HIGH DENSITY RECTANGULAR CONNECTORS with FIXED CONTACTS

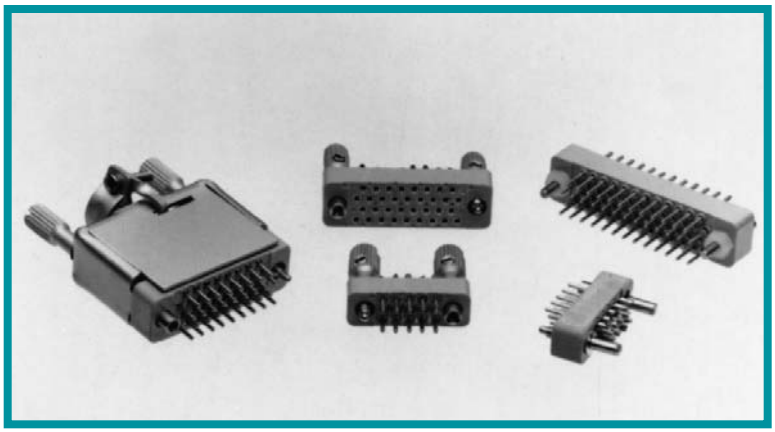
High
Density
Rectangular

Size 22 Contacts

Qualified to MIL-DTL-28748

IEC Publication 807-1

Telecommunication
U.L. File #E140980



SGM Series connectors are high reliability, high density, rectangular connectors qualified to MIL-DTL-28748 specifications. The SGM Series offers solder cup, wrap post and straight solder termination styles, and is intermateable with Positronic SMPL and SGMC series connectors.

Thirteen connector variants, four through 75 poles, are offered. Contact spacing is 0.094 inch [2.39mm] between centers, and contact diameters are 0.030 inch [0.76mm], rated to five amperes per contact.

A complete array of mounting, locking, polarizing and shrouding accessories is available for the SGM Series. For details, see the High Density Rectangular Connector Accessories section.

Ideal applications for the SGM Series are where low weight and high density are requirements. The high reliability of "closed entry" female contacts insures numerous couplings of the connector without substantial degradation of contact resistance. SGM Series connectors are preferred for use in the aerospace, avionics, telecommunications, instrumentation, medical and robotics industries.

POSITRONIC INDUSTRIES · RoHS Compliant · per EU Directive 2002/95/EC

For RoHS options see page 21.

SGM SERIES TECHNICAL CHARACTERISTICS

MILITARY SPECIFICATIONS:

Qualified to MIL-DTL-28748/7 and MIL-DTL-28748/8.

INTERNATIONAL STANDARDS:

IEC 807-1

MATERIALS AND FINISHES:

Insulator:	Glass filled DAP per ASTM-D-5948 type SDG-F. Grey color is standard, black or green available.
Fixed Contacts:	Copper alloy, 0.000015 inch [0.38 microns] gold over nickel. Other finishes available upon request.
Hoods, Cable Adapters:	Aluminum with yellow or black anodize.
Shells:	Aluminum with yellow anodize or black anodize.
Jackscrew System:	Passivated stainless steel.
Polarizing Guides:	Copper alloy with nickel plate or passivated stainless steel.
Vibration Locks:	Copper alloy with nickel plate.

MECHANICAL CHARACTERISTICS:

Fixed Contacts:	**Male** – Size 22: 0.030 inch [0.76 mm] diameter. **Female** – "Closed entry" design for highest reliability.

MECHANICAL CHARACTERISTICS, continued:

Contact Retention in Insulator:	6 lbs. [26.5N] minimum.
Contact Termination:	0.037 inch [0.94 mm] internal diameter on solder cup style contact for 22 AWG [0.33 mm^2] wire maximum. 0.025 inch [0.64 mm] diameter for printed board mount style contact. 0.025 inch [0.64 mm] square for wire post style contacts.
Locking Systems:	Friction, vibration locks and jackscrews.
Polarization:	Polarized guides, polarized shells and jackscrew system.
Mechanical Operations:	1000 operations per IEC 512-5.
Jackscrews:	Standard threads, 2-56 UNC on all sizes, except 75 connector variant, which uses 6-32 UNC. Metric threads, M2X0.4 and M3X0.5 available.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating [maximum]:	5 amps.
Initial Contact Resistance:	0.012 ohms
Flash over Voltage:	2200 V.AC [rms]
Test Voltage:	1000 V.AC [rms]
Insulation Resistance [minimum]:	5 G ohms
Clearance and Creepage Distance [minimum]:	0.028 inch [0.71 mm]
Working Temperature:	-55°C to 135°C
Working Voltage:	250 V.AC [rms]

