



Positronic
connectpositronic.com

SGMC SERIES INDUSTRIAL / MILITARY QUALITY REMOVABLE CONTACTS

High
Density
Rectangular



- ✓ High reliability connectors with **removable** contacts.
- ✓ Contacts are high density size 22.
- ✓ Terminations: crimp, solder cup, straight solder and compliant press-in printed board mount. See pages 11- 14 for details.
- ✓ Female closed entry contacts utilize the “PosiBand®” system. See page 1 for details.
- ✓ Current ratings: signal level to 13 amperes. See temperature rise curves on page 2 for details.
- ✓ Eleven connector variants, 4 - 104 contacts.
- ✓ A multitude of polarization and connector coding (keying) options. See pages 30-34 for details.
- ✓ Intermateable with SGM and SMPL series. See page 15 for SGM series and page 23 for SMPL series.
- ✓ Thermocouple contact options available.
- ✓ A wide variety of options and accessories.

Connectors Qualified to:

- DSCC Drawing No. 86040 & 86078
- MIL-C-28748/13 & 28748/14

Contacts Qualified to:

- SAE AS39029/34 & 39029/35

Telecommunication:

- UL File # E49351

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Connector Insert:	Glass filled DAP per ASTM-D-5948 type SDG-F. Green color is standard, black or grey available.
Removable Contacts:	Precision machined copper alloy. 0.000015 inch [0.38 μ] gold over nickel. Other finishes available upon request, see pages 11-14 for details.
Polarizing Guides:	Copper alloy with nickel plate or passivated stainless steel.
Jackscrew System:	Passivated stainless steel.
Connector Housing (Shells):	Aluminum with yellow anodize or black anodize1.

Backshell:

Aluminum with yellow or black anodize.

Quick Disconnect

Actuation lock lever and lock tab,

Locking Device:

copper alloy with nickel plate.

MECHANICAL CHARACTERISTICS:

Removable Contacts:

Insert contact to rear face of connector insert, release from front face of connector insert. Size 22 contact, male contact - 0.030 inch [0.76mm] mating diameter. Female contact - PosiBand closed entry design, see page 1 for details.

Contact Retention in Connector Insert:

6 lbs. [26.5N] minimum.

continued on next page. . . .

TECHNICAL CHARACTERISTICS, continued

continued from previous page. . . .

MECHANICAL CHARACTERISTICS, continued:

Contact Termination:	Crimp all wire sizes from 20 AWG [0.5 mm ²] through 28 AWG [0.08 mm ²]. Solder cup - 0.035 inch [0.89mm] hole diameter for 22 AWG [0.3mm ²] wire maximum. 0.045 inch [1.14mm] hole diameter for 20 AWG [0.5mm ²] wire maximum. Straight printed board mount - 0.025 inch [0.64mm] termination diameter. Compliant press-in termination.
Locking Systems:	Friction, quick disconnect locking device and jackscrews.
Polarization:	Polarized guides and jackscrew system.
Coding (Keying) Device:	Pin and slot system; male and female guide system.
Mechanical Operations:	1000 operations
Jackscrews:	Standard threads, 2-56 UNC on all sizes, except 75 and 104 connector variants, which use 6-32 UNC. Metric threads, M2X0.4 and M3X0.5 available.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating, Tested per UL 1977:	13 amperes, 2 contacts energized. 10 amperes, 6 contacts energized. 6 amperes, 26 contacts energized. 5 amperes, 104 contacts energized <i>See temperature rise curves on page 2 for details.</i>
Initial Contact Resistance:	0.004 ohms, maximum.
Flash over Voltage:	2200 V.AC (rms)
Test Voltage:	1000 V.AC (rms)
Insulation Resistance:	5 G ohms, minimum.
Clearance and Creepage Distance:	0.060 inch [1.52 mm], minimum.
Working Temperature:	-55°C to 135°C
Working Voltage:	250 V.AC (rms)

