

**Size 20 Removable Signal and
Thermocouple Crimp Contacts**

**Size 8 Removable Power, Shielded,
Air and High Voltage Contacts**

DSCC 85039

IEC 60807-3

UL Recognized
File #E49351

CSA Recognized
File #LR54219

Telecommunication UL File #E140980



CBC series connectors offer professional, industrial and military performance levels. Connectors are designed for use in sheltered, mildly corrosive environments having a wide range of temperature, pressure and humidity changes. CBC series connectors offer mixed crimp-removable contact combinations of power, shielded, air, high voltage, signal, and thermocouple contacts within the same connector body. Refer to size 8 removable contacts power, shielded, air and high voltage section, pages 68-80 for technical characteristics. Sixteen connector variants are offered in six standard shell sizes.

A wide assortment of cable support hoods and locking systems is available from stock.

CBC series connectors also offer a Blind Mating connector system for applications requiring connector couplings in recessed areas or for mobile power coupling systems.

CBC series connectors utilize precision machined contacts and they meet the applicable performance and dimensional requirements of IEC 60807-3, Performance Levels One and Two, DSCC 85039 and MIL-DTL-24308.

Connectors Designed To Customer Specifications

Positronic Combo-D connectors can be modified to customers specifications.

Examples: select loading of contacts for cost savings or to gain creepage and clearance distances; longer PCB terminations; customer specified hardware; sealing for water resistance.

Contact Technical Sales with your particular requirements.



Positronic
connectpositronic.com

PROFESSIONAL, INDUSTRIAL AND MILITARY QUALITY THREE PERFORMANCE LEVELS FOR BEST COST/PERFORMANCE RATIO STANDARD DENSITY CRIMP REMOVABLE CONTACTS

Combo-D
D-Sub

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Glass filled polyester per ASTM D 5927, UL 94V-0, blue color.
Contacts:	Precision machined copper alloy.
<u>SIGNAL:</u>	Gold flash over nickel plate and gold 0.000050 [1.27μ] over nickel plate. Other finishes available upon request, see page 81.
<u>POWER:</u>	Gold flash over nickel. Other finishes available upon request, see page 81.
<u>SHIELDED:</u>	For contact platings, see page 68.
<u>HIGH VOLTAGE:</u>	For contact platings, see page 68.
Shells:	Steel with tin plate; zinc plate with chromate seal; stainless steel passivated. Other materials and finishes available upon request.
Mounting Spacers:	Nylon; copper alloy or steel with zinc plate and chromate seal or tin plate; phosphor bronze with tin plate; stainless steel, passivated.
Jackscrew Systems:	Brass or steel with zinc plate and chromate seal or clear zinc plate or tin plate; stainless steel, passivated.
Hoods:	Composite and plastic UL94V-0; brass or steel with zinc plate and chromate seal. Aluminum; aluminum with electroless nickel plate. For aluminum hoods, zinc content is 1% maximum. Die cast zinc.

Non-magnetic versions are available, contact Technical Sales.

MECHANICAL CHARACTERISTICS:

Signal Contacts, Crimp Removable:	Size 20 contacts, male – 0.040 inch [1.02mm] mating diameter; Female rugged open entry or PosiBand closed entry contact design, see page 69 for details.
Contact Retention In Insulator:	Signal: 9 lbs. [40N]. Power, shielded and high voltage: 22 lbs. [98N]
Crimp Contact Terminations:	Closed barrel crimp, wire sizes 18 AWG [1.0mm ²] through 30 AWG [0.05 mm ²]
Power Contacts, Removable, Crimp or Solder Termination:	Size 8 contacts, male – 0.142 inch [3.61mm] mating diameter. Terminations for 6, 8, 10, 12, and 16 AWG. Female contact features Large Surface Area (L.S.A.) closed entry contact design utilizing BeCu mechanical retention member. Closed crimp barrel.
Shielded Contacts, Removable:	See table of cable sizes for contact termination dimensions, page 78.
High Voltage Contacts:	Straight and right angle (90°) terminations – 0.041 inch [1.04mm] min. hole diameter.

