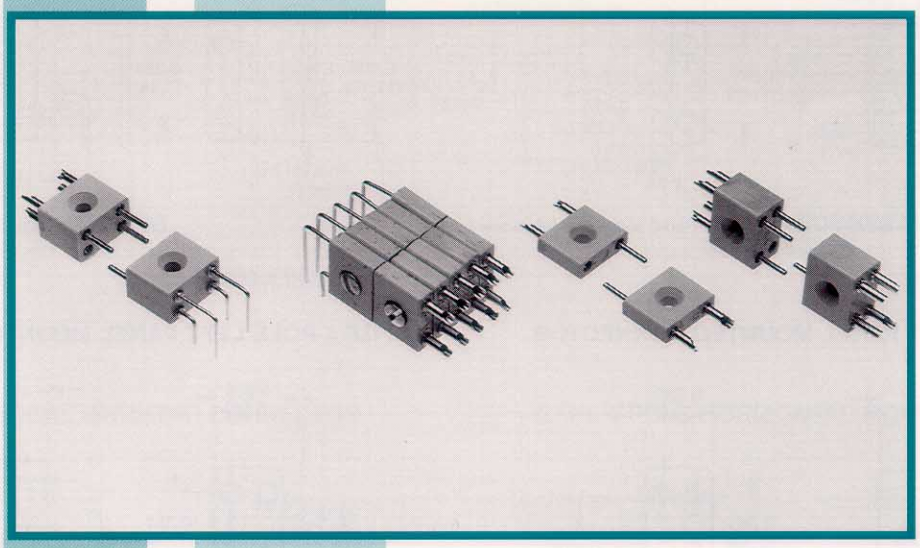
POSITRONIC INDUSTRIES, INC.

PROFESSIONAL QUALITY UTILITY CONNECTORS

Fixed Contact, Side Mount, Low Profile Connectors



GF and GFPL Series Connectors are high reliability, two and four position connectors. GF Series connectors are offered with solder and straight solder contacts. GFPL Series connectors are offered in the 90° printed board mount style. Contacts have 0.040 inch (1,02 mm) diameters and are rated to 7.5 amperes per contact.

GF and GFPL Series connectors are narrow in width with countersunk side mounting holes. This makes for exceptionally low profile mounting capabilities. Connectors can be stacked side by side, joined by a center screw (see diagram, page 3), enabling a "build your own connector" situation with numerous options for polarization.

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Glass-filled DAP per MIL-M-14, Type SDG-F. Gray color is standard.
Fixed Contacts:	Copper alloy, 0.000010 inch (0,25 microns) gold over nickel or copper.

MECHANICAL CHARACTERISTICS:

Fixed Contacts:	
Male:	Size 20, 0.040 inch (1,02 mm) diameter.
Female:	Open Entry is standard. "Closed Entry" available on solder style for high reliability applications.
Contact Retention In Insulator:	10 lbs. (44.5 N), minimum.
Contact Termination:	0.046 inch (1,17 mm) internal diameter on solder style contact for 20 AWG (0,5 mm^2) wire, maximum. 0.025 inch (0,64 mm) diameter printed board mount style.
Locking Systems:	Friction.
Polarization:	Gender positioning of contacts.
Mechanical Operations:	
Open Entry Contacts:	500 operations per IEC 512-5.
Closed Entry Contacts:	1,000 operations per IEC 512-5.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	7.5 amps, maximum.
Initial Contact Resistance:	0.010 ohms, maximum.
Flash over Voltage:	2000 VAC (rms).
Test Voltage:	1200 VAC (rms).
Insulation Resistance:	5 G ohms, minimum.
Clearance and Creepage:	0.038 inch (0,97 mm) minimum.
Working Voltage:	300 VAC (rms).

CLIMATIC CHARACTERISTICS:

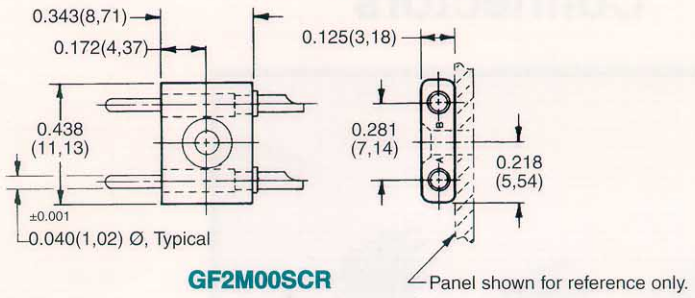
Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	21 days.