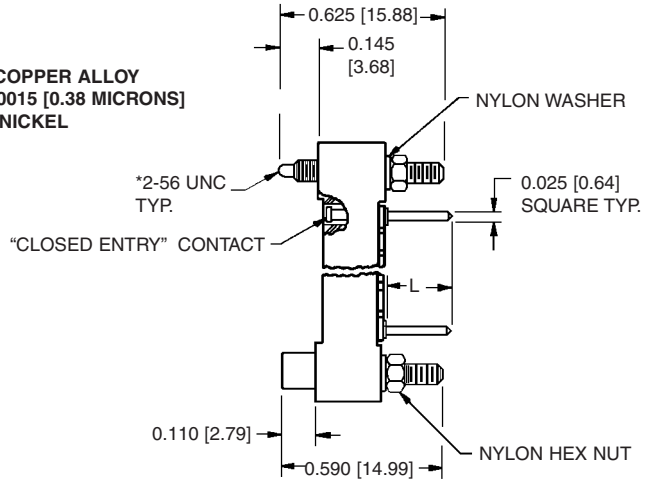
DIMENSIONS ARE IN INCHES [MILLIMETERS].
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

Downloaded from Arrow.com.

HIGH DENSITY RECTANGULAR CONNECTORS with FIXED CONTACTS

WRAP POST CONTACTS

MATERIAL: COPPER ALLOY
FINISH: 0.000015 [0.38 MICRONS] GOLD OVER NICKEL



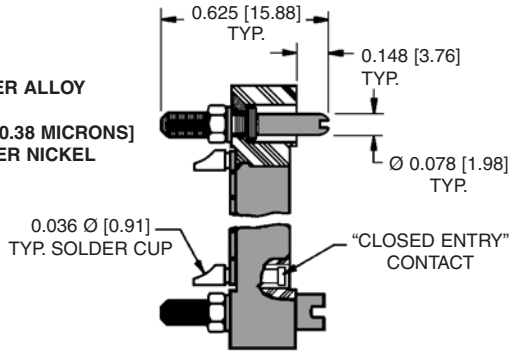
CONTACT CODE	L
WW1	0.225 [5.72]
WW2	0.355 [9.02]

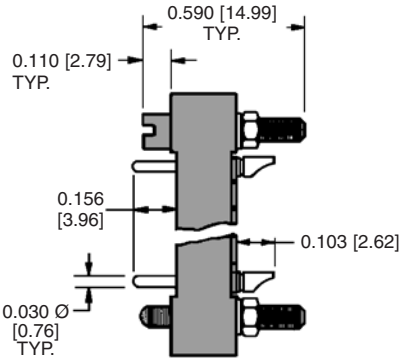
SPECIFY CONTACT CODE IN STEP 4 OF ORDERING INFORMATION

SOLDER CUP CONTACTS

MATERIAL: COPPER ALLOY

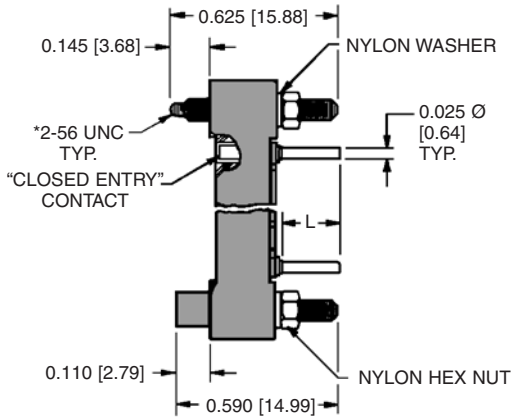
FINISH: 0.000015 [0.38 MICRONS] GOLD OVER NICKEL





