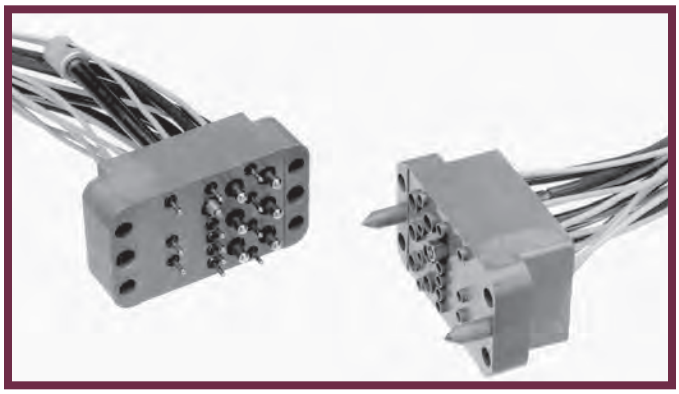
POSITRONIC INDUSTRIES

offers . . .

BMP CONNECTORS for High Voltage / High Current and certain "Hot Swap" Applications

Positronic Industries is pleased to present the BMP connector which is designed as a power interface connector for high voltage/high current applications. This connector is offered with four standard mounting options which allow for cable-to-cable and cable-to-panel connections.

The BMP connector features Positronic's "Large Surface Area Contact Mating System," with high reliability "Closed Entry" design female contacts. The BMP connector is also designed with raised bosses on the insulator which improve high voltage capabilities and prevent accidental Operator exposure to live contacts. Polarization and blind mating capabilities are options designed into the insulator of the BMP connector.



Contacts for the BMP connectors are sold separately. The standard contacts for BMP connectors are Size 8 and Size 16 crimp or solder removable contacts. Contact combinations can handle 8 to 24 AWG size wire. Size 16 contacts are rated for 25 amperes per contact and Size 8 contacts are rated for up to 40 amperes per contact. Coaxial contacts are also available; consult the Factory for special ordering information.

Positronic Industries offers a full range of crimp tools for use with the BMP crimp contacts. Consult Positronic's Heavy-Duty Rectangular Connector Catalog or the Factory for additional tooling information.

Other combinations of power and signal contacts are available on special order to satisfy special customer requirements.

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator: Glass filled polyester, UL 94V-0.

Contacts: Precision machined copper alloy with 0.000010 inch (0.25 microns) gold over nickel, or 0.000030 inch (0,8 microns) gold over nickel.

Hood: Aluminium, yellow anodize.

Shell: Aluminium, yellow anodize.

Mounting Plate: Aluminium, yellow anodize.

ELECTRICAL CHARACTERISTICS:

Connector Contact Current Rating: See inside for Performance Curves.

Size 16 Contact: 15 amperes nominal continuous, derated per IEC 512-3, Test 5b.

Size 8 Contact: 40 amperes nominal continuous, derated per IEC 512-3, Test 5b. "Hot Swap" for certain applications.

Initial Contact Resistance:

Size 16 Contact: 0.003 ohms max., per IEC 512-2, Test 2b.

Size 8 Contact: 0.005 ohms max., per IEC 512-2, Test 2b.

Insulation Resistance: 5 G ohms per IEC 512-2, Test 3a, Method A.

Voltage Proof: 2000 Vrms per IEC 512-2, Test 4a, Method C.

Creepage Distance: 0.157 inch (4 mm) minimum.

Clearance Distance: 0.125 inch (3,2 mm) minimum.

Working Temperature: -55°C to +125°C.

Working Voltage: Designed to meet UL 600VAC and CSA 600VAC.

MECHANICAL CHARACTERISTICS:

Removable Contacts: Insert contact to rear face of insulator; release from front face of insulator.

Size 16 Contact: Male contact has a 0.062 inch (1,57 mm) diameter. Female contact has "closed entry" design for highest reliability and current carrying capacity.

