) ASSEMBLY



SCBC7W2S0000G

SCBC17W2M0000G

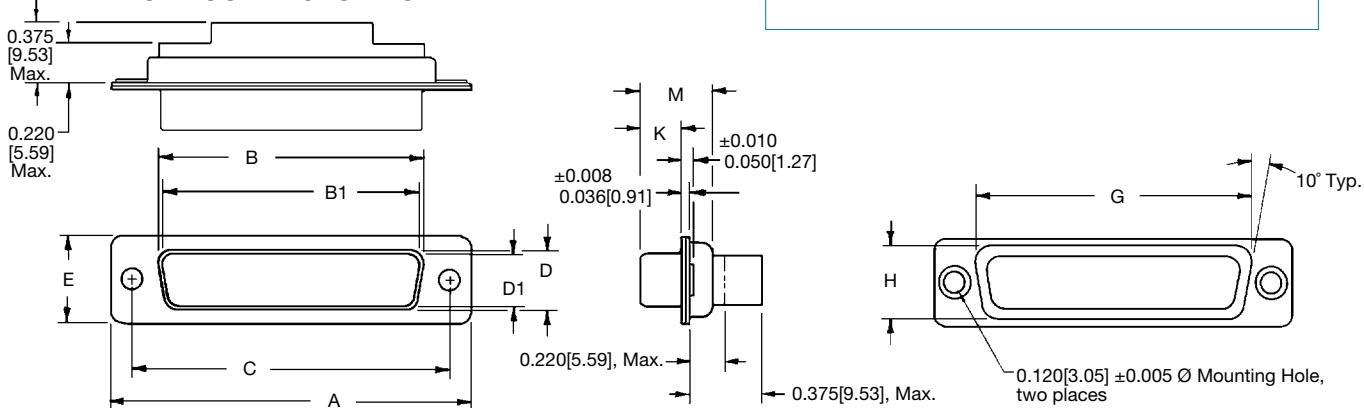
RECOMMENDED MATING DIMENSIONS



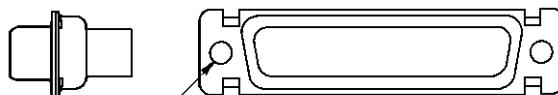
Shell Sizes 1 & 2 = 0.265 ± 0.015 [6.73 \pm 0.38]

Shell Sizes 3, 4, 5 & 6 = 0.256 ± 0.015 [6.50 \pm 0.38]

TYPICAL CONNECTOR TOP VIEW

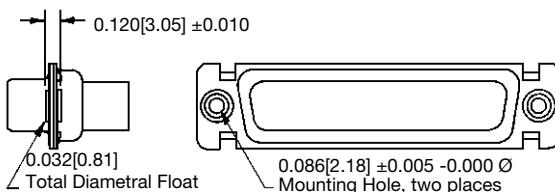


OPTIONAL CONNECTOR HOUSING ASSEMBLY (0, 02)



$\phi 0.120 \pm 0.005$ [3.05 \pm 0.031] Mounting hole, two places for stainless steel connector housing (0 option).
 $\phi 0.154$ [3.91] Mounting hole, two places (02 option)

OPTIONAL CONNECTOR HOUSING ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS (F)



0.086 [2.18] ± 0.005 -0.000 ϕ Mounting Hole, two places

SHELL SIZE	GENDER	A ± 0.015 [0.38]	B ± 0.005 [0.13]	B1 ± 0.005 [0.13]	C ± 0.005 [0.13]	D ± 0.005 [0.13]	D1 ± 0.005 [0.13]	E ± 0.015 [0.38]	G ± 0.010 [0.25]	H ± 0.010 [0.25]	K ± 0.005 [0.13]	M ± 0.010 [0.25]
1	MALE	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	FEMALE	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
2	MALE	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	FEMALE	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
3	MALE	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.088 [53.04]	1.511 [38.38]		1.852 [47.04]	0.311 [7.90]		0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
4	MALE	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.729 [69.32]	2.159 [54.84]		2.500 [63.50]	0.311 [7.90]		0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
5	MALE	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.635 [66.93]	2.064 [52.43]		2.406 [61.11]	0.423 [10.74]		0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.243 [6.17]	0.429 [10.90]
6	MALE	2.729 [69.32]		2.212 [56.18]	2.500 [63.50]		0.503 [12.78]	0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.230 [5.84]	0.426 [10.82]
	FEMALE	2.729 [69.32]	2.189 [55.60]		2.500 [63.50]	0.485 [12.32]		0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.243 [6.17]	0.429 [10.90]



REMOVABLE CONTACT ORDERING ASSISTANCE CHART

SCBC SERIES CRIMP AND SOLDER TERMINATION CONTACTS

TYPE	PAGE NUMBER REFERENCE IN CATALOG	CONTACT SIZE	FEMALE PART NUMBER	MALE PART NUMBER	WIRE SIZE AWG [mm ²]
CRIMP	see page 81 for additional information	20	FC6020M2	MC6020M	20 [0.5] / 22 [0.3] / 24 [0.25]
			FC6026M2	MC6026M	26 [0.12] / 28 [0.08] / 30 [0.5]
			FC6018M2	MC6018M	18 [1.0] max.
	see page 83 for additional information	8	FC4008M	MC4008M	8 [10.0]
			FC4010M	MC4010M	10 [5.3]
			FC4012M	MC4012M	12 [4.0]
			FC4016M	MC4016M	16 [1.5]
SOLDER	see page 82 for additional information	20	FS6020M2	MS6020M	20 [0.5] max.
SOLDER CUP	see page 84 for additional information	8	FS4008M	MS4008M	8 [10.0]
			FS4012M	MS4012M	12 [4.0]
			FS4016M	MS4016M	16 [1.5]
HIGH VOLTAGE <i>Straight Solder Wire</i>	see page 85 for additional information	8	FS4820M	MS4820M	20 [0.5]
HIGH VOLTAGE <i>Right Angle (90°) Solder Wire</i>			FS4920M	MS4920M	20 [0.5]
SHIELDED	see page 86 for additional information	SOLDER / CRIMP	FC4101M	MC4101M	RG 178 B/U, 196 B/U
			FC4102M	MC4102M	RG 179 B/U, 316 B/U
			FC4103M	MC4103M	RG 180 B/U
			FC4104M	MC4104M	RG 58 B/U
		SOLDER / SOLDER	FS4101M	MS4101M	RG 178 B/U, 196 B/U
			FS4102M	MS4102M	RG 179 B/U, 316 B/U
			FS4103M	MS4103M	RG 180 B/U
			FS4104M	MS4104M	RG 58 B/U
		CRIMP / CRIMP	FCC4101M	MCC4101M	RG 178 B/U, 196 B/U
			FCC4102M	MCC4102M	RG 179 B/U, 316 B/U
			FCC4103M	MCC4103M	RG 180 B/U
			FCC4104M	MCC4104M	RG 58 B/U

NOTE: For ordering crimp contacts on reels, add "R" to part number, see page 79 for details. Examples: FC4008MR or MC4008MR

For information regarding **REMOVABLE CONTACTS**, see contact illustration drawings and charts on pages 79-87.

For information regarding **CRIMP TOOLS & CRIMPING TOOL TECHNIQUES**, see page 98.

ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	SCBC	7W2	M	14	0	0	E	D	

STEP 1 - BASIC SERIES

SCBC Series

*⁴ STEP 2 - CONNECTOR VARIANTS

Shell Size 1

5W1

Shell Size 2

7W2, 11W1

Shell Size 3

9W4, 13W3, 17W2, 21W1

Shell Size 4

*¹13W6, 21WA4, 25W3, *¹27W2

Shell Size 5

24W7, 36W4, 43W2, 47W1

Shell Size 6

46W4

STEP 3 - CONNECTOR GENDER

M - Male

S - Female - PosiBand closed entry contacts,
see page 1 for more information.

STEP 4 - CONTACT TERMINATION TYPE

0 - Contacts ordered separately, see contact chart on page 45 for details.

*³ 1 - Signal contacts, 20 AWG - 24 AWG [0.5mm²-0.25mm²]

*³11 - Signal contacts, 20 AWG - 24 AWG [0.5mm²-0.25mm²]
with MC/FC 4012M power contact.

*³12 - Signal contacts, 20 AWG - 24 AWG [0.5mm²-0.25mm²]
with MC/FC 4016M power contact

*³13 - Signal contacts, 20 AWG - 24 AWG [0.5mm²-0.25mm²]
with MCC/FCC 4101M shielded contacts.

*³14 - Signal contacts, 20 AWG - 24 AWG [0.5mm²-0.25mm²]
with MCC/FCC 4102M shielded contacts.

*² STEP 5 - MOUNTING STYLE

0 - Mounting hole, 0.120 [3.05] Ø.

02 - Mounting hole, 0.154 [3.91] Ø.

C5 - Swaged spacer, cul-de-sac style, 4-40 threads, 0.350 [8.89] length.

F - Float mounts, universal.

S2 - Swaged spacer, 4-40 threads, 0.125 [3.18] Length.

S5 - Swaged locknut, 4-40 threads.

STEP 9 - SPECIAL OPTIONS

SEE APPENDIX ON PAGE 97.

STEP 8 - CONNECTOR HOUSING (SHELLS) OPTION

G - Gold over copper plate.
D - Gold over copper plate and dimpled
(male connectors only).

*² STEP 7 - LOCKING AND POLARIZING SYSTEMS

0 - None.

T - Fixed female jackscrews.

T2 - Fixed female jackscrews.

T6 - Fixed male and female polarized jackscrews.

E - Rotating male jackscrews.

E2 - Rotating male screw locks.

E3 - Rotating male with internal hex for 3/32 hex drives

E6 - Rotating male and female polarized jackscrews.

*² STEP 6 - CABLE ADAPTER (HOOD)

0 - None.

H - Cable adapter, top opening, brass.

AN - Cable adapter, lightweight aluminum, electroless nickel plate, see page 93 for details.

NOTE:

*¹ 13W6 and 27W2 variant currently available in female only.
Contact Technical Sales for availability of male connector.

*² For additional information on accessories listed in Step 5, 6, and 7, see the Accessories section, pages 88-96.

*³ Kitted contacts are supplied in sealed bags.

*⁴ See SCBM series for removable contact versions of 2WK2, 3W3, 3WK3, 5W5 and 8W8 variants.

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.



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connectpositronic.com

SCBDD SERIES
MILITARY / SPACE FLIGHT QUALITY
HIGH DENSITY PCB MOUNT

High
Performance
D-sub



- High performance for use in harsh environments, including space flight.
- Size 22 **fixed** contacts, Size 16 **fixed** contacts and Size 8 **removable** contacts.
- All female closed entry signal contacts utilize the “PosiBand®” system. See page 1 for details. GSFC S-311-P-4/08 offers two contact engagement test options. Size 22 PosiBand contacts meet the higher 40 gram requirements per 4.2.2.b.
- Four connector variants with a mixture of signal, power, shielded and high voltage contacts.
- Terminations include cable or wire crimp and solder, straight and right angle PCB mount.
- Current ratings to 70 amperes. See temperature rise curves on page 3 & 4 for details.
- A wide variety of options and accessories.

Conforming To Applicable Material, Dimensional and Performance Requirements:

- GSFC S-311-P4 & GSFC S-311-P10
- DSCC Specification 85039

Conforming To Outgassing Requirements:

- ASTM E-595 & NASA-RP-1124

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Connector Insert:

Glass-filled polyester per ASTM-D-5927, UL 94V-0, ASTM E-595, NASA-RP-1124 blue color.

Contacts:

Size 22:

Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Size 16:

Precision machined high conductivity copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Size 8:

Power:

Precision machined high conductivity copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Shielded:

For material and finishes, see page 79.

High Voltage:

For material and finishes, see page 79.

Connector Housing (Shells):

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Mounting Spacers and Brackets:

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Push-On Fasteners:

Phosphor bronze or beryllium copper with 0.000050 inch [1.27 microns] gold over copper plate.

Jackscrew Systems:

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Cable Adapter (Hood):

Brass with 0.000050 inch [1.27 microns] gold over copper plate; aluminum with electroless nickel plate. Other finishes available, contact Technical Sales.

continued on next page. . . .

TECHNICAL CHARACTERISTICS, *continued*

continued from previous page. . . .

MECHANICAL CHARACTERISTICS:

Size 22 Fixed:	Male – 0.030 inch [0.76 mm] mating diameter. Female contact – PosiBand closed entry design; see page 1 for details.
Size 16 Fixed:	Male – 0.062 inch [1.57 mm] mating diameter. Female contact – PosiBand closed entry design; see page 1 for details.
Size 8 Removable:	Male – 0.142 inch [3.61mm] mating diameter. Female contact features Large Surface Area (L.S.A.) closed entry contact design utilizing BeCu mechanical retention member.
Shielded:	<i>For mechanical characteristics, see page 79.</i>
High Voltage:	<i>For mechanical characteristics, see page 79.</i>
Contact Retention in Connector Insert:	
Size 22:	5 lbs. [21N] minimum.
Size 16 Power:	6 lbs. [26N] minimum.
Size 8 Power / Shielded:	22 lbs. [98N].
Resistance to Solder Iron Heat:	500°F [260°C] for 10 seconds duration per IEC 60512-6.
Contact Terminations:	
Size 22:	Solder cup – wire size 22 AWG [0.25 mm ²] maximum. Straight solder printed board mount – 0.020 inch [0.51 mm] termination diameter. Right angle (90°) printed board mount – 0.030 inch [0.76 mm] termination diameter.
Size 16:	Solder cup – wire size 22 AWG [0.25 mm ²] maximum. Straight solder printed board mount – 0.063 inch [1.60 mm] termination diameter. Right angle (90°) printed board mount – 0.062 inch [0.76 mm] termination diameter.
Size 8:	Closed barrel crimp or solder cup – wire sizes 8 [10.0 mm ²], 10 [5.3 mm ²], 12 [4.0 mm ²], and 16 [1.5 mm ²] AWG. Straight solder printed board mount – 0.078 inch [1.98 mm], 0.094 inch [2.39 mm] and 0.125 inch [3.18 mm] termination diameters. Right angle (90°) printed board mount – 0.078 inch [1.98 mm] and 0.125 inch [3.18 mm] termination diameters.
Shielded:	Refer to RF Cable in chart on page 86 for contact terminations.

High Voltage:

Straight and right angle (90°) terminations 0.041 inch [1.04 mm] minimum hole diameter.

Connector Housing (Shells):

Male connector housings may be dimpled for EMI/ESD ground paths.

Polarization:

Trapezoidally-shaped connector housing and polarized jackscrews.

Mounting to Angle Brackets:

Jackscrews and riveted fasteners with 0.120 inch [3.05 mm] diameter hole, and threaded riveted fasteners with 4-40 threads and polyester inserts.

Mounting to Printed Board:

Rapid installation push-on fasteners and threaded posts.

Locking Systems:

Jackscrews.

Mechanical Operations:

1,000 operations per IEC 60512-5.

ELECTRICAL CHARACTERISTICS:

SIZE 22 CONTACTS

Contact Current Rating:	5 amperes, nominal
Initial Contact Resistance:	0.005 ohms maximum.
Proof Voltage:	1000 V r.m.s

SIZE 16 CONTACTS

Contact Current Rating, Tested per UL 1977:	28 amperes See temperature rise curves on page 4 for details.
Initial Contact Resistance:	0.0016 ohms maximum, per IEC 60512-2, Test 2b.
Proof Voltage:	1000 V r.m.s.

SIZE 8 CONTACTS

POWER CONTACTS	<i>For electrical characteristics, see page 23.</i>
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SHIELDED CONTACTS

For electrical characteristics, see page 79.

HIGH VOLTAGE CONTACTS

For electrical characteristics, see page 79.

CONNECTOR

Insulation Resistance:	5 G ohms.
Clearance and Creepage Distance:	0.042 inch [1.06 mm], minimum.
Working Voltage:	300 V r.m.s.

CLIMATIC CHARACTERISTICS:

Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	10 days.



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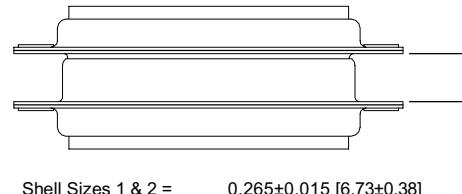
STANDARD CONNECTOR HOUSING (SHELLS) ASSEMBLY



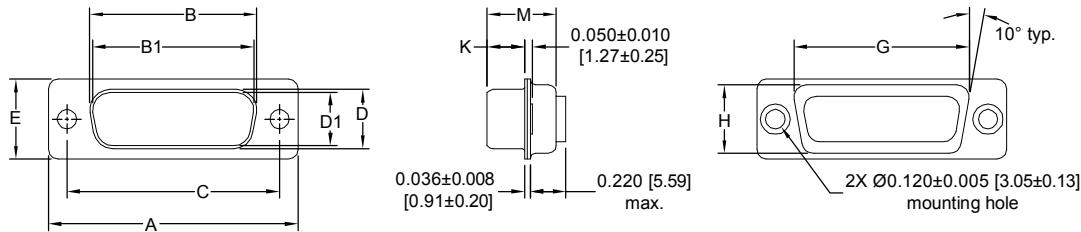
SCBDD8W2M3S00G

SCBDD45W2M3000G

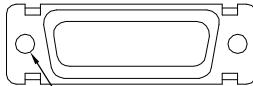
RECOMMENDED MATING DIMENSIONS



Shell Sizes 1 & 2 = 0.265 ± 0.015 [6.73 \pm 0.38]
Shell Sizes 3, 4, 5 & 6 = 0.256 ± 0.015 [6.50 \pm 0.38]

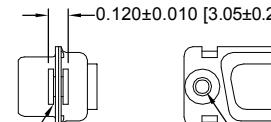


OPTIONAL CONNECTOR HOUSING ASSEMBLY (0, 02)

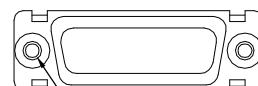


2X $\varnothing 120 \pm 0.005$ [3.05 \pm 0.13] mounting hole for stainless steel shell (0 option).
2X $\varnothing 0.154$ [3.91] mounting hole (02 option).

OPTIONAL CONNECTOR HOUSING ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS (F)



0.120 \pm 0.010 [3.05 \pm 0.25]
0.032 [0.81] total diametral float



2X $\varnothing 0.086 \pm 0.005 - 0.000$ [2.18 \pm 0.13 - 0.00] mounting hole

SHELL SIZES	VARIANT	A ± 0.015 [0.38]	B ± 0.005 [0.13]	B1 ± 0.005 [0.13]	C ± 0.005 [0.13]	D ± 0.005	D1 ± 0.005 [0.13]	E ± 0.015 [0.38]	G ± 0.010 [0.25]	H ± 0.010 [0.25]	K ± 0.005 [0.13]	M ± 0.010 [0.25]
1	8W2M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	8W2S	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
2	19W1M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	19W1S	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
3	15W4M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
	15W4S	2.088 [53.04]	1.511 [38.38]		1.852 [47.04]	0.311 [7.90]		0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
4	45W2M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]

DIMENSIONS ARE IN INCHES [MILLIMETERS].

49 ALL DIMENSIONS ARE SUBJECT TO CHANGE.

***1 CONTACT VARIANTS**

FACE VIEW OF MALE OR REAR VIEW OF FEMALE

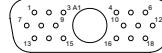
— SHELL SIZE 1 —



8W2

Six (6) Size 22 Signal Contacts and
Two (2) Size 16 Power Contacts

— SHELL SIZE 2 —



19W1

Eighteen (18) Size 22 Signal Contacts
and One (1) Size 8 Power Contact

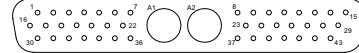
— SHELL SIZE 3 —



15W4

Eleven (11) Size 22 Signal Contacts
and Four (4) Size 8 Power Contacts

— SHELL SIZE 4 —



***2 45W2**

Forty-three (43) Size 22 Signal Contacts
and Two (2) Size 8 Power Contacts

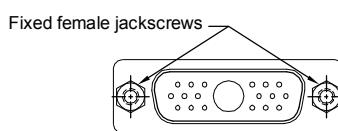
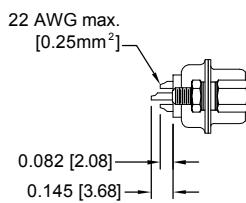
NOTES:

*1 Additional contact variants may be tooled at customer request.

*2 45W2 variant currently available in male only. Contact Technical Sales for availability of female connector.

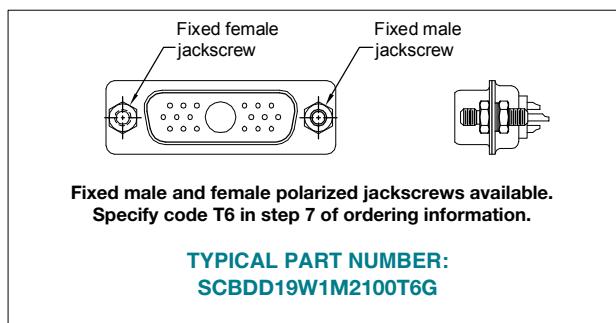
OTHER VARIANTS WILL BE ADDED, CONSULT OUR WEBSITE
OR CONTACT TECHNICAL SALES FOR UPDATED INFORMATION.

**SOLDER CUP TERMINATION
CODE 21**



For solder cup contacts,
specify code 21 in step 4 of
ordering information.

TYPICAL PART NUMBER:
SCBDD19W1M2100T2G



TYPICAL PART NUMBER:
SCBDD19W1M2100T6G



STRAIGHT SOLDER PRINTED BOARD MOUNT TERMINATION
CODE 3, 35, 36, AND 37

FOR VARIANTS INCLUDING SIZE 16 CONTACTS	
* ¹ CONTACT NUMBER	D Ø
3	0.063 [1.60]

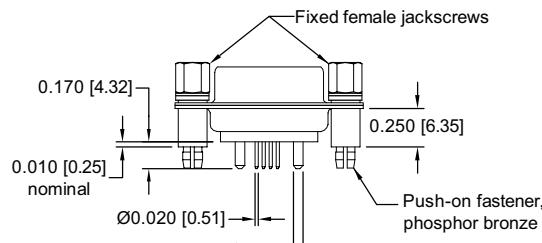
NOTE:

*¹ Contact termination code as specified in Step 4 of ordering information.

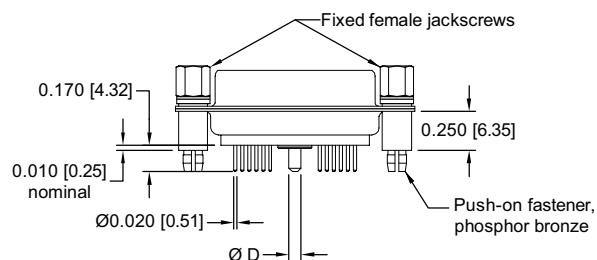
FOR VARIANTS WITH SIZE 8 CAVITY	
* ¹ CONTACT NUMBER	D Ø
3	Size 8 contacts not supplied
35	0.078 [1.98]
36	0.094 [2.39]
37	0.125 [3.18]

NOTE:

*¹ Contact termination code as specified in Step 4 of ordering information.