SPECIFY CONTACT CODE 'SC' IN STEP 4 OF ORDERING INFORMATION

STRAIGHT SOLDER CONTACTS



CONTACT CODE	L
DS3	0.093 [2.36]
DS4	0.125 [3.18]
DS5	0.156 [3.96]
DS6	0.187 [4.75]

SPECIFY CONTACT CODE IN STEP 4 OF ORDERING INFORMATION

MATERIAL: COPPER ALLOY

FINISH: 0.000015 [0.38 MICRONS] GOLD OVER NICKEL

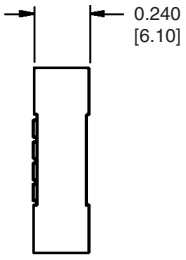
***M2X0.4 METRIC THREAD AVAILABLE**

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

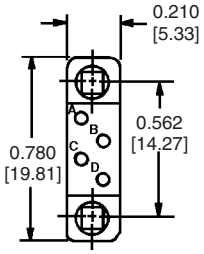
Downloaded from Arrow.com.

INSULATOR DIMENSIONS FOR SGM AND SMPL SERIES

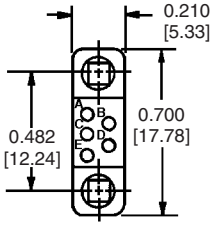
MATING FACE OF FEMALE CONNECTOR OR REAR FACE OF MALE CONNECTOR



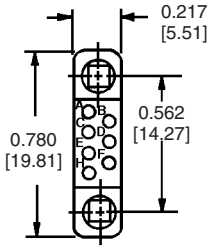
MALE AND FEMALE
PROFILE VIEW



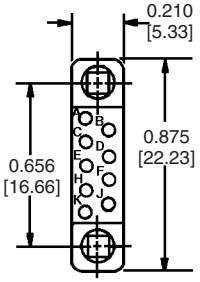
