



Positronic Industries
connectpositronic.com

GROUNDING PLATES DESIGNED FOR AIRCRAFT APPLICATIONS

Standard
Density
Rectangular



Positronic Industries' grounding plates were designed especially for aircraft applications where shielded cable must be grounded to the aircraft frame. The ground wires of the shielded cable are piggy-backed out of the cable with ferrules and are crimped to Size 16 female contacts. The female contacts are loaded into standard 14 or 34 contact connector housings. These connectors can then be mated to the grounding plate which is fastened to the aircraft frame.

Grounding plates have Size 16 precision-machined male contacts which are swaged and soldered onto the metal plate.

The metal plates (angled and plane) have fixed female jackscrews that accept the rotating jackscrews, which are an integral part of the mating female connector. Long rotating jackscrews extend beyond the edge of the cable adapter of the 14-contact female connector which permits easy coupling to the grounding plate.

Other contact variants are available for grounding plate applications. Contact Technical Sales for information on the availability of other grounding plates offered by Positronic Industries.

GROUNDING PLATES TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Glass-filled DAP per MIL-M-14, Type SDG-F. Grey or black in color.
Grounding Plates:	Copper alloy with tin plate.
Contacts:	Copper alloy with 0.000010 inch [0.25 microns] gold over nickel plate.
Jackscrew System:	Stainless steel, passivated.
Strain Reliefs:	Steel with zinc plate and chromate seal or aluminum with yellow anodize.

MECHANICAL CHARACTERISTICS:

Removable Female Contacts:	Insert contact to rear face of insulator, release from front face of insulator. "Closed Entry" design for highest reliability.
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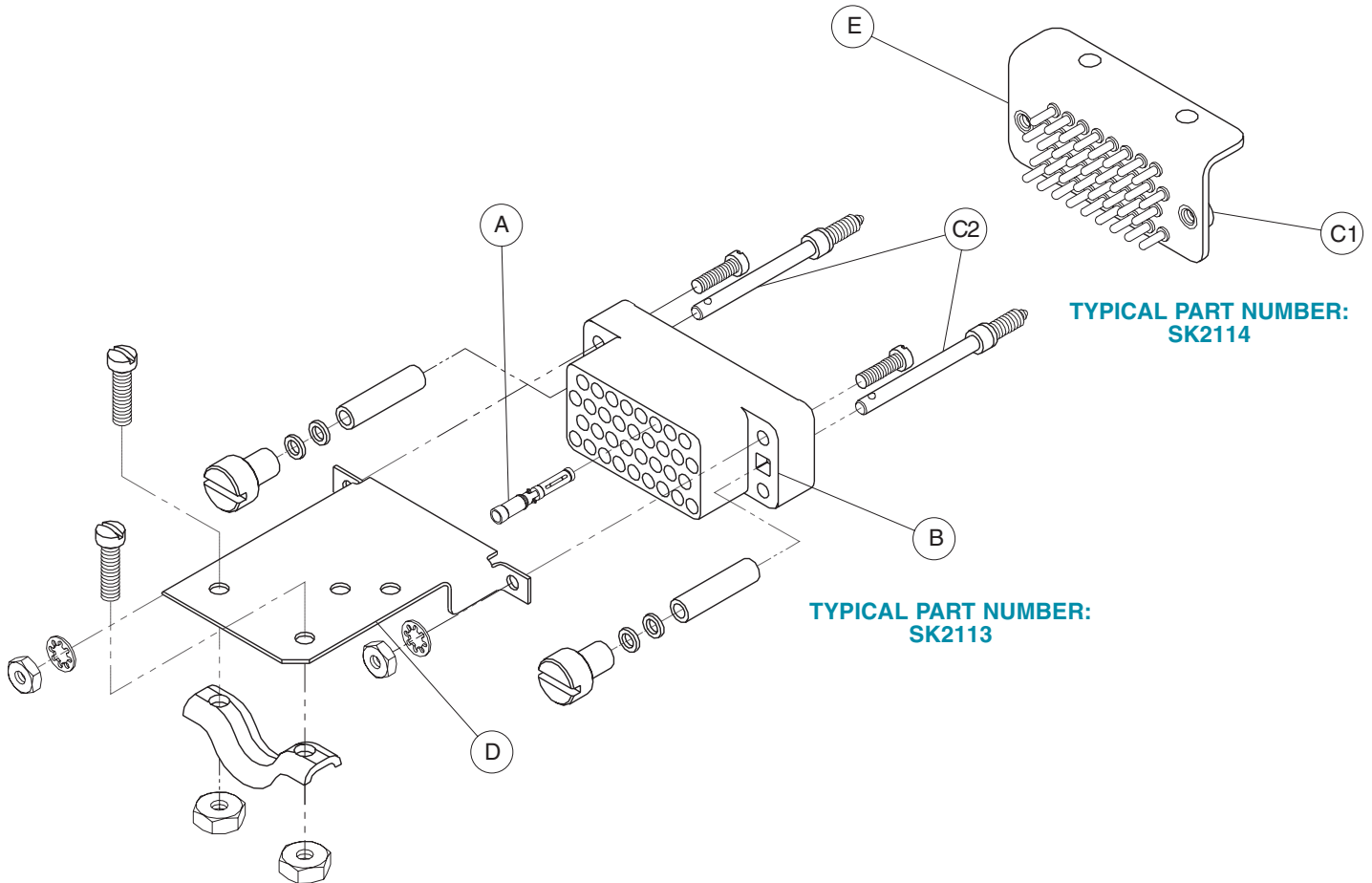
Contact Retention in Insulator:	20 lbs. (89N) after 10 cycles of contact insertion/extraction.
Female Contact Termination:	Crimp wires, Sizes 20 AWG [0.5 mm ²] through 24 AWG [0.25 mm ²].
Jackscrews:	6-32 UNC threads.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating:	13 amperes nominal.
Insulation Resistance:	5 G ohms.
Working Voltage:	500 VAC (rms).
Working Temperature:	-65°C to 150°C.