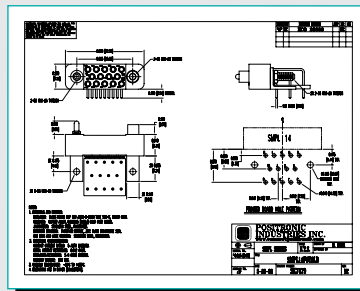
THERMOCOUPLE CONTACTS:

Size 22 removable crimp contacts are available, *see page 12 for details.*
Straight printed circuit board mount contacts are available in SGM series, *see page 16 for details.*
Right angle (90°) printed circuit board mount contacts are available in SMPL series, *see page 24 for details.*

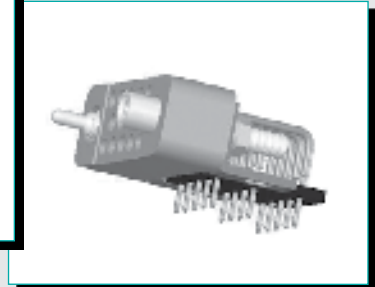
Visit our web site for the latest catalog updates and supplements at
<https://www.connectpositronic.com/catalogs/>

Do you need 2-D drawings or 3-D models?

Once you have made a connector selection, contact Technical Sales if you would like a 2-D drawing or 3-D model. If we do not have your specific part number on file, we can create one for you. Or, please visit www.connectpositronic.com and use the search function.