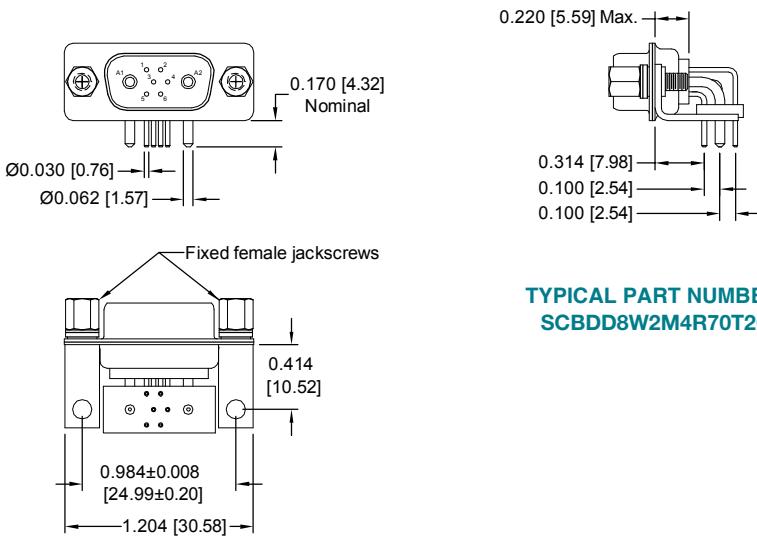
Typical Part Number: SCBDD8W2S3S60T2G



TYPICAL PART NUMBER:
SCBDD19W1S35S60T2G

RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
SIZE 16 POWER CONTACTS WITH 0.062 [1.57] Ø TERMINATIONS
CODE 4, 0.314 [7.98] CONTACT EXTENSION

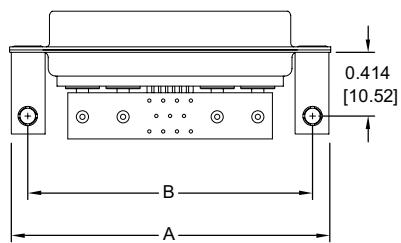
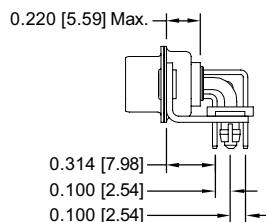
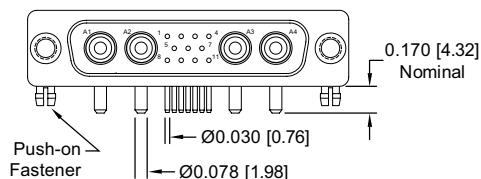
See temperature rise curves on pages 3 and 4



TYPICAL PART NUMBER:
SCBDD8W2M4R70T2G

**RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
SIZE 8 POWER CONTACTS WITH 0.078 [1.98] Ø TERMINATIONS
CODE 4 AND 45, 0.314 [7.98] CONTACT EXTENSION**

See temperature rise curves on pages 3 and 4

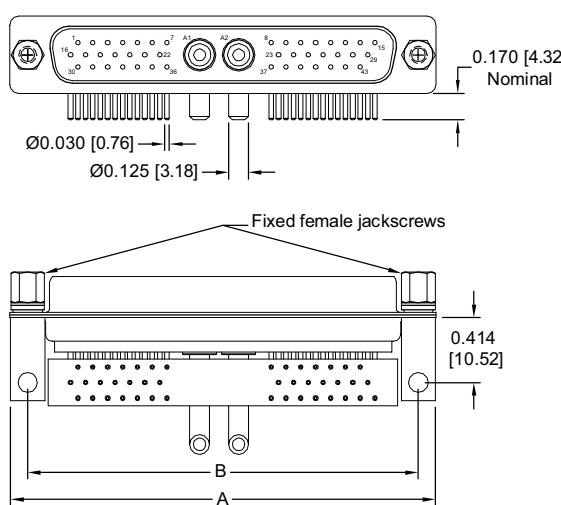


TYPICAL PART NUMBER:
SCBDD15W4M45R7N0G

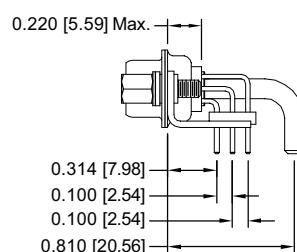
SCBDD***4 or 45**** 0.314 [7.98] CONTACT EXTENSION		
SHELL SIZE	A	B
SHELL SIZE 2	1.532 [38.91]	1.312 [33.32]
SHELL SIZE 3	2.072 [52.63]	1.852 [47.04]
SHELL SIZE 4	2.720 [69.09]	2.500 [63.50]

**RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
SIZE 8 POWER CONTACTS WITH 0.125 [3.18] Ø TERMINATIONS
CODE 4 AND 47, 0.314 [7.98] CONTACT EXTENSION**

See temperature rise curves on pages 3 and 4



TYPICAL PART NUMBER:
SCBDD45W2M47R70T2G



SCBDD***4 or 47**** 0.314 [7.98] CONTACT EXTENSION		
SHELL SIZE	A	B
SHELL SIZE 2	1.532 [38.91]	1.312 [33.32]
SHELL SIZE 3	2.072 [52.63]	1.852 [47.04]
SHELL SIZE 4	2.720 [69.09]	2.500 [63.50]

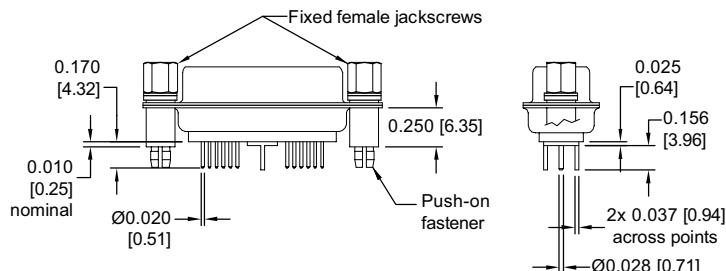


Positronic
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SCBDD SERIES
MILITARY / SPACE FLIGHT QUALITY
HIGH DENSITY PCB MOUNT

High
Performance
D-sub

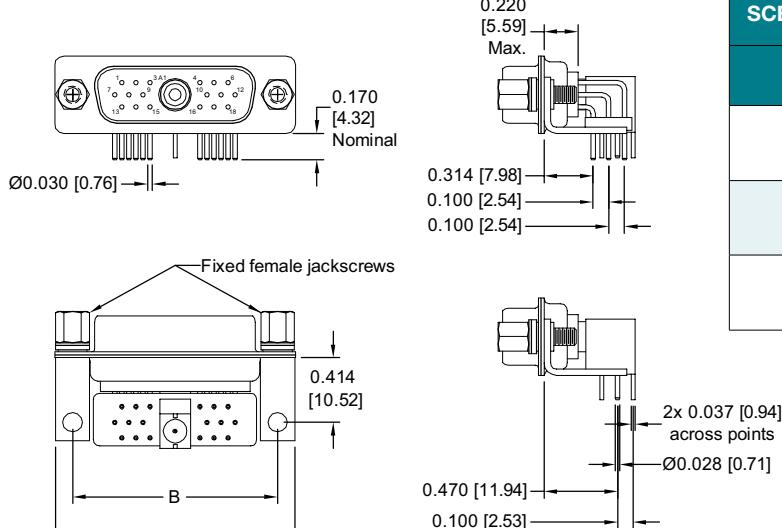
STRAIGHT SOLDER PRINTED BOARD MOUNT TERMINATION
WITH FDS4201M OR MDS4201M SHIELDED CONTACTS
CODE 65



TYPICAL PART NUMBER:
SCBDD19W1M65S60T2G

Shielded contacts only
visible this view for clarity

RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
WITH FRT4201M OR MRT4201M SHIELDED CONTACTS
CODE 84



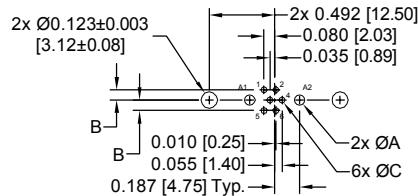
TYPICAL PART NUMBER:
SCBDD19W1M84R70T2G

SCBDD***84**** 0.314 [7.98] CONTACT EXTENSION		
SHELL SIZE	A	B
SHELL SIZE 2	1.532 [38.91]	1.312 [33.32]
SHELL SIZE 3	2.072 [52.63]	1.852 [47.04]
SHELL SIZE 4	2.720 [69.09]	2.500 [63.50]

Shielded contacts only
visible this view for clarity

PRINTED BOARD MOUNT CONTACT HOLE PATTERN

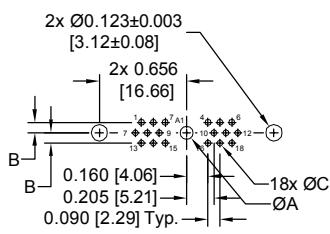
HOLE IDENTIFICATION SHOWN FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.
MOUNT RIGHT ANGLE (90°) CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROWS.



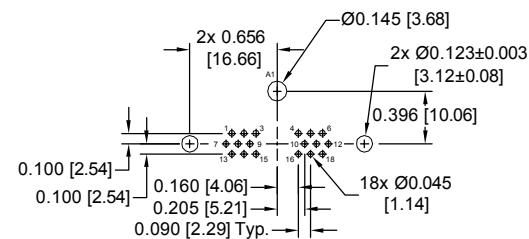
SCBDD8W2M3
SCBDD8W2M4

SUGGESTED PRINTED BOARD HOLE SIZES:

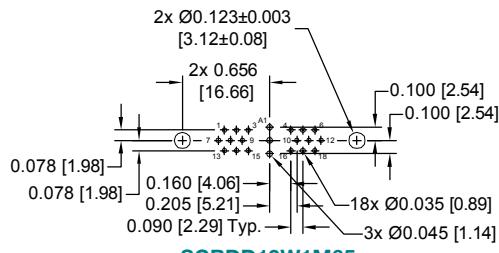
See Suggested Printed Board Hole Size chart on page 55.



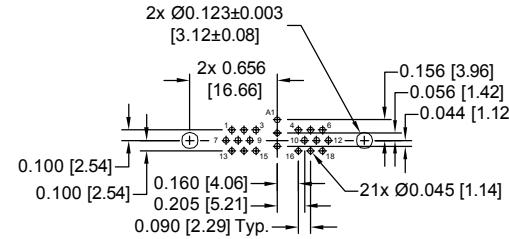
SCBDD19W1M3, 35, 36, 37
SCBDD19W1M4, 45



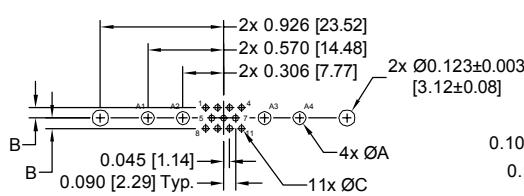
SCBDD19W1M47



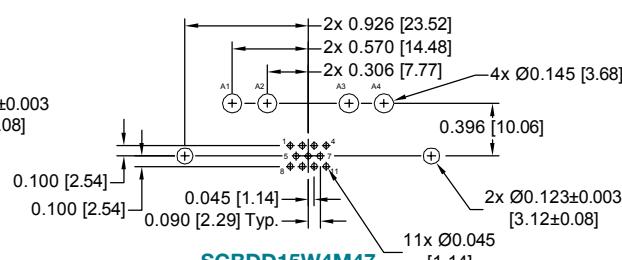
SCBDD19W1M65



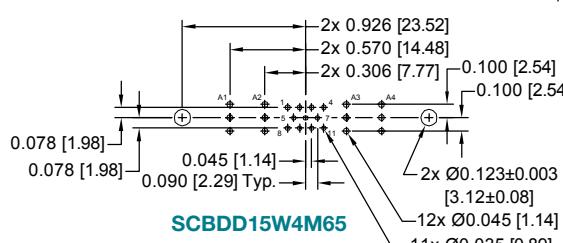
SCBDD19W1M84



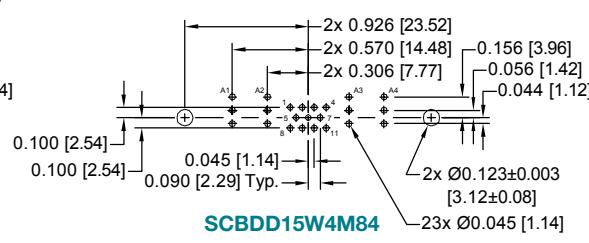
SCBDD15W4M3, 35, 36, 37
SCBDD15W4M4, 45



SCBDD15W4M47



SCBDD15W4M65



SCBDD15W4M84

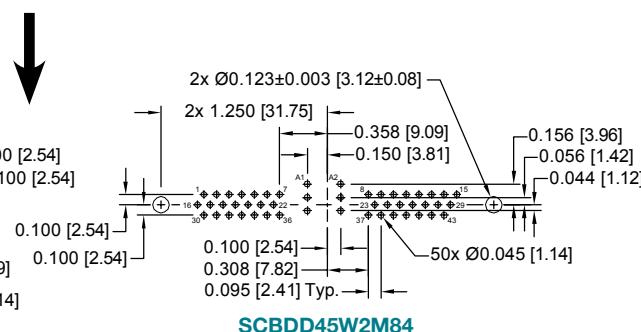
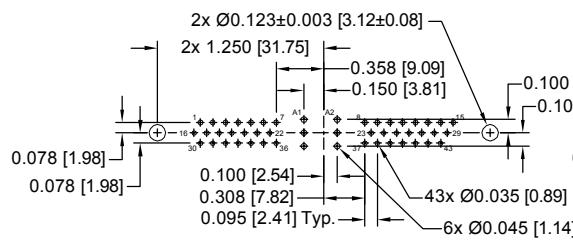
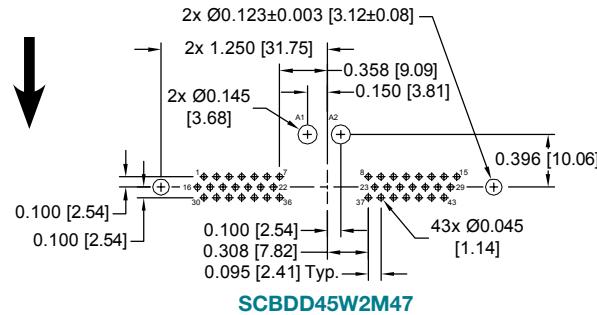
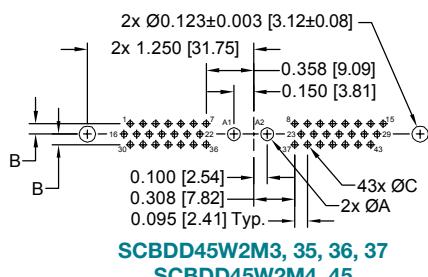
continued on next page. . . .



PRINTED BOARD MOUNT CONTACT HOLE PATTERN

HOLE IDENTIFICATION SHOWN FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.
MOUNT RIGHT ANGLE (90°) CONNECTOR WITH MATING FACE POSITIONED TO FOLLOW DIRECTION OF ARROWS.

continued from previous page. . . .



SUGGESTED PRINTED BOARD HOLE SIZES

VARIANT	CODE	ØA	B	ØC
8W2	3	0.080 [2.03]	0.078 [1.98]	0.035 [0.89]
	4	0.080 [2.03]	0.100 [2.54]	0.045 [1.14]
19W1 15W4 45W2	3, 35	0.098 [2.49]	0.078 [1.98]	0.035 [0.89]
	36	0.114 [2.90]		
	37	0.145 [3.68]		
	4	N/A	0.100 [2.54]	0.045 [1.14]
	45	0.098 [2.49]	0.100 [2.54]	0.045 [1.14]
	47	N/A	N/A	N/A
	65	N/A	N/A	N/A
	84	N/A	N/A	N/A

ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

FOR CONNECTORS NOT INCLUDING SIZE 8 CONTACTS

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	SCBDD	8W2	S	3	S6	0	T2	G	

STEP 1 - BASIC SERIES

SCBDD Series

STEP 2 - CONNECTOR VARIANTS

Shell Size 1 - 8W2

See page 58 for ordering information for other shell size options.

STEP 3 - CONNECTOR GENDER

M - Male

S - Female - PosiBand closed entry contacts, see page 1 for more information.

STEP 4 - CONTACT TERMINATION TYPE

*1 21 - Fixed, solder cup.

*1 3 - Solder, straight printed board mount, 0.170 [4.32] tail length.

*1 4 - Solder, right angle (90°) printed board mount, 0.314 [7.98] signal contact extension.

*2 STEP 5 - MOUNTING STYLE

0 - Mounting hole, 0.120 [3.05] Ø

02 - Mounting hole, 0.154 [3.91] Ø

C5 - Swaged spacer, cul-de-sac style, 4-40 threads, 0.350 [8.89] length. For use with cable connectors only.

C7 - Bracket, mounting, right angle (90°) metal, swaged to connector with cul-de-sac spacer and 4-40 threads with cross bar.

F - Float mounts, universal

P - Threaded post, brass, 0.250 [6.35] length

R2 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 thread fixed female jackscrews with cross bar

R6 - Bracket, mounting, right angle (90°) metal, swaged to connector with 0.120 [3.05] Ø mounting hole with cross bar

R7 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 threads with cross bar

R8 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 locknut with cross bar

S - Swaged spacer, 4-40 threads, 0.250 [6.35] length

S2 - Swaged spacer, 4-40 threads, 0.125 [3.18] length

S5 - Swaged locknut, 4-40 threads

S6 - Swaged spacer with push-on fastener, 4-40 threads, 0.250 [6.35] length

STEP 9 - SPECIAL OPTIONS

SEE APPENDIX ON PAGE 97.

STEP 8 - CONNECTOR HOUSING (SHELLS) OPTION

G - Gold over copper plate.

D - Gold over copper plate and dimpled (male connectors only).

*2 STEP 7 - LOCKING AND POLARIZING SYSTEMS

0 - None.

T - Fixed female jackscrews.

T2 - Fixed female jackscrews.

T6 - Fixed male and female polarized jackscrews.

E - Rotating male jackscrews.

E2 - Rotating male screw locks.

E3 - Rotating male with internal hex for 3/32 hex drives.

E6 - Rotating male and female polarized jackscrews.

*2 STEP 6 - CABLE ADAPTER (HOOD) AND PUSH-ON FASTENER

0 - None

AN - Cable adapter, lightweight aluminum, electroless nickel plate, see page 93 for details.

H - Cable adapter, top opening, brass

N - Push-on fastener, for right angle (90°) mounting brackets

NOTES

*1 Size 16 power contacts are included when used on 8W2 variant in Step 2.

*2 For additional information of options listed in steps 5, 6, and 7, see Accessories Section on pages 88-96.



REMOVABLE CONTACT ORDERING ASSISTANCE CHART

SCBDD SERIES CRIMP AND SOLDER CUP TERMINATION CONTACTS

TYPE	PAGE NUMBER REFERENCE IN CATALOG	CONTACT SIZE	FEMALE PART NUMBER	MALE PART NUMBER	WIRE SIZE AWG [mm ²]
CRIMP	see page 83 for additional information	8	FC4008M	MC4008M	8 [10.0]
			FC4010M	MC4010M	10 [5.3]
			FC4012M	MC4012M	12 [4.0]
			FC4016M	MC4016M	16 [1.5]
SOLDER CUP	see page 84 for additional information	8	FS4008M	MS4008M	8 [10.0]
			FS4012M	MS4012M	12 [4.0]
			FS4016M	MS4016M	16 [1.5]
HIGH VOLTAGE <i>Straight Solder Wire</i>	see page 85 for additional information	8	FS4820M	MS4820M	20 [0.5]
HIGH VOLTAGE <i>Right Angle (90°) Solder Wire</i>		8	FS4920M	MS4920M	20 [0.5]
SHIELDED	see page 86 for additional information	SOLDER / CRIMP	FC4101M	MC4101M	RG 178 B/U, 196 B/U
			FC4102M	MC4102M	RG 179 BU/, 316 B/U
			FC4103M	MC4103M	RG 180 B/U
			FC4104M	MC4104M	RG 58 B/U
		SOLDER / SOLDER	FS4101M	MS4101M	RG 178 B/U, 196 B/U
			FS4102M	MS4102M	RG 179 B/U, 316 B/U
			FS4103M	MS4103M	RG 180 B/U
			FS4104M	MS4104M	RG 58 B/U
		CRIMP / CRIMP	FCC4101M	MCC4101M	RG 178 B/U, 196 B/U
			FCC4102M	MCC4102M	RG 179 BU/, 316 B/U
			FCC4103M	MCC4103M	RG 180 B/U
			FCC4104M	MCC4104M	RG 58 B/U

NOTE: For ordering crimp contacts on reels, add "R" to part number, see page 79 for details. Examples: FC4008MR or MC4008MR

For information regarding **REMOVABLE CONTACTS**, see contact illustration drawings and charts on pages 79-87.

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.

ORDERING INFORMATION - CODE NUMBERING SYSTEM
Specify Complete Connector By Selecting An Option From Step 1 Through 8

FOR CONNECTORS INCLUDING SIZE 8 CONTACTS

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	SCBDD	19W1	M	47	R7	0	T2	G	

STEP 1 - BASIC SERIES

SCBDD Series

STEP 2 - CONNECTOR VARIANTS

Shell Size 2 - 19W1

Shell Size 3 - 15W4

*1 Shell Size 4 - 45W2

See page 56 for ordering information for shell size 1 - 8W2 options.

STEP 3 - CONNECTOR GENDER

M - Male

S - Female - PosiBand closed entry contacts,
see page 1 for more information.

STEP 4 - CONTACT TERMINATION TYPE

- 21 - Fixed, solder cup, signal contact only.
- 3 - Solder, straight printed board mount with signal contacts only 0.170 [4.32] tail length.
- 35 - Solder, straight printed board mount with signal and 0.078 [1.98] Ø power contacts, 0.170 [4.32] tail length.
- 36 - Solder, straight printed board mount with signal and 0.094 [2.39] Ø power contacts, 0.170 [4.32] tail length.
- 37 - Solder, straight printed board mount with signal and 0.125 [3.18] Ø power contacts, 0.170 [4.32] tail length.
- 4 - Solder, right angle (90°) printed board mount with signal contacts only, 0.314 [7.98] signal contact extension.
- 45 - Solder, right angle (90°) printed board mount with signal and 0.078 [1.98] Ø power contacts, 0.314 [7.98] signal contact extension.
- 47 - Solder, right angle (90°) printed board mount with signal and 0.125 [3.18] Ø power contacts, 0.314 [7.98] signal contact extension.
- 65 - Solder, straight printed board mount with signal and shielded contacts MDS/FDS4201D footprint, 0.170 [4.32] signal contact tail length.
- 84 - Solder, right angle (90°) printed board mount with signal and shielded contacts MRT/FDS4201D footprint, 0.314 [7.98] signal contact extension.

NOTES

*1 45W2 variant currently available in male only.

*2 For additional information of options listed in steps 5, 6, and 7, see Accessories Section on pages 88-96.

STEP 9 - SPECIAL OPTIONS

SEE APPENDIX ON PAGE 97.

STEP 8 - CONNECTOR HOUSING (SHELLS) OPTION

G - Gold over copper plate.

D - Gold over copper plate and dimpled (male connectors only).

***2 STEP 7 - LOCKING AND POLARIZING SYSTEMS**

- 0 - None.
- T - Fixed female jackscrews.
- T2 - Fixed female jackscrews.
- T6 - Fixed male and female polarized jackscrews.
- E - Rotating male jackscrews.
- E2 - Rotating male screw locks.
- E3 - Rotating male with internal hex for 3/32 hex drives.
- E6 - Rotating male and female polarized jackscrews.