4 CONTACTS



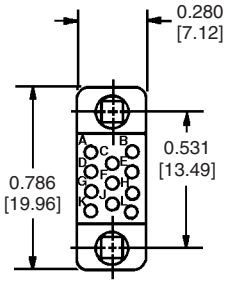
5 CONTACTS



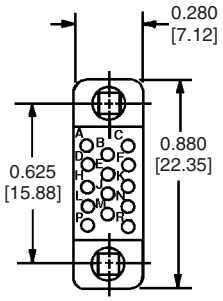
7 CONTACTS



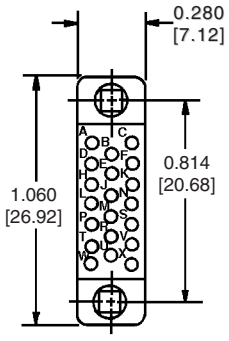
9 CONTACTS



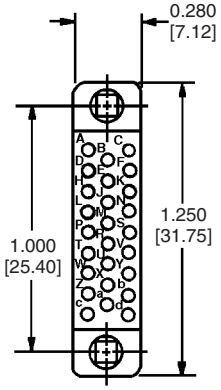
11 CONTACTS



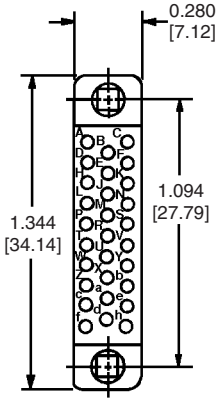
14 CONTACTS



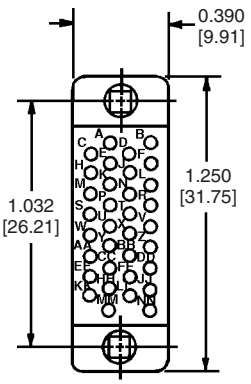
20 CONTACTS



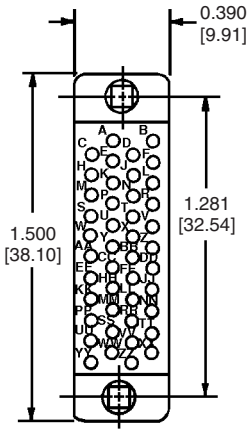
26 CONTACTS



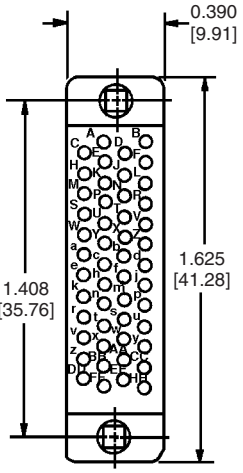
29 CONTACTS



34 CONTACTS



44 CONTACTS



50 CONTACTS

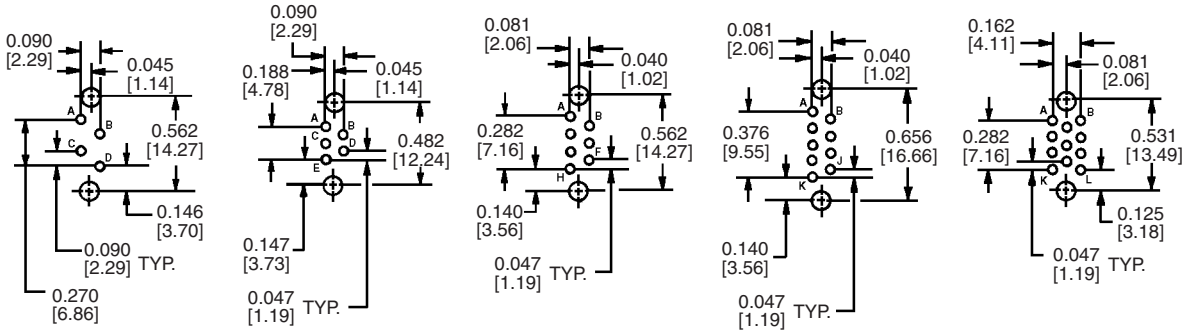
MATERIAL: GLASS FILLED DIALLYL PHTHALATE PER ASTM-D-5948 TYPE SDG-F

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

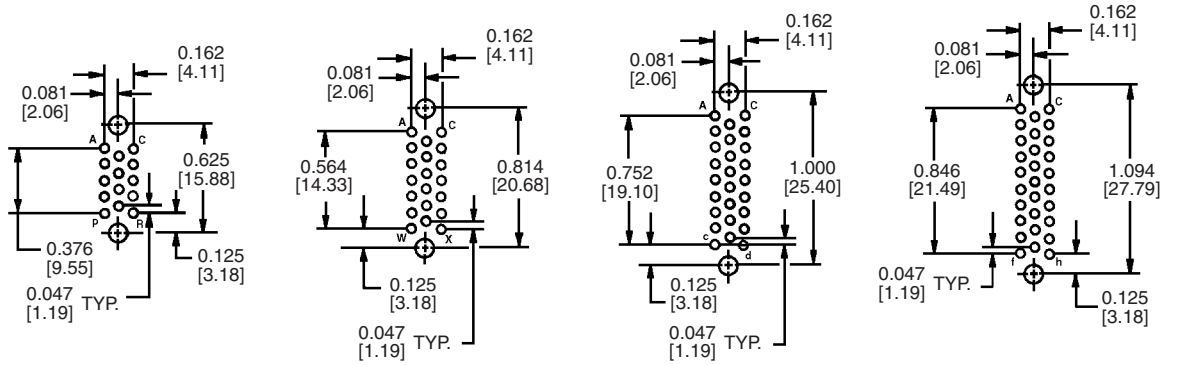
Downloaded from Arrow.com.