Shells:

Male shells may be dimpled for EMI/ESD ground paths.

Polarization:

Trapezoidally shaped shells and polarized jackscrews.

Locking Systems:

Jackscrews and vibration locking systems.

Mechanical Operations:

500 operations for open entry contact, 1000 operations for PosiBand closed entry contact with 0.000050 [1.27μ] gold plating. Per IEC 60512-5.

ELECTRICAL CHARACTERISTICS:

SIZE 20 CONTACTS

Contact Current Rating:	7.5 amperes nominal.
Initial Contact Resistance:	0.008 ohms maximum.
Proof Voltage:	1000 V r.m.s.

SIZE 8 CONTACTS

POWER CONTACTS

For electrical characteristics, see page 4.

SHIELDED CONTACTS

For electrical characteristics, see page 69.

HIGH VOLTAGE CONTACTS

For electrical characteristics, see page 69.

CONNECTOR

Insulation Resistance:	5 G ohms.
Clearance and Creepage Distance:	0.039 [1.0mm] minimum.
Working Voltage:	300 V r.m.s.

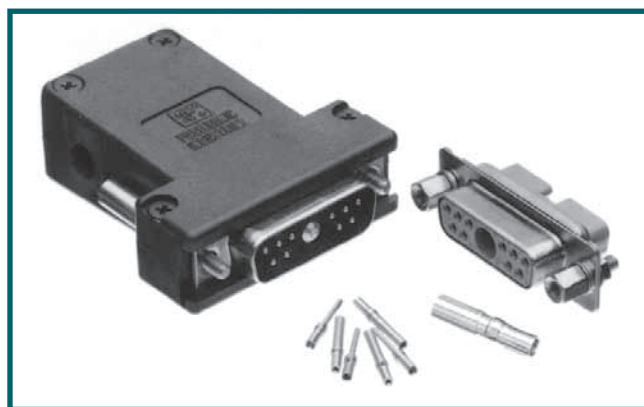
CLIMATIC CHARACTERISTICS:

Temperature Range:	-55°C to +125°C.
Damp Heat, Steady State:	10 days.

THERMOCOUPLE CONTACTS:

Size 20 crimp contacts are available. See page 74 for details.

PCB mount contacts are available in CBD/CBM series, see page 4 for details.



**CBC11W1M10Z00
WITH MS4012D CONTACT**

**CBC11W1S100T20
WITH FC4008D CONTACT**

*1 CONTACT VARIANTS

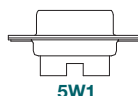
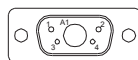
FACE VIEW OF MALE OR REAR VIEW OF FEMALE

NOTES:

- *1 Additional contact variants may be tooled at customer request.
- *2 13W6 and 27W2 variant currently available in female only. Contact Technical Sales for availability of male connector.

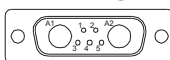
Note: Connectors can be kitted with all applicable removable contacts, contact Technical Sales for connector part number.

— SHELL SIZE 1 —

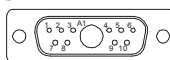


5W1

— SHELL SIZE 2 —

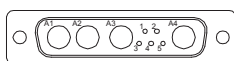


7W2

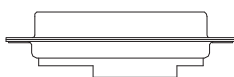
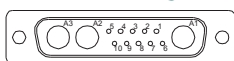


11W1

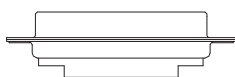
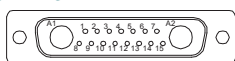
— SHELL SIZE 3 —



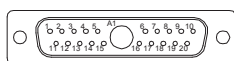
9W4



13W3

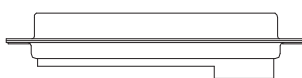
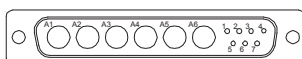


17W2

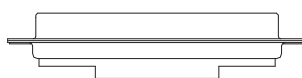
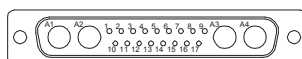


