



- ☐ 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 98 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.	Connector Housing (Shells):	Brass with 0.000050 inch [1.27 microns] gold over copper plate.
Contacts:		Mounting Spacers and Brackets:	Brass with 0.000050 inch [1.27 microns] gold over copper plate.
Size 20:	Precision machined copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 95.	Push-On Fasteners:	Phosphor bronze or beryllium copper with 0.000050 inch [1.27 microns] gold over copper plate.
Size 8:		Jackscrew Systems:	Brass with 0.000050 inch [1.27 microns] gold over copper plate.
Power:	Precision machined high conductivity copper alloy. 0.000050 inch [1.27 microns] gold over copper plate. Other finishes are available; see page 95.	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.
Shielded:	For material and finishes, see page 77.		
High Voltage:	For material and finishes, see page 77.		

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 81-85.*

Shielded: *For mechanical characteristics, see page 77.*

High Voltage: *For mechanical characteristics, see page 77.*

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 24 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 84 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 77.

HIGH VOLTAGE CONTACTS

For electrical characteristics, see page 77.

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:

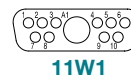
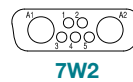
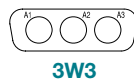
Temperature Range: -55°C to +125°C.
Damp Heat, Steady State: 21 days.

CONTACT VARIANTS
FACE VIEW OF MALE OR REAR VIEW OF FEMALE

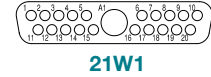
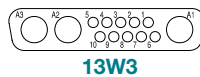
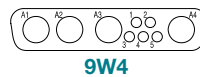
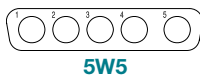
— SHELL SIZE 1 —



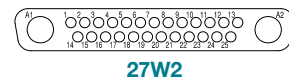
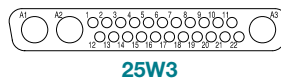
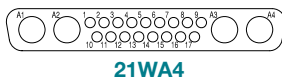
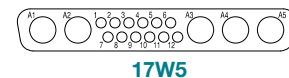
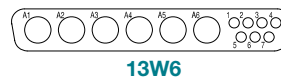
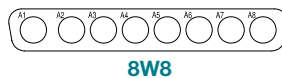
— SHELL SIZE 2 —



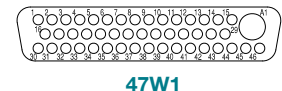
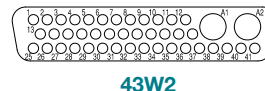
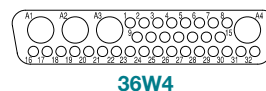
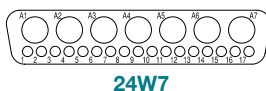
— SHELL SIZE 3 —



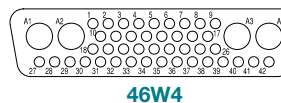
— SHELL SIZE 4 —



— 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



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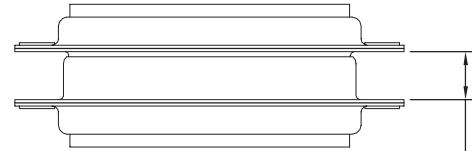
STANDARD CONNECTOR HOUSING (SHELLS) ASSEMBLY



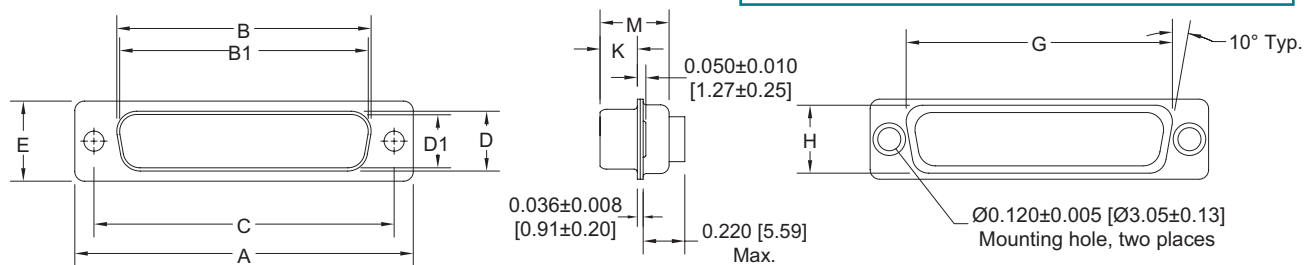
SCBM3W3M0000G

SCBM5W5M0000G

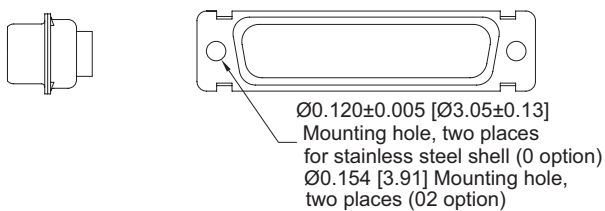
RECOMMENDED MATING DIMENSIONS



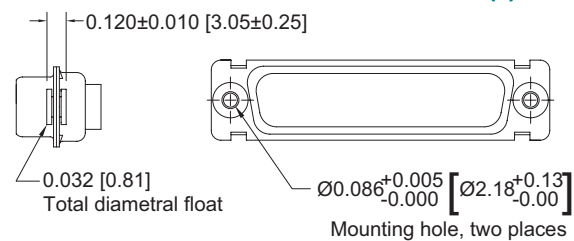
Shell Sizes 1 & 2 = 0.265±0.015 [6.73±0.38]
Shell Sizes 3, 4, 5 & 6 = 0.256±0.015 [6.50±0.38]



OPTIONAL CONNECTOR HOUSING ASSEMBLY (0, 02)



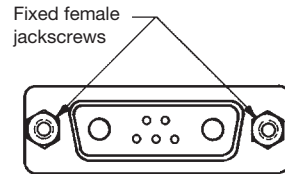
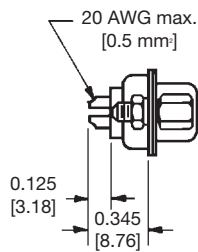
OPTIONAL CONNECTOR HOUSING ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS (F)



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]

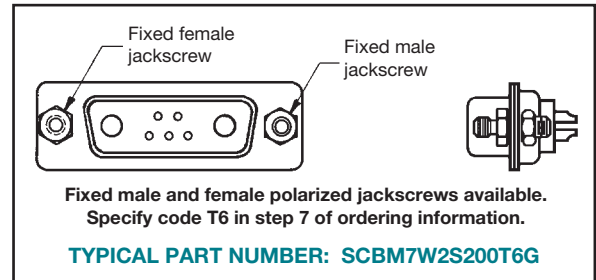
DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

SOLDER CUP TERMINATION
CODE 2



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

Typical Part Number:
SCBM7W2M200T2G



SCBM21WA4M2000G WITH MS4820M

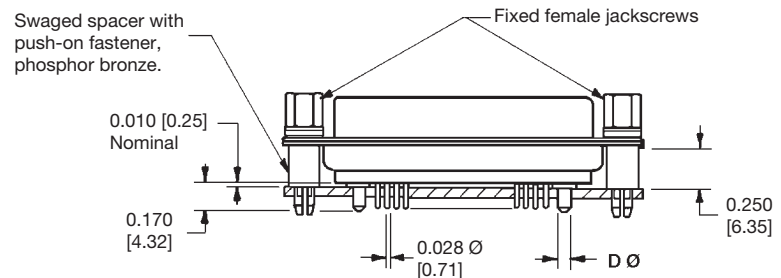
SCBM21WA4S65S00G

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

*1 CODE NUMBER	D Ø
3	Size 8 contacts not supplied
35	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:
SCBM17W2S35S60T2G