GROUNDING PLATE COMPONENT DESCRIPTION

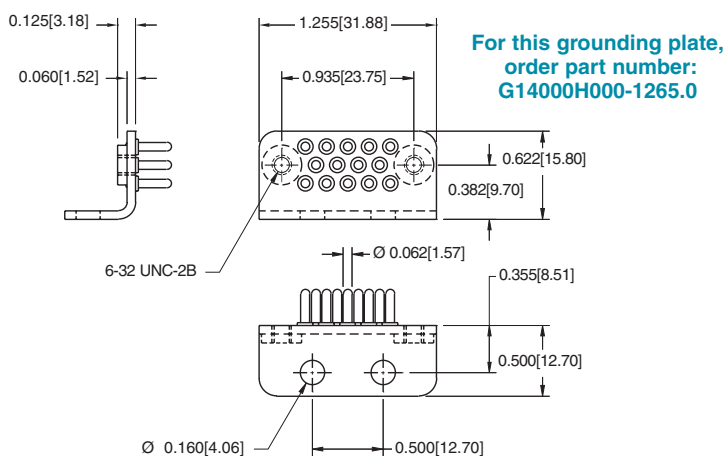


CONNECTOR COMPONENT DESCRIPTIONS	
ITEM	COMPONENT DESCRIPTIONS
A	Female Contacts, Size 16, Crimp Terminations.
B	Female Connector Insulator.
C1	Fixed Jackscrew.
C2	Rotating Jackscrew.
D	Strain Relief provides cable support.
E	Grounding Plate.