Size 8 Contact: Male contact has a 0.142 inch (3,61 mm) diameter. Female contact has "closed entry" design for highest reliability and current carrying capacity.

Contact Retention in Insulator:

Size 16 Contact: 15 lbs. (67N) per IEC 512-8, Test 15a.

Size 8 Contact: 22 lbs. (98N) per IEC 512-8, Test 15a.

Contact Terminations: Crimp or solder removable contacts. Size 8 contacts for wire sizes 8 to 16 AWG. Size 16 contacts for wire sizes 12 - 24 AWG. Straight dip solder printed board mount contacts optional, with 0.062 inch (1,57 mm) diameter for Size 16 contacts and 0.125 inch (3,18 mm) diameter for Size 8 contacts.

Contact Insertion and Withdrawal Forces:

Size 16 Contact: 8 oz. (2,2 N) nominal per contact.

Size 8 Contact: 40 oz. (11N) nominal per contact.

Locking System: Jackscrews.

Polarizations: Provided in insulator design and polarized shell.

Mechanical Operations: 500 operations per IEC 512-5.

Blind Mating: Provided in insulator design, optional.

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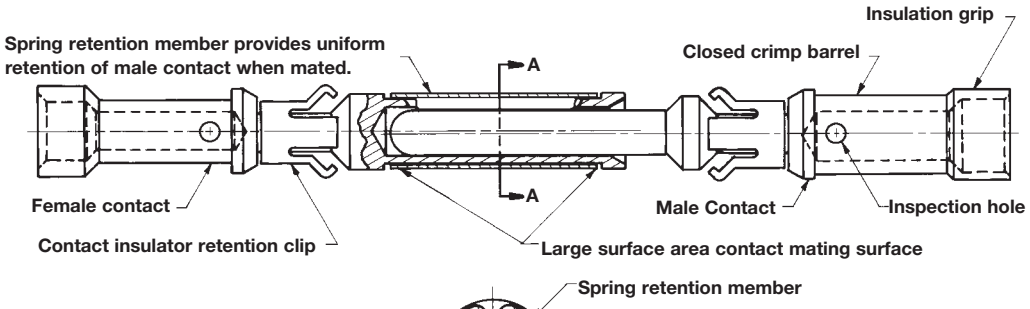
BMP SERIES CONTACTS

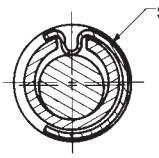
"LARGE SURFACE AREA CONTACT MATING SYSTEM"

HIGH RELIABILITY "CLOSED ENTRY" DESIGN

PRECISION MACHINED SOLID COPPER ALLOY

SIZE 16 CONTACTS





SECTION A - A
ENLARGED

All contacts of the **BMP-Series** connector family utilize the "Large Surface Area (L.S.A.) Contact Mating System." The "L.S.A. Contact Mating System" insures the lowest level of contact resistance during mechanical endurance tests of 500 coupling cycles or more. Contact insertion/withdrawal forces remain substantially the same during the life of the connector.

The **BMP-Series** connectors use only "Closed Entry" design female contacts. The "Closed Entry" design prevents probe damage to the female contacts, and will not allow the female contact to accept misaligned or bent male contacts.