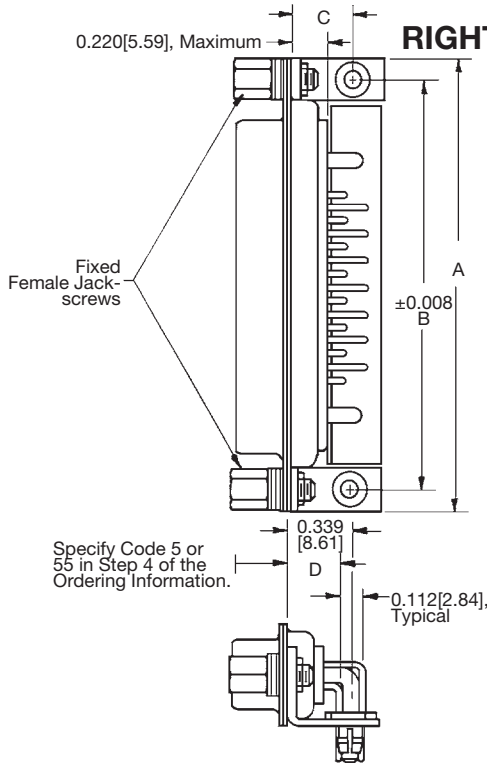
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STANDARD DENSITY PCB MOUNT

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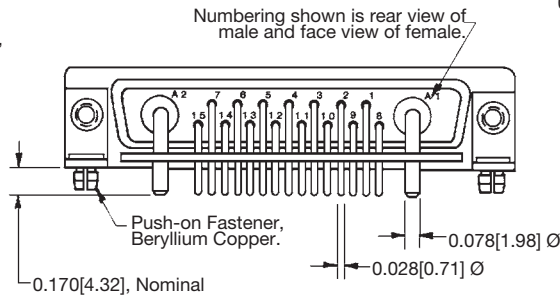


TYPICAL PART NUMBER:
SCBM17W2M55R7NT2G

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]



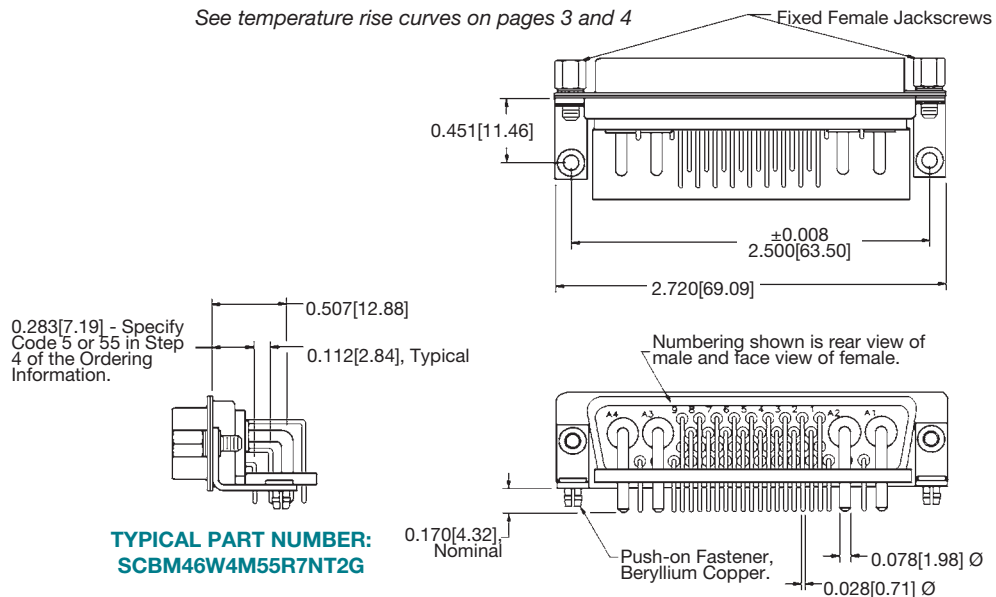
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SHELL SIZE 6

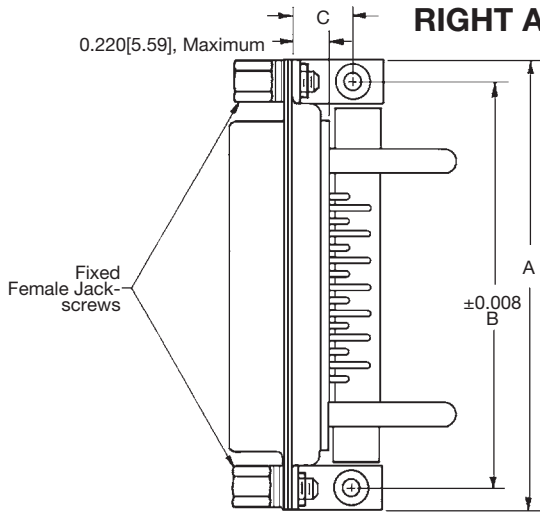
RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION WITH 0.078 [1.98] Ø POWER CONTACTS CODE 5 AND 55, 0.283 [7.19] CONTACT EXTENSION

CONNECTOR VARIANT 46W4

See temperature rise curves on pages 3 and 4



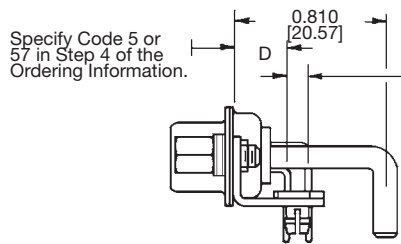
TYPICAL PART NUMBER:
SCBM46W4M55R7NT2G



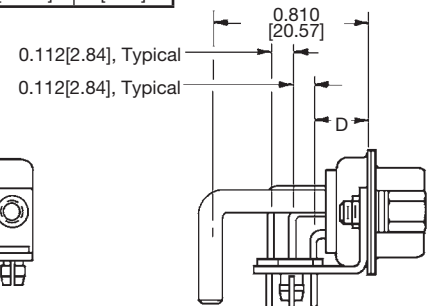
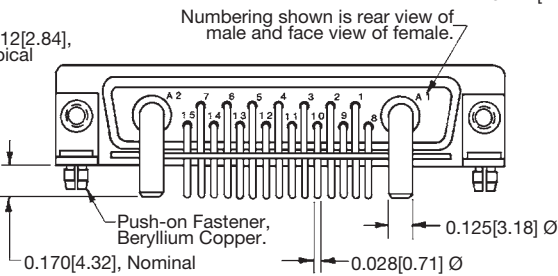
**RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION
WITH 0.125 [3.18] Ø POWER CONTACTS
CODE 5 AND 57, 0.283 [7.19] CONTACT EXTENSION**

See temperature rise curves on pages 3 and 4

SCBM** (5 or 57)**** 0.283 [7.19] CONTACT EXTENSION				
SHELL SIZE	A	B	C	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]