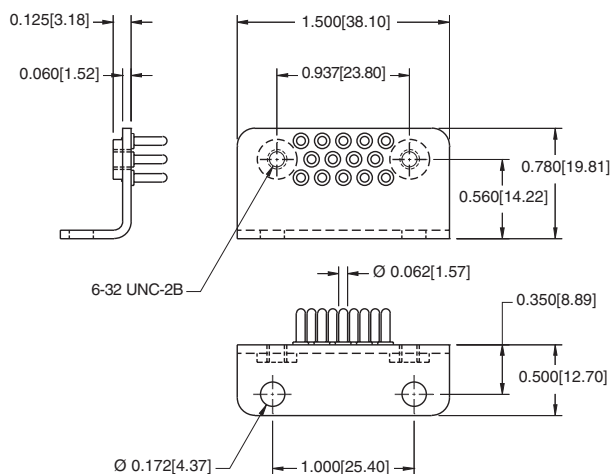


Grounding Plate Ordering Information

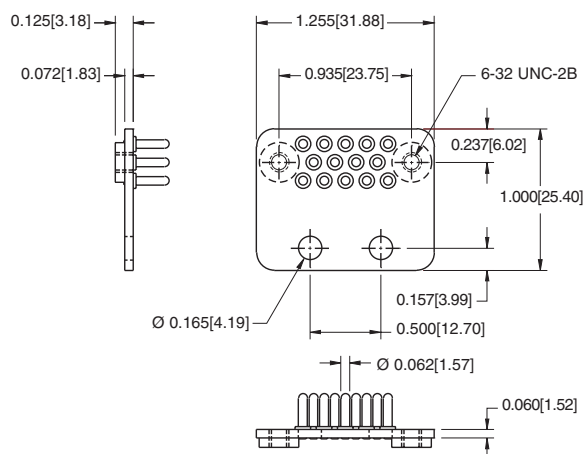
Grounding plates are offered in five (5) different configurations, as shown below. These grounding plates can be used with the connector strain relief assemblies shown to the right below. The connector strain relief assemblies are provided with an appropriate number of FC120N2 female contacts. The FC120N2 contacts feature a "Closed Entry" design and accommodate wire sizes 20 - 24 AWG (0.5 - 0.25 mm²). Reference the schematics below for dimensional information. Use the indicated part numbers below to order your grounding plate assemblies from Positronic Industries.



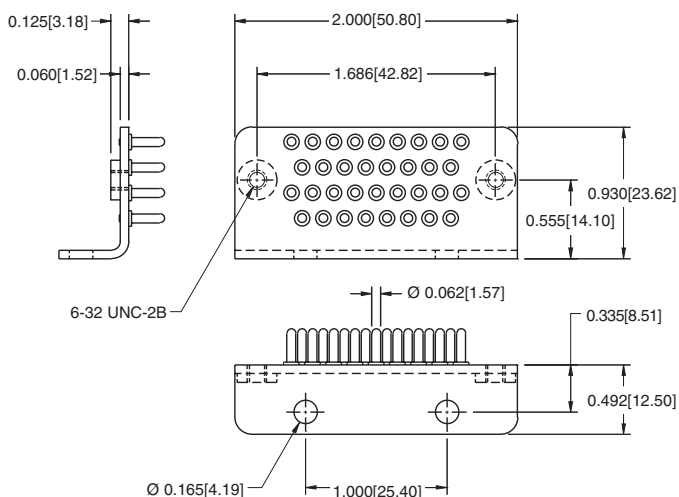
For this grounding plate, order part number: **SK2484**



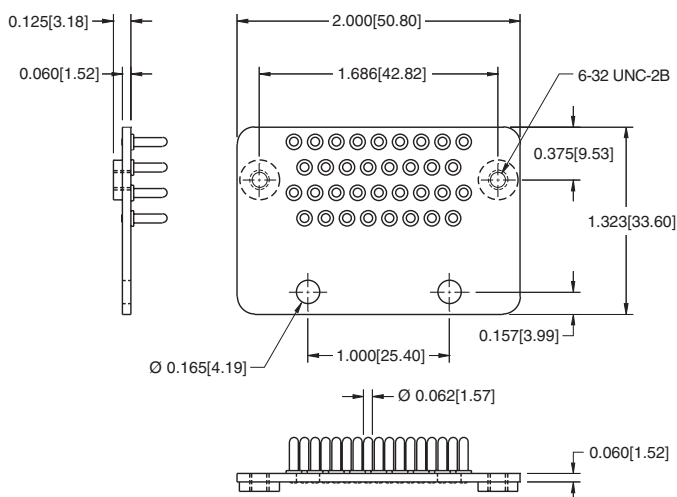
For this grounding plate, order part number: **SK2665**



GROUND PLATES



For this grounding plate, order part number: **SK2114**



For this grounding plate, order part number: **SK2664**

Standard
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Rectangular

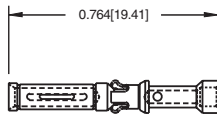
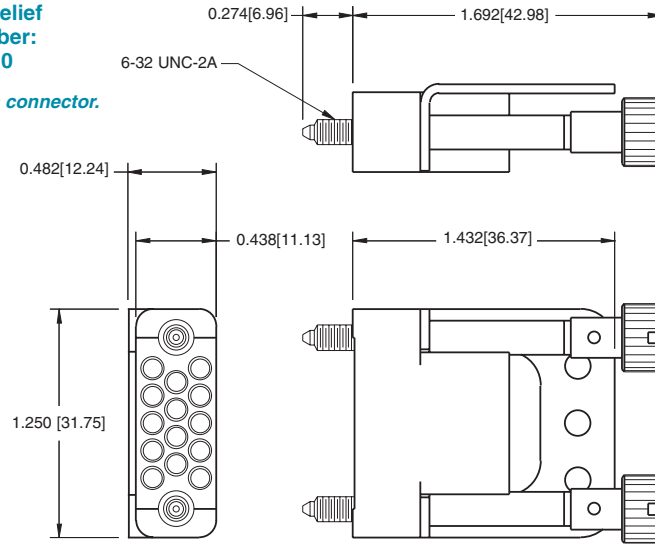
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For this connector strain relief
assembly, order part number:
GMCT14F0EX00A0-697.0