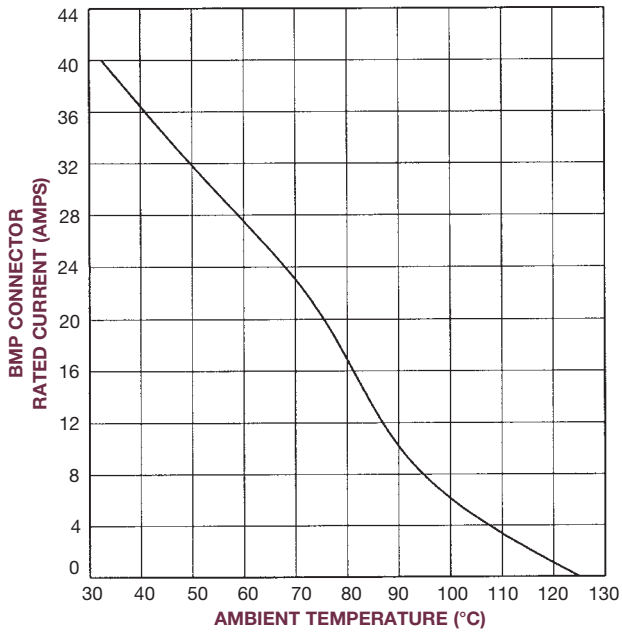
All **BMP-Series** contacts are precision machined from solid copper alloy barstock. They are durable, smooth in construction, and have greater amperage capacities than hollow, sheet metal style contacts.

The **BMP-Series** contact, having a large contact surface area, produces less heat at the contact surface, thereby permitting the connector to operate at high amperage levels continuously, and still maintain lower connector temperatures.

BMP 18W6 MATED CONNECTORS

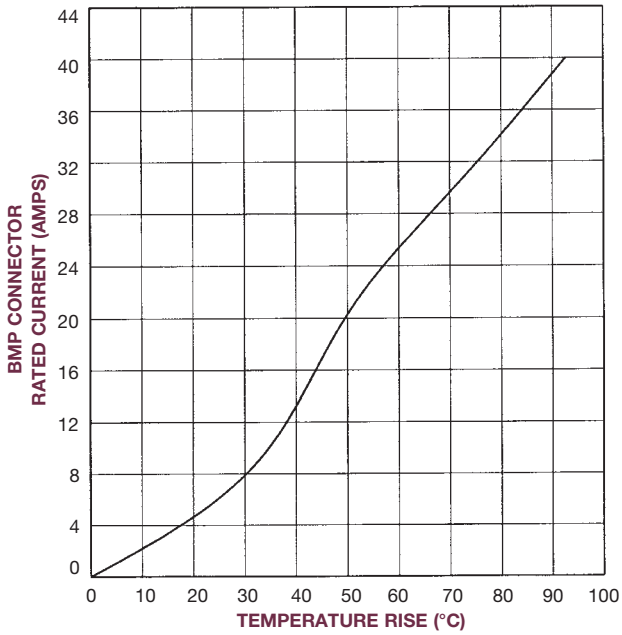
CURRENT-TEMPERATURE DERATING CURVE

SIZE 16 AND SIZE 8 CONTACTS UNDER LOAD
(TESTED PER IEC PUBLICATION 512-3, TEST 5b)



TEMPERATURE RISE CURVE

SIZE 16 AND SIZE 8 CONTACTS UNDER LOAD
(TESTED PER IEC PUBLICATION 512-3, TEST 5a)



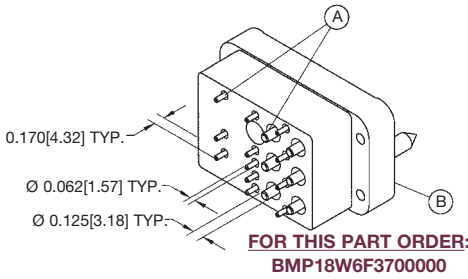
The curves shown above were developed using twelve (12) Size 16 MC116N and FC116N2 contacts with 16 AWG (1.5 mm^2) size wire, and six (6) Size 8 MC4008D-858.2 and FC4008D contacts with 10 AWG (6 mm^2) size wire. Current was applied through two separate circuits; 15 amperes was maintained through the Size 16 MC116N and FC116N2 contacts and allowed to thermally stabilize while current through the Size 8 MC4008D-858.2 and FC4008D contacts was increased from 0 to 40 amperes.