***2 STEP 6 - CABLE ADAPTER (HOOD) AND PUSH-ON FASTENER**

- 0 - None
- AN - Cable adapter, lightweight aluminum, electroless nickel plate, see page 93 for details.
- H - Cable adapter, top opening, brass
- N - Push-on fastener, for right angle (90°) mounting brackets

***2 STEP 5 - MOUNTING STYLE**

- 0 - Mounting hole, 0.120 [3.05] Ø
- 02 - Mounting hole, 0.154 [3.91] Ø
- C5 - Swaged spacer, Cul-de-Sac style, 4-40 threads, 0.350 [8.89] length. For use with cable connectors only.
- C7 - Bracket, mounting, right angle (90°) metal, swaged to connector with Cul-de-Sac spacer and 4-40 threads with cross bar.
- F - Float mounts, universal
- P - Threaded post, brass, 0.250 [6.35] length
- R2 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 thread fixed female jackscrews with cross bar
- R6 - Bracket, mounting, right angle (90°) metal, swaged to connector with 0.120 [3.05] Ø mounting hole with cross bar
- R7 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 threads with cross bar
- R8 - Bracket, mounting, right angle (90°) metal, swaged to connector with 4-40 locknut with cross bar
- S - Swaged spacer, 4-40 threads, 0.250 [6.35] length
- S2 - Swaged spacer, 4-40 threads, 0.125 [3.18] length
- S5 - Swaged locknut, 4-40 threads
- S6 - Swaged spacer with push-on fastener, 4-40 threads, 0.250 [6.35] length

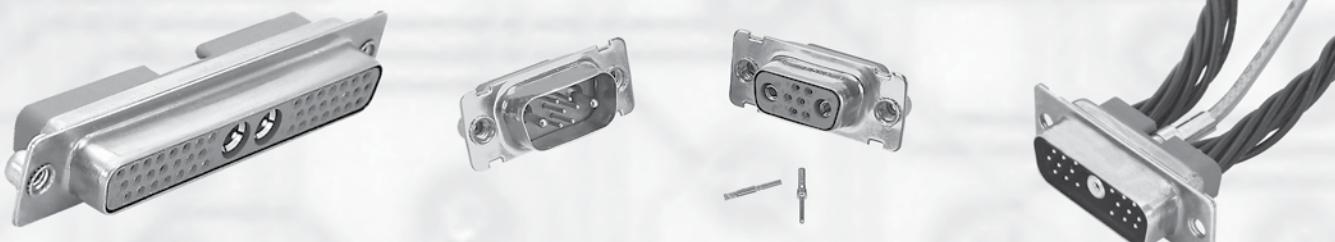


SCBCD SERIES

MILITARY / SPACE FLIGHT QUALITY

HIGH DENSITY REMOVABLE CONTACTS

High
Performance
D-sub



- High performance for use in harsh environments, including space flight.
- Size 22, Size 16 and Size 8 **removable** contacts.
- All female closed entry signal contacts utilize the “PosiBand®” system. See page 1 for details. GSFC S-311-P-4/08 offers two contact engagement test options. Size 22 PosiBand contacts meet the higher 40 gram requirements per 4.2.2.b.
- Three connector variants with a mixture of signal, power, shielded and high voltage contacts.
- Terminations include cable or wire crimp and solder.
- Current ratings to 70 amperes. See temperature rise curves on page 3 & 4 for details.
- A wide variety of options and accessories.



Conforming To Applicable Material, Dimensional and Performance Requirements:

- GSFC S-311-P4 & GSFC S-311-P10
- DSCC Specification 85039

Conforming To Outgassing Requirements:

- ASTM E-595 & NASA-RP-1124

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Connector Insert:

Glass-filled polyester per ASTM-D-5927, UL 94V-0, ASTM E-595, NASA-RP-1124 blue color.

Contacts:

Size 22:

Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Size 16:

Precision machined high conductivity copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Size 8:

Power:

Precision machined high conductivity copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Shielded:

For material and finishes, see page 79.

High Voltage:

For material and finishes, see page 79.

Connector Housing (Shells):

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Mounting Spacers and Brackets:

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Jackscrew Systems:

Brass with 0.000050 inch [1.27 microns] gold over copper plate.

Cable Adapter (Hood):

Brass with 0.000050 inch [1.27 microns] gold over copper plate; aluminum with electroless nickel plate. Other finishes available, contact Technical Sales.

MECHANICAL CHARACTERISTICS:

Size 22 Removable:

Male contact - 0.030 inch [0.76 mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details. For removable size 22 contacts, see page 81.

Size 16 Removable:

Male - 0.062 inch [1.57mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details. For removable size 16 contacts, see page 83.

Size 8 Removable:

Male contact - 0.142 inch [3.61 mm] mating diameter. Female contact - features Large Surface Area (L.S.A.) closed entry design utilizing BeCu mechanical retention member. Closed crimp barrel. For removable size 8 contacts, see pages 83-87.

continued on next page. . . .

TECHNICAL CHARACTERISTICS, *continued*

continued from previous page. . . .

MECHANICAL CHARACTERISTICS, *continued*:

Shielded:	<i>For mechanical characteristics, see page 79.</i>
High Voltage:	<i>For mechanical characteristics, see page 79.</i>
Contact Retention in Connector Insert:	
Size 22:	9 lbs. [40N] minimum.
Size 16:	15 lbs. [67N] minimum.
Size 8 Power / Shielded:	22 lbs. [98N].
Contact Terminations:	
Size 22:	Closed barrel crimp - wire sizes 20 AWG [0.5 mm ²] through 30 AWG [0.05 mm ²]. Closed barrel solder - wire size 22 AWG [0.3 mm ²] maximum; see page 81 for details.
Size 16:	Closed barrel crimp - wire sizes 12 AWG [4.0 mm ²] through 24 AWG [0.25 mm ²].
Size 8:	
Power:	Closed barrel crimp or solder cup - wire sizes 8 [10.0 mm ²], 10 [5.3 mm ²], 12 [4.0 mm ²], and 16 [1.5 mm ²] AWG.
Shielded:	<i>Refer to RF Cable in chart on page 86 for contact terminations.</i>
High Voltage:	Straight and right angle (90°) terminations - 0.041 inch [1.04 mm] minimum hole diameter.
Connector Housing (Shells):	Male connector housings may be dimpled for EMI/ESD ground paths.
Polarization:	Trapezoidally-shaped connector housings and polarized jackscrews.

Locking Systems: Jackscrews.

Mechanical Operations: 1,000 operations per IEC 60512-5.

ELECTRICAL CHARACTERISTICS:

SIZE 22 CONTACTS

Contact Current Rating:	5 amperes, nominal
Initial Contact Resistance:	0.005 ohms maximum.
Proof Voltage:	1000 V r.m.s.

SIZE 16 CONTACTS

Contact Current Rating, Tested per UL 1977:	28 amperes See temperature rise curves on page 4 for details.
Initial Contact Resistance:	0.0016 ohms maximum, per IEC 60512-2, Test 2b.
Proof Voltage:	1000 V r.m.s.

SIZE 8 CONTACTS

POWER CONTACTS	<i>For electrical characteristics, see page 23.</i>
-----------------------	---

SHIELDED CONTACTS

For electrical characteristics, see page 79.

HIGH VOLTAGE CONTACTS

For electrical characteristics, see page 79.

CONNECTOR

Insulation Resistance:	5 G ohms.
Clearance and Creepage Distance:	0.042 inch [1.06 mm], minimum.
Working Voltage:	300 V r.m.s.

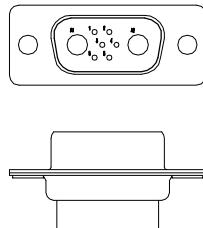
CLIMATIC CHARACTERISTICS:

Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	10 days.

*1 CONTACT VARIANT

FACE VIEW OF MALE OR REAR VIEW OF FEMALE

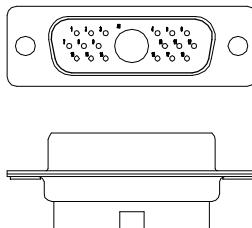
— SHELL SIZE 1 —



8W2

Six (6) Size 22 Signal Contacts and
Two (2) Size 16 Power Contacts

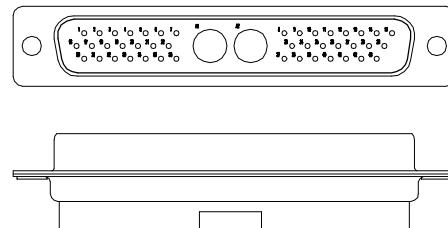
— SHELL SIZE 2 —



19W1

Eighteen (18) Size 22 Signal Contacts
and One (1) Size 8 Power Contact

— SHELL SIZE 4 —



***2 45W2**

Forty-three (43) Size 22 Signal Contacts
and Two (2) Size 8 Power Contacts

OTHER VARIANTS WILL BE ADDED, CONSULT OUR WEBSITE
OR CONTACT TECHNICAL SALES FOR UPDATED INFORMATION.

NOTES:

*1 Additional contact variants may be toolled at customer request.

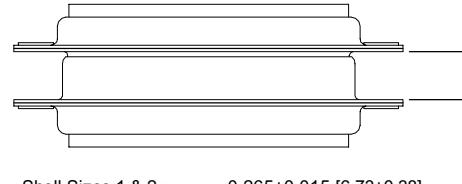
*2 45W2 variant currently available in female only. Contact
Technical Sales for availability of male connector.


STANDARD CONNECTOR HOUSING (SHELLS) ASSEMBLY

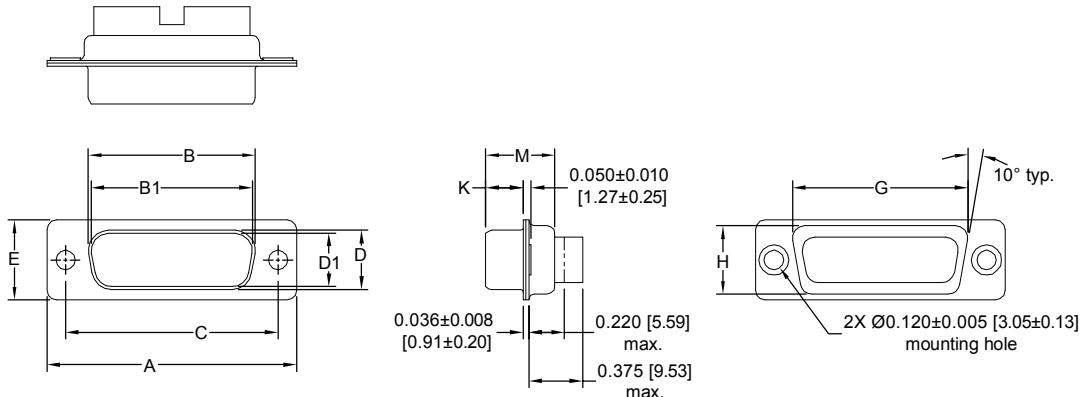
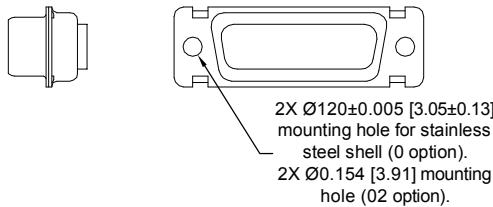
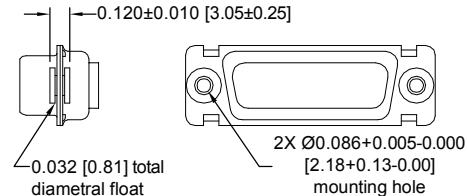

SCBCD45W2S0000G



SCBCD8W2S0000G

RECOMMENDED MATING DIMENSIONS


Shell Sizes 1 & 2 = 0.265 ± 0.015 [6.73 \pm 0.38]
 Shell Sizes 3, 4, 5 & 6 = 0.256 ± 0.015 [6.50 \pm 0.38]

TYPICAL CONNECTOR TOP VIEW

OPTIONAL CONNECTOR HOUSING ASSEMBLY (0, 02)

OPTIONAL CONNECTOR HOUSING ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS (F)


SHELL SIZES	VARIANT	A ± 0.015 [0.38]	B ± 0.005 [0.13]	B1 ± 0.005 [0.13]	C ± 0.005 [0.13]	D ± 0.005 [0.13]	D1 ± 0.005 [0.13]	E ± 0.015 [0.38]	G ± 0.010 [0.25]	H ± 0.010 [0.25]	K ± 0.005 [0.13]	M ± 0.010 [0.25]
1	8W2 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	8W2 S	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
2	19W1 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
	19W1 S	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
4	45W2 S	2.729 [69.32]	2.159 [54.84]		2.500 [63.50]	0.311 [7.90]		0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]

REMOVABLE CONTACT ORDERING ASSISTANCE CHART

SCBCD SERIES CRIMP AND SOLDER TERMINATION CONTACTS

TYPE	PAGE NUMBER REFERENCE IN CATALOG	CONTACT SIZE	FEMALE PART NUMBER	MALE PART NUMBER	WIRE SIZE AWG [mm ²]
CRIMP	see page 80 for additional information	22	FC8022M2	MC8022M	22 [0.3] / 24 [0.25] / 26 [0.12] / 28 [0.08] / 30 [0.5]
			FC8020M2	MC8020M	20 [0.5] max.
	see page 83 for additional information	16	FC112N4-50	MC112N-50-133.0	12 [4.0]
			FC114N4-50	MC114N-50-133.0	14 [2.5] / 16 [1.5]
			FC116N4-50	MC116N-50-133.0	16 [1.5] / 18 [1.0]
			FC120N4-50	MC120N-50-133.0	20 [0.5] / 22 [0.3] / 24 [0.25]
	see page 83 for additional information	8	FC4008M	MC4008M	8 [10.0]
			FC4010M	MC4010M	10 [5.3]
			FC4012M	MC4012M	12 [4.0]
			FC4016M	MC4016M	16 [1.5]
SOLDER	see page 81 for additional information	22	FS8022M2	MS8022M	22 [0.3] max.
SOLDER CUP	see page 84 for additional information	8	FS4008M	MS4008M	8 [10.0]
			FS4012M	MS4012M	12 [4.0]
			FS4016M	MS4016M	16 [1.5]
HIGH VOLTAGE Straight Solder Wire	see page 85 for additional information	8	FS4820M	MS4820M	20 [0.5]
HIGH VOLTAGE Right Angle (90°) Solder Wire			FS4920M	MS4920M	20 [0.5]
SHIELDED	see page 86 for additional information	SOLDER / CRIMP	FC4101M	MC4101M	RG 178 B/U, 196 B/U
			FC4102M	MC4102M	RG 179 B/U, 316 B/U
			FC4103M	MC4103M	RG 180 B/U
			FC4104M	MC4104M	RG 58 B/U
		SOLDER / SOLDER	FS4101M	MS4101M	RG 178 B/U, 196 B/U
			FS4102M	MS4102M	RG 179 B/U, 316 B/U
			FS4103M	MS4103M	RG 180 B/U
			FS4104M	MS4104M	RG 58 B/U
		CRIMP / CRIMP	FCC4101M	MCC4101M	RG 178 B/U, 196 B/U
			FCC4102M	MCC4102M	RG 179 B/U, 316 B/U
			FCC4103M	MCC4103M	RG 180 B/U
			FCC4104M	MCC4104M	RG 58 B/U

NOTE: For ordering crimp contacts on reels, add "R" to part number, see page 79 for details. Examples: FC4008MR or MC4008MR

For information regarding REMOVABLE CONTACTS, see contact illustration drawings and charts on pages 79-87.

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.


ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	SCBCD	8W2	S	0	0	0	0	G	

STEP 1 - BASIC SERIES
SCBCD Series

STEP 2 - CONNECTOR VARIANTS
Shell Size 1 - 8W2
Shell Size 2 - 19W1
*1 Shell Size 4 - 45W2

STEP 3 - CONNECTOR GENDER
M - Male
S - Female - PosiBand closed entry contacts, see page 1 for more information.

STEP 4 - CONTACT TERMINATION TYPE
0 - Contacts ordered separately, see contact chart on page 62 for details.
1 - Signal contacts, 22 AWG-30 AWG [0.03mm²-0.05mm²].
*2 11 - Signal contacts, 22 AWG-30 AWG [0.03mm²-0.05mm²] with MC/FC 4012M power contact.
*2 12 - Signal contacts, 22 AWG-30 AWG [0.03mm²-0.05mm²] with MC/FC 4016M power contact.
*2 13 - Signal contacts, 22 AWG-30 AWG [0.03mm²-0.05mm²] with MCC/FCC 4101M shielded contacts.
*2 14 - Signal contacts, 22 AWG-30 AWG [0.03mm²-0.05mm²] with MCC/FCC 4102M shielded contacts.

STEP 9 - SPECIAL OPTIONS
SEE APPENDIX ON PAGE 97.

STEP 8 - CONNECTOR HOUSING (SHELLS) OPTION
G - Gold over copper plate.
D - Gold over copper plate and dimpled (male connectors only).

***3 STEP 7 - LOCKING AND POLARIZING SYSTEMS**
0 - None.
T - Fixed female jackscrews.
T2 - Fixed female jackscrews.
T6 - Fixed male and female polarized jackscrews.
E - Rotating male jackscrews.
E2 - Rotating male screw locks.
E3 - Rotating male with internal hex for 3/32 hex drives
E6 - Rotating male and female polarized jackscrews.

***3 STEP 6 - CABLE ADAPTER (HOOD) AND PUSH-ON FASTENER**
0 - None
AN - Cable adapter, lightweight aluminum, electroless nickel plate, see page 93 for details.
H - Cable adapter, top opening, brass
N - Push-on fastener, for right angle (90°) mounting brackets

***3 STEP 5 - MOUNTING STYLE**

0 - Mounting hole, 0.120 [3.05] Ø
 02 - Mounting hole, 0.154 [3.91] Ø
 C5 - Swaged spacer, Cul-de-Sac style, 4-40 threads, 0.350 [8.89] length.
 F - Float mounts, universal
 S2 - Swaged spacer, 4-40 threads, 0.125 [3.18] length
 S5 - Swaged locknut, 4-40 threads

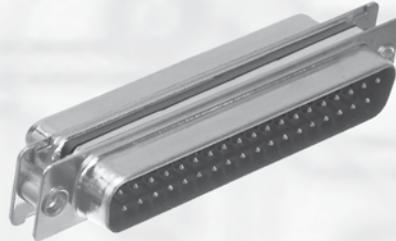
NOTES

*1 45W2 variant currently available in female only.

*2 Available on 19W1 and 45W2 connectors only.

*3 For additional information of options listed in steps 5, 6, and 7, see Accessories Section on pages 88-96.

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.



- High performance for use in harsh environments, including space flight.
- Size 20 **fixed** contacts.
- Female closed entry contacts utilize the “PosiBand®” system.
See page 1 for details.
- Five connector variants include 9, 15, 25, 37, and 50 contacts.
- Suitable for use as connector saver or gender changer.
- A wide variety of jackscrew options allows for mechanical keying.

Conforming To Applicable Material, Dimensional and Performance Requirements:

- GSFC S-311-P4 & GSFC S-311-P10
- MIL-DTL-24308 Class M

Conforming To Outgassing Requirements:

- ASTM E-595 & NASA-RP-1124

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Connector Insulator: Glass-filled DAP per ASTM-D-5948, UL 94V-0, ASTM E-595, NASA-RP-1124.

Contacts: Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Connector Housing (Shells), Spacers and Jackscrew Systems: Brass with 0.000050 inch [1.27 microns] gold over copper plate.

MECHANICAL CHARACTERISTICS:

Size 20 Fixed: Male contact - 0.040 inch [1.02 mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details.

Connector Saver: Male to female, or male to male.

Contact Retention: 9 lbs. [40 N].

Connector Housing (Shells): Male connector housings may be dimpled for EMI/ESD ground paths.

Polarization:

Trapezoidally-shaped connector housings.

Mechanical Operations:

1,000 operations, minimum, per IEC 60512-5.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating: 7.5 amperes, nominal.

Initial Contact Resistance: 0.008 ohms, maximum.

Proof Voltage: 1,000 V r.m.s.

Insulator Resistance: 5 G ohms.

Clearance and Creepage Distance: 0.039 inch [1.0 mm], minimum.

Working Voltage: 300 V r.m.s.

CLIMATIC CHARACTERISTICS:

Temperature Range: -55°C to +125°C.



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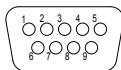
SAD SERIES
MILITARY / SPACE FLIGHT QUALITY
STANDARD DENSITY CONNECTOR SAVER

High
Performance
D-sub

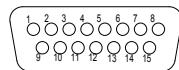
SAD SERIES SIZE 20 CONTACT CONNECTOR SAVER

CONTACT VARIANTS

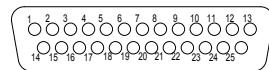
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



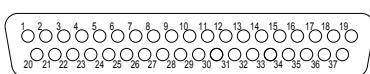
SAD 9



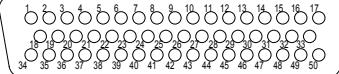
SAD 15



SAD 25

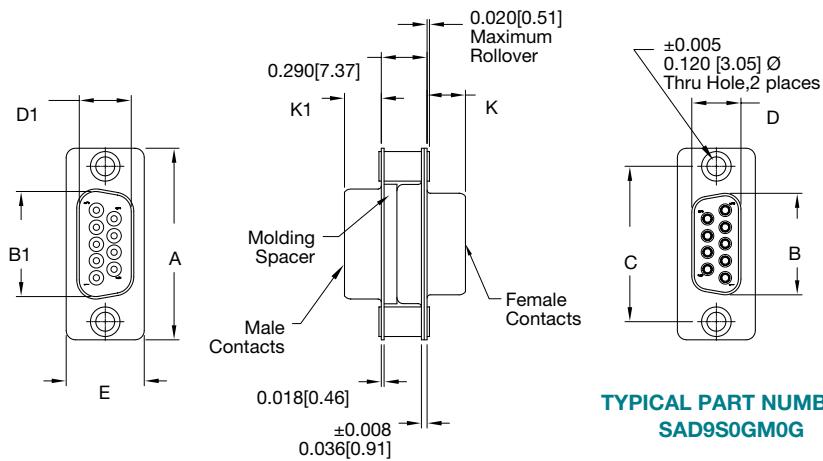


SAD 37



SAD 50

STANDARD CONNECTOR HOUSING (SHELLS) ASSEMBLY DIMENSIONS
SIZE 20 CONTACTS



TYPICAL PART NUMBER:
SAD9S0GM0G

CONNECTOR VARIANT SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±0.005 [0.13]	E ±0.015 [0.38]	K ±0.005 [0.13]	K1 ±0.005 [0.13]
9 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]		0.233 [5.92]
9 S	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	
15 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]		0.233 [5.92]
15 S	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	
25 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]		0.230 [5.84]
25 S	2.088 [53.04]	1.511 [38.38]		1.852 [47.04]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	
37 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]		0.230 [5.84]
37 S	2.729 [69.32]	2.159 [54.84]		2.500 [63.50]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	
50 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]		
50 S	2.635 [66.93]	2.064 [52.43]		2.406 [61.11]	0.423 [10.74]		0.605 [15.37]	0.243 [6.17]	

JACKSCREW SYSTEMS
CODE E, E6, T AND T6

**ROTATING
MALE AND FEMALE
JACKSCREWS**

E

**ROTATING
MALE AND FEMALE
POLARIZED
JACKSCREWS**

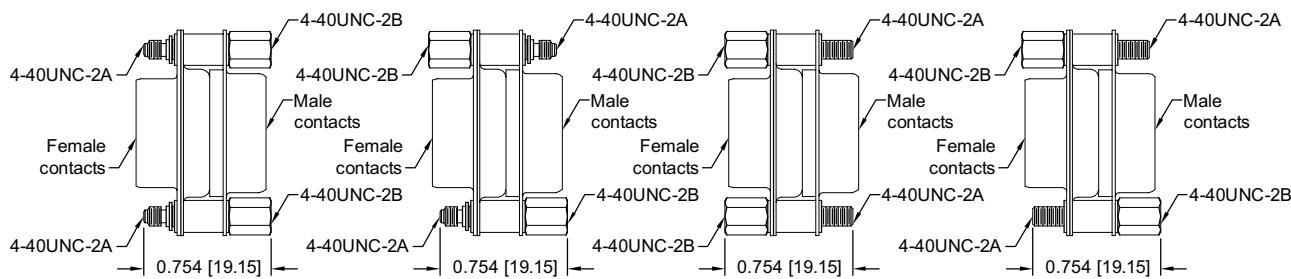
E6

**FIXED
MALE AND FEMALE
JACKSCREWS**

T

**FIXED
MALE AND FEMALE
POLARIZED
JACKSCREWS**

T6



EXAMPLE PART NUMBER:
SAD9SEGM0G

EXAMPLE PART NUMBER:
SAD9SE6GM0G

EXAMPLE PART NUMBER:
SAD9STGM0G

EXAMPLE PART NUMBER:
SAD9ST6GM0G



SAD15S0GM0G connector saver mated to
SND15S5R70T2G connector.