LOW PROFILE CONNECTORS

GF / GFPL SERIES

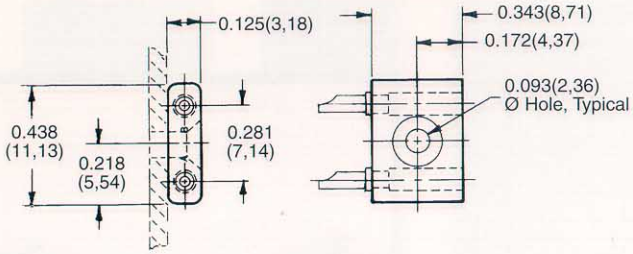
GF SERIES INSULATOR DIMENSIONS

GF 2-POLE RIGHT PANEL MOUNTED CONNECTOR



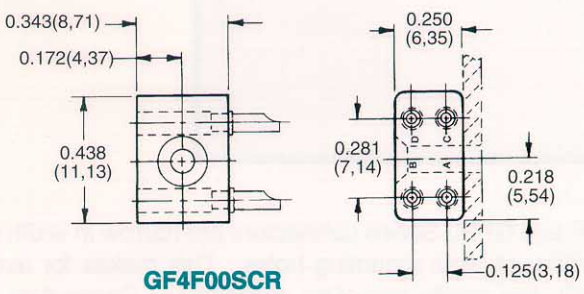
GF2M00SCR

GF 2-POLE LEFT PANEL MOUNTED CONNECTOR



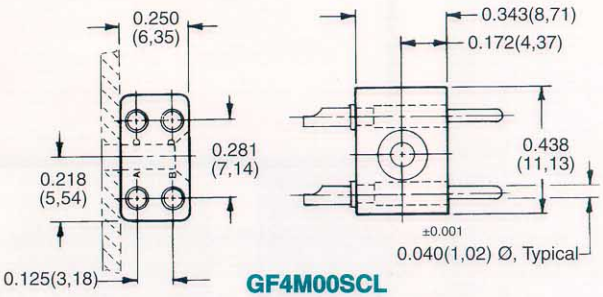
GF2F00SCL

GF 4-POLE RIGHT PANEL MOUNTED CONNECTOR



GF4F00SCR

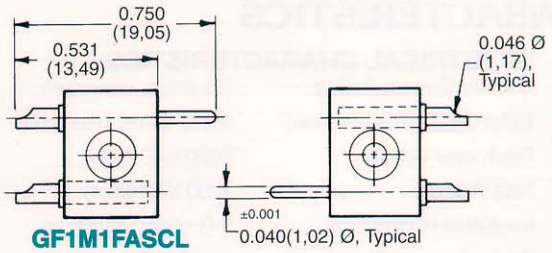
GF 4-POLE LEFT PANEL MOUNTED CONNECTOR



GF4M00SCL

Material: Glass-filled diallyl phthalate per MIL-M-14, Type SDG-F.

SOLDER CONTACTS



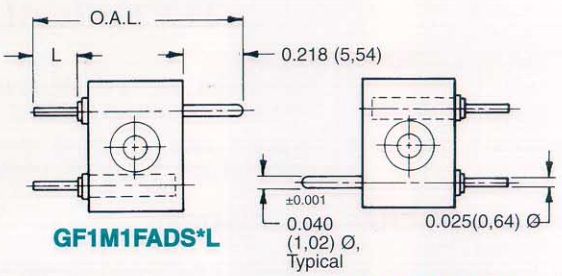
GF1M1FASCL

GF1M1FBSCR

Specify Contact Code "SC" in Step 5 of the Ordering Information Contact Code.

Material: Copper alloy.
Finish: 0.000010 (0,25 microns) gold over nickel or copper.

STRAIGHT SOLDER CONTACTS



GF1M1FADS*L

GF1M1FBDS*R

CONTACT CODE	L	O.A.L.
DS3	0.093 (2,36)	0.684 (17,37)
DS4	0.125 (3,18)	0.716 (18,19)
DS5	0.156 (3,96)	0.747 (18,97)
DS6	0.187 (4,75)	0.779 (19,79)

Specify Contact Code in Step 5 of the Ordering Information for desired length of contact termination.

Material: Copper alloy.
Finish: 0.000010 (0,25 microns) gold over nickel or copper.

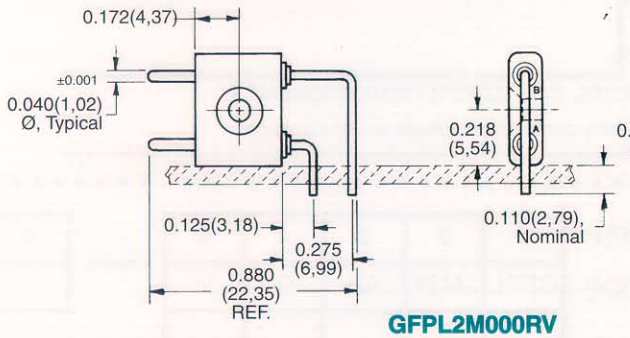
When viewing the connector from the rear with the "A" contact down, the panel on the left dictates "L" Code while the panel on the right dictates "R" Code.