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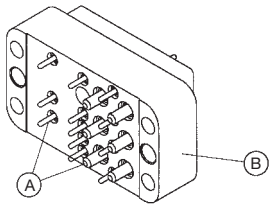
ORDERING INFORMATION FO

BMP connectors are offered in four mounting styles. Schematic 1 shows the BMP connector with no m mount option with a cable support (hood) while Schematic 4 details a jackscrew option. Use the indicated number charts shown elsewhere on this brochure. Contact the Factory for ordering information on speci

SCHEMATIC 1
Printed Board Mount Terminations

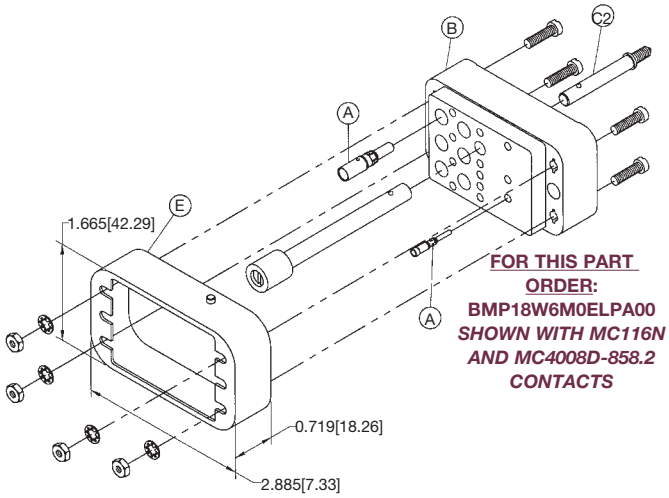


FOR THIS PART ORDER:
BMP18W6F3700000

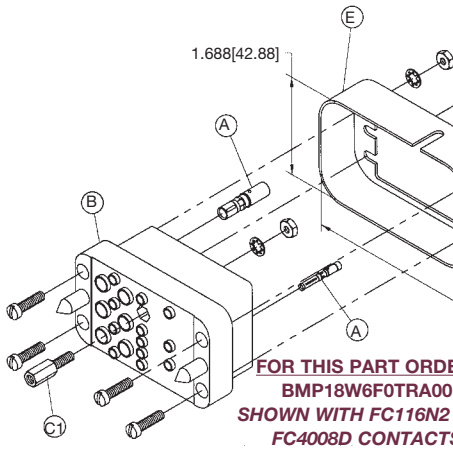


FOR THIS PART ORDER:
BMP18W6M3700000

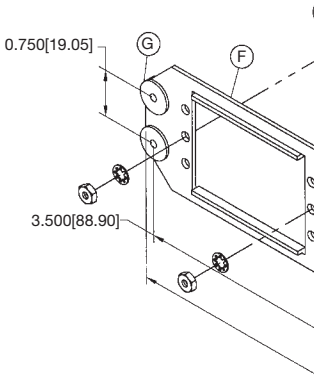
SCHEMATIC 2
Crimp Contact Terminations



FOR THIS PART ORDER:
BMP18W6M0ELPA00
SHOWN WITH MC116N AND MC4008D-858.2 CONTACTS



FOR THIS PART ORDE
BMP18W6F0TRA00
SHOWN WITH FC116N2
FC4008D CONTACTS



BMP SERIES COMPONENT DESCRIPTIONS	
ITEM	**DESCRIPTION**
A	Male and female contacts, Size 8 and 16. Terminations are crimp, solder, and printed board straight solder.
B	Male and female connector insulators. May be used as a free or fixed connector.
C1	Fixed jackscrews.
C2	Rotating jackscrews.
D	Hood (cable adapter) provides cable support.
E	Male and female shells (shrouds) protect contacts from damage. May also provide additional polarization combinations.
F	Mounting plate used to mount a fixed connector to a panel.
G	Float bushings.