21W1

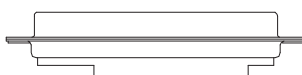
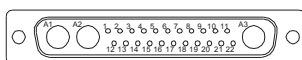
— SHELL SIZE 4 —



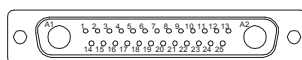
*2 13W6



21WA4

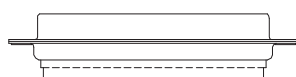
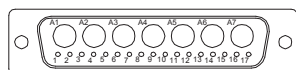


25W3

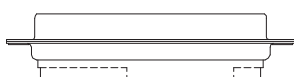
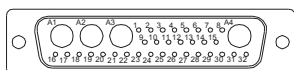


*2 27W2

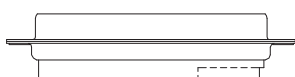
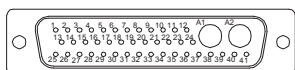
— SHELL SIZE 5 —



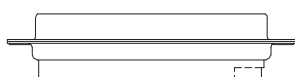
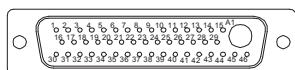
24W7



36W4

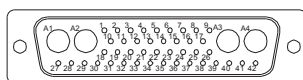


43W2



47W1

— SHELL SIZE 6 —



46W4

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



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PROFESSIONAL, INDUSTRIAL AND MILITARY QUALITY
THREE PERFORMANCE LEVELS FOR BEST COST/PERFORMANCE RATIO
STANDARD DENSITY CRIMP REMOVABLE CONTACTS

Combo-D
D-Sub

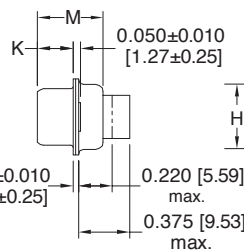
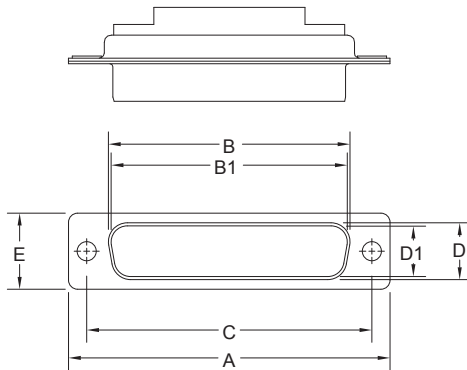
STANDARD SHELL ASSEMBLY



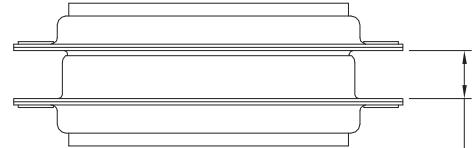
CBC7W2S00000

CBC17W2M00000

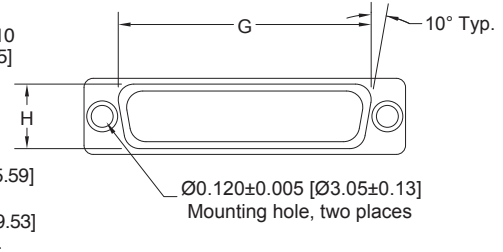
TYPICAL CONNECTOR TOP VIEW



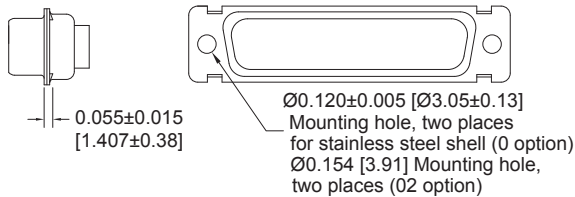
RECOMMENDED MATING DIMENSIONS



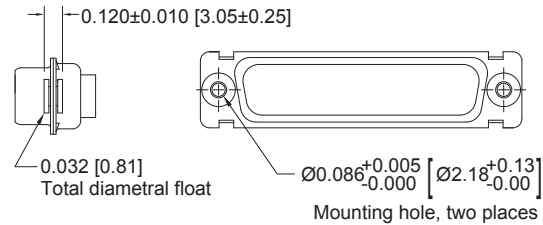
Shell Sizes 1 & 2 =
0.265±0.015 [6.73±0.38]
Shell Sizes 3, 4, 5 & 6 =
0.256±0.015 [6.50±0.38]