NOTE:
Genders can be the same or mixed as needed.

DIMENSIONS ARE IN INCHES (MILLIMETERS).
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

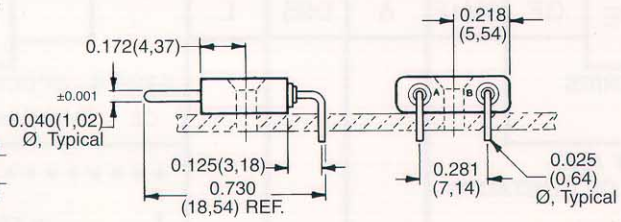
GFPL SERIES 90° PRINTED BOARD MOUNT CONNECTORS

GFPL 2-POLE VERTICAL MOUNTED CONNECTOR



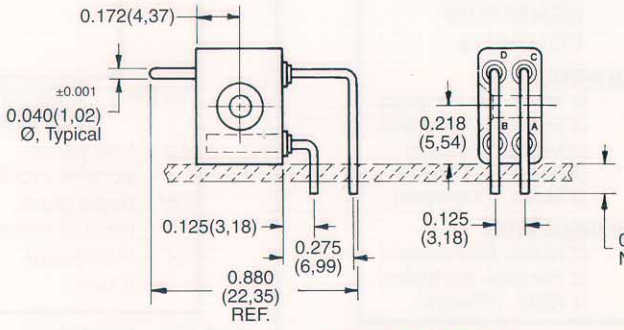
GFPL2M000RV

GFPL 2-POLE HORIZONTAL MOUNTED CONNECTOR



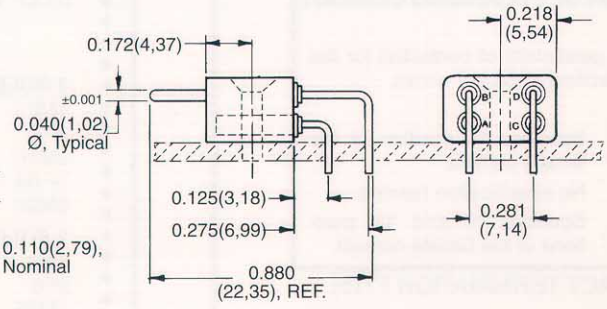
GFPL2M000H

GFPL 4-POLE VERTICAL MOUNTED CONNECTOR



GFPL2M2FAB0RV

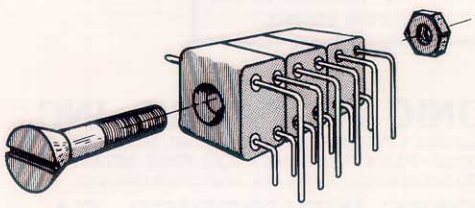
GFPL 4-POLE HORIZONTAL MOUNTED CONNECTOR

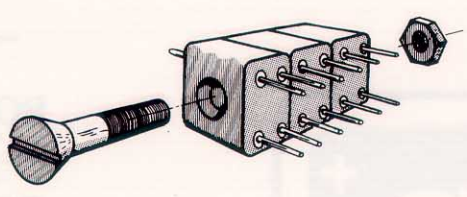


GFPL2M2FAC0H

Material: Copper alloy.
Finish: 0.000010 (0,25 microns) gold over nickel or copper.

For individual dimensions not shown, see GF Series insulator dimensions.
Contacts bonded and clipped into position for positive retention.
Contact genders can be the same or mixed.





GF and GFPL Connectors can be "STACKED" in building block fashion to create custom configurations.

NOTE:
Genders can be the same or mixed as needed.

DIMENSIONS ARE IN INCHES (MILLIMETERS).
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

ORDERING INFORMATION

GF / GFPL SERIES

ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify the complete connector by following Steps 1 through 6 below.
Insert "0" when a step is not used.

GF	STEP	1	2	3	4	5	—	6
	CODE	GF	3M1F	A	DS5	L		

STEP 1 - BASIC SERIES

GF Series

STEP 2 - QUANTITY AND GENDER OF CONTACTS

4 POLE INSULATOR

4M0	(4 Males, No Females)
4F0	(4 Females, No Males)
3M1F	(3 Males, 1 Female)
3F1M	(3 Females, 1 Male)
2M2F	(2 Males, 2 Females)

2 POLE INSULATOR

2M0	(2 Males, No Females)
2F0	(2 Females, No Males)
1M1F	(1 Male, 1 Female)

STEP 3 - POSITION OF POLARIZING CONTACT

O, A, B, C, D
Specify polarizing position(s) of contact(s) for the second gender specified in Step 2 above.