TYPICAL PART NUMBER:
SCBM17W2M57R7NT2G



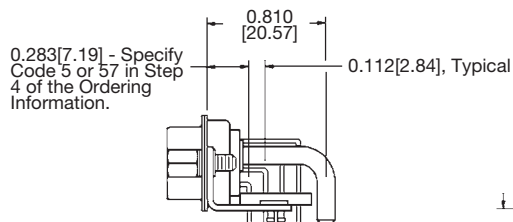
Typical Part Number:
SCBM36W4S57R7NT2G

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

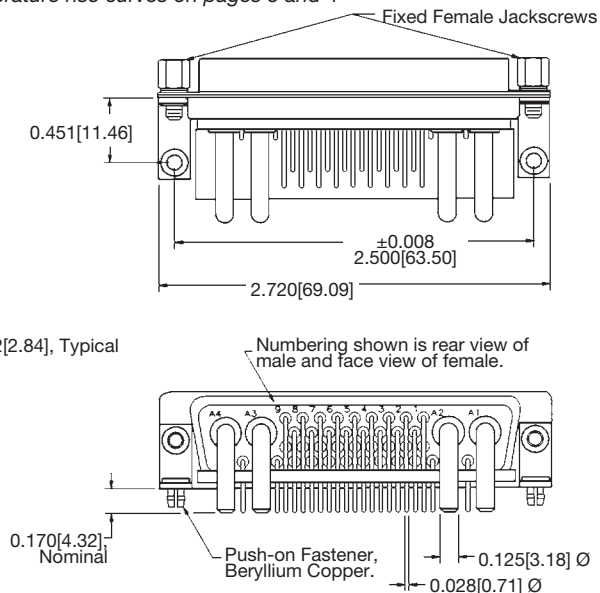
CONNECTOR VARIANT 46W4

See temperature rise curves on pages 3 and 4

SHELL SIZE 6 CONNECTOR



TYPICAL PART NUMBER:
SCBM46W4M57R7NT2G





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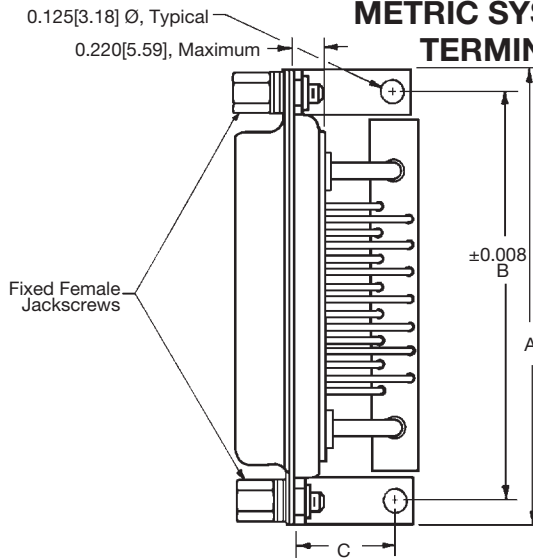
STANDARD DENSITY PCB MOUNT

High
Performance
D-sub

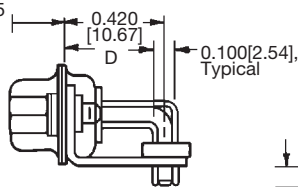
METRIC SYSTEM RIGHT ANGLE (90°) PRINTED BOARD MOUNT TERMINATION WITH 0.078 [1.98] Ø POWER CONTACTS CODE 7 AND 75, 0.370 [9.40] CONTACT EXTENSION

See temperature rise curves on pages 3 and 4

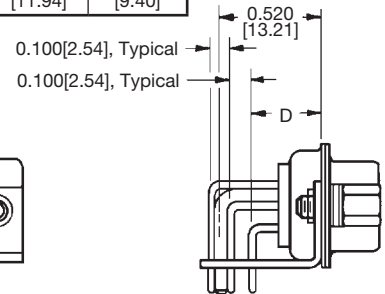
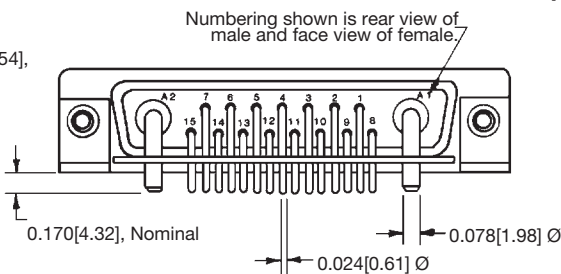
SCBM**(7 or 75)*** 0.370 [9.40] CONTACT EXTENSION				
SHELL SIZE	A	B	C	D
SHELL SIZE 1	1.204 [30.58]	0.984 [24.99]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 2	1.532 [38.91]	1.312 [33.32]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 3	2.072 [52.63]	1.852 [47.04]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 4	2.720 [69.09]	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]



Specify Code 7 or 75
in Step 4 of the
Ordering Information.



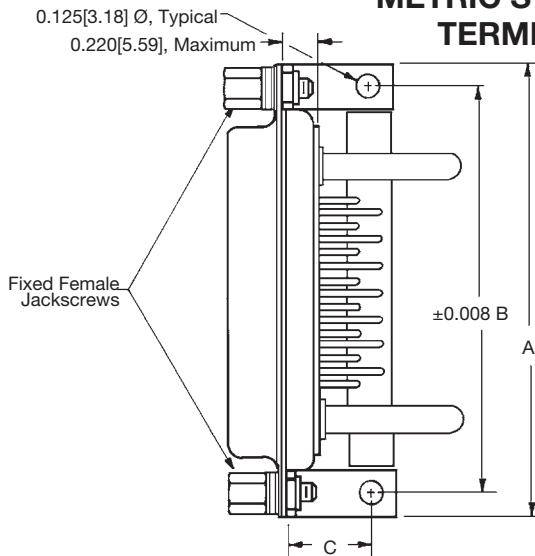
TYPICAL PART NUMBER:
SCBM17W2M75R70T2G



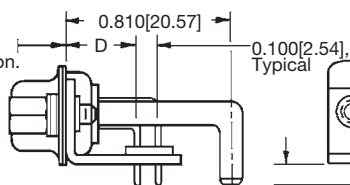
TYPICAL PART NUMBER:
SCBM36W4S75R70T2G

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

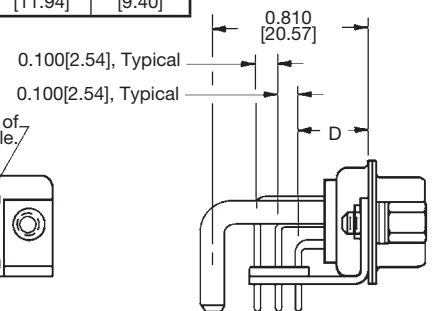
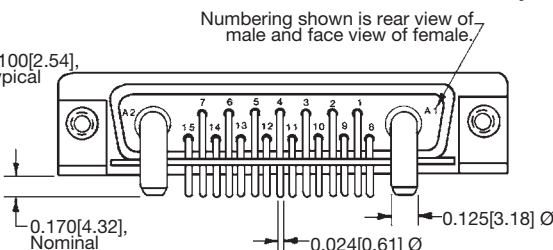
SCBM**(7 or 77)*** 0.370 [9.40] CONTACT EXTENSION				
SHELL SIZE	A	B	C	D
SHELL SIZE 1	1.204 [30.58]	0.984 [24.99]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 2	1.532 [38.91]	1.312 [33.32]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 3	2.072 [52.63]	1.852 [47.04]	0.420 [10.67]	0.370 [9.40]
SHELL SIZE 4	2.720 [69.09]	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]



Specify Code 7 or
77 in Step 4 of the
Ordering Information.