Positronic
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SAD SERIES
MILITARY / SPACE FLIGHT QUALITY
STANDARD DENSITY CONNECTOR SAVER

High
Performance
D-sub

ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	SAD	9	S	S	G	M	S	D	

STEP 1 - BASIC SERIES
SAD series

STEP 2 - CONNECTOR VARIANT
9, 15, 25, 37, 50

STEP 3 - 1ST CONNECTOR GENDER
M - Male
S - Female - PosiBand closed entry contacts,
see page 1 for more information.

***1 STEP 4 - 1ST CONNECTOR MATING STYLE**
0 - Swaged spacer 0.120 [3.05 μ] mounting hole
S - Swaged spacer 4-40 UNC-2B threads
*2 E - Rotating male and female jackscrews
(Select 0 in Step 7)
*2 E6 - Rotating male and female polarized jackscrew
(Select 0 in Step 7)
*2 T - Fixed male and female jackscrews
(Select 0 in Step 7)
*2 T6 - Fixed male and female polarized jackscrew
(Select 0 in Step 7)

STEP 9 - SPECIAL OPTIONS
SEE APPENDIX ON PAGE 97.

STEP 8 - 2ND CONNECTOR HOUSING (SHELLS) OPTION
G - Gold over copper plate.
D - Gold over copper plate and dimpled
(male connectors only).

***1 STEP 7 - 2ND CONNECTOR MATING STYLE**
0 - Swaged spacer 0.120 [3.05 μ] mounting hole
S - Swaged spacer 4-40 UNC-2B threads
*2 E - Rotating male and female jackscrews
(Select 0 in Step 4)
*2 E6 - Rotating male and female polarized jackscrew
(Select 0 in Step 4)
*2 T - Fixed male and female jackscrews
(Select 0 in Step 4)
*2 T6 - Fixed male and female polarized jackscrew
(Select 0 in Step 4)

STEP 6 - 2ND CONNECTOR GENDER
M - Male

STEP 5 - 1ST CONNECTOR HOUSING (SHELLS) OPTION

G - Gold over copper plate.
D - Gold over copper plate and dimpled
(male connectors only).

NOTES

*1 Connector mating style for both connectors must be the same if 0 or S is used. If E or E6 is used in either Step 4 or 8 the other step must be 0.

*2 For hardware information, see page 66.



- High performance for use in harsh environments, including space flight.
- Size 22 **fixed** contacts.
- Female closed entry contacts utilize the "PosiBand®" system. See page 1 for details.
- Five connector variants include 15, 26, 44, 62, 78, and 104 contacts.
- Suitable for use as connector saver or gender changer.
- A wide variety of jackscrew options allows for mechanical keying.

Conforming To Applicable Material, Dimensional and Performance Requirements:

- GSFC S-311-P4
- MIL-DTL-24308 Class M

Conforming To Outgassing Requirements:

- ASTM E-595 & NASA-RP-1124

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Connector Insulator:	Polyester glass-filled per ASTM-D-5927, UL 94V-0, ASTM E-595, NASA-RP-1124.
Contacts:	Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.
Connector Housing (Shells), Spacers and Jackscrew Systems:	Brass with 0.000050 inch [1.27 microns] gold over copper plate.

MECHANICAL CHARACTERISTICS:

Size 20 Fixed:	Male contact - 0.030 inch [0.76 mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details.
Connector Saver:	Male to female (or male to male, Size 78 only).
Contact Retention:	9 lbs. [40 N].

Connector Housing (Shells):

Male connector housings may be dimpled for EMI/ESD ground paths.

Polarization:

Trapezoidally-shaped connector housings.

Mechanical Operations:

1,000 operations, minimum, per IEC 60512-5.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	5 amperes, nominal.
Initial Contact Resistance:	0.008 ohms, maximum.
Proof Voltage:	1,000 V r.m.s.
Insulator Resistance:	5 G ohms.
Clearance and Creepage Distance:	0.039 inch [1.0 mm], minimum.
Working Voltage:	300 V r.m.s.

CLIMATIC CHARACTERISTICS:

Temperature Range: -55°C to +125°C.



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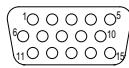
SADD SERIES
MILITARY / SPACE FLIGHT QUALITY
HIGH DENSITY CONNECTOR SAVER

High
Performance
D-sub

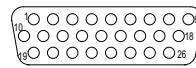
SADD SERIES SIZE 22 CONTACT CONNECTOR SAVER

CONTACT VARIANTS

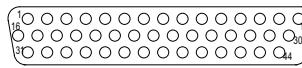
FACE VIEW OF MALE OR USE MIRROR IMAGE FOR FEMALE



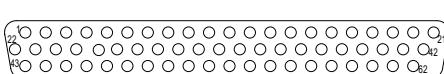
SADD 15



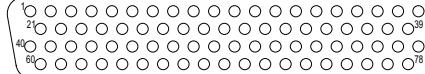
SADD 26



SADD 44



SADD 62



SADD 78

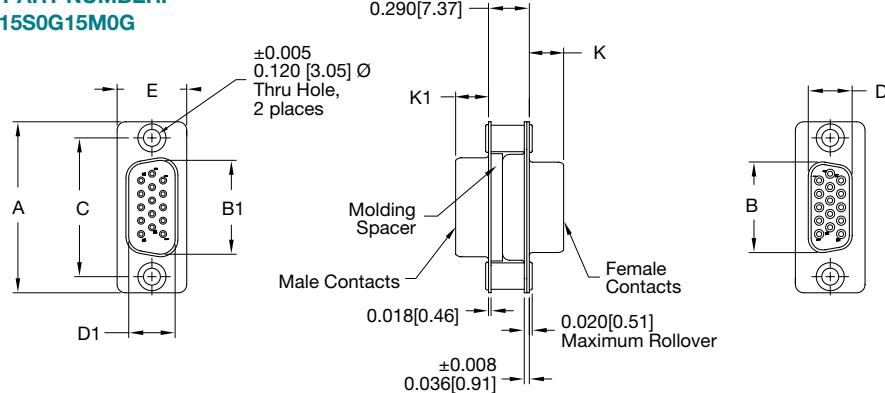


SADD 104

STANDARD CONNECTOR HOUSING (SHELLS) ASSEMBLY DIMENSIONS

SIZE 22 CONTACTS

TYPICAL PART NUMBER:
SADD15S0G15M0G



CONNECTOR VARIANT SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±0.005 [0.13]	E ±0.015 [0.38]	K ±0.005 [0.13]	K1 ±0.005 [0.13]
15 M	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]		0.233 [5.92]
15 S	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	
26 M	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]		0.233 [5.92]
26 S	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	
44 M	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]		0.230 [5.84]
44 S	2.088 [53.04]	1.511 [38.38]		1.852 [47.04]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	
62 M	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]		0.230 [5.84]
62 S	2.729 [69.32]	2.159 [54.84]		2.500 [63.50]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	
78 M	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]		
78 S	2.635 [66.93]	2.064 [52.43]		2.406 [61.11]	0.423 [10.74]		0.605 [15.37]	0.243 [6.17]	
104 M	2.729 [69.32]		2.212 [56.18]	2.500 [63.50]		0.503 [12.78]	0.668 [16.97]		0.230 [5.84]
104 S	2.729 [69.32]	2.189 [55.60]		2.500 [63.50]	0.485 [12.32]		0.668 [16.97]	0.243 [6.17]	

ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	SADD	15	S	S	G	M	S	D	

STEP 1 - BASIC SERIES
SADD series

STEP 2 - CONNECTOR VARIANT
15, 26, 44, 62, 78, 104

STEP 3 - 1ST CONNECTOR GENDER

*³ M - Male
S - Female - PosiBand closed entry contacts,
see page 1 for more information.

***¹ STEP 4 - 1ST CONNECTOR MATING STYLE**

- 0 - Swaged spacer 0.120 [3.05 μ] mounting hole
- S - Swaged spacer 4-40 UNC-2B threads
- *²E - Rotating male and female jackscrews
(Select 0 in Step 7)
- *²E6 - Rotating male and female polarized jackscrew
(Select 0 in Step 7)
- *²T - Fixed male and female jackscrews
(Select 0 in Step 7)
- *²T6 - Fixed male and female polarized jackscrew
(Select 0 in Step 7)

STEP 5 - 1ST CONNECTOR HOUSING (SHELLS) OPTION

G - Gold over copper plate.
D - Gold over copper plate and dimpled
(male connectors only).

STEP 9 - SPECIAL OPTIONS
SEE APPENDIX ON PAGE 97.

STEP 8 - 2ND CONNECTOR HOUSING (SHELLS) OPTION

G - Gold over copper plate.
D - Gold over copper plate and dimpled
(male connectors only).

***¹ STEP 7 - 2ND CONNECTOR MATING STYLE**

- 0 - Swaged spacer 0.120 [3.05 μ] mounting hole
- S - Swaged spacer 4-40 UNC-2B threads
- *²E - Rotating male and female jackscrews
(Select 0 in Step 4)
- *²E6 - Rotating male and female polarized jackscrew
(Select 0 in Step 4)
- *²T - Fixed male and female jackscrews
(Select 0 in Step 4)
- *²T6 - Fixed male and female polarized jackscrew
(Select 0 in Step 4)

STEP 6 - 2ND CONNECTOR GENDER
M - Male

NOTES

- *¹ Connector mating style for both connectors must be the same if 0 or S is used. If E or E6 is used in either Step 4 or 8 the other step must be 0.
- *² For hardware information, see page 66.
- *³ Male option available only on connector variant 78.



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SACBMP SERIES

MILITARY / SPACE FLIGHT QUALITY

STANDARD DENSITY COMBO-D CONNECTOR SAVER

High
Performance
D-sub



- High performance for use in harsh environments, including space flight.
- Size 20 and Size 8 **fixed** contacts.
- All female closed entry signal contacts utilize the “PosiBand®” system. See page 1 for details.
- Twenty-two connector variants with a mixture of signal, power, shielded and high voltage contacts.
- Suitable for use as connector saver or gender changer.
- Current ratings: signal level to 7.5 amperes. See temperature rise curves on page 2 for details.
- A wide variety of jackscrew options allows for mechanical keying.

Conforming To Applicable Material, Dimensional and Performance Requirements:

- GSFC S-311-P4 & GSFC S-311-P10
- DSCC Specification 85039

Conforming To Outgassing Requirements:

- ASTM E-595 & NASA-RP-1124

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Connector Insulator: Glass-filled polyester per ASTM-D-5927, UL 94-V0, ASTM E-595, NASA-RP-1124, blue color.

Contacts:

Size 20: Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Size 8: Precision machined high conductivity copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Connector Housing (Shells), Spacers and Jackscrew Systems: Brass with 0.000050 inch [1.27 microns] gold over copper plate.

MECHANICAL CHARACTERISTICS:

Size 20 Fixed: Male contact - 0.040 inch [1.02 mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details.

Size 8 Fixed:

Male - 0.142 inch [3.61mm] mating diameter. Female contact features Large Surface Area (L.S.A.) closed entry contact design utilizing BeCu mechanical retention member. Closed crimp barrel.

Connector Saver:

Male to female, male to male see page 74 for available variants.

9 lbs. [40 N].

Connector Housing (Shells):

Male connector housings may be dimpled for EMI/ESD ground paths.

Polarization:

Trapezoidally-shaped connector housings.

Mechanical Operations:

1,000 operations, minimum, per IEC 60512-5.

TECHNICAL CHARACTERISTICS, *continued*

continued from previous page. . . .

ELECTRICAL CHARACTERISTICS:

SIZE 20 CONTACTS

Contact Current Rating: 7.5 amperes, nominal
Initial Contact Resistance: 0.008 ohms maximum.
Proof Voltage: 1000 V r.m.s.

SIZE 8 CONTACTS

Contact Current Rating: 40 amperes, nominal
Initial Contact Resistance: 0.008 ohms maximum.
Proof Voltage: 1000 V r.m.s.

CONNECTOR

Insulation Resistance: 5 G ohms.
Clearance and Creepage Distance: 0.039 inch [1.0 mm], minimum.
Working Voltage: 300 V r.m.s.

CLIMATIC CHARACTERISTICS:

Temperature Range: -55°C to +125°C.

SACBMP SERIES SIZE 20 AND SIZE 8 CONTACT CONNECTOR SAVER

CONTACT VARIANTS

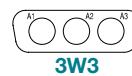
FACE VIEW OF MALE OR REAR VIEW OF FEMALE

— SHELL SIZE 1 —

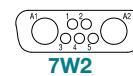


5W1

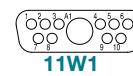
— SHELL SIZE 2 —



3W3

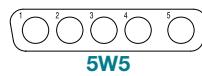


7W2

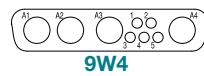


11W1

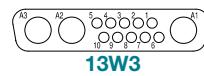
— SHELL SIZE 3 —



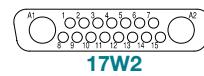
5W5



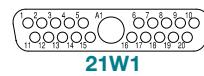
9W4



13W3

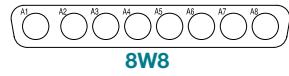


17W2

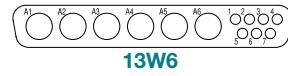


21W1

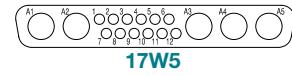
— SHELL SIZE 4 —



8W8



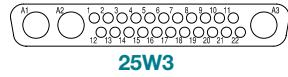
13W6



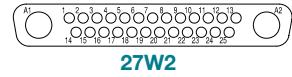
17W5



21WA4

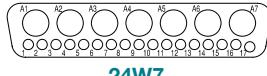


25W3

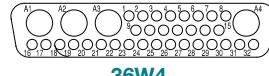


27W2

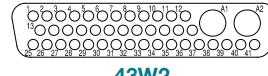
— SHELL SIZE 5 —



24W7



36W4

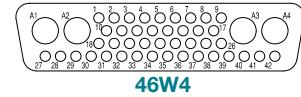


43W2



47W1

— SHELL SIZE 6 —

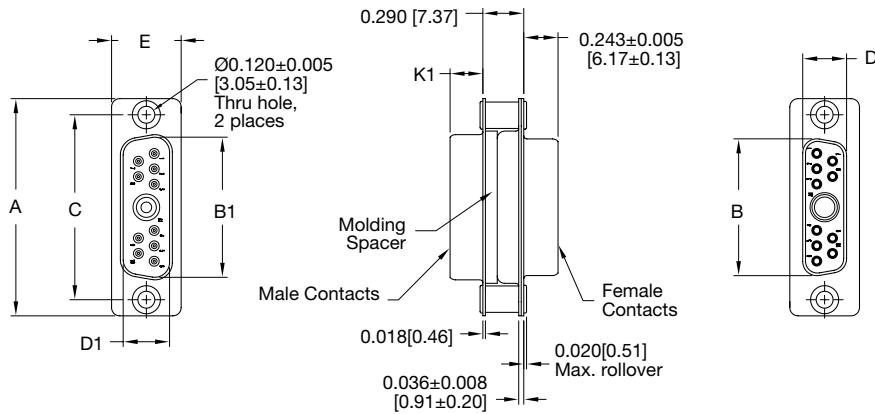


46W4

Note: For high density 8W2, 19W1, 15W4 and 45W2 variants contact Technical Sales for availability.



STANDARD CONNECTOR HOUSING (SHELLS) ASSEMBLY DIMENSIONS
SIZE 20 AND SIZE 8 CONTACTS



NOTE:

Code S = Swaged
spacer with 4-40
UNC-2B threads.

TYPICAL PART NUMBER:

SACBMP11W1S0GM0G

SHELL SIZES	CONNECTOR VARIANT	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±0.005 [0.13]	E ±0.015 [0.38]	K1 ±0.005 [0.13]
1	5W1	1.213 [30.81]	0.643 [16.33]	0.666 [16.92]	0.984 [24.99]	0.311 [7.90]	0.329 [8.36]	0.494 [12.55]	0.233 [5.92]
2	3W3, 7W2, 11W1	1.541 [39.14]	0.971 [24.66]	0.994 [25.25]	1.312 [33.32]	0.311 [7.90]	0.329 [8.36]	0.494 [12.55]	0.233 [5.92]
3	5W5, 9W4, 13W3, 17W2, 21W1	2.088 [53.04]	1.511 [38.38]	1.534 [38.96]	1.852 [47.04]	0.311 [7.90]	0.329 [8.36]	0.494 [12.55]	0.230 [5.84]
4	8W8, 13W6, 17W5, 21W4, 25W3, 27W2	2.729 [69.32]	2.159 [54.84]	2.182 [55.42]	2.500 [63.50]	0.311 [7.90]	0.329 [8.36]	0.494 [12.55]	0.230 [5.84]
5	24W7, 36W4, 43W2, 47W1	2.635 [66.93]	2.064 [52.43]	2.079 [52.81]	2.406 [61.11]	0.423 [10.74]	0.441 [11.20]	0.605 [15.37]	0.230 [5.84]
6	46W4	2.729 [69.32]	2.189 [55.60]	2.212 [56.18]	2.500 [63.50]	0.485 [12.32]	0.503 [12.78]	0.668 [16.97]	0.230 [5.84]

ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

STEP	1	2	3	4	5	6	7	8	9
EXAMPLE	SACBMP	11W1	S	S	G	M	S	D	

STEP 1 - BASIC SERIES
SACBMP series

STEP 2 - CONNECTOR VARIANT
Shell Size 1
5W1
Shell Size 2
3W3, 7W2, 11W1
Shell Size 3
5W5, 9W4, 13W3, 17W2, 21W1
Shell Size 4
8W8, 13W6, 17W5, 21WA4, 25W3, 27W2
Shell Size 5
24W7, 36W4, 43W2, 47W1
Shell Size 6
46W4

Note: For high density 8W2, 19W1, 15W4 and 45W2 variants contact Technical Sales for availability.

STEP 9 - SPECIAL OPTIONS
SEE APPENDIX ON PAGE 97.

STEP 8 - 2ND CONNECTOR HOUSING (SHELLS) OPTION
 G - Gold over copper plate.
 D - Gold over copper plate and dimpled (male connectors only).

***2 STEP 7 - 2ND CONNECTOR MATING STYLE**
 0 - Swaged spacer 0.120 [3.05 μ] mounting hole
 S - Swaged spacer 4-40 UNC-2B threads
 *³ E - Rotating male and female jackscrews (Select 0 in Step 4)
 *³ E6 - Rotating male and female polarized jackscrew (Select 0 in Step 4)
 *³ T - Fixed male and female jackscrews (Select 0 in Step 4)
 *³ T6 - Fixed male and female polarized jackscrew (Select 0 in Step 4)

STEP 6 - 2ND CONNECTOR GENDER
M - Male

STEP 5 - 1ST CONNECTOR HOUSING (SHELLS) OPTION

G - Gold over copper plate.
D - Gold over copper plate and dimpled (male connectors only).

NOTES

- *¹ Male option in Step 3 available only on connector variants 5W1, 3W3, 7W2, 11W1, 17W2, 21W1, 21WA4, 27W2, 24W7, 46W4.
- *² Connector mating style for both connectors must be the same if 0 or S is used. If E, E6, T or T6 is used in either Step 4 or 8 the other step must be 0.
- *³ For hardware information, see page 66.



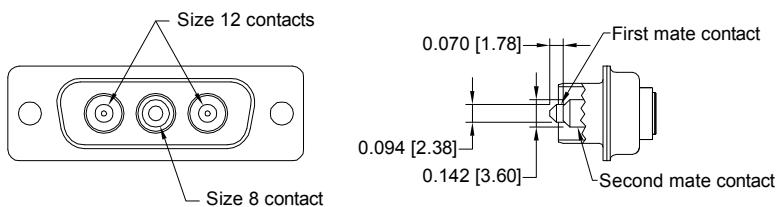
UNIQUE FEATURE SECTION

Positronic Industries is **known** around the world **for** offering our customers **flexibility** when choosing connectors.

In addition to allowing **customers** to **create** part numbers for **particular applications**, Positronic offers a **wide variety** of features and accessories within our products.

Positronic is **able** to modify existing products **to meet unique customer requirements**. We are also eager to develop **custom connectors** for specific customer applications. If you do not find what you need in this catalog, please contact us for **assistance**.

SEQUENTIAL MATING CONTACTS



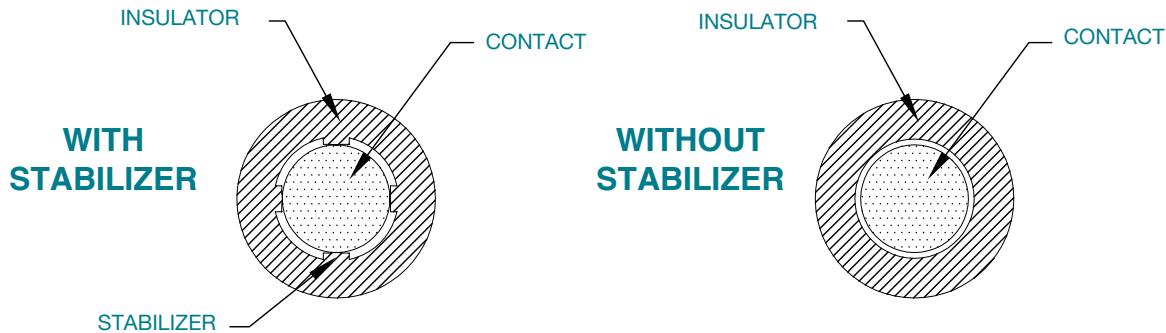
Note: A third level can be accomplished with signal contacts if needed.

Three levels of sequential mating are possible:

- First mate accomplished by a size 12 power contact. Male contact diameter is 0.094 inch. Contact Technical Sales for first mate size 8 (0.125 inch) diameter contacts.
- Second mate accomplished by a size 8 power contact. Male contact diameter is 0.142 inch.
- Third mate can be accomplished by size 20 signal contacts.

CONTACT TECHNICAL SALES FOR MORE INFORMATION!

SIZE 8 CONTACT STABILIZATION FEATURE MINIMIZES FLOAT IN SIZE 8 CONTACT POSITIONS



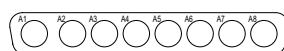
SCBM size 8 male contacts are removed toward the rear after utilizing front release tooling. Space must be provided between the contact and the connector molding so the tooling can slide over the mating portion of the contact. This fact allows the contact to float.

In some applications this float creates problems in alignment during mating. Many male contact SCBM variants offer an integral stabilizing feature to minimize problems created by float in size 8 contacts. An alternate tool is used to remove the contact if necessary. Tool number is 4311-0-1-0.

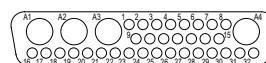
The stabilization feature is currently available for the following male contact variants:



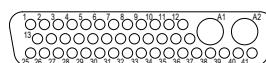
SCBM3W3M



SCBM8W8M



SCBC36W4M



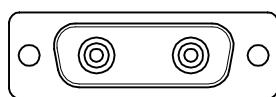
SCBC43W2M

Add MOS -1570.4 to end of part number. Example: SCBM3W3M00000-1570.4

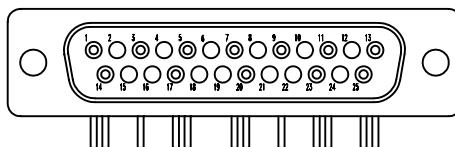
CONTACT TECHNICAL SALES FOR MORE INFORMATION!

SELECTIVELY LOADED CONNECTOR

Select loading may be advantageous in applications requiring additional creepage and clearance distances.



SCBM3W3
loaded in 2 positions



SND25
loaded in 12 positions

Note:

SCBM3W3 and SND25 variants shown for reference.
Selectively loading available on all series and variants.