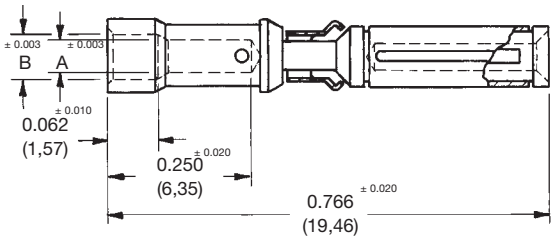
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BMP SERIES CONTACT ORDERING INFORMATION

NOTE: Contacts are not supplied with the BMP-series connectors and must be ordered separately.

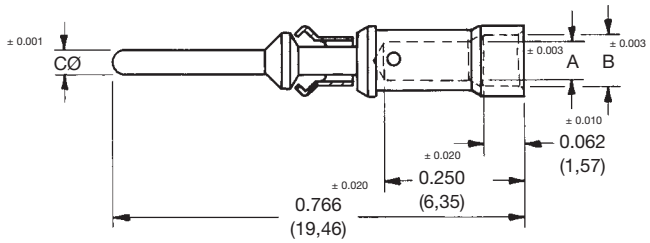
SIZE 16 CRIMP CONTACTS

* FEMALE CONTACT CLOSED ENTRY, L.S.A.



PART NUMBER	WIRE SIZE AWG/(mm²)	A	B	NOMINAL RATING
FC112N2	12 (4,0)	0.098 (2,49)		25 amp
FC114N2	14 - 16 (2,5 - 1,5)	0.081 (2,06)	0.105 (2,67)	25 amp
FC116N2	16 - 18 (1,5 - 1,0)	0.067 (1,70)	0.093 (2,36)	25 amp
FC120N2	20 - 22 - 24 (0,5 - 0,3 - 0,25)	0.045 (1,14)	0.065 (1,65)	25 amp

MALE CONTACT

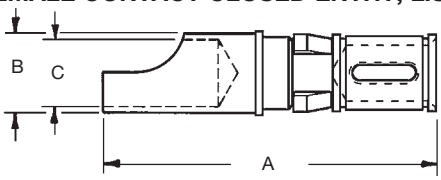


PART NUMBER	WIRE SIZE AWG/(mm²)	A	B	CØ	NOMINAL RATING
MC112N	12 (4,0)	0.098 (2,49)		0.0625 (1,588)	25 amp
MC114N	14 - 16 (2,5 - 1,5)	0.081 (2,06)	0.105 (2,67)	0.0625 (1,588)	25 amp
MC116N	16 - 18 (1,5 - 1,0)	0.067 (1,70)	0.093 (2,36)	0.0625 (1,588)	25 amp
MC120N	20 - 22 - 24 (0,5 - 0,3 - 0,25)	0.045 (1,14)	0.065 (1,65)	0.0625 (1,588)	25 amp

Material: Copper alloy.
Finish: 0.000010 (0,25 µ) gold over nickel or copper. 0.000030 (0,75 µ) gold over nickel available by adding -14 suffix onto part number. Example: FC120N2-14

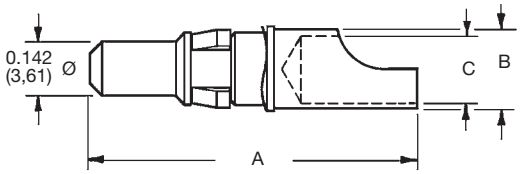
SIZE 8 REMOVABLE POWER SOLDER CONTACTS

* FEMALE CONTACT CLOSED ENTRY, L.S.A.