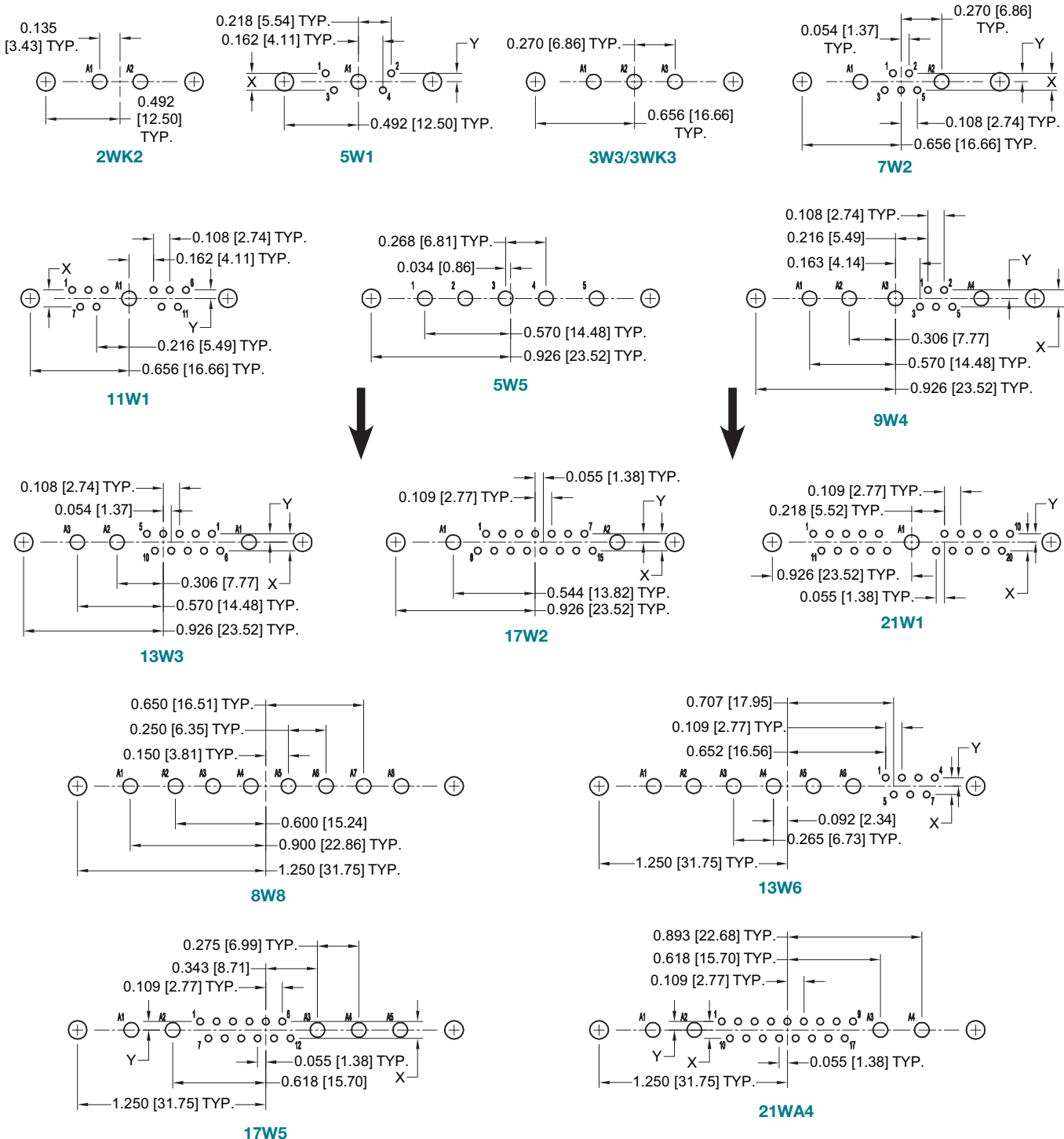
TYPICAL PART NUMBER:
SCBM17W2M77R70T2G



TYPICAL PART NUMBER:
SCBM36W4S77R70T2G

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 29.

continued on next page. . .



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STANDARD DENSITY PCB MOUNT

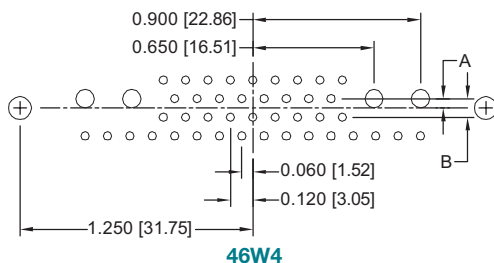
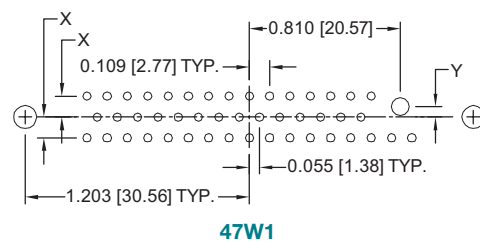
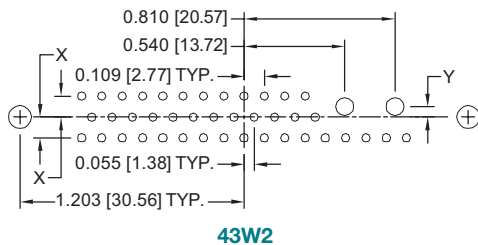
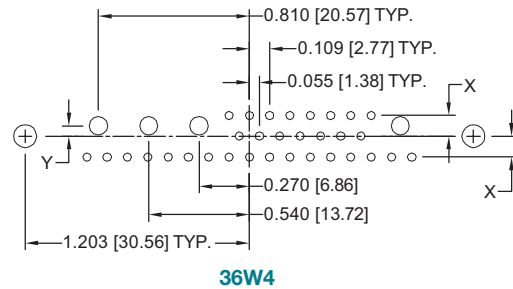
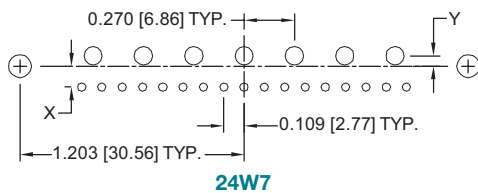
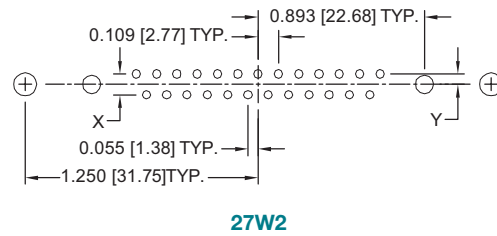
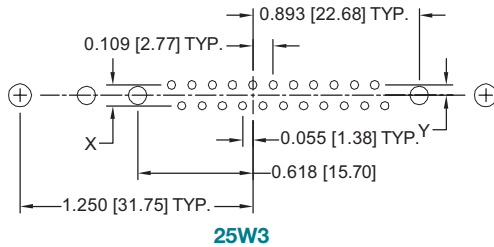
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Performance
D-sub

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. . .