2-D Drawing



3-D Model



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SGMC SERIES

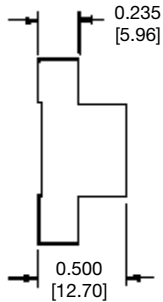
INDUSTRIAL / MILITARY QUALITY

REMOVABLE CONTACTS

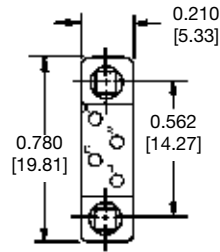
High
Density
Rectangular

CONNECTOR INSERT DIMENSIONS

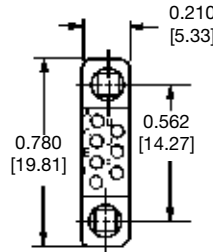
MATING FACE VIEW OF FEMALE OR REAR FACE VIEW OF MALE



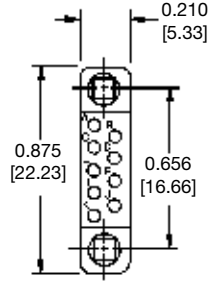
MALE AND FEMALE
PROFILE VIEW



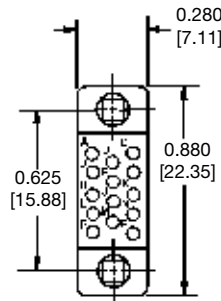
SGMC 4



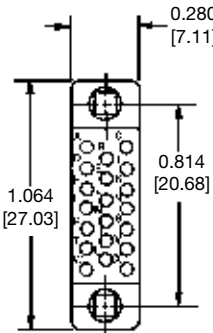
SGMC 7



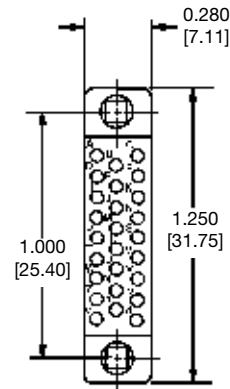
SGMC 9



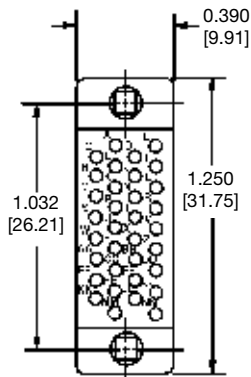
SGMC 14



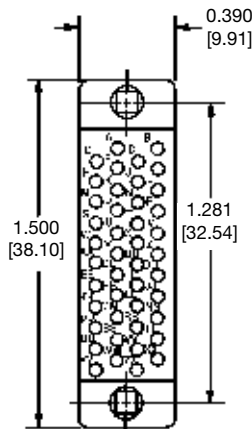
SGMC 20



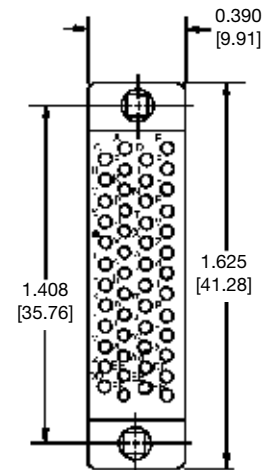
SGMC 26



SGMC 34



SGMC 44



SGMC 50

CONTACT HOLE PATTERNS:

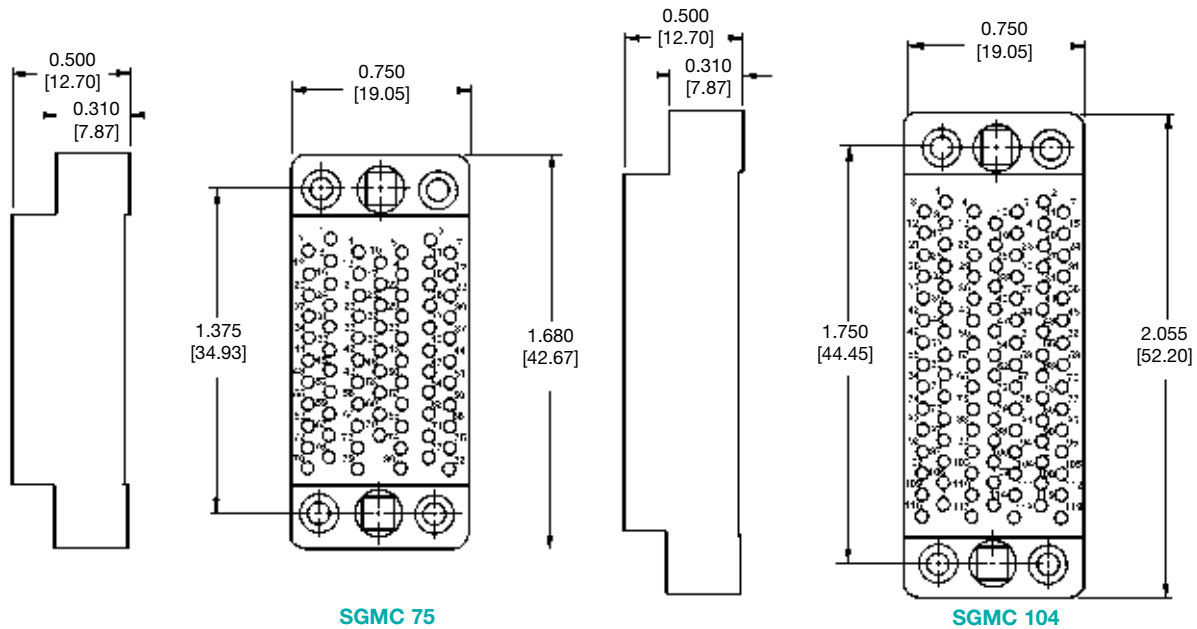
For SGMC series contact hole patterns, refer to page 21 in SGM series.

For information regarding **REMOVABLE CONTACTS**, see contact illustration drawings and charts on pages 11-14.