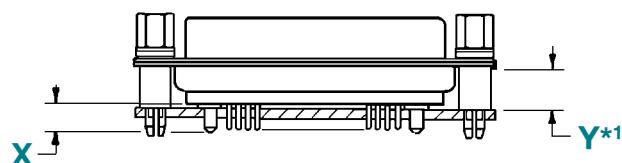
CONTACT TECHNICAL SALES FOR MORE INFORMATION!



CUSTOMER SPECIFIED CONTACT TERMINATION LENGTH

Positronic can supply high performance D-subminiature series connectors with customer specified termination lengths. A wide variety of options are available.

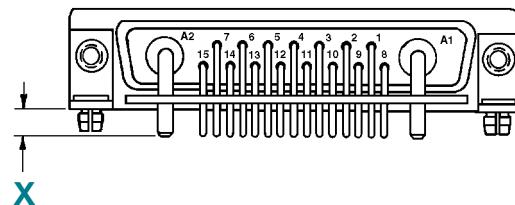
STRAIGHT SOLDER PRINTED BOARD MOUNT



Note:

*1 PCB spacer height can be adjusted according to contact termination length

RIGHT ANGLE (90°) PRINTED BOARD MOUNT



Note:

Combination-D variants shown for reference only. This option is available with SND, SDD, SCBM, SCBC and SCBCD.

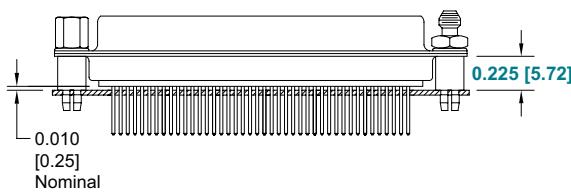
X and Y contact termination lengths can be custom designed to fit specific application requirements.

CONTACT TECHNICAL SALES FOR MORE INFORMATION!

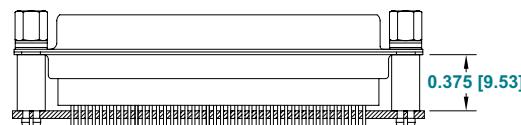
LOW PROFILE INSULATOR

Positronic can supply high performance high density D-subminiature series connectors with a low profile insulator.

LOW PROFILE



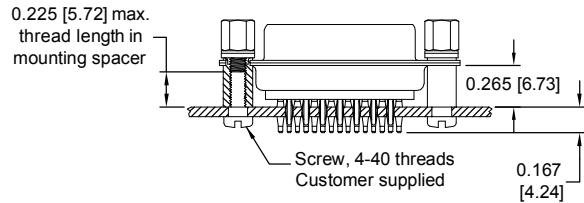
STANDARD PROFILE



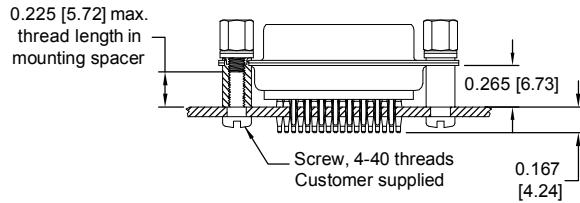
CONTACT TECHNICAL SALES FOR MORE INFORMATION!

COMPLIANT PRESS-IN CONNECTOR

Standard Density

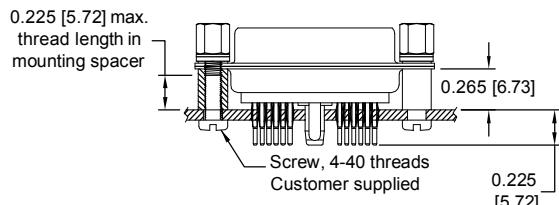


High Density

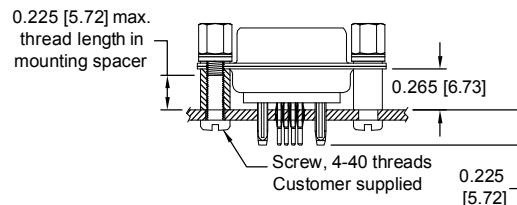


Customers may determine press-in terminations are a viable option based on their application parameters.

Standard Density Combo-D



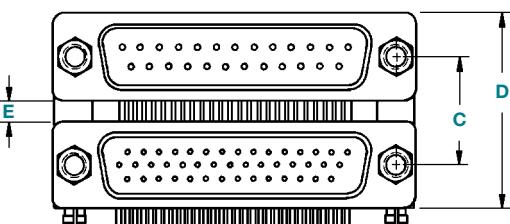
High Density Combo-D



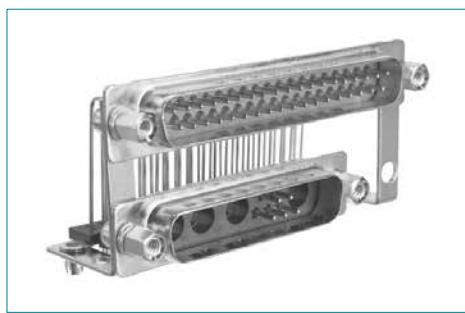
CONTACT TECHNICAL SALES FOR MORE INFORMATION!

DUAL PORT CONNECTOR

Connectors can be stacked to conserve printed circuit board space.



Standard density over high density shown for reference.



THREE HEIGHT OPTIONS!

SPACING BETWEEN CONNECTORS	C	D	E
OPTION 1	0.625 [15.88]	1.119 [28.42]	0.131 [3.33]
OPTION 2	0.750 [19.05]	1.244 [31.60]	0.256 [6.50]
OPTION 3	0.900 [22.86]	1.394 [35.41]	0.406 [10.31]

Connectors can be stacked in a variety of configurations:

- Standard / Standard Density
- High Density / High Density
- Standard / High Density
- Combination / Combination
- Combination / Standard or High Density

CONTACT TECHNICAL SALES FOR MORE INFORMATION!



REMOVABLE CONTACT TECHNICAL CHARACTERISTICS

SIZE 22 CONTACT

MATERIALS AND FINISHES:

Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

MECHANICAL CHARACTERISTICS:

Install contact to rear face of connector insert and remove from rear face of connector insert. Size 22 contacts, male – 0.030 inch [0.76 mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details. Terminations for 20, 22, 24, 26, 28, and 30 AWG. Closed barrel crimp or solder.

ELECTRICAL CHARACTERISTICS:

For SDD series: For electrical characteristics, see page 15.

For SCBCD series: For electrical characteristics, see page 60.

SIZE 20 CONTACT

MATERIALS AND FINISHES:

Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

MECHANICAL CHARACTERISTICS:

Install contact to rear face of connector insert and remove from rear face of connector insert. Size 20 contact, male – 0.040 inch [1.02 mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details. Terminations for 18, 20, 22, 24, 26, 28, and 30 AWG. Closed barrel crimp or solder.

ELECTRICAL CHARACTERISTICS:

For SND series: For electrical characteristics, see page 6.

For SCBC series: For electrical characteristics, see page 42.

SIZE 16 CONTACT

MATERIALS AND FINISHES:

Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

MECHANICAL CHARACTERISTICS:

Install contact to rear face of insulator, release from front face of insulator. Size 16 contacts, male – 0.062 inch [1.57mm] mating diameter. Female contact - PosiBand closed entry design; see page 1 for details. Terminations for 12, 14, 16, 18, 20, 22 and 24 AWG. Closed barrel crimp.

ELECTRICAL CHARACTERISTICS:

For electrical characteristics, see SCBCD series on page 60.

SIZE 8 CONTACT

MATERIALS AND FINISHES:

POWER: Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

HIGH VOLTAGE:
Insulator Material: PTFE teflon
Contacts: Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

SHIELDED:
Dielectric Material: PTFE teflon
Inner Contacts: Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

Outer Contacts: Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 97.

MECHANICAL CHARACTERISTICS:

POWER:

Install contact to rear face of connector insert and remove from front face of connector insert. Size 8 contacts, male –0.142 inch [3.61 mm] mating diameter. Female contact - features Large Surface Area (L.S.A.) closed entry design utilizing BeCu mechanical retention member. Closed barrel crimp.

Install contact to rear face of insulator and remove from front face of insulator. Size 8 contacts. See page 86 table of cable sizes for contact termination dimensions.

500 cycles minimum.

20g from 10 Hz to 500 Hz.

30g-11ms.

Install contact to rear face of insulator and remove from front face of insulator. Size 8 contacts. Straight and right angle (90°) terminations. 0.041 inch [1.04 mm] minimum hole diameter.

500 cycles minimum.

20g from 10 Hz to 500 Hz.

30g-11ms.

ELECTRICAL CHARACTERISTICS:

POWER:

For electrical characteristics, see page 23.

SHIELDED:

Initial Contact Resistance: 0.008 ohms maximum.

50 ohms.

-0.46 dB at 1 GHz

-1.5 dB at 2 GHz

VSWR: 1.15 average at 1 GHz

1.56 average at 2 GHz

Above values measured using frequency domain techniques.

Proof Voltage: 1000 V r.m.s.

HIGH VOLTAGE:

Flash over Voltage: 3600 V r.m.s.

Proof Voltage: 2700 V r.m.s.

Initial Contact Resistance: 0.008 ohms maximum.

OPTIONAL PLATING FINISHES

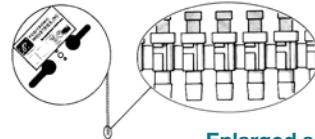
-54

0.000100 [2.54 μ] gold over copper by adding “-54” suffix onto part number. Example: FC6026M2-54.

REELED CONTACTS:

Contacts may be supplied in plastic carriers, packaged in reels holding 2,000 contacts for use with the automatic pneumatic crimp tools, catalog part number 9550-1. The same type carrier is used for both male and female contacts.

All male and female crimp contacts can be ordered in reels by adding letter “R” after the contact part number, such as MC4008MR for a male contact and FC120N4R-50 for female contact.



Enlarged section of
plastic contact carriers

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.

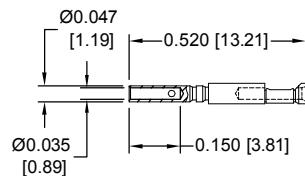
REMOVABLE CRIMP CONTACTS
FOR USE WITH SDD AND SCBCD SERIES CONNECTORS

SIZE 22

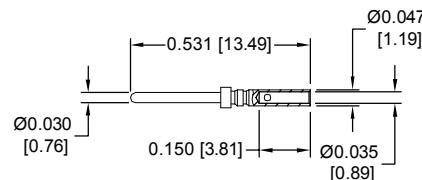
Note: Connectors can be kitted with all applicable crimp/solder contacts, contact Technical Sales for connector part number.

FEMALE CONTACT

"PosiBand" Closed Entry Design



MALE CONTACT



FEMALE PART NUMBER	WIRE SIZE AWG/[mm ²]
FC8022M2	22 / 24 / 26 / 28 / 30 [0.3/0.25/0.12/0.08/0.05]

MALE PART NUMBER	WIRE SIZE AWG/[mm ²]
MC8022M	22 / 24 / 26 / 28 / 30 [0.3/0.25/0.12/0.08/0.05]

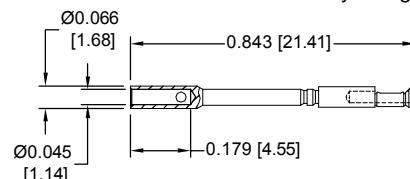
REMOVABLE CRIMP CONTACT
FOR USE WITH SDD AND SCBCD SERIES CONNECTORS
CONTACTS USED WITH 20 AWG WIRE

SIZE 22

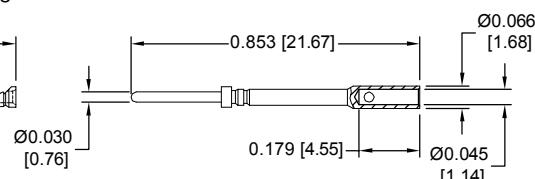
The crimp area of these contacts is not protected when fully seated in the connector molding. These contacts require shrink tubing after installation. Not suitable for fully loaded connector.

FEMALE CONTACT

"PosiBand" Closed Entry Design



MALE CONTACT



Crimp area extends above connector molding.

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

FEMALE PART NUMBER	WIRE SIZE AWG/[mm ²]
FC8020M2	20 [0.5] max

MALE PART NUMBER	WIRE SIZE AWG/[mm ²]
MC8020M	20 [0.5] max

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.



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REMOVABLE CONTACTS

MILITARY / SPACE FLIGHT QUALITY

High
Performance
D-sub

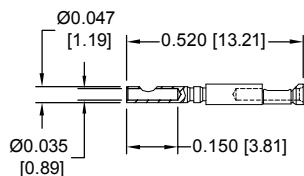
REMOVABLE CLOSED BARREL SOLDER CONTACTS FOR USE WITH SDD AND SCBCD SERIES CONNECTORS

SIZE 22

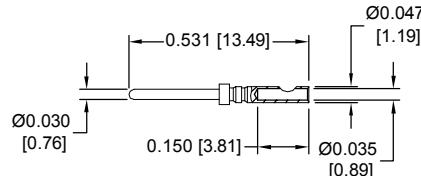
Note: Connectors can be kitted with all applicable crimp/solder contacts, contact Technical Sales for connector part number.

FEMALE CONTACT

"PosiBand" Closed Entry Design



MALE CONTACT



FEMALE PART NUMBER	WIRE SIZE AWG/[mm ²]
FS8022M2	22 [0.3] max

MALE PART NUMBER	WIRE SIZE AWG/[mm ²]
MS8022M	22 [0.3] max

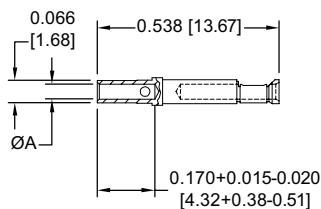
REMOVABLE CRIMP CONTACT FOR USE WITH SND AND SCBC SERIES CONNECTORS

SIZE 20

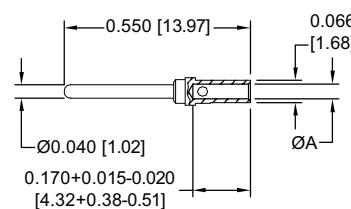
Note: Connectors can be kitted with all applicable crimp/solder contacts, contact Technical Sales for connector part number.

FEMALE CONTACT

"PosiBand" Closed Entry Design



MALE CONTACT



FEMALE PART NUMBER	WIRE SIZE AWG/[mm ²]	ØA
FC6020M2	20 / 22 / 24 [0.5/0.3/0.25]	0.045 [1.14]
FC6026M2	26 / 28 / 30 [0.12/0.08/0.05]	0.027 [0.69]

MALE PART NUMBER	WIRE SIZE AWG/[mm ²]	ØA
MC6020M	20 / 22 / 24 [0.5/0.3/0.25]	0.045 [1.14]
MC6026M	26 / 28 / 30 [0.12/0.08/0.05]	0.027 [0.69]

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.

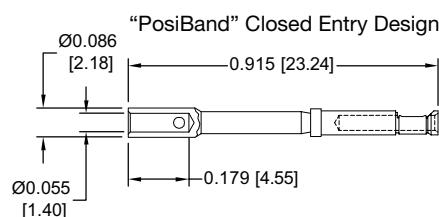
REMOVABLE CRIMP CONTACT
FOR USE WITH SND AND SCBC SERIES CONNECTORS
CONTACTS USED WITH 18 AWG WIRE

SIZE 20

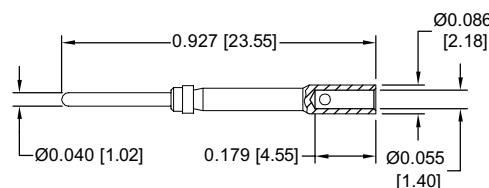
Note: Connectors can be kitted with all applicable crimp/solder contacts, contact Technical Sales for connector part number.

The crimp area of these contacts is not protected when fully seated in the connector molding. These contacts require shrink tubing after installation. Not suitable for fully loaded connector.

FEMALE CONTACT



MALE CONTACT



FEMALE PART NUMBER	WIRE SIZE AWG/[mm ²]
FC6018M2	18 [1.0] max

MALE PART NUMBER	WIRE SIZE AWG/[mm ²]
MC6018M	18 [1.0] max

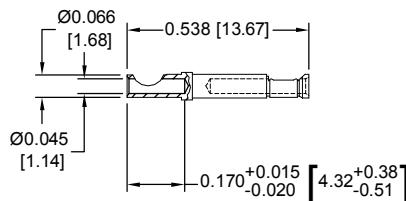
REMOVABLE CLOSED BARREL SOLDER CONTACTS
FOR USE WITH SND AND SCBC SERIES CONNECTORS

SIZE 20

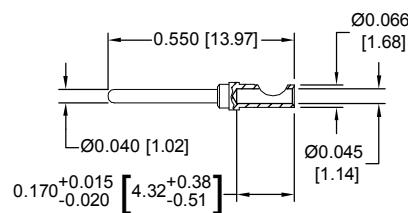
Note: Connectors can be kitted with all applicable crimp/solder contacts, contact Technical Sales for connector part number.

FEMALE CONTACT

"PosiBand" Closed Entry Design



MALE CONTACT



FEMALE PART NUMBER	WIRE SIZE AWG/[mm ²]
FS6020M2	20 [0.5] max

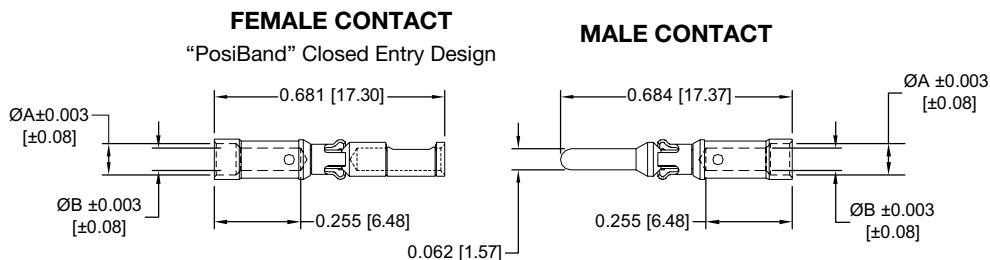
MALE PART NUMBER	WIRE SIZE AWG/[mm ²]
MS6020M	20 [0.5] max

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.



REMOVABLE CRIMP POWER CONTACT
FOR USE WITH SCBCD SERIES CONNECTORS
SIZE 16

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



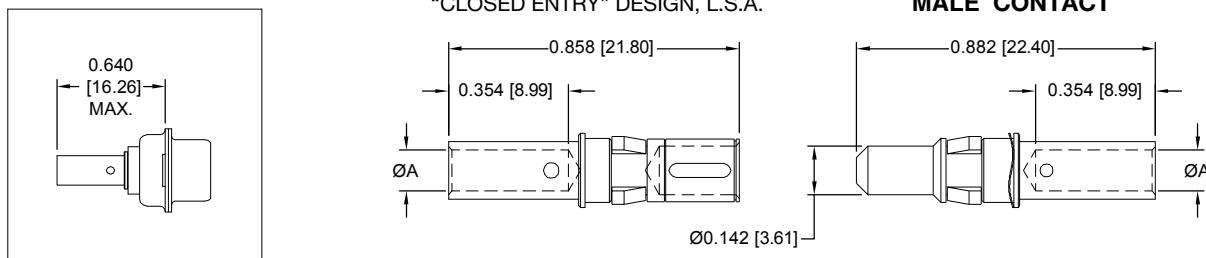
FEMALE PART NUMBER	WIRE SIZE [AWG] mm ²	ØA	ØB
FC112N4-50	12 / [4.0]	N/A	0.098 [2.49]
FC114N4-50	14-16 [2.5-1.5]	0.105 [2.67]	0.081 [2.06]
FC116N4-50	16-18 [1.5-1.0]	0.093 [2.36]	0.067 [1.70]
FC120N4-50	20-22-24 [0.5-0.3-0.25]	0.065 [1.65]	0.045 [1.14]

MALE PART NUMBER	WIRE SIZE mm ² [AWG]	ØA	ØB
MC112N-50-133.0	12 / [4.0]	N/A	0.098 [2.49]
MC114N-50-133.0	14-16 [2.5-1.5]	0.105 [2.67]	0.081 [2.06]
MC116N-50-133.0	16-18 [1.5-1.0]	0.093 [2.36]	0.067 [1.70]
MC120N-50-133.0	20-22-24 [0.5-0.3-0.25]	0.065 [1.65]	0.045 [1.14]

REMOVABLE CRIMP POWER CONTACT
FOR USE WITH SCBM, SCBC, SCBDD AND SCBCD SERIES CONNECTORS
SIZE 8

For contact current rating, see page 23.

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



FEMALE PART NUMBER	WIRE SIZE [AWG] mm ²	Ø A
FC4008M	8 [10.0]	0.181 [4.60]
FC4010M	10 [5.3]	0.122 [3.10]
FC4012M	12 [4.0]	0.101 [2.57]
FC4016M	16 [1.5]	0.067 [1.70]

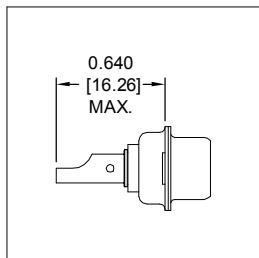
MALE PART NUMBER	WIRE SIZE [AWG] mm ²	Ø A
MC4008M	8 [10.0]	0.181 [4.60]
MC4010M	10 [5.3]	0.122 [3.10]
MC4012M	12 [4.0]	0.101 [2.57]
MC4016M	16 [1.5]	0.067 [1.70]

NOTE: *1 Female contacts feature Large Surface Area (L.S.A.) closed entry contact design which provides maximum mating surfaces between male and female contact and reduced contact resistance during operation.

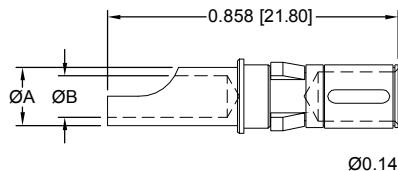
For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.

REMOVABLE SOLDER CUP POWER CONTACT
FOR USE WITH SCBM, SCBC, SCBDD AND SCBCD SERIES CONNECTORS
SIZE 8

For contact current rating, see page 23

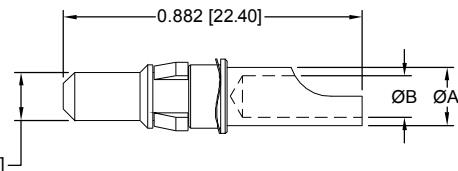


***1 FEMALE CONTACT**
“CLOSED ENTRY” DESIGN, L.S.A.



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

MALE CONTACT



FEMALE PART NUMBER	WIRE SIZE [AWG] mm ²	Ø A	Ø B
FS4008M	8 [10.0]	0.219 [5.56]	0.188 [4.78]
FS4012M	12 [4.0]	0.143 [3.63]	0.112 [2.84]
FS4016M	16 [1.5]	0.100 [2.54]	0.069 [1.75]

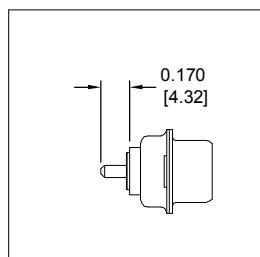
MALE PART NUMBER	WIRE SIZE [AWG] mm ²	Ø A	Ø B
MS4008M	8 [10.0]	0.219 [5.56]	0.188 [4.78]
MS4012M	12 [4.0]	0.143 [3.63]	0.112 [2.84]
MS4016M	16 [1.5]	0.100 [2.54]	0.069 [1.75]

NOTE: *1 Female contacts feature Large Surface Area (L.S.A.) closed entry contact design which provides maximum mating surfaces between male and female contact and reduced contact resistance during operation.