CONTACT HOLE POSITION DIMENSIONS AND PRINTED BOARD HOLE PATTERN

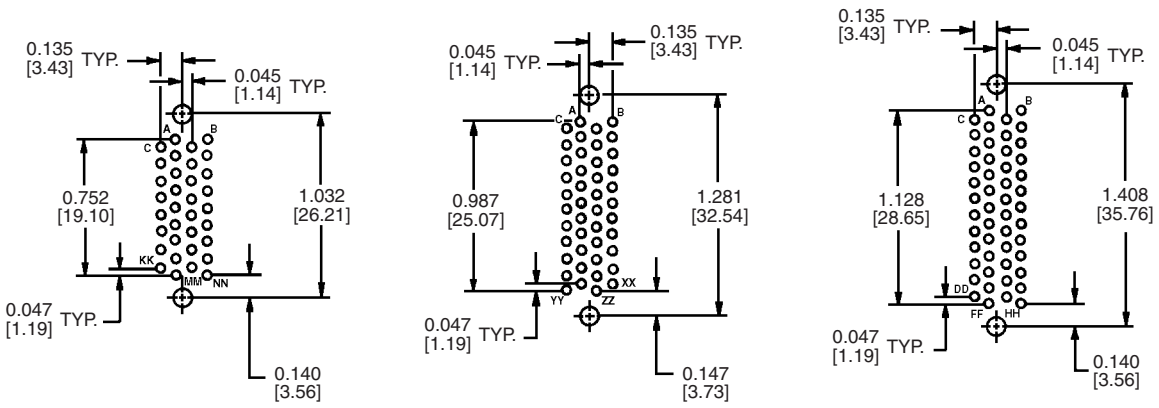
MATING FACE OF FEMALE CONNECTOR OR REAR FACE OF MALE CONNECTOR



4 CONTACTS | 5 CONTACTS | 7 CONTACTS | 9 CONTACTS | 11 CONTACTS



14 CONTACTS | 20 CONTACTS | 26 CONTACTS | 29 CONTACTS

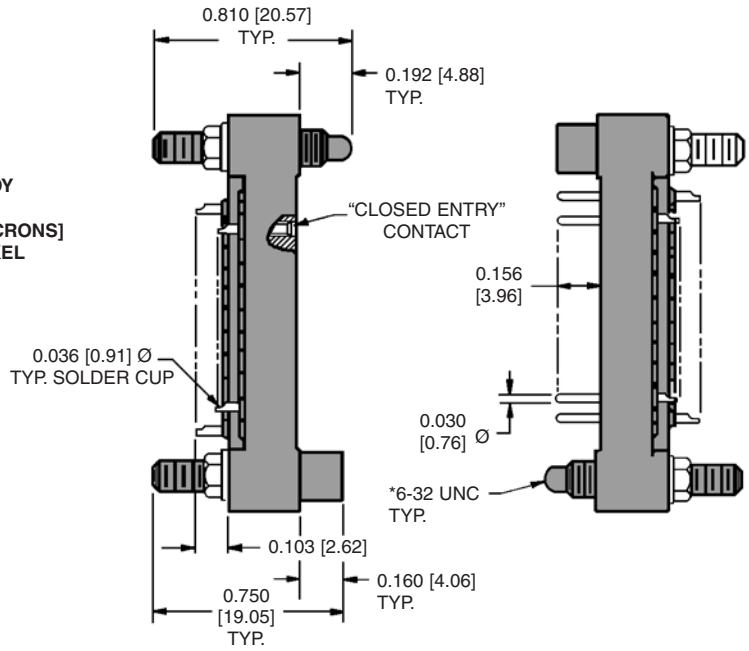


34 CONTACTS | 44 CONTACTS | 50 CONTACTS

SUGGEST 0.105 [2.66] Ø HOLES IN PRINTED BOARD FOR CONNECTOR MOUNTING HOLES
SUGGEST 0.040 [1.01] Ø HOLES IN PRINTED BOARD FOR CONTACT TERMINATIONS

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SGM 75 WITH SOLDER CUP CONTACTS



MATERIAL: COPPER ALLOY

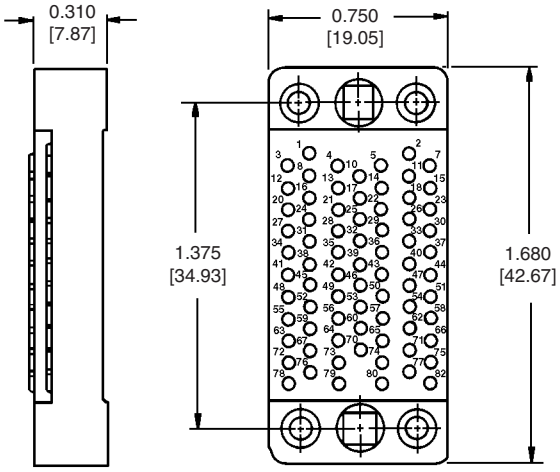
FINISH: 0.000015 [0.38 MICRONS] GOLD OVER NICKEL