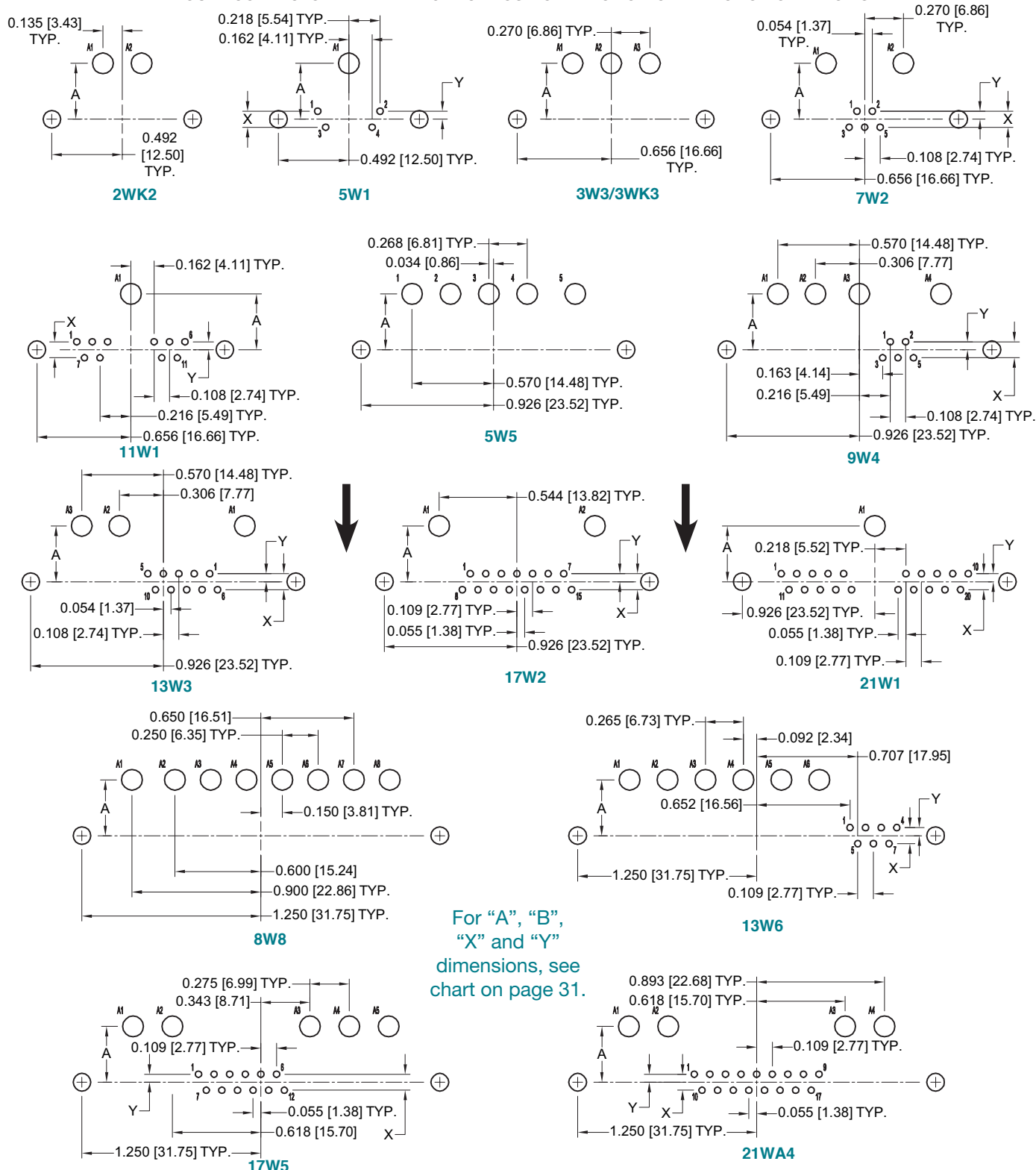
CODE NUMBER	X	Y	A	B
3				
35	0.112 [2.84]	0.056 [1.42]	0.050 [1.27]	0.100 [2.54]
36				
37				
5	0.112 [2.84]	0.056 [1.42]	0.056 [1.42]	0.112 [2.84]
55				
7	0.100 [2.54]	0.050 [1.27]	0.050 [1.27]	0.100 [2.54]
75				

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. . .

DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE. **30**



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STANDARD DENSITY PCB MOUNT

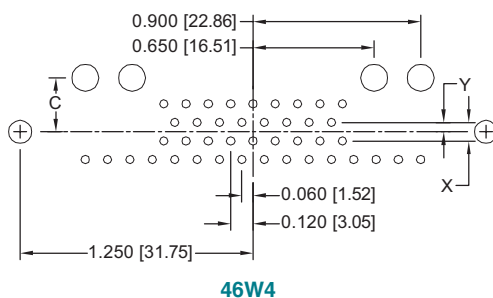
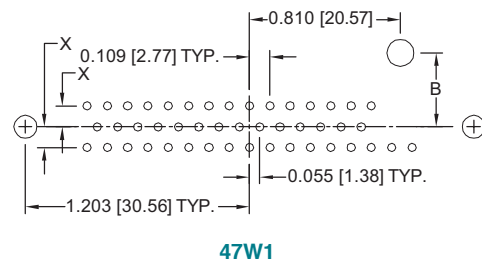
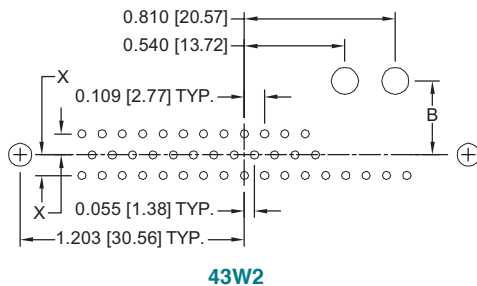
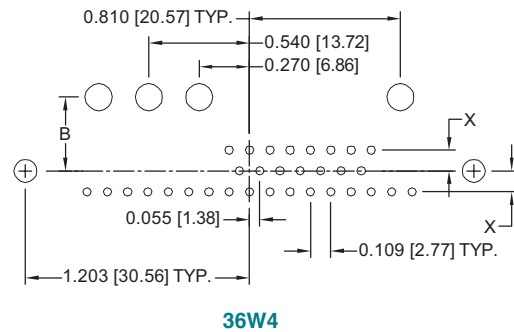
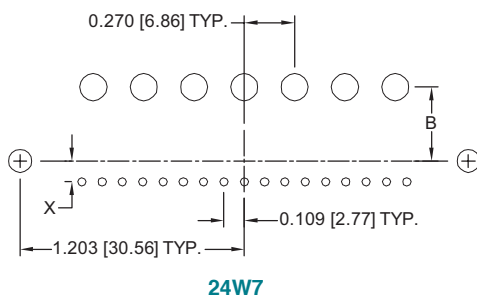
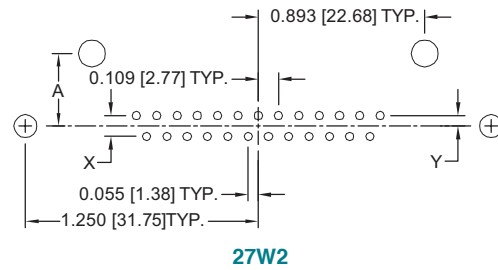
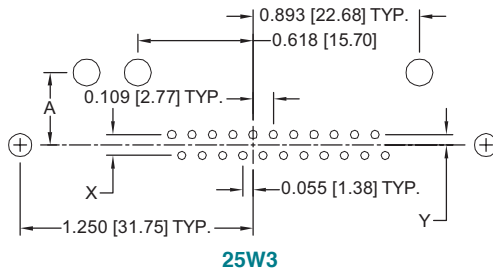
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Performance
D-sub

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. . .