EXAMPLE:

GF1M1FASCL	Specifies "A" position of the female contact.
GF4M00DS3R	No specification needed.
GF2M2FCDSCL	Specifies "C" and "D" positions of the female contact.

STEP 4 - CONTACT TERMINATION TYPE

SC - Solder. For closed entry design, add "CE" in Step 6.
DS3 - Straight solder [0.093(2,36)].
DS4 - Straight solder [0.125(3,18)].
DS5 - Straight solder [0.156(3,96)].
DS6 - Straight solder [0.187(4,75)].

STEP 5 - MOUNTING POSITIONS

L - Left panel mount.
R - Right panel mount.

STEP 6 - SPECIAL CUSTOMER REQUIREMENTS

CE - Closed entry contacts on female solder contacts.

GFPL	STEP	1	2	3	4	5	—	6
	CODE	GFPL	2M2F	AB	0	H		

STEP 1 - BASIC SERIES

GFPL Series

STEP 2 - QUANTITY AND GENDER OF CONTACTS

4 POLE INSULATOR

4M0	(4 Males, No Females)
4F0	(4 Females, No Males)
3M1F	(3 Males, 1 Female)
3F1M	(3 Females, 1 Male)
2M2F	(2 Males, 2 Females)

2 POLE INSULATOR

2M0	(2 Males, No Females)
2F0	(2 Females, No Males)
1M1F	(1 Male, 1 Female)

STEP 3 - POSITION OF POLARIZING CONTACT

O, A, B, C, D
Specify polarizing position(s) of contact(s) for the second gender specified in Step 2 above.

EXAMPLE:

GFPL3M1FA0H	Specifies "A" position of the female contact.
GFPL4M000RV	No specification needed.
GFPL2M2FCD0LV	Specifies "C" and "D" positions of the female contact.

STEP 4 - CONTACT TERMINATION TYPE

0 - Standard Termination.

STEP 5 - MOUNTING POSITIONS

LV - Left panel vertical mount.
RV - Right panel vertical mount.
H - Horizontal mount.

STEP 6 - SPECIAL CUSTOMER REQUIREMENTS

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POSITRONIC PRODUCTS

Power

Contact Sizes: 0, 8, 12, 16, 20 and 22
Current Ratings: To 150 amperes
Terminations: Crimp, wire solder, straight solder, right angle solder, straight press-fit and right angle press-fit
Configurations: Multiple variants in a variety of package sizes
Compliance: PICMG 2.11, PICMG 3.0, VITA 41

FEATURES: 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

D-Subminiature

Contact Sizes: 8, 20 and 22
Current Ratings: To 40 amperes nominal
Terminations: Crimp, wire solder, straight solder, right angle solder and straight press-fit
Configurations: Multiple variants in both standard and high densities
Qualifications: MIL-DTL-24308, Goddard Space Flight 311P, MIL-C-39029, IP65, IP67

FEATURES: Three performance levels available: professional quality, military quality and space-flight quality provide multiple performance to cost choices • Options include thermocouple contacts, filtered, environmentally sealed and dual port package including mixed density • Broad selection of accessories

Rectangular

Contact Sizes: 16, 20 and 22
Current Ratings: To 13 amperes
Terminations: Crimp, wire solder, straight solder and right angle solder
Configurations: Multiple variants in both standard and high densities
Qualifications: MIL-DTL-28748, MIL-C-39029, CCITT V.35

FEATURES: Two performance levels available: industrial quality and military quality provide two performance to cost choices • Large Surface Area Contact Mating System • A wide variety of accessories • Broad selection of contact variants and package sizes

Circular

Contact Sizes: 12, 16, 20 and 22
Current Ratings: To 25 amperes nominal
Terminations: Crimp, wire solder, straight solder and right angle solder
Configurations: Multiple variants in two package sizes
Qualifications: Environmental protection to IP67

FEATURES: Non-corrodible / 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

Cable

All Positronic connector products can be supplied as part of cable assemblies whose technical characteristics would reflect those of the connectors being used within the assembly.

FEATURES: Shorten the supply chain and reduce additional costs and delays by “cablizing” • Overmolding available • Shielded and environmentally sealed versions available • Power cables and access boxes which meet the SAE J2496 specification

Hermetic

Contact Sizes: 8, 12, 16, 20 and 22
Current Ratings: To 40 amperes nominal
Terminations: Feed through is standard; flying leads and board mount available upon request
Configurations: See D-Subminiature and Circular Configurations above
Qualifications: Space-D32

FEATURES: Intended for use as an electrical feedthrough in high vacuum applications • Leakage rate: 1 x 10^{-9} mbar.l/s • Signal, power, coax and high voltage versions available • Connectors can be mounted on flange assembly per customer specification

For more information, visit www.connectpositronic.com or call your nearest Positronic sales office as given on the back of this catalog.