PART NO.	CURRENT RATING	WIRE SIZE	A REF.	B Ø	C Ø
FS4008D	40 AMPS	8	0.858 (21,79)	0.219 (5,56)	0.188 (4,78)
FS4012D	20 AMPS	12	0.858 (21,79)	0.143 (3,63)	0.112 (2,84)
FS4016D	10 AMPS	16	0.858 (21,79)	0.100 (2,54)	0.069 (1,75)

MALE CONTACT

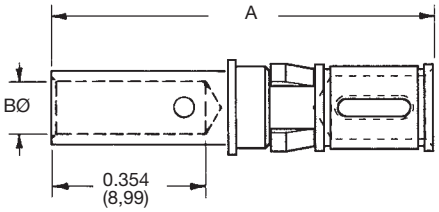


PART NO.	CURRENT RATING	WIRE SIZE	A REF.	B Ø	C Ø
MS4008D-858.1	40 AMPS	8	0.985 (25,02)	0.219 (5,56)	0.188 (4,78)
MS4012D-858.1	20 AMPS	12	0.985 (25,02)	0.143 (3,63)	0.112 (2,84)
MS4016D-858.1	10 AMPS	16	0.985 (25,02)	0.100 (2,54)	0.069 (1,75)

Material: High conductivity copper alloy.
Finish: Gold flash over nickel.

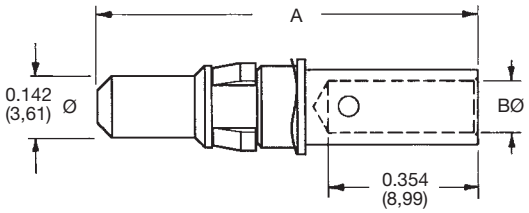
SIZE 8 REMOVABLE POWER CRIMP CONTACTS

* FEMALE CONTACT CLOSED ENTRY, L.S.A.



PART NO.	CURRENT RATING	WIRE SIZE	A	B Ø
FC4008D	40 AMPS	8	0.858 (21,79)	0.181 (4,60)
FC4012D	20 AMPS	12	0.858 (21,79)	0.101 (2,57)
FC4016D	10 AMPS	16	0.858 (21,79)	0.067 (1,70)

MALE CONTACT



PART NO.	CURRENT RATING	WIRE SIZE	A	B Ø
MC4008D-858.2	40 AMPS	8	0.985 (25,02)	0.181 (4,60)
MC4012D-858.2	20 AMPS	12	0.985 (25,02)	0.101 (2,57)
MC4016D-858.2	10 AMPS	16	0.985 (25,02)	0.067 (1,70)

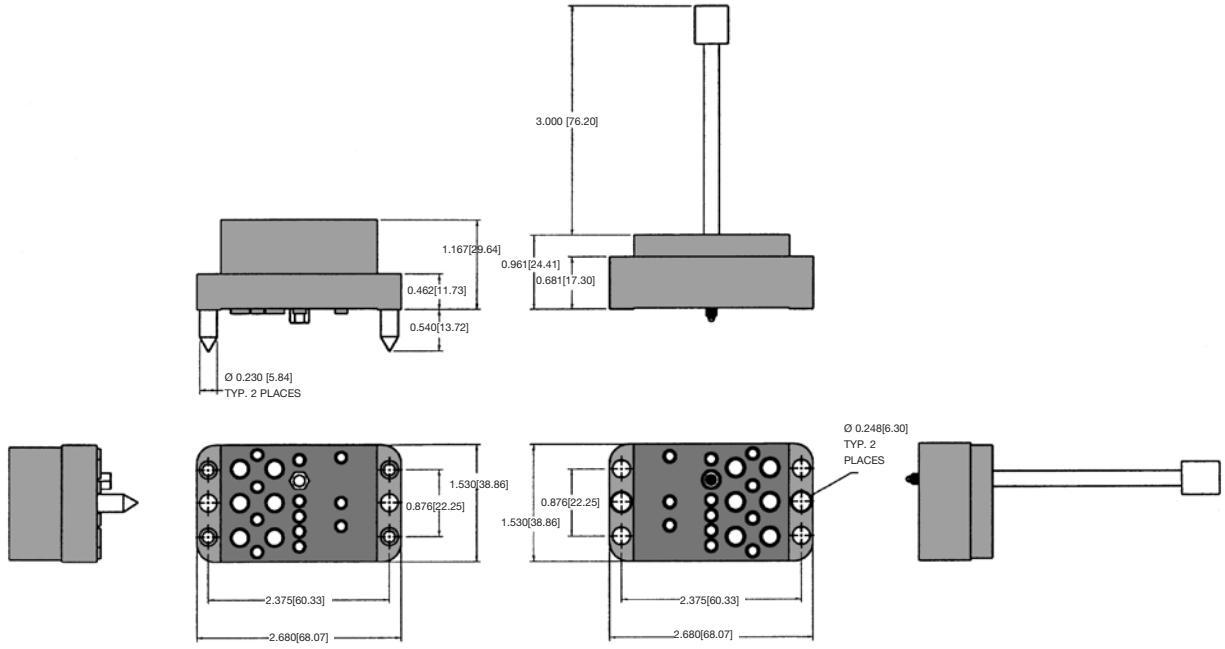
Material: High conductivity copper alloy.
Finish: Gold flash over nickel.