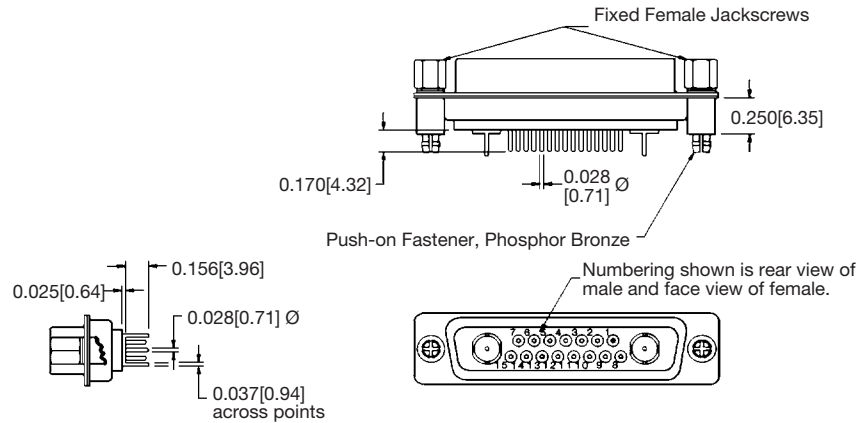


CODE NUMBER	A	B	C	X	Y
5	0.471 [11.96]	0.415 [10.54]	0.359 [9.12]	0.112 [2.84]	0.056 [1.42]
57					
7	0.390 [9.91]	0.340 [8.64]	0.290 [7.37]	0.100 [2.54]	0.056 [1.42]
77					

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



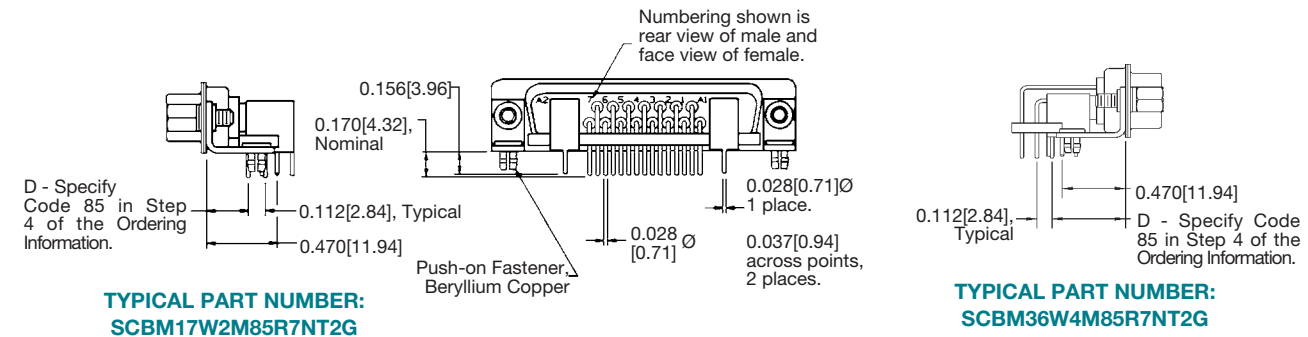
TYPICAL PART NUMBER:
SCBM17W2M65S60T2G

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



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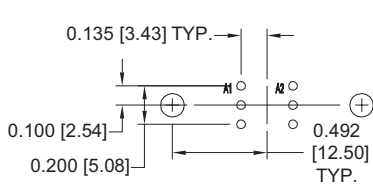
MILITARY / SPACE FLIGHT QUALITY

STANDARD DENSITY PCB MOUNT

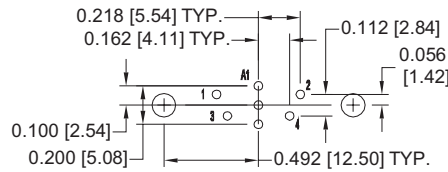
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Performance
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STRAIGHT SOLDER PRINTED BOARD MOUNT CONTACT HOLE PATTERN WITH FDS4201M AND MDS4201M SHIELDED CONTACTS

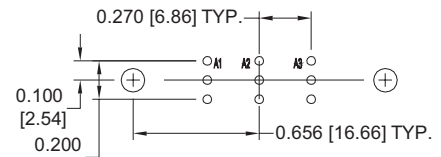
HOLE IDENTIFICATION SHOWN FOR MALE CONNECTOR; USE MIRROR IMAGE FOR FEMALE CONNECTOR.