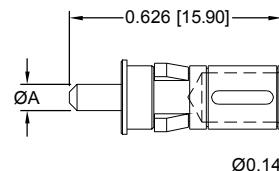
STRAIGHT SOLDER PRINTED BOARD MOUNT POWER CONTACT
FOR USE WITH SCBM AND SCBDD SERIES CONNECTORS

SIZE 8

For contact current rating, see page 23.

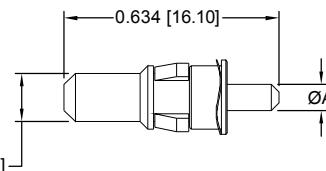


***1 FEMALE CONTACT**
“CLOSED ENTRY” DESIGN, L.S.A.



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

MALE CONTACT



FEMALE PART NUMBER	Ø A	CONTACT CODE
FDS4314M	0.078 [1.98]	35
FDS4312M	0.094 [2.39]	36
FDS4310M	0.125 [3.18]	37

MALE PART NUMBER	Ø A	CONTACT CODE
MDS4314M	0.078 [1.98]	35
MDS4312M	0.094 [2.39]	36
MDS4310M	0.125 [3.18]	37

NOTE: *1 Female contacts feature Large Surface Area (L.S.A.) closed entry contact design which provides maximum mating surfaces between male and female contact and reduced contact resistance during operation.

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.



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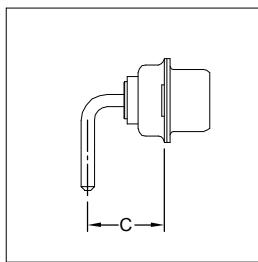
REMOVABLE CONTACTS

MILITARY / SPACE FLIGHT QUALITY

High
Performance
D-sub

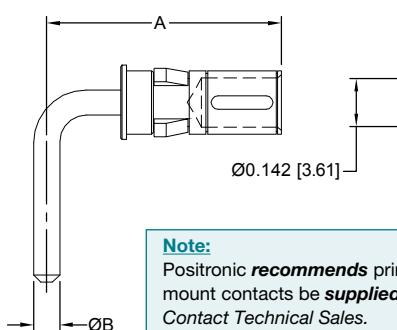
RIGHT ANGLE (90°) PRINTED BOARD MOUNT POWER CONTACT FOR USE WITH SCBM AND SCBDD SERIES CONNECTORS

For contact current rating, see page 23

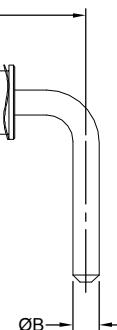


SIZE 8 *1 FEMALE CONTACT

"CLOSED ENTRY" DESIGN, L.S.A.



MALE CONTACT



NOTE:
*1 Female contacts feature Large Surface Area (L.S.A.) closed entry contact design which provides maximum mating surfaces between male and female contact and reduced contact resistance during operation.

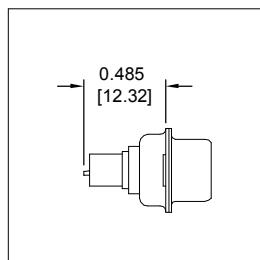
FEMALE PART NUMBER	A REF.	Ø B	C	SHELL SIZE	CONTACT CODE
FRT4314M	0.580 [14.73]	0.078 [1.98]	0.339 [8.61]	1, 2, 3 & 4	55
FRT4414M	0.692 [17.58]	0.078 [1.98]	0.451 [11.46]	5	55
FRT4714M	0.661 [16.79]	0.078 [1.98]	0.420 [10.67]	1, 2, 3 & 4	75
FRT4814M	0.773 [19.63]	0.078 [1.98]	0.520 [13.21]	5	75
FRT4310M	1.051 [26.70]	0.125 [3.18]	0.810 [20.57]	1, 2, 3 & 4	57, 77
FRT4410M	1.051 [26.70]	0.125 [3.18]	0.810 [20.57]	5	57, 77

MALE PART NUMBER	A REF.	Ø B	C	SHELL SIZE	CONTACT CODE
MRT4314M	0.580 [14.73]	0.078 [1.98]	0.339 [8.61]	1, 2, 3 & 4	55
MRT4414M	0.692 [17.58]	0.078 [1.98]	0.451 [11.46]	5	55
MRT4714M	0.661 [16.79]	0.078 [1.98]	0.420 [10.67]	1, 2, 3 & 4	75
MRT4814M	0.773 [19.63]	0.078 [1.98]	0.520 [13.21]	5	75
MRT4310M	1.051 [26.70]	0.125 [3.18]	0.810 [20.57]	1, 2, 3 & 4	57, 77
MRT4410M	1.051 [26.70]	0.125 [3.18]	0.810 [20.57]	5	57, 77

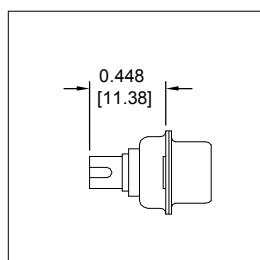
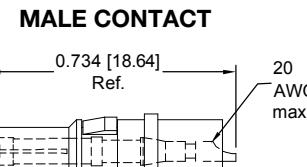
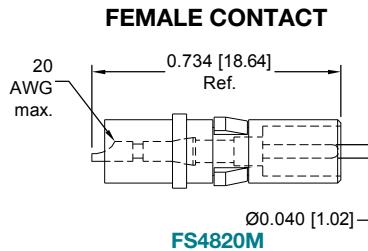
Note: Connectors can be kitted with all applicable crimp/solder contacts, contact Technical Sales for connector part number.

REMOVABLE HIGH VOLTAGE POWER CONTACT FOR USE WITH SCBM, SCBC, SCBDD AND SCBCD SERIES CONNECTORS

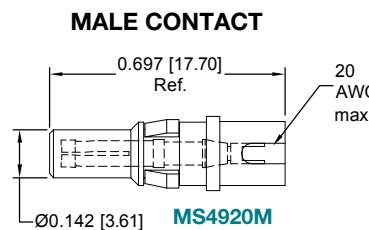
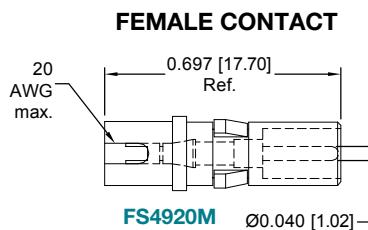
SIZE 8



STRAIGHT SOLDER WIRE TERMINATION

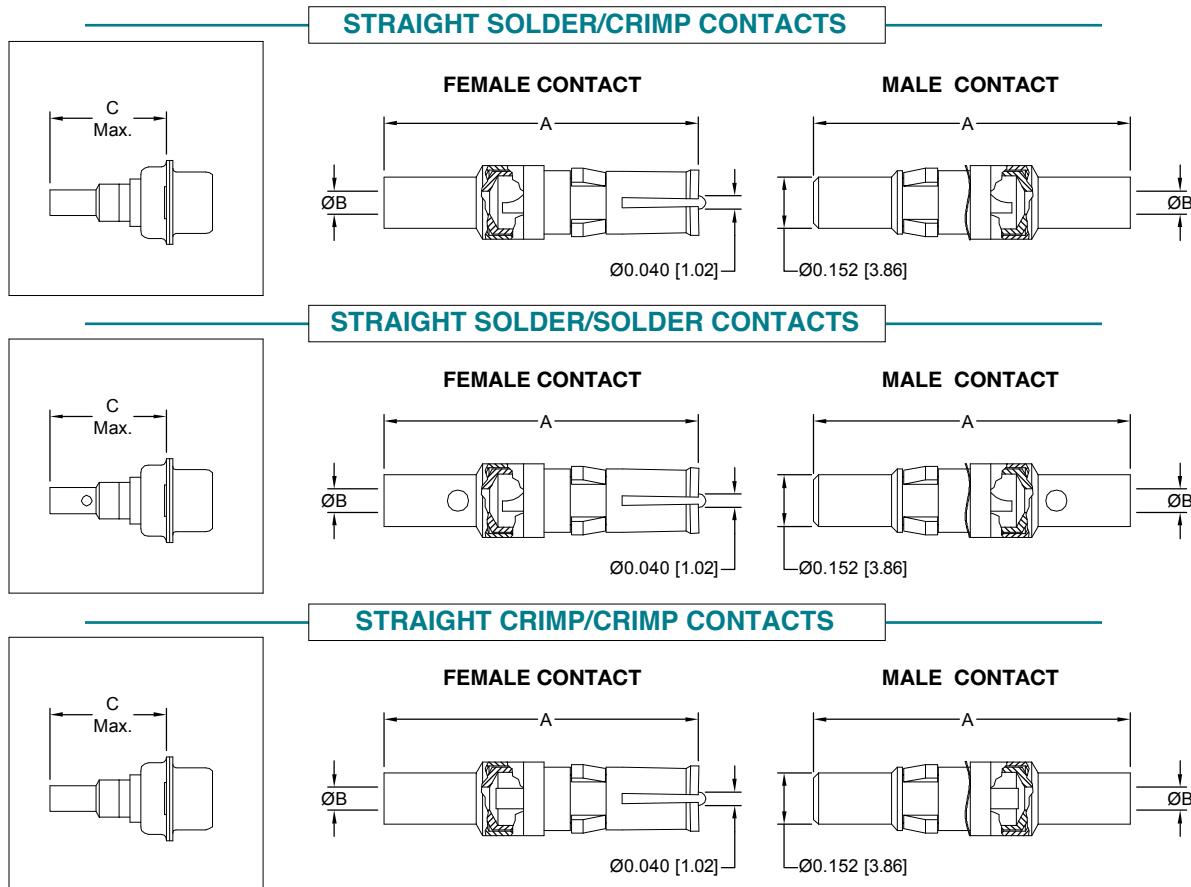


RIGHT ANGLE (90°) SOLDER WIRE TERMINATION



For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.

REMOVABLE SHIELDED CONTACT
FOR USE WITH SCBM, SCBC, SCBDD AND SCBCD SERIES CONNECTORS
SIZE 8



TYPE OF CONTACT	FEMALE PART NUMBER	MALE PART NUMBER	A	Ø B	C MAX.	RG CABLE NUMBER
SOLDER/CRIMP	FC4101M	MC4101M	0.929 [23.60]	0.040 [1.02]	0.739 [18.77]	178 B/U 196 B/U
	FC4102M	MC4102M	0.929 [23.60]	0.067 [1.70]	0.739 [18.77]	179 B/U 316 /U
	FC4103M	MC4103M	1.037 [26.34]	0.108 [2.74]	0.847 [21.51]	180 B/U
	FC4104M	MC4104M	1.037 [26.34]	0.120 [3.05]	0.847 [21.51]	58 B/U
SOLDER/SOLDER	FS4101M	MS4101M	0.929 [23.60]	0.040 [1.02]	0.739 [18.77]	178 B/U 196 B/U
	FS4102M	MS4102M	0.929 [23.60]	0.067 [1.70]	0.739 [18.77]	179 B/U 316 /U
	FS4103M	MS4103M	1.037 [26.34]	0.108 [2.74]	0.847 [21.51]	180 B/U
	FS4104M	MS4104M	1.037 [26.34]	0.120 [3.05]	0.847 [21.51]	58 B/U
CRIMP/CRIMP	FCC4101M	MCC4101M	0.929 [23.60]	0.040 [1.02]	0.739 [18.77]	178 B/U 196 B/U
	FCC4102M	MCC4102M	0.929 [23.60]	0.067 [1.70]	0.739 [18.77]	179 B/U 316 /U
	FCC4103M	MCC4103M	1.037 [26.34]	0.108 [2.74]	0.847 [21.51]	180 B/U
	FCC4104M	MCC4104M	1.037 [26.34]	0.120 [3.05]	0.847 [21.51]	58 B/U

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



SHIELDED CONTACTS

Two-step crimping action for signal and shielding conductors.

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.



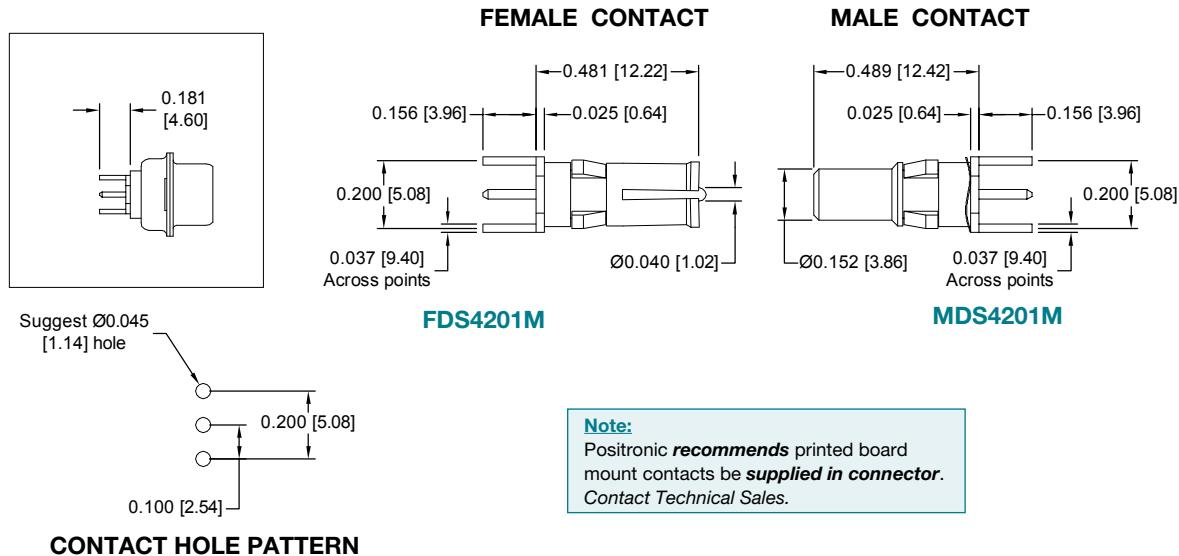
Positronic
connectpositronic.com

REMOVABLE CONTACTS

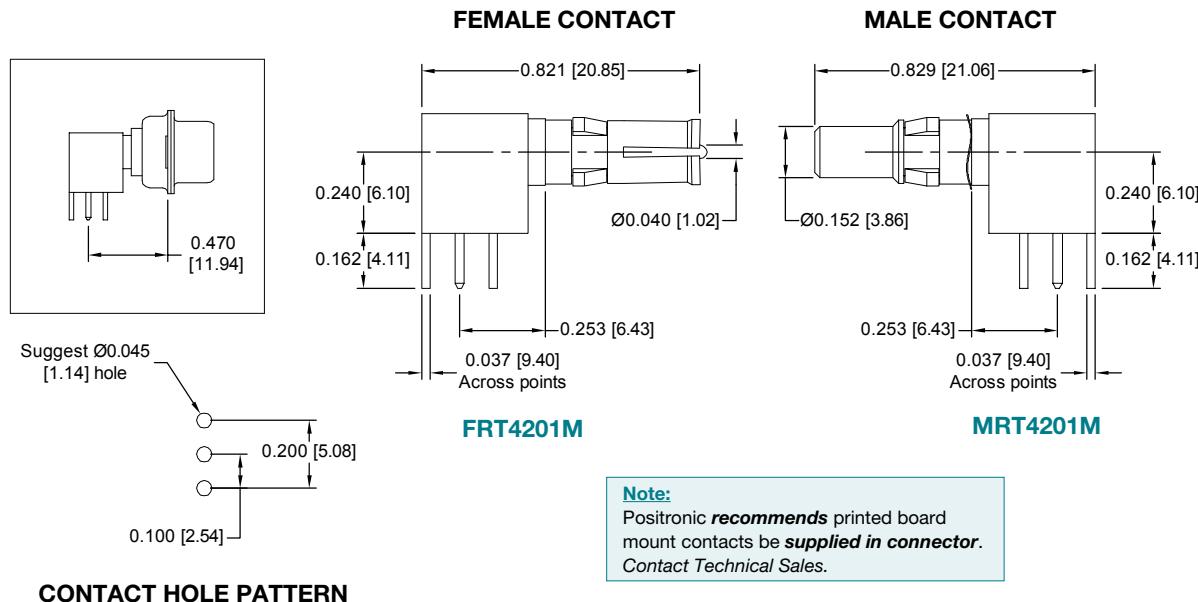
MILITARY / SPACE FLIGHT QUALITY

High
Performance
D-sub

STRAIGHT SOLDER PRINTED BOARD MOUNTED SHIELDED CONTACT FOR USE WITH SCBM AND SCBDD SERIES CONNECTORS SIZE 8



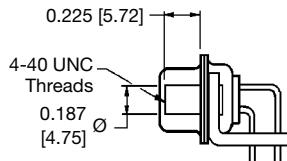
RIGHT ANGLE (90°) PRINTED BOARD MOUNT SHIELDED CONTACTS FOR USE WITH SCBM AND SCBDD SERIES CONNECTORS SIZE 8



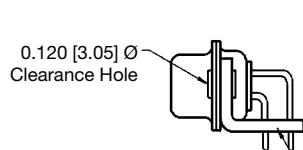
For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 98.

**RIVETED ON RIGHT ANGLE (90°) MOUNTING BRACKETS WITH CROSS BAR
CODE R2, R6, R7 AND R8**

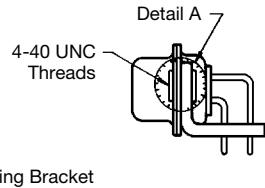
CONTACT ALIGNMENT BAR IS SUPPLIED WITH R2, R6, R7, AND R8. EXCEPTION: SCBM2WK2, SCBM3W3, SCBM3WK3, SCBM5W5 AND SCBM8W8 VARIANTS. SEE PAGE 40 FOR MORE INFORMATION.



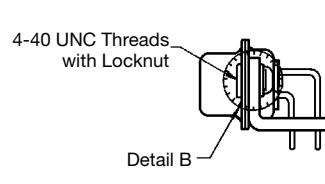
R2



R6

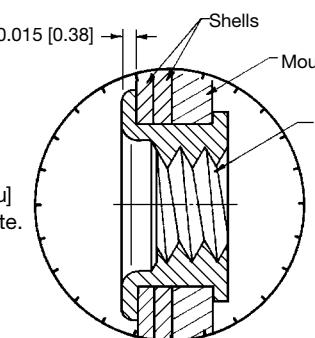


R7

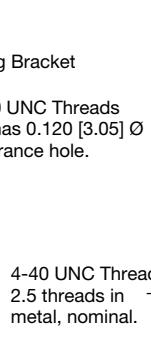


R8

Material: Brass,
0.000050 inch [1.27 μ]
gold over copper plate.



DETAIL A



DETAIL B

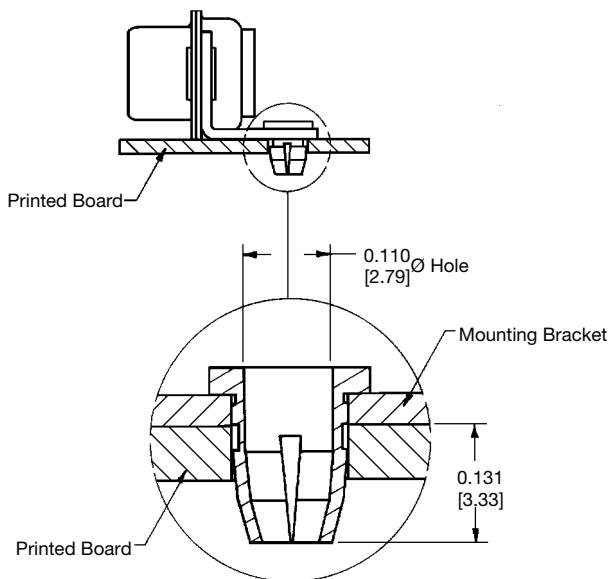
**PUSH-ON FASTENER FOR RIVETED ON RIGHT ANGLE (90°) MOUNTING BRACKETS
CODE N**



SCBM17W2S5R7N0G
(shown left)

SDD26S4R7N0G
(shown right)

TYPICAL PERFORMANCE EVALUATION DATA			
SAMPLE #	PRINTED BOARD HOLE Ø	INSERTION FORCE [LBS.]	RETENTION FORCE [LBS.]
1	0.120 [3.05]	7-1/4	5-3/4
2	0.123 [3.12]	5-3/4	5-1/2
3	0.125 [3.18]	2-3/4	2-1/2
4	0.128 [3.25]	1-3/4	2-1/4
5	0.126 [3.20] PLATED	1-3/4	2-1/4



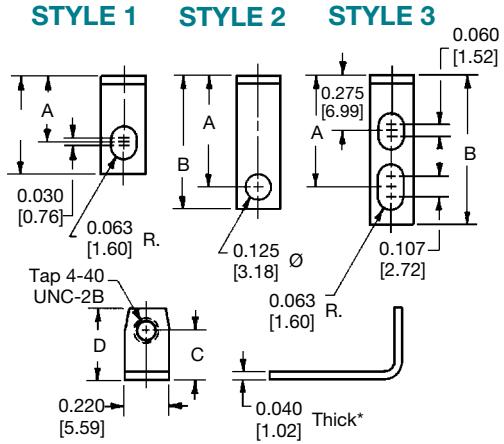
Printed board mounting hole to be 0.123 [3.12] Ø ± 0.003 for use with push-on fastener.

Material: Beryllium copper, 0.000050 inch [1.27 μ]
gold over copper plate.

RIGHT ANGLE (90°) METAL MOUNTING BRACKET
CODE B3

PART NO.	STYLE	A	B	C	D	SIZE	SND	SDD	SCBM	SCBDD
4535-2-0	1	0.324 [8.23]	0.484 [12.29]	0.244 [6.20]	0.358 [9.09]	9-37	5		5, 55, 57	
4535-3-0	1	0.380 [9.65]	0.594 [15.09]	0.303 [7.70]	0.417 [10.59]	50	5		5, 55, 57	
4535-5-0	3	0.554 [14.07]	0.739 [18.77]	0.244 [6.20]	0.358 [9.09]	15-62		4		
4535-6-0	3	0.604 [15.34]	0.800 [20.32]	0.303 [7.70]	0.417 [10.59]	78		4		
4535-8-0	2	0.405 [10.29]	0.522 [13.26]	0.246 [6.25]	0.358 [9.09]	9-37	42		7, 75, 77	
4535-9-0	2	0.455 [11.56]	0.572 [14.53]	0.303 [7.70]	0.414 [10.52]	50	42		7, 75, 77	
4535-32-0	2	0.399 [10.13]	0.516 [13.11]	0.246 [6.25]	0.358 [9.09]	15-62				4
4535-33-0	2	0.399 [10.13]	0.516 [13.11]	0.303 [7.70]	0.414 [10.52]	78				4
4535-62-0	2	0.614 [15.60]	0.731 [18.57]	0.334 [8.48]	0.445 [11.30]	104		4		

NOTE: Sold only as part of a connector assembly.

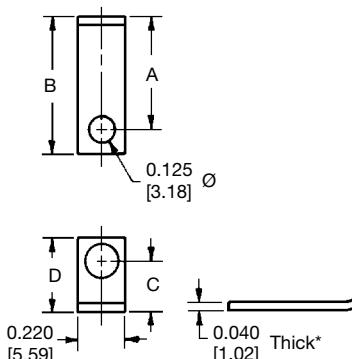
Note: Contact alignment bar is supplied with B3 option.

*0.062 [1.57] thick for Size 104 SDD series and SCBM46W4 variant.