OPTIONAL SHELL ASSEMBLY (0, 02)



**OPTIONAL SHELL ASSEMBLY
WITH UNIVERSAL FLOAT MOUNTS (F)**



SHELL SIZES	A ±0.015 [0.38]	B ±0.005 [0.13]	B1 ±0.005 [0.13]	C ±0.005 [0.13]	D ±0.005 [0.13]	D1 ±0.005 [0.13]	E ±0.015 [0.38]	G ±0.010 [0.25]	H ±0.010 [0.25]	K ±0.005 [0.13]	M ±0.010 [0.25]
SHELL SIZE 1 MALE	1.213 [30.81]		0.666 [16.92]	0.984 [24.99]		0.329 [8.36]	0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
SHELL SIZE 1 FEMALE	1.213 [30.81]	0.643 [16.33]		0.984 [24.99]	0.311 [7.90]		0.494 [12.55]	0.759 [19.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SHELL SIZE 2 MALE	1.541 [39.14]		0.994 [25.25]	1.312 [33.32]		0.329 [8.36]	0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.233 [5.92]	0.422 [10.72]
SHELL SIZE 2 FEMALE	1.541 [39.14]	0.971 [24.66]		1.312 [33.32]	0.311 [7.90]		0.494 [12.55]	1.083 [27.51]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SHELL SIZE 3 MALE	2.088 [53.04]		1.534 [38.96]	1.852 [47.04]		0.329 [8.36]	0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
SHELL SIZE 3 FEMALE	2.088 [53.04]	1.511 [38.38]		1.852 [47.04]	0.311 [7.90]		0.494 [12.55]	1.625 [41.28]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SHELL SIZE 4 MALE	2.729 [69.32]		2.182 [55.42]	2.500 [63.50]		0.329 [8.36]	0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.230 [5.84]	0.426 [10.82]
SHELL SIZE 4 FEMALE	2.729 [69.32]	2.159 [54.84]		2.500 [63.50]	0.311 [7.90]		0.494 [12.55]	2.272 [57.71]	0.422 [10.72]	0.243 [6.17]	0.429 [10.90]
SHELL SIZE 5 MALE	2.635 [66.93]		2.079 [52.81]	2.406 [61.11]		0.441 [11.20]	0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.230 [5.84]	0.426 [10.82]
SHELL SIZE 5 FEMALE	2.635 [66.93]	2.064 [52.43]		2.406 [61.11]	0.423 [10.74]		0.605 [15.37]	2.178 [55.32]	0.534 [13.56]	0.243 [6.17]	0.429 [10.90]
SHELL SIZE 6 MALE	2.729 [69.32]		2.212 [56.18]	2.500 [63.50]		0.503 [12.78]	0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.230 [5.84]	0.426 [10.82]
SHELL SIZE 6 FEMALE	2.729 [69.32]	2.189 [55.60]		2.500 [63.50]	0.485 [12.32]		0.668 [16.97]	2.302 [58.47]	0.596 [15.14]	0.243 [6.17]	0.429 [10.90]

DIMENSIONS ARE IN INCHES [MILLIMETERS].
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ORDERING INFORMATION - CODE NUMBERING SYSTEM