SPECIFY CONTACT CODE 'SC' IN STEP 4 OF ORDERING INFORMATION

*** M3X0.5 METRIC THREAD AVAILABLE**

SGM 75 INSULATOR DIMENSIONS

MATING FACE OF FEMALE CONNECTOR OR REAR FACE OF MALE CONNECTOR



SGM 75

SEE SGMC SERIES 75 PRINTED BOARD HOLE PATTERN PAGE 5 FOR CONNECTOR VARIANT CONTACT HOLE POSITIONS

MATERIAL: GLASS FILLED DIALLYL PHTHALATE PER ASTM-D-5948 TYPE SDG-F

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

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HIGH DENSITY RECTANGULAR CONNECTORS with FIXED CONTACTS

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		11
EXAMPLE	SGM	26	F	SC	N	0	0	J	0	/AA	—	-14

STEP 1 - BASIC SERIES

SGM Series

STEP 2 - CONNECTOR VARIANTS

4, 5, 7, 9, 11, 14, 20, 26, 29, 34, 44, 50, 75

STEP 3 - CONNECTOR GENDER

M - Male Insulator
F - Female Insulator

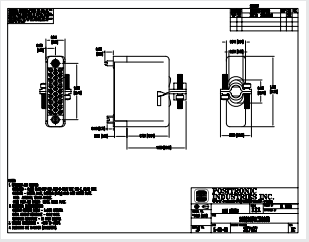
STEP 4 - CONTACT TERMINATION TYPE

All female contacts "closed entry" design
SC – Solder cup
DS3 – Straight solder 0.093 [2.36] not offered on 75 variant.
DS4 – Straight solder 0.125 [3.18] not offered on 75 variant.
DS5 – Straight solder 0.156 [3.96] not offered on 75 variant.
DS6 – Straight solder 0.187 [4.75] not offered on 75 variant.
WW1 – Wrap post 0.225 [5.72] not offered on 75 variant.
WW2 – Wrap post 0.355 [9.02] not offered on 75 variant.

*STEP 5 - POLARIZING GUIDES AND JACKSCREW SYSTEMS

N – Polarizing guides.
NSS – Stainless steel polarizing guides.
T – Fixed jackscrews.
E – Short turnable jackscrews with knobs.
E1 – Turnable jackscrews used with hoods only. Not offered on 75 variant.
ESS – Short turnable jackscrews.
0 – If no polarizing guides or jackscrews are required. Also use "0" if ordering hoods equipped with jackscrews, for 75 variant, see STEP 8.

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



SK Drawing



3-dimensional model

*STEP 6 - SHELLS

P – Male shell.
R – Female shell.
0 – If no shells are required.

*STEP 7 - POLARIZATION POSITIONS OF SHELLS

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

A, B, C, D, E, F, G
0 – If no polarization is required or if no shells are required.

*STEP 8 - CABLE ADAPTERS (HOODS)

J – Top opening hood offered on all variants except 5, 11 and 75.
0 – If no hoods are required.

*STEP 9 - ADDITIONAL FEATURES

B – For black anodized aluminum parts.
R – For yellow chromate coating on aluminum parts.
V – Lock tab, not offered on 75 variant.
VL – Lock lever, not offered on 75 variant.
0 – If no additional options are required.
M – Jackscrews with metric threads.

STEP 10 - ENVIRONMENTAL COMPLIANCE OPTIONS

/AA - Compliant per EU Directive 2002/95/EC (RoHS)

NOTE: If compliance to environmental legislation is not required, this step will not be used. Example: SGM26FSCN00J0

STEP 11 - SPECIAL OPTIONS

-14 – Signal contacts plated 0.000030 [0.76µ] gold over nickel.
-50 – Signal contacts plated 0.000050 [1.27µ] gold over copper.

CONTACT TECHNICAL SALES FOR SPECIAL OPTIONS

*NOTE: FOR DETAILS OF ITEMS LISTED IN STEPS 5 THROUGH 9, SEE HIGH DENSITY RECTANGULAR CONNECTOR ACCESSORIES SECTION ON PAGES 26-34.

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

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