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

***NOTE: Female contacts feature Large Surface Area (L.S.A.) closed entry contact design which provides maximum mating surfaces between male and female contact and reduced contact resistance during operation.**

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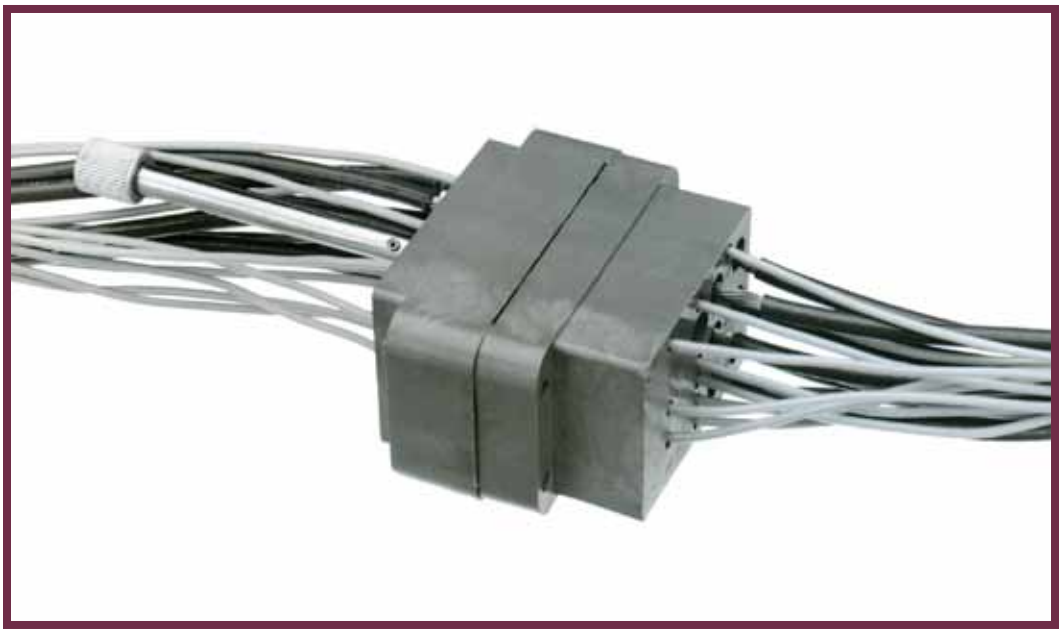
BMP CONNECTOR DIMENSIONS



TYPICAL
PART NUMBER:
BMP18W6F0T0000

TYPICAL
PART NUMBER:
BMP18W6M0EL0000

Positronic Industries, Inc. believes the data contained herein to be reliable. Since the technical information is given free of charge, the User employs such information at his or her own discretion and risk. Positronic Industries, Inc. assumes no responsibility for results obtained or damages incurred from use of such information in whole or part.



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