Specify Complete Connector By Selecting An Option From Step 1 Through 8

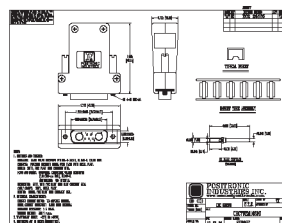
STEP	1	2	3	4	5	6	7	8	9	10
EXAMPLE	CBC	7W2	M	1	0	Z	0	0	/AA	-14
STEP 1 - BASIC SERIES CBC Series										*2 STEP 10 - SPECIAL OPTIONS FOR SPECIAL OPTIONS, SEE SPECIAL OPTIONS APPENDIX ON PAGE 81.
STEP 2 - CONNECTOR VARIANTS Shell Size 1 5W1 Shell Size 2 7W2, 11W1 Shell Size 3 9W4, 13W3, 17W2, 21W1 Shell Size 4 *113W6, 21WA4, 25W3, *127W2 Shell Size 5 24W7, 36W4, 43W2, 47W1 Shell Size 6 46W4										STEP 9 - ENVIRONMENTAL COMPLIANCE OPTIONS /AA - RoHS Compliant NOTE: If compliance to environmental legislation is not required, this step will not be used. Example: CBC7W2M10Z00
STEP 3 - CONNECTOR GENDER M - Male S - Female - Industrial or Military Level PosiBand Closed Entry Signal Contacts Professional Level female open entry contacts are available and can be ordered separately, see page 73.										STEP 8 - SHELL OPTIONS 0 - Zinc Plated, with Chromate Seal. *4 S - Stainless Steel, passivated. X - Tin Plated. Z - Tin Plated and Dimpled (male connectors only)
STEP 4 - CONTACT TERMINATION TYPE 0 - Connector ordered without contacts. Order signal, power, shielded, high voltage, air and thermocouple contacts separately. See pages 68-80 for contact part numbers. 1 - Signal contacts, 20 AWG-24 AWG [0.5mm ² -0.25mm ²]. 11 - Signal contacts, 20 AWG-24 AWG [0.5mm ² -0.25mm ²] with MC/FC 4012D Power Contact. 12 - Signal contacts, 20 AWG-24 AWG [0.5mm ² -0.25mm ²] with MC/FC 4016D power contact. 13 - Signal contacts, 20 AWG-24 AWG [0.5mm ² -0.25mm ²] with MCC/FCC 4101D shielded contacts. 14 - Signal contacts, 20 AWG-24 AWG [0.5mm ² -0.25mm ²] with MCC/FCC 4102D shielded contacts.										*2 STEP 7 - LOCKING AND POLARIZING SYSTEMS 0 - None. V3 - Lock Tab, connector front panel mounted. V5 - Lock Tab, connector rear panel mounted. VL - Lock Lever, used with Hoods only. T - Fixed Female Jackscrews. T2 - Fixed Female Jackscrews. T6 - Fixed Male and Female Polarized Jackscrews. E - Rotating Male Jackscrews. E2 - Rotating Male Screw Locks. E3 - Rotating Male with Internal Hex for 3/32 Hex Drives E6 - Rotating Male and Female Polarized Jackscrews.
*2 STEP 5 - MOUNTING STYLE 0 - Mounting Hole, 0.120 [3.05] Ø 02 - Mounting Hole, 0.154 [3.91] Ø F - Float Mounts, Universal S2 - Swaged Spacer, 4-40 Threads, 0.125 [3.18] Length S5 - Swaged Locknut, 4-40 Threads										*2 STEP 6 - HOODS 0 - None H - Hood, Top Opening, Metal, shell sizes 2 through 5 AN - Lightweight Aluminum Hood, nickel finish. AC - Lightweight Aluminum Hood, no finish. *3 G - Hood, EMI/RFI, Die Cast Zinc, shell sizes 1 through 6 Z - Hood, Top or Side Opening, robust extended height, plastic and composite, with rotating jackscrews, shell sizes 1 through 5

NOTES

- *1 Connector variant 13W6 and 27W2 are currently available in female only, contact Technical Sales for availability of male connector.
- *2 For additional information on accessories listed in steps 5, 6, 7 and 10, see Accessory Catalog.
- *3 When using G hood with CBC variants, use the extended height hood. See Accessories Catalog for extended G hood options.
- *4 For stainless steel dimpled male versions, contact Technical Sales.

For crimping information and crimp tools, see Application Tools section, page 82.

NOTE: If you would like a 2D drawing or 3D model, once you've made your connector selection, please visit www.connectpositronic.com. If you can't find your specific part number on our web site, contact Technical Sales to have one created.