Material: Brass, 0.000050 inch [1.27 μ] gold over copper plate.RIGHT ANGLE (90°) METAL MOUNTING BRACKET SUPPLIED
WITH R, R2, R3, R4, R5, R6, R7 AND R8 RIVETED-ON BRACKET ASSEMBLIES
CODE R, R2, R3, R4, R5, R6, R7 AND R8

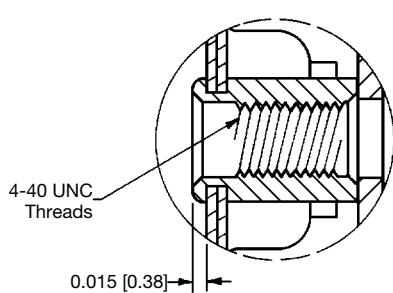
PART NO.	A	B	C	D	SIZE	SND	SDD	SCBM	SCBDD
4535-2-1	0.339 [8.61]	0.456 [11.58]	0.246 [6.25]	0.358 [9.09]	9 - 37	5		5, 55, 57	
4535-3-1	0.395 [10.03]	0.512 [13.00]	0.303 [7.70]	0.414 [10.52]	50	5		5, 55, 57	
4535-8-1	0.420 [10.67]	0.537 [13.64]	0.246 [6.25]	0.358 [9.09]	9 - 37	42		7, 75, 77	
4535-9-1	0.470 [11.94]	0.587 [14.91]	0.303 [7.70]	0.414 [10.52]	50	42		7, 75, 77	
4535-32-1	0.414 [10.52]	0.531 [13.49]	0.246 [6.25]	0.358 [9.09]	15-62				4
4535-33-1	0.414 [10.52]	0.531 [13.49]	0.303 [7.70]	0.414 [10.52]	78				4
4535-34-1	0.528 [13.41]	0.645 [16.38]	0.246 [6.25]	0.358 [9.09]	15 - 62		4		
4535-35-1	0.573 [14.55]	0.690 [17.53]	0.303 [7.70]	0.414 [10.52]	78		4		
4535-62-1	0.614 [15.60]	0.731 [18.57]	0.334 [8.48]	0.445 [11.30]	104		4		

NOTE: Sold only as part of a connector assembly.

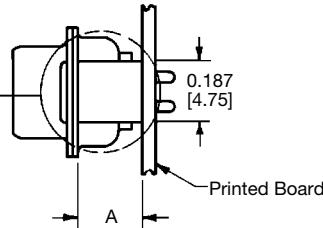
Note: Contact alignment bar is supplied with R2, R6, R7 and R8 options only.

*0.062 [1.57] thick for Size 104 SDD series and SCBM46W4 variant.

Material: Brass, 0.000050 inch [1.27 μ] gold over copper plate.



**SWAGED SPACER
CODE S**

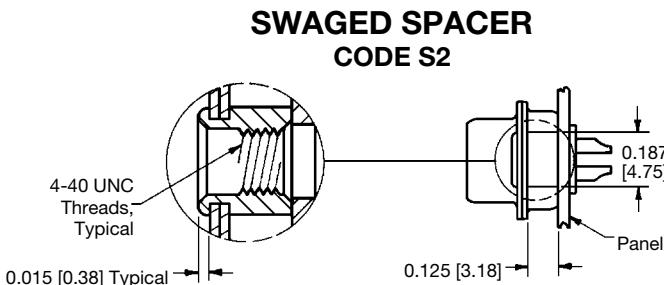


CONNECTOR SERIES	* ¹ CODE NUMBER	A
SND	0, 1, 12	0.375 [9.53]
	2, 3, 32, 36, 42, 5	0.225 [5.72]
SDD	0, 1, 3, 32, 4	0.375 [9.53]
SCBM	0, 2, 3, 35, 36, 37, 5, 55, 57, 65, 7, 75, 77, 85	0.250 [6.35]
SCBC	0, 1, 12, 13, 14	0.375 [9.53]
SCBDD	21, 3, 35, 36, 37, 4, 45, 47, 65, 84	0.250 [6.35]
SCBCD	0, 1, 12, 13, 14	0.375 [9.53]

NOTE:

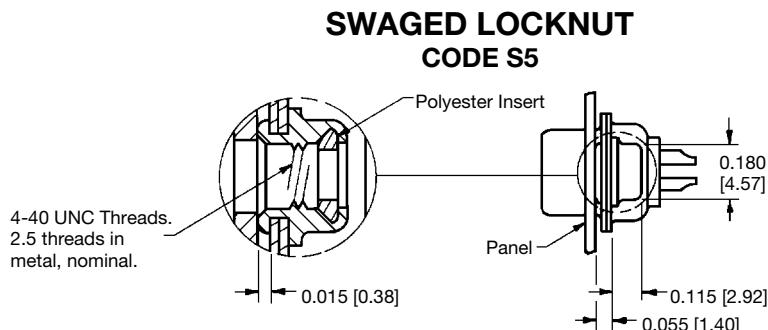
*¹ Contact termination code as specified in Step 4 of ordering information.

Material: Brass, 0.000050 inch [1.27 μ] gold over copper plate.

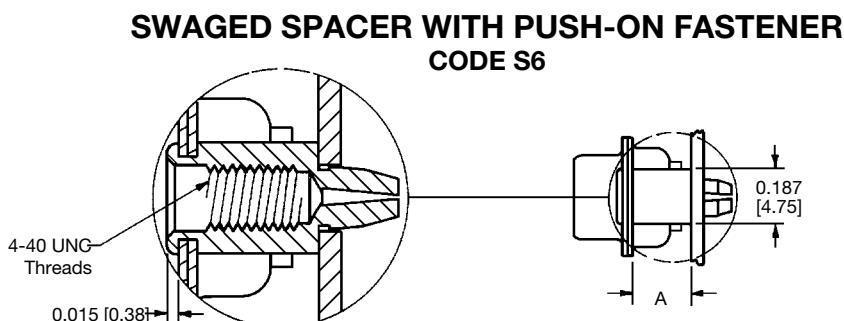


**SWAGED SPACER
CODE S2**

Material: Brass, 0.000050 inch [1.27 μ] gold over copper plate.



Material: Brass, 0.000050 inch [1.27 μ] gold over copper plate. Polyester insert.



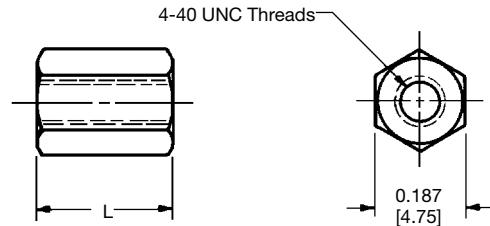
Printed board mounting hole to be 0.123 [3.12] $\varnothing \pm 0.003$ for use with push-on fastener.

Material: Phosphor bronze, 0.000050 inch [1.27 μ] gold over copper plate.

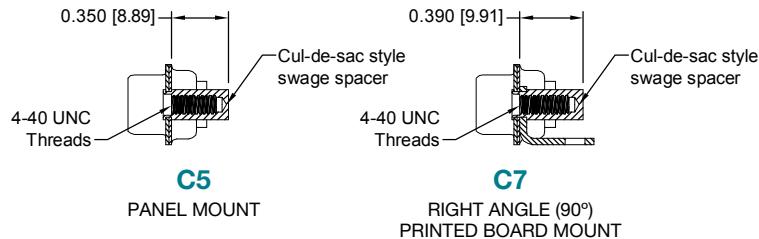
CONNECTOR SERIES	* ¹ CODE NUMBER	A
SND	0, 1, 12	0.375 [9.53]
	2, 3, 32, 36, 42, 5	0.225 [5.72]
SDD	0, 1, 3, 32, 4	0.375 [9.53]
SCBM	0, 2, 3, 35, 36, 37, 5, 55, 57, 65, 7, 75, 77, 85	0.250 [6.35]
SCBC	0, 1, 12, 13, 14	0.375 [9.53]
SCBDD	21, 3, 35, 36, 37, 4, 45, 47, 65, 84	0.250 [6.35]
SCBCD	0, 1, 12, 13, 14	0.375 [9.53]

NOTE:

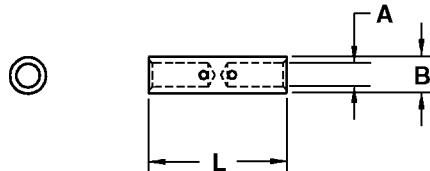
*¹ Contact termination code as specified in Step 4 of ordering information.

THREADED POST
CODE P**Material:** Brass, 0.000050 inch [1.27 μ] gold over copper plate.

CONNECTOR SERIES	* ¹ CODE NUMBER	A
SND	0, 1, 12	0.375 [9.53]
	2, 3, 32, 36, 42, 5	0.225 [5.72]
SDD	0, 1, 3, 32, 4	0.375 [9.53]
SCBM	0, 2, 3, 35, 36, 37, 5, 55, 57, 65, 7, 75, 77, 85	0.250 [6.35]
SCBC	0, 1, 12, 13, 14	0.375 [9.53]
SCBDD	21, 3, 35, 36, 37, 4, 45, 47, 65, 84	0.250 [6.35]
SCBCD	0, 1, 12, 13, 14	0.375 [9.53]

NOTE:¹ Contact termination code as specified in Step 4 of ordering information.CUL-DE-SAC STYLE MOUNTING ACCESSORIES
CODE C5 AND C7**Material:** Brass, 0.000050 inch [1.27 μ] gold over copper plate.

IN-LINE CRIMP SPLICE

Consult Technical Sales for
crimp tool part number.**NOTE:**

*¹ To order crimp splice with insulating sleeve, add “-W” suffix to part number. To order without sleeve, add “-N” suffix.

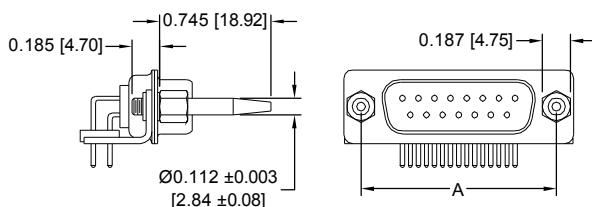
PART NUMBER	WIRE SIZE AWG / [mm ²]	L	A	B
PSK43636- ¹	20-26 [0.5/0.12]	0.500 [12.70]	0.045 [1.14]	0.076 [1.93]
PSK43637- ¹	16-20 [1.5/0.5]	0.575 [14.61]	0.066 [1.68]	0.101 [2.57]
PSK43638- ¹	12-18 [4.0-1.0]	0.577 [14.66]	0.097 [2.46]	0.150 [3.81]

Materials:**Splice:** Copper alloy, 0.000050 [1.27 μ] gold over copper.**Sleeve:** Shrink-fit polyvinylidene fluoride.

BLIND MATING SYSTEM

BLIND MATING GUIDES

TO OBTAIN BLIND MATING GUIDES, ADD THE SUFFIX
"-759.42" TO THE END OF THE PART NUMBER.

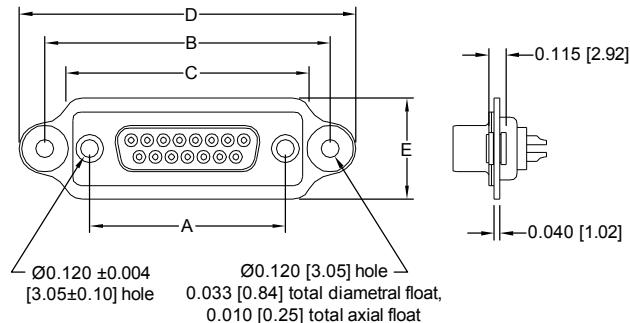


TYPICAL PART NUMBER:
SND15M5R700G-759.42

Material: Brass, 0.000050 inch [1.27 μ] gold over copper plate.

PANEL MOUNTING

TO OBTAIN PANEL MOUNTING, ADD THE SUFFIX
"-759.43" TO THE END OF THE PART NUMBER.

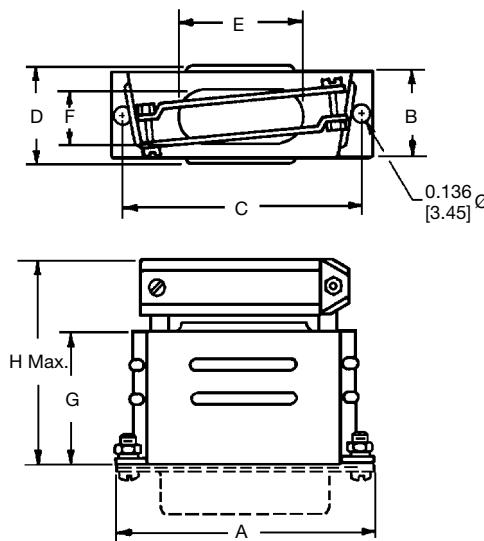


TYPICAL PART NUMBER:
SND15S2000G-759.43

Material: Aluminum, yellow anodize standard.

CONNECTOR VARIANT (SHELL SIZE)	A	B	C	D	E
9/15 (SHELL SIZE 1)	0.984 [24.99]	1.586 [40.28]	1.333 [33.86]	1.930 [49.02]	0.677 [17.20]
15/26 (SHELL SIZE 2)	1.312 [33.32]	1.914 [48.62]	1.661 [42.19]	2.258 [57.35]	0.677 [17.20]
25/44 (SHELL SIZE 3)	1.852 [47.04]	2.461 [62.51]	2.208 [56.08]	2.805 [71.25]	0.677 [17.20]
37/62 (SHELL SIZE 4)	2.500 [63.50]	3.102 [78.79]	2.849 [72.36]	3.446 [87.53]	0.677 [17.20]
50/78 (SHELL SIZE 5)	2.406 [61.11]	3.008 [76.40]	2.755 [69.98]	3.352 [85.14]	0.789 [20.04]

METAL CABLE ADAPTER (HOOD) CODE H



CONNECTOR VARIANT (SHELL SIZE)	PART NO.	A	B	C	D MAX.	E	F	G	H MAX.
15/26 (SHELL SIZE 2)	SND15000H0G	1.531 [38.88]	0.492 [12.50]	1.312 [33.32]	0.578 [14.68]	0.713 [18.11]	0.312 [7.92]	0.750 [19.05]	1.219 [30.96]
25/44 (SHELL SIZE 3)	SND25000H0G	2.078 [52.78]	0.492 [12.50]	1.852 [47.04]	0.578 [14.68]	1.000 [25.40]	0.312 [7.92]	1.000 [25.40]	1.532 [38.91]
37/62 (SHELL SIZE 4)	SND37000H0G	2.718 [69.03]	0.492 [12.50]	2.500 [63.50]	0.578 [14.68]	1.375 [34.93]	0.312 [7.92]	1.000 [25.40]	1.532 [38.91]
50/78 (SHELL SIZE 5)	SND50000H0G	2.625 [66.68]	0.601 [15.27]	2.406 [61.11]	0.687 [17.45]	1.406 [35.71]	0.406 [10.31]	1.125 [28.58]	1.657 [42.09]

Material: Brass, 0.000050 inch [1.27 μ] gold over copper plate.

TYPICAL PART NUMBER:
SND15M00H0G

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

LIGHTWEIGHT ALUMINUM CABLE ADAPTER (HOOD)
CODE AN

TECHNICAL CHARACTERISTICS

MATERIAL AND FINISHES:

Hood & Cable Clamps: Aluminum with electroless nickel plate. Zinc content is 1% maximum.

Jackscrews & Screws: Brass, 0.000050 inch [1.27 μ] gold over copper plate.

Other plating and finishes are available, contact Technical Sales.

MECHANICAL CHARACTERISTICS:

Ground Screws: Can accept up to 0.250 inch [6.35mm] diameter ring terminal.

Locking System: Jackscrews, see below and page 94 for more information.

CLIMATIC CHARACTERISTICS:

Temperature Range: -55°C to +125°C

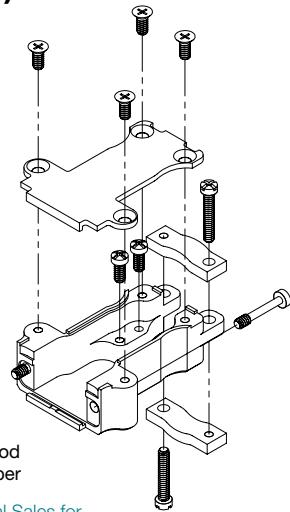
ELECTRICAL CHARACTERISTICS:

Range of Operation, Calculated Method: 2 GHz minimum.

WEIGHT CHART:

HOOD SIZE	D*1000ANE ounces [grams]
9	1.08 [30.54]
15	1.32 [37.44]
25	1.62 [45.92]
37	2.19 [62.06]
50	2.26 [63.94]
104	2.41 [68.44]

All hardware in a hood assembly including cable clamps, screws, etc.



NOTE:

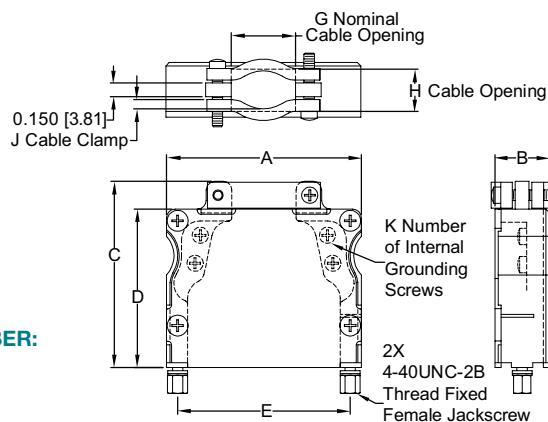
*1 designates hood size in part number

Contact Technical Sales for weights on T2, E6, and E7 hardware options.

LIGHTWEIGHT ALUMINUM CABLE ADAPTER (HOOD)
WITH FIXED FEMALE JACKSCREWS
CODE ANT2

Also available with **Polarized Fixed Jackscrews**. Contact Technical Sales for details.

TYPICAL PART NUMBER:
D25000ANT2G



D15000ANT2G - Lightweight aluminum hood with fixed female jackscrews, pictured above with connector installed.

SHELL SIZE	CONNECTOR / CONTACT VARIANT COMPATIBILITY	PART NUMBER	A	B	C	D	E	G	H		J	K
									Min.* ²	Max.		
1	Std-D: 9 High-D: 15	Combo-D: 5W1, 2WK2 Combo-D High-D: 8W2	D9000ANT2G	1.219 [30.96]	0.586 [14.88]	2.000 [50.08]	1.700 [43.18]	0.984 [24.99]	0.362 [9.19]	0.240 [6.10]	0.453 [11.51]	0.050 [1.27]
2	Std-D: 15 High-D: 26	Combo-D: 3W3, 3WK3, 7W2, 11W1 Combo-D High-D: 19W1	D15000ANT2G	1.547 [39.29]	0.586 [14.88]	2.000 [50.08]	1.700 [43.18]	1.312 [33.32]	0.690 [17.53]	0.350 [8.89]	0.453 [11.51]	0.100 [2.54]
3	Std-D: 25 High-D: 44	Combo-D: 5W5, 9W4, 13W3, 17W2, 21W1 Combo-D High-D: 15W4	D25000ANT2G	2.094 [53.19]	0.586 [14.88]	2.000 [50.08]	1.700 [43.18]	1.852 [47.04]	0.690 [17.53]	0.350 [8.89]	0.453 [11.51]	0.100 [2.54]
4	Std-D: 37 High-D: 62	Combo-D: 8W8, 13W6, 17W5, 21WA4, 25W3, 27W2 Combo-D High-D: 45W2	D37000ANT2G	2.736 [69.49]	0.586 [14.88]	2.250 [57.15]	1.950 [49.53]	2.500 [63.50]	1.242 [31.55]	0.410 [10.41]	0.453 [11.51]	0.130 [3.30]
5	Std-D: 50 High-D: 78	Combo-D: 24W7, 36W4, 43W2, 47W1 Combo-D High-D: n/a	D50000ANT2G	2.642 [67.11]	0.689 [17.73]	2.250 [57.15]	1.950 [49.53]	2.406 [61.11]	1.242 [31.55]	0.410 [10.41]	0.564 [14.33]	0.130 [3.30]
6	Std-D: n/a High-D: 104	Combo-D: 46W4 Combo-D High-D: n/a	D104000ANT2G	2.736 [69.49]	0.760 [19.30]	2.250 [57.15]	1.950 [49.53]	2.500 [63.50]	1.242 [31.55]	0.410 [10.41]	0.627 [15.93]	0.130 [3.30]

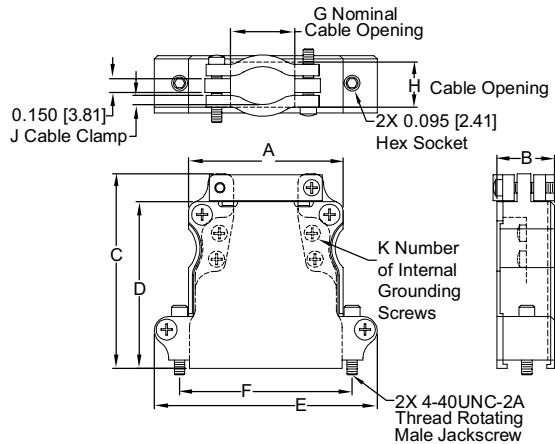
DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

NOTE: *1 Smaller cable openings may be achieved by inverting one or both cable clamps.

**LIGHTWEIGHT ALUMINUM CABLE ADAPTER (HOOD)
WITH ROTATING JACKSCREWS**
CODE ANE, ANE6, AND ANE7

CODE E

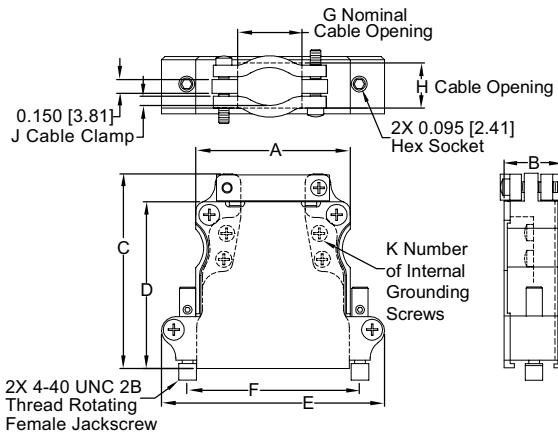
ROTATING MALE JACKSCREWS



TYPICAL PART NUMBER: D25000ANE6G

CODE E7

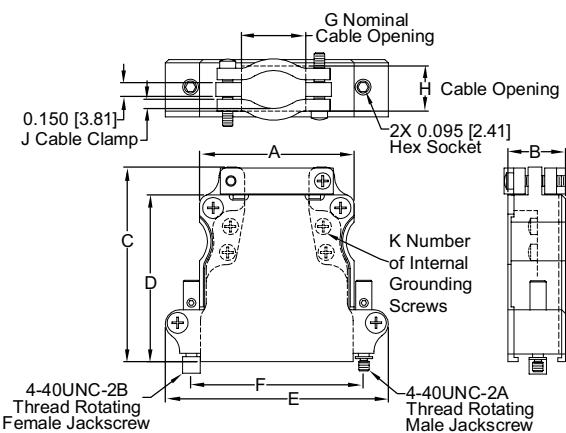
ROTATING FEMALE JACKSCREWS



TYPICAL PART NUMBER: D25000ANE7G

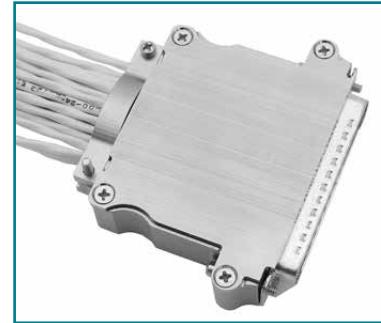
CODE E6

POLARIZED ROTATING JACKSCREWS



TYPICAL PART NUMBER: D25000ANE6G

For **Technical Characteristics**,
see page 93
for details.



D37000ANE6G - Lightweight aluminum hood with rotating male jackscrews, pictured above with connector installed.