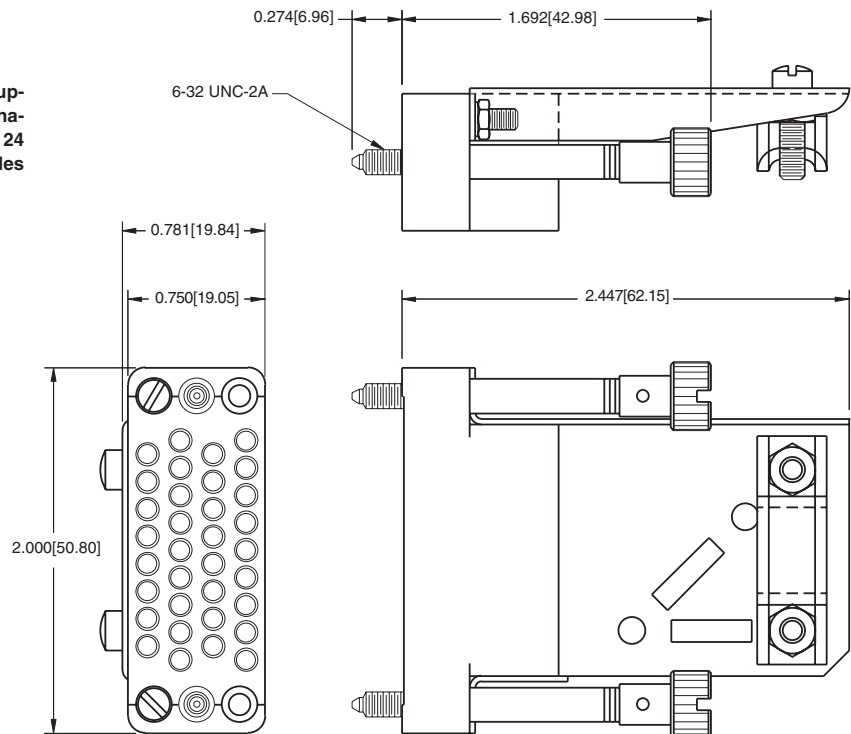
A plastic cable tie is supplied with this connector.



FC120N2 FEMALE CONTACT "CLOSED ENTRY" DESIGN

(ENLARGED)

The appropriate number of contacts are supplied with the connectors. These crimp termination contacts accommodate wire sizes 20 - 24 AWG (0.5 - 0.25 mm²). Contact Technical Sales for crimp tool ordering information.



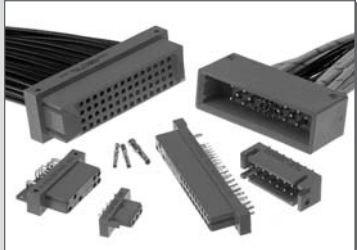
For this connector strain relief
assembly, order part number:
SK2113

GROUND PLATES

POSITRONIC PRODUCTS

Power

Contact Sizes: 0, 8, 12, 16, 20 and 22
Current Ratings: To 100 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, SAE AS 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, 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, SAE AS 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: Feedthrough 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: 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

NORTH AMERICAN LOCATIONS

UNITED STATES, Springfield, Missouri, Corporate Headquarters

Factory Sales and Engineering Offices (800) 641-4054

PUERTO RICO, Ponce Factory

Factory Sales and Engineering Offices (800) 641-4054

MEXICO

Factory Sales and Engineering Offices (800) 872-7674

CANADA

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ASIA/PACIFIC LOCATIONS

SINGAPORE, Asia/Pacific Headquarters

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ASIA, Direct Sales Offices

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China Sales Office (86) 755-2643-7578

Korea Sales Office (82) 31-909-8047/8

JAPAN

Sales and Engineering Offices (81) 3-5812-7720

INDIA

Factory Sales and Engineering Offices (91) 20-2439-4810

ASIA/PACIFIC, Technical Agents

Technical Agents in Malaysia, Australia, New Zealand, Philippines,
Hong Kong, Vietnam, Thailand

EUROPEAN LOCATIONS

FRANCE, Auch Factory, European Headquarters

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EUROPE, Direct Sales Offices

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Southern France Sales Office 33 (0)4 67 72 80 28

Italy Sales Office 39 (0)2 54 116 106

Northern Germany Sales Office 49 (0)30 34 504 307

Southern Germany Sales Office 49 (0)2351 63 47 39

EUROPE, Technical Agents

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Ireland, Scandinavia, Spain, Switzerland and the United Kingdom

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