CONNECTOR INSERT DIMENSIONS

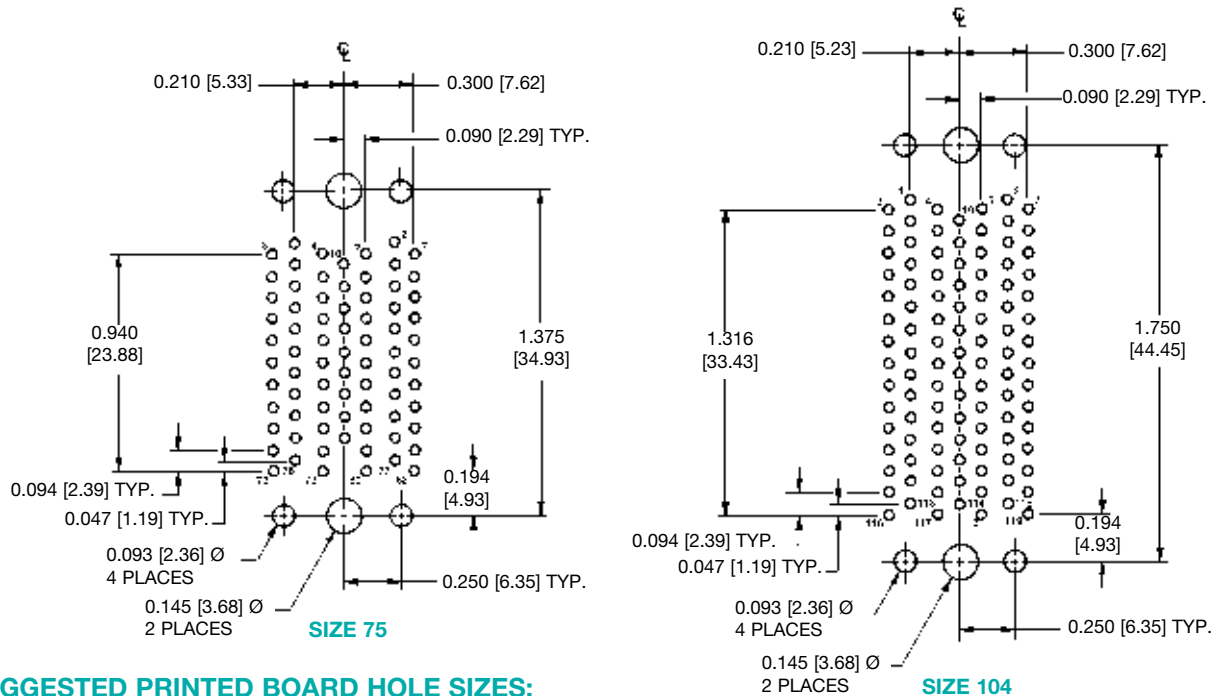
MATING FACE VIEW OF FEMALE OR REAR FACE VIEW OF MALE



**CONTACT HOLE POSITION DIMENSIONS AND
PRINTED BOARD HOLE PATTERN FOR CONTACT VARIANTS 75 AND 104**

MATING FACE VIEW OF FEMALE OR REAR FACE VIEW OF MALE

For contact hole patterns for SGMC series sizes 4 - 50, refer to page 21 in SGM series.



SUGGESTED PRINTED BOARD HOLE SIZES:

Suggest 0.040 [1.01] Ø holes in printed board for contact terminations.

For information regarding **REMOVABLE CONTACTS**, see contact illustration drawings and charts on pages 11-14.



REMOVABLE CONTACT ORDERING ASSISTANCE CHART

SGMC SERIES CRIMP AND SOLDER CUP CONTACT TERMINATIONS

TERMINATION TYPE	PAGE NUMBER REFERENCE IN CATALOG	CONTACT SIZE	FEMALE PART NUMBER	MALE PART NUMBER	WIRE SIZE AWG [mm ²]
CRIMP	see page 11 for additional information	22	FC422P2	MC422N	$\frac{22}{24/26/28}$ [0.3/0.25/0.12/0.08]
			FC420P2	MC420N	20 [0.5]
MILITARY CRIMP	see page 12 for additional information	22	M39029/35-441	M39029/34-440	$\frac{22}{24/26/28}$ [0.3/0.25/0.12/0.08]
THERMOCOUPLE CRIMP	see page 12 for additional information	22	FC422P2CH	MC422NCH	$\frac{22}{24/26}$ [0.3/0.25/0.12]
			FC422P2AL	MC422NAL	
			FC422P2CU	MC422NCU	
			FC422P2CO	MC422NCO	
SOLDER CUP	see page 13 for additional information	22	FS422P2	MS422N	22 [0.3] max.
			FS420P2	MS420N	20 [0.5] max.