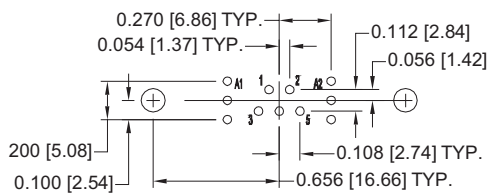
2WK2



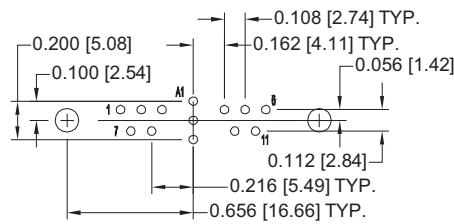
5W1



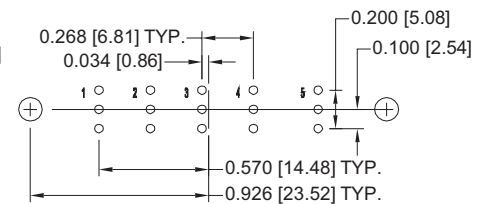
3W3/3WK3



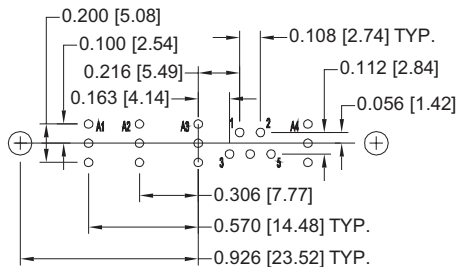
7W2



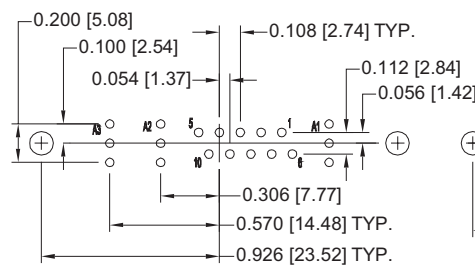
11W1



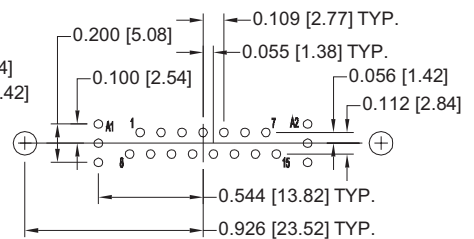
5W5



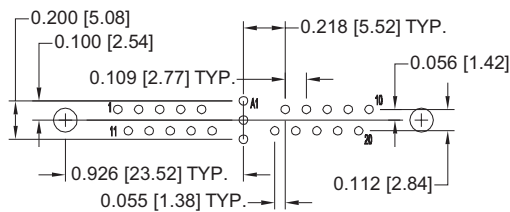
9W4



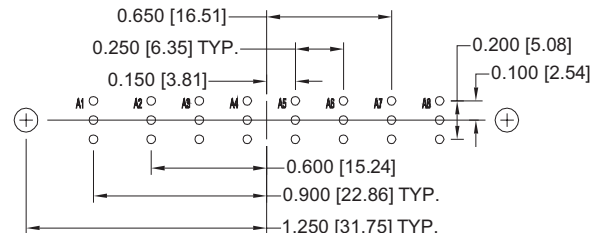
13W3



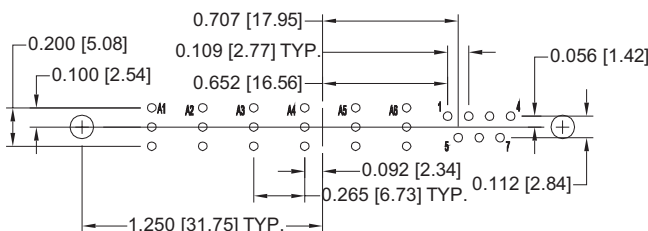
17W2



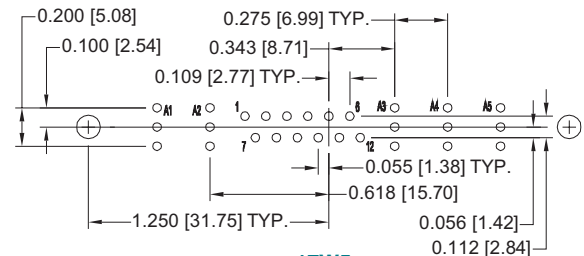
21W1



8W8



13W6



17W5

continued on next page. . .

SUGGESTED PRINTED BOARD HOLE SIZES:

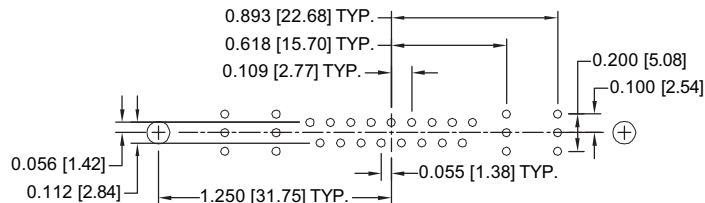
Suggest 0.045 [1.14] Ø hole for size 20 contact termination position.

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

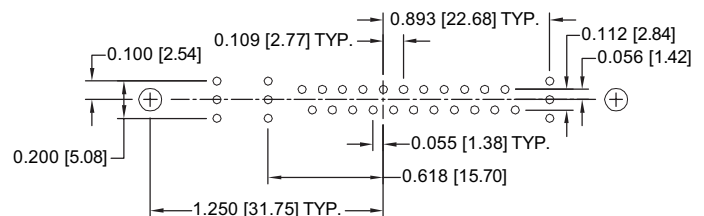
STRAIGHT SOLDER PRINTED BOARD MOUNT CONTACT HOLE PATTERN
WITH FDS4201M AND MDS4201M SHIELDED CONTACTS

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

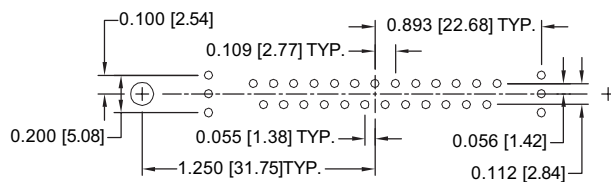
continued from previous page. . .



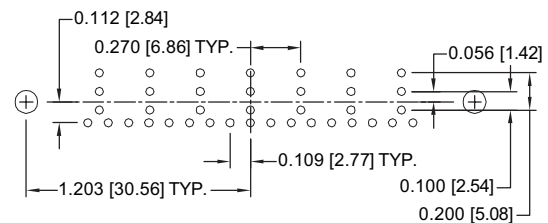
21WA4



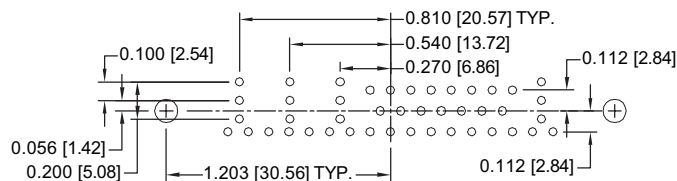
25W3



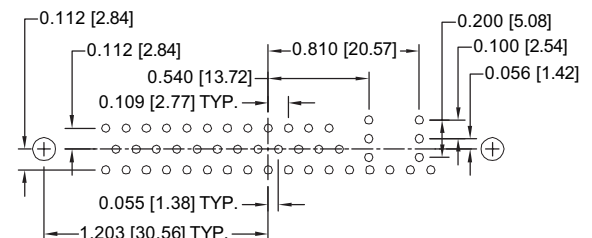
27W2



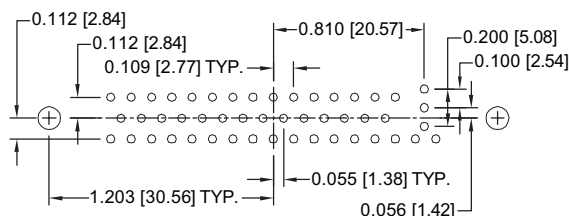
29W7



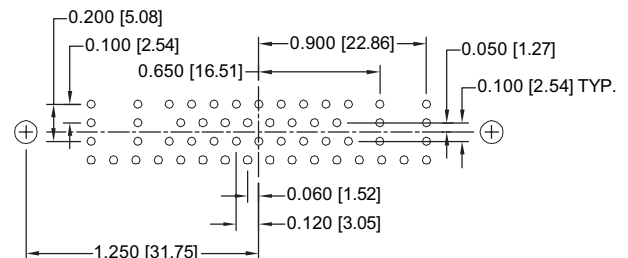
36W4



43W2



47W1



46W4

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.