SHELL SIZE	CONNECTOR / CONTACT VARIANT COMPATIBILITY	PART NUMBER	A	B	C	D	E	F	G	H		J	K
										Min.* ²	Max.		
1	Std-D: 9 High-D: 15 Combo-D: 5W1, 2WK2 Combo-D High-D: 8W2	D9000AN* ¹ G	0.908 [23.06]	0.616 [15.65]	2.090 [53.09]	1.790 [45.47]	1.524 [38.71]	0.984 [24.99]	0.362 [9.19]	0.240 [6.10]	0.483 [12.27]	0.050 [1.27]	4
2	Std-D: 15 High-D: 26 Combo-D: 3W3, 3WK3, 7W2, 11W1 Combo-D High-D: 19W1	D15000AN* ¹ G	1.236 [31.39]	0.616 [15.65]	2.090 [53.09]	1.790 [45.47]	1.852 [47.04]	1.312 [33.32]	0.690 [17.53]	0.350 [8.89]	0.483 [12.27]	0.100 [2.54]	4
3	Std-D: 25 High-D: 44 Combo-D: 5W5, 9W4, 13W3, 17W2, 21W1 Combo-D High-D: 15W4	D25000AN* ¹ G	1.656 [42.06]	0.616 [15.65]	2.090 [53.09]	1.790 [45.47]	2.392 [60.76]	1.852 [47.04]	0.690 [17.53]	0.350 [8.89]	0.483 [12.27]	0.100 [2.54]	4
4	Std-D: 37 High-D: 62 Combo-D: 8W8, 13W6, 17W5, 21WA4, 25W3, 27W2 Combo-D High-D: 45W2	D37000AN* ¹ G	2.304 [58.52]	0.616 [15.65]	2.340 [59.44]	2.040 [51.82]	3.040 [77.22]	2.500 [63.50]	1.242 [31.55]	0.410 [10.41]	0.483 [12.27]	0.130 [3.30]	6
5	Std-D: 50 High-D: 78 Combo-D: 24W7, 36W4, 43W2, 47W1 Combo-D High-D: n/a	D50000AN* ¹ G	2.210 [56.13]	0.727 [18.47]	2.340 [59.44]	2.040 [51.82]	2.946 [74.83]	2.406 [61.11]	1.242 [31.55]	0.410 [10.41]	0.594 [15.09]	0.130 [3.30]	6
6	Std-D: n/a High-D: 104 Combo-D: 46W4 Combo-D High-D: n/a	D104000AN* ¹ G	2.304 [58.52]	0.790 [20.07]	2.340 [59.44]	2.040 [51.82]	3.040 [77.22]	2.500 [63.50]	1.242 [31.55]	0.410 [10.41]	0.657 [16.69]	0.130 [3.30]	6

NOTES: *¹ For completed part number, insert the desired code (E, E6 or E7) for required jackscrew option.

*² Smaller cable openings may be achieved by inverting one or both cable clamps.

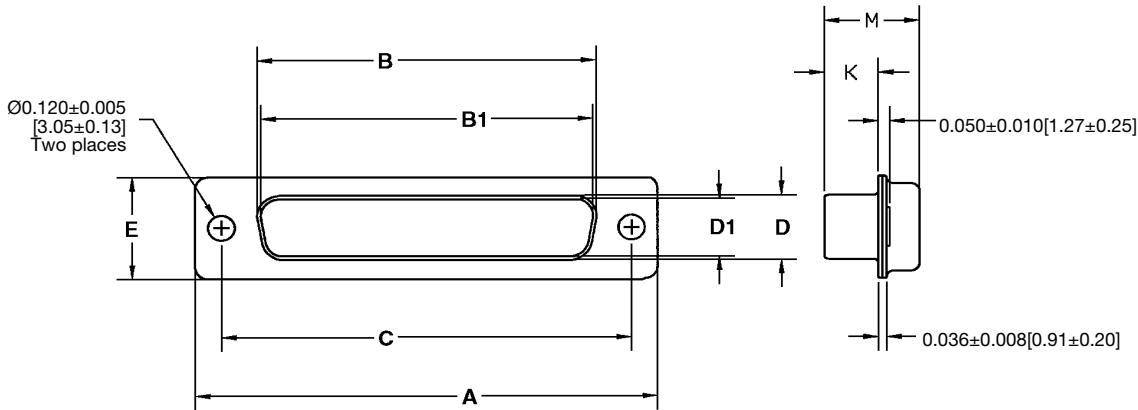
DIMENSIONS ARE IN INCHES [MILLIMETERS].

ALL DIMENSIONS ARE SUBJECT TO CHANGE.

94



EMI/RFI PROTECTIVE COVER



COVER PART NUMBER	COVER MATES TO	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±0.005 [0.13]	E ±0.015 [0.38]	K ±0.005 [0.13]	M ±0.010 [0.25]
PSK633-9MG*1	Female 9 / 15	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.233 [5.92]	0.422 [10.72]
PSK633-9FG*1	Male 9 / 15	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	0.429 [10.90]
PSK633-15MG*1	Female 15 / 26	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	0.233 [5.92]	0.422 [10.72]
PSK633-15FG*1	Male 15 / 26	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	0.429 [10.90]
PSK633-25MG*1	Female 25 / 44	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	0.230 [5.84]	0.426 [10.82]
PSK633-25FG*1	Male 25 / 44	2.088 [53.04]	1.511 [38.38]		1.852 [47.04]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	0.429 [10.90]
PSK633-37MG*1	Female 37 / 62	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	0.230 [5.84]	0.426 [10.82]
PSK633-37FG*1	Male 37 / 62	2.729 [69.32]	2.159 [54.84]		2.500 [63.50]	0.311 [7.90]		0.494 [12.55]	0.243 [6.17]	0.429 [10.90]
PSK633-50MG*1	Female 50 / 78	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	0.230 [5.84]	0.426 [10.82]
PSK633-50FG*1	Male 50 / 78	2.635 [66.93]	2.064 [52.43]		2.406 [61.11]	0.423 [10.74]		0.605 [15.37]	0.243 [6.17]	0.429 [10.90]
PSK633-104MG*1	Female - / 104	2.729 [69.32]		2.212 [56.18]	2.500 [63.50]		0.503 [12.78]	0.668 [16.97]	0.230 [5.84]	0.426 [10.82]
PSK633-104FG*1	Male - / 104	2.729 [69.32]	2.189 [55.60]		2.500 [63.50]	0.485 [12.32]		0.668 [16.97]	0.243 [6.17]	0.429 [10.90]

Material: Brass, 0.000050 [1.27 μ] gold over copper.

NOTE:

*1 To order protective cover with E2 rotating male screw locks (see page 96), insert "N" into the last digit of part number. Omit this digit if thread locks are not required.



SND25M1000G with PSK633-25FGN installed.

Note:

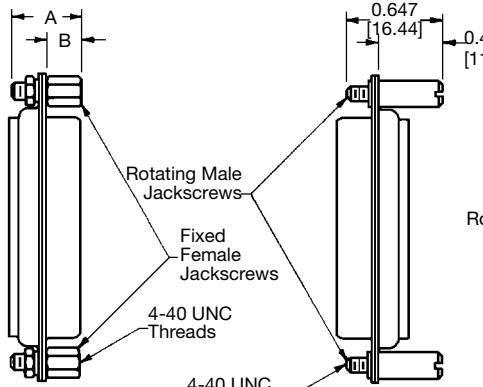
*¹T or T2 jackscrew supplied on connectors *in combination with other accessories may differ dimensionally*, contact Technical Sales for more information.

CODE	A	B
T ^{*1}	0.437 [11.10]	0.250 [6.35]
T2 ^{*1}	0.500 [12.70]	0.198 [5.03]

JACKSCREW SYSTEMS

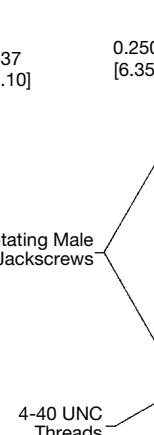
CODE T^{*1}, T2^{*1}, E, E2 AND E3

T^{*1}/T2^{*1}



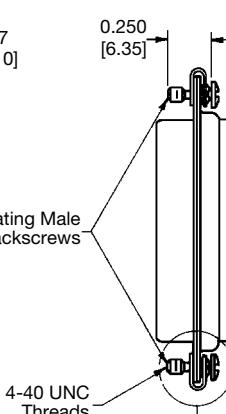
FIXED FEMALE JACKSCREWS

E/E3



ROTATING MALE JACKSCREWS

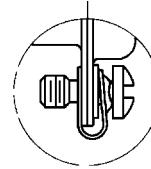
E2



ROTATING MALE SCREW LOCKS

Jackscrew Material: Brass, 0.000050 inch [1.27 μ] gold over copper plate.

E = slotted for screw driver
E3 = internal hex for 3/32 hex drives



Material: Screw - Brass, 0.000050 inch [1.27 μ] gold over copper plate.

U-Clip - Copper alloy, 0.000050 inch [1.27 μ] gold over copper plate.

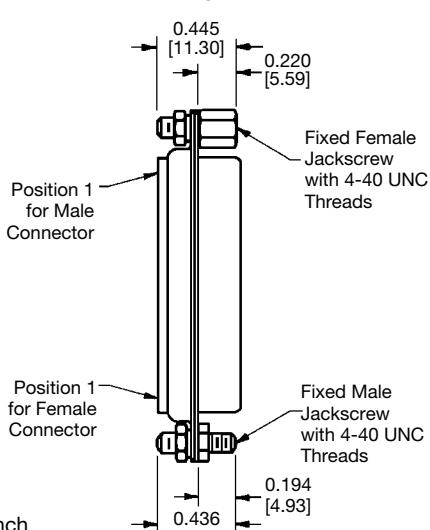
NOTE: Stainless steel jackscrews are available.

Consult Technical Sales for ordering information.

POLARIZED JACKSCREW SYSTEMS

CODE T6 AND E6

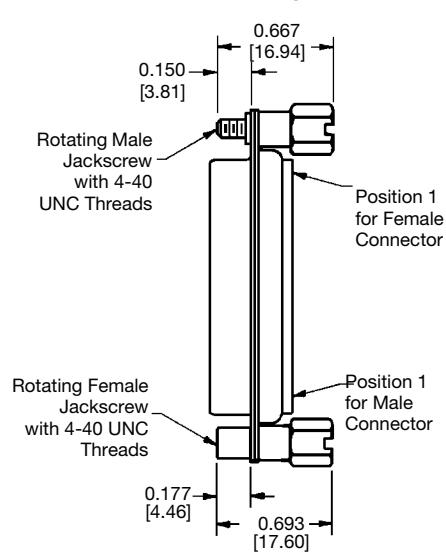
T6



FIXED MALE AND FEMALE JACKSCREWS

Material:
Brass, 0.000050 inch [1.27 μ] gold over copper plate.

E6^{*2}



ROTATING MALE AND FEMALE JACKSCREWS

Note:

*¹ For customer installation of knobs onto jackscrews, **set screw torque value of 16 in/oz is recommended**. Recommend application of thread lock to set screw.

Material:
Brass, 0.000050 inch [1.27 μ] gold over copper plate.



MODIFICATION (MOS) SUFFIXES

Specify complete connector by selecting a base part number from the desired series [Ordering Information Page](#).

Once base part number is selected, add desired modifications (MOS) number below to the end of the part number.

Example part number: SND9M5R7SNT2G-1768.33

(Ordering information pages can be found at the end of each series)

SERIES	CONNECTOR VARIANT	GENDER	TERMINATION TYPE AVAILABLE	MODIFICATION OF STANDARD (MOS) SUFFIXES	DESCRIPTION OF MODIFICATION
SND, SDD, SCBM, SCBC, SCBDD, SCBCD, SAD, SADD, SACBMP	ALL	MALE FEMALE	ALL	-54	Allows connector with contacts installed, for size 22, size 20 and size 16 contacts only to be plated 0.0000100 [2.54 μ] gold over copper.
SND, SDD, SCBM, SCBDD	ALL	MALE FEMALE	4, 5	-367.9	Allows connector to be supplied with contacts inverted.
SND, SDD, SCBC, SCBM, SCBDD, SCBCD	ALL	MALE FEMALE	ALL	-759.42	Allows connector to be supplied with blind mate guides, lockwashers and hexnuts installed. For connectors with a 4-40 threaded mounting style install blind mate guides only. For connectors with a R3/R6 mounting style install special blind mate guides with lockwashers and hexnuts. See page 92 in accessories section for more information.
SND, SDD, SCBM, SCBC, SCBDD, SCBCD, SAD, SADD	ALL	MALE FEMALE	ALL	-759.43	Allows connector, with any contacts to include blind mate mounting plate. See page 92 in accessories section for more information.
SND, SDD, SCBC, SCBM, SCBDD, SCBCD	ALL	MALE FEMALE	ALL	-1144.8	Allows connector to have Group A inspection per Goddard Spec GSFC-S-311-P-4 performed. Certifications included with shipment.
SCBM	3W3, 8W8	MALE FEMALE	0	-1570.4	Integral stabilizing feature used to minimize size 8 contacts from floating in the molding. Use tool number 4311-0-1-0 to removed contact if necessary. See page 76 in unique feature section for more information.
SCBC	36W4,43W3				
SND, SDD	ALL	MALE FEMALE	ALL	-1768.33	Allows connector to be permanently marked with single lot/date code. Individual package and label per MIL-C-5530. Inspect per GSFC-S-311-P-4. Failure analysis reports. Certifications included with shipment.

**MANY OTHER SPECIAL OPTIONS ARE AVAILABLE CONSULT TECHNICAL SALES
OR VISIT OUR WEB SITE AT WWW.CONNECTPOSITRONIC.COM**

Connectors Designed To Customer Specifications

Positronic High Performance D-subminiature connectors can be modified to customers specifications.

Examples: select loading of contacts for cost savings or to gain creepage and clearance distances; longer PCB terminations; customer specified hardware; sealing for water resistance.

Contact Technical Sales with your particular requirements.

APPLICATION TOOLS SECTION

High Performance D-subminiature connectors are offered with ***removable crimp contacts***.

Positronic Industries recognizes the ***importance of*** supplying ***application tooling*** to support our customers' use of our products.



Information on application tooling is

available on our web site at

<http://www.connectpositronic.com/tooling>

There you will find ***downloadable PDF*** cross reference

charts for removable contacts. These charts will

supply part numbers for insertion, removal and crimping tools, along with ***information regarding use*** of tools and techniques.



CONTACT APPLICATION TOOLS CROSS REFERENCE LIST

USE INDICATED POSITRONIC TOOLS FOR BEST RESULTS

Positronic Contact P/N	Contact Size	Handle & Crimp Positioner P/N	Hand Crimp Tool	Mfg. Cross	Mil Equiv	Positioner	Mfg. Cross	Mil Equiv	Insertion Tool	Mfg. Cross	Mil Equiv	Removal Tool	Mfg. Cross	Mil Equiv
FC11**N4-50		9501-0-0-0	AF8	M22520/1-01	9502-39-0-0	TH713		9099-0-0-0	ITH 1094	M81969/18-01	9081-0-0-0	RTG 2103	M81969/20-01	
FC120M4-50	16	9501-0-0-0	AF8	M22520/1-01	9502-39-0-0	TH713		9099-0-0-0	ITH 1094	M81969/18-01	9081-0-0-0	RTG 2103	M81969/20-01	
FC408M		9504-1-0-0										431-0-0-0	P+	
FC401*M	8	9509-0-0-0	9509-1-0-0	M310			9509-2-0-0	TP-974				431-0-0-0	P+	
FC410*M		9504-0-0-0	9504-1-0-0	HX4	M22520/5-01	9504-2-0-0	TP-974					431-0-0-0	P+	
FC6018M2														
FC6020M2	20													
FC6026M2														
FC8020M2	22													
FC8022M2														
FCC4101M														
FCC4102M														
FCC4103M														
FCC4104M														
FDS4**M	8	9504-14-0-0	9504-1-0-0	HX4	M22520/5-01	9504-14-1-0	Y878					431-0-0-0	P+	
FRT4***M		9504-13-0-0	9504-1-0-0	HX4	M22520/5-01	9504-13-1-0	Y837					431-0-0-0	P+	
FS4006M														
FS4010M														
FS4101M														
FS4107M														
FS4*20M														
FS6020M2	20													
FS8022M2														
G08P1	22													
G08S1, G08S2														
G10P1	20													
G10S1, G10S2														
M39029/57-354	22													
M39029/58-360														
M39029/63-368	20													
M39029/64-369														
MC11**N-133.0	16													
MC120N-133.0														
MC4008M		9504-1-0-0	HX4		9504-19-1-0	Y824						431-0-0-0	P+	
MC401**M	8	9509-0-0-0	9509-1-0-0	M310	9509-2-0-0	TP-974						431-0-0-0	P+	
MC410**M		9504-0-0-0	9504-1-0-0	HX4	M22520/5-01	9504-2-0-0	Y822							
MC6018M														
MC6020M	20													
MC6026M														
MC8020M	22													
MC8022M														
MCC4101M														
MCC4102M														
MDS4***M	8	9504-14-0-0	9504-1-0-0	HX4	M22520/5-01	9504-14-1-0	Y878					431-0-0-0	P+	
MRT4***M														
MS4008M														
MS401*M														
MS4102M														
MS4104M														
MS4202M2	20													
MS8022M2	22													
PSK4366**		9504-8-0-0	9504-1-0-0	HX4	M22520/5-01	9504-18-1-0	Y816							
PSK4367**		9504-8-0-0	9504-1-0-0	HX4	M22520/5-01	9504-18-1-0	Y816							
PSK4368**		9504-8-0-0	9504-1-0-0	HX4	M22520/5-01	9504-18-1-0	Y816							

To download a PDF file, visit our web site at <http://www.connectpositronic.com/tooling>

* for complete listing of contact part numbers, see removable contact section pages 79-87.



Positronic® offers a variety of QPL connector products

D-SUBMINIATURE CONNECTORS

MIL PREFIX	POSITRONIC SERIES
MIL-DTL-24308/1	HDC
MIL-DTL-24308/2	RD, DD
MIL-DTL-24308/3	HDC
MIL-DTL-24308/4	RD, DD
MIL-DTL-24308/5	HDC
MIL-DTL-24308/6	RD, DD
MIL-DTL-24308/7	HDC
MIL-DTL-24308/8	RD, DD
MIL-DTL-24308/23	HDC, DD

MIL PREFIX	POSITRONIC SERIES
MIL-DTL-24308/24	HDC, DD
MIL-DTL-24308/25	HDC, RD, DD
MIL-DTL-24308/26	HDC, RD, DD
GSFC S-311-P4	SND, SDD, SCBC, SCBM
GSFC S-311-P10	SND, SCBM
SAE AS39029/57	DD
SAE AS39029/58	DD
SAE AS39029/63	RD
SAE AS39029/64	RD

RECTANGULAR CONNECTORS

MIL PREFIX	POSITRONIC SERIES
MIL-DTL-28748/3	GMCT
MIL-DTL-28748/4	GMCT
MIL-DTL-28748/5	GM
MIL-DTL-28748/6	GM
MIL-DTL-28748/7	SGM

MIL PREFIX	POSITRONIC SERIES
MIL-DTL-28748/8	SGM
MIL-C-28748/13	SGMC
MIL-C-28748/14	SGMC
SAE AS39029/34	SGMC, GMCT
SAE AS39029/35	SGMC, GMCT

For a complete QPL listing available to download in PDF format, visit our website at:

<https://www.connectpositronic.com/catalogs>

Positronic Hermetic Connector Assemblies



- **Leakage Rate: 5×10^{-9} mbar.l/s @ vacuum 1.5×10^{-5} atm**
- **Shock and vibration resistant**
- **Application Specific Design**

Positronic Industries can supply hermetic connector assemblies for use in vacuum applications. All Positronic hermetic connectors are designed to act as feedthroughs through the bulkhead/chamber wall. Typically both sides of the connector have mating faces, but certain contact terminations are also available per customer requirement. Typical configurations include:

- **Standard Density D-subminiature** (Contact size 20)
- **High Density D-subminiature** (Contact size 22)
- **Mixed Density D-subminiature** (Contact sizes 8 and 20 in a single package)
- **Circular** (Variety of contact sizes and configurations)

In addition to simply providing the hermetic connector itself, Positronic can provide a fully-assembled flange/plate according to customer specification (see above).

For more information on Positronic hermetic capabilities, please call (800) 641-4054 and request to speak to someone about the Positronic hermetic product line.

Connector Excellence®

Positronic HIGH RELIABILITY Products

POWER



FEATURES:

- High current density
- Energy saving - low contact resistance
- Hot swap capability
- AC/DC operation in a single connector
- Signal contacts for hardware management
- Blind mating
- Sequential mating
- Large surface area contact mating system
- Wide variety of accessories
- Customer-specified contact arrangements
- Modular tooling which produces a single piece connector insert

Contact Sizes:

0, 8, 12, 16, 20, 22 and 24

Current Ratings:

To 200 amperes per contact

Terminations:

Crimp and panel mount, straight solder, right angle (90°) solder, straight compliant press-in and right angle (90°) compliant press-in

Configurations:

Multiple variants in a variety of package sizes

Compliance:

PICMG 2.11, PICMG 3.0, VITA 41, DSCC, GSFC S-311-P-4, GSFC S-311-P-10

D-SUBMINIATURE



FEATURES:

- Four performance levels available for best cost/performance ratio: professional, industrial, military and space-flight quality
- Options include high voltage, coax, thermocouple and air coupling contacts; environmentally sealed and dual port connector packages including mixed density
- Broad selection of accessories
- Size 20 and 22 contacts suitable for use in carrying power
- IP65, IP67

Contact Sizes: 8, 16, 20 and 22

Current Ratings: To 100 amperes

Terminations: Crimp, wire solder, straight solder, right angle (90°) solder, straight compliant press-in and right angle (90°) compliant press-in

Configurations: Multiple variants in both standard and high densities, seven shell sizes

Qualifications: SAE AS39029, DSCC MIL-DTL-24308, GSFC S-311-P-4, GSFC S-311-P-10,

RECTANGULAR



FEATURES:

- Two performance levels available: industrial quality and military quality
- A wide variety of accessories
- Broad selection of contact variants and package sizes
- Connector keying options

Contact Sizes:

16, 20 and 22

Current Ratings:

To 13 amperes nominal

Terminations:

Crimp, wire solder, straight solder, right angle (90°) solder, straight compliant press-in

Configurations:

Multiple variants in both standard and high densities, thirty package sizes

Qualifications:

MIL-DTL-28748, SAE AS39029, CCITT V.35

CIRCULAR



FEATURES:

- Non-corroable / lightweight composite construction
- EMI/RFI shielded versions
- Thermocouple contacts
- Environmentally sealed versions
- Rear insertion/ front release of removable contacts
- Two level sequential mating
- Overmolding available on full assemblies

Contact Sizes: 12, 16, 20 and 22

Current Ratings: To 25 amperes nominal

Terminations: Crimp, wire solder, straight solder, and right angle (90°) solder

Configurations: Multiple variants in four package sizes

Qualifications: Environmental protection to IP67

CABLE



FEATURES:

- Shorten the supply chain and reduce additional costs and delays by "cabling" your Positronic connector selection
- Overmolding available
- Shielded and environmentally sealed versions available
- Power cables and access boxes which meet the SAE J2496 specification

- ✓ Design assemblies in accordance with customer specifications.
- ✓ Prepare cablized connector configuration and performance specifications.
- ✓ Design each system in accordance with applicable customer, domestic, and international standards.
- ✓ Define and conduct performance and verification testing.

HERMETIC



FEATURES:

- Intended for use as an electrical feed-through in high vacuum applications
- Leakage rate: 5×10^{-9} mbar.l/s @ vacuum 1.5×10^{-5} atm
- Signal, power, coax and high voltage versions available
- Connectors can be mounted on flange assembly per customer specification

Contact Sizes:

8, 12, 16, 20 and 22

Current Ratings:

To 40 amperes nominal

Terminations:

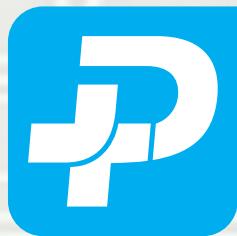
Feedthrough is standard; flying leads and board mount available

Configurations:

See D-subminiature and circular configurations above

Compliance:

Space-D32



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