SGMC SERIES PRINTED BOARD MOUNT CONTACT TERMINATIONS

TERMINATION TYPE	PAGE NUMBER REFERENCE IN CATALOG	CONTACT SIZE	FEMALE PART NUMBER	MALE PART NUMBER	USABLE TERMINATION LENGTH	TERMINATION DIMENSION
STRAIGHT SOLDER	see page 13 for additional information	22	FDS425P2	MDS425N	0.125 [3.18]	$\frac{0.025 \text{ } \varnothing}{[0.64]}$
			FDS456P2	MDS456N	0.156 [3.96]	$\frac{0.025 \text{ } \varnothing}{[0.64]}$
			FDS487P2	MDS487N	0.187 [4.75]	$\frac{0.025 \text{ } \varnothing}{[0.64]}$
COMPLIANT PRESS-IN	see page 14 for additional information	22	FPF467P2	MPF467N	N/A	$\frac{0.048 \text{ } \varnothing}{[1.22]}$

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

For information regarding **REMOVABLE CONTACTS**, see contact illustration drawings and charts on pages 11-14.

For information regarding **CRIMP TOOLS & CRIMPING TOOL TECHNIQUES**, see page 37.



ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 9

STEP	1	2	3	4	5	6	7	8	9	10
EXAMPLE	SGMC	14	S	0	ESS	0	0	0	0	-14

STEP 1 - BASIC SERIES

SGMC series

STEP 2 - CONNECTOR VARIANTS

4, 7, 9, 14, 20, 26, 34, 44, 50, 75, 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 are to be ordered separately,
see contact ordering chart on page 9.

*1 STEP 5 - POLARIZING GUIDES AND JACKSCREW SYSTEMS

N - Polarizing guides.
NSS - Stainless steel polarizing guides.
T - Fixed jackscrews.
E - Rotating jackscrews with knobs.
E1 - Rotating jackscrews used with backshell only. Not offered on 75 and 104 variants.
ESS - Short rotating jackscrews.
0 - If no polarizing guides or jackscrews are required. Also use "0" if ordering backshell equipped with jackscrews, for variants 75 and 104, see STEP 8.

NOTE:

*1 For details of items listed in steps 5 through 9, see Accessories section on pages 30-36.

*2 Select '0' in Step 6 when selecting 'V' and 'VL' options.

STEP 10 - SPECIAL OPTIONS

FOR SPECIAL OPTIONS, SEE
SPECIAL OPTIONS APPENDIX ON
PAGE 41.

*1 STEP 9 - ADDITIONAL FEATURES

B - For black anodized aluminum parts.
R - For yellow chromate coating on aluminum parts.
*2 V - Lock tab, not offered on 75 and 104 variants.
*2 VL - Actuation lock lever, not offered on 75 and 104 variants.
0 - If no additional options are required.
M - Jackscrews with metric threads.

*1 STEP 8 - BACKSHELL

V - Side opening backshell equipped with stainless steel jackscrew system offered on 104 variant only.
Z - Top opening backshell equipped with stainless steel jackscrew system offered on 104 variants only.
J - Top opening backshell offered on all variants except 75 and 104.
0 - If no backshell are required.

*1 STEP 7 - CODING (KEYING) POSITIONS OF CONNECTOR HOUSING (SHELLS)

Select letter to designate position of male pin or female slot for coding system.

A, B, C, D, E, F, G
0 - If no coding is required or if no connector housings are required.

*1 STEP 6 - CONNECTOR HOUSING (SHELLS)

P - Male shell.
R - Female shell.
0 - If no connector housings are required.

Do you need 2-D drawings or 3-D models?

See page 6 for more information!

For information regarding **CRIMP TOOLS & CRIMPING TOOL TECHNIQUES**, see page 37.