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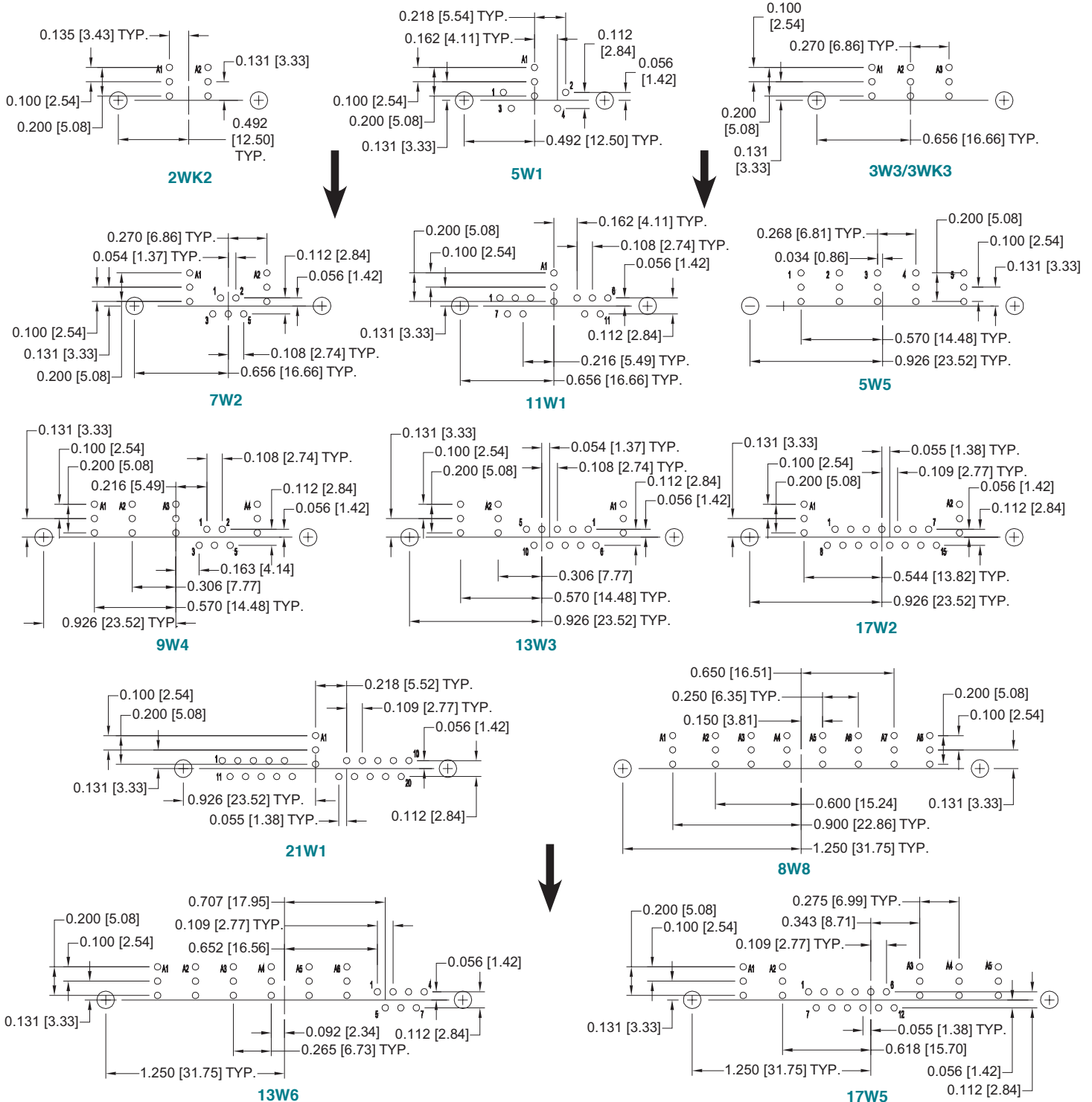
STANDARD DENSITY PCB MOUNT

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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:

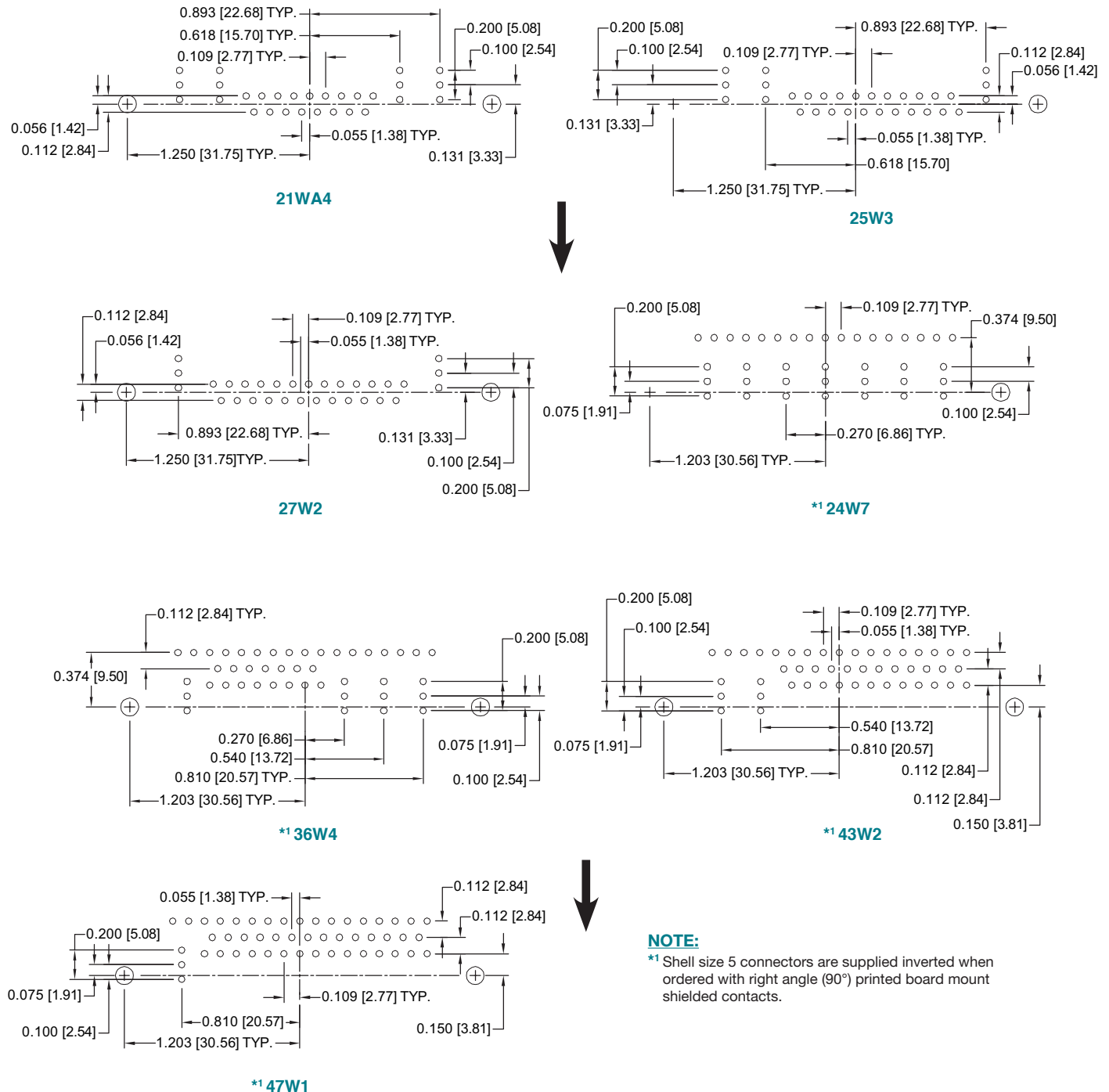
Suggest 0.045 [1.14] Ø hole for size 20 contact termination position.
Suggest 0.123±0.003 [3.12] Ø hole for mounting connector with push-on fasteners.

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. **36**



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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 81 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 82 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 83 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 84 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 77 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 82 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 85 for additional information	SHIELDED	FDS4201M	MDS4201M	0.156 [3.96]	SHIELDED
RIGHT ANGLE (90°) PRINTED BOARD MOUNT	see page 83 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 85 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 77-85.

For information regarding **CRIMP TOOLS & CRIMPING TOOL TECHNIQUES**, see page 96.



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									STEP 9 - SPECIAL OPTIONS	
SCBM series									SEE APPENDIX ON PAGE 95.	
STEP 2 - CONNECTOR VARIANTS									STEP 8 - CONNECTOR HOUSING (SHELLS) OPTION	
Shell Size 1 - 2WK2, 5W1									G - Gold over copper plate.	
Shell Size 2 - 3W3, 3WK3, 7W2, 11W1									D - Gold over copper plate and dimpled (male connectors only).	
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										
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 37 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.										
*2 85 - Solder, right angle (90°) printed board mount with signal and shielded contacts, MRT/FRT 4201M footprint, 0.283 [7.19] signal contact extension.										
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 86-94.										
*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.										

For information regarding CRIMP TOOLS & CRIMPING TOOL TECHNIQUES, see page 96.