2D Drawing



3D Model



REMOVABLE CONTACT TECHNICAL CHARACTERISTICS

SIZE 22 REMOVABLE CONTACT

MATERIALS AND FINISHES:

Precision machined copper alloy with gold flash over nickel. Other finishes are available, see pages 69 and 81 for optional finishes.

MECHANICAL CHARACTERISTICS:

Insert contact to rear face of insulator, release from rear face of insulator. Size 22 contacts, 0.030 inch [0.76 mm] mating diameter male contacts. Female PosiBand closed entry contact design. Terminations for 20, 22, 24, 26, 28, and 30 AWG. Closed barrel crimp.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating: 5 amperes nominal.
Initial Contact Resistance: 0.010 ohms maximum.

THERMOCOUPLE CONTACTS:

Straight and right angle (90°) PCB mount contacts are available, contact Technical Sales for details.

Size 22 crimp contacts are available, see page 71 for details.

SIZE 20 REMOVABLE CONTACT

MATERIALS AND FINISHES:

Precision machined copper alloy with gold flash over nickel. Other finishes are available, see pages 69 and 81 for optional finishes.

MECHANICAL CHARACTERISTICS:

Insert contact to rear face of insulator, release from rear face of insulator. Size 20 contacts, 0.040 inch [1.02 mm] mating diameter male contacts. Female PosiBand closed entry or rugged open entry contact design.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating: 7.5 amperes nominal.
Initial Contact Resistance: 0.008 ohms max. per IEC 60512-2, test 2b.

THERMOCOUPLE CONTACTS:

Straight and right angle (90°) PCB mount contacts are available, contact Technical Sales for details.

Size 20 crimp contacts are available, see page 74 for details.

SIZE 16 REMOVABLE CONTACT

MATERIALS AND FINISHES:

STANDARD: Precision machined copper alloy with gold flash over nickel. Other finishes are available, see pages 69 and 81 for optional finishes.

HIGH CONDUCTIVITY: High conductivity copper alloy, gold flash over nickel. Other finishes are available, see pages 69 and 81 for optional finishes.

MECHANICAL CHARACTERISTICS:

STANDARD AND

HIGH CONDUCTIVITY: Insert contact to rear face of insulator, release from front face of insulator. Size 16 contacts, 0.0625 inch [1.588mm] mating

diameter male contacts. Female PosiBand closed entry contact design. Terminations for 12, 14, 16, 18, 20, 22, 24, 26, and 28 AWG.

ELECTRICAL CHARACTERISTICS:

Contact Current Rating - Tested per UL 1977:

Standard Contact Material: 28 amperes.

High Conductivity Contact Material: 40 amperes.

See Temperature Rise Curves on page 2 for details.

Initial Contact Resistance:

Standard Contact Material: 0.0016 ohms max. Per IEC 60512-2, Test 2b.

High Conductivity Contact Material: 0.001 ohms max. Per IEC 60512-2, Test 2b.

SIZE 8 REMOVABLE CONTACT

MATERIALS AND FINISHES:

STANDARD: Precision machined copper alloy with gold flash over nickel. Other finishes are available, see pages 69 and 81 for optional finishes.

HIGH CONDUCTIVITY: High conductivity copper alloy, gold flash over nickel. Other finishes are available, see pages 69 and 81 for optional finishes.

HIGH VOLTAGE:

Insulator Material: PTFE teflon

Contacts: Precision machined copper alloy with 0.000030 inch [0.76μ] gold over nickel. Other finishes are available, see pages 69 and 81 for optional finishes.

SHIELDED:

Dielectric Material: PTFE teflon

Inner Contacts: Precision machined copper alloy with 0.000030 inch [0.76μ] gold over nickel. Other finishes are available, see pages 69 and 81 for optional finishes.

Outer Contacts: Precision machined copper alloy with gold flash over nickel. Other finishes are available, see pages 69 and 81 for optional finishes.

AIR LINE COUPLER: Stainless steel, see page 80.

MECHANICAL CHARACTERISTICS:

STANDARD AND

HIGH CONDUCTIVITY: Insert contact to rear face of insulator, release from front face of insulator. Size 8 contacts, 0.142 inch [3.61 mm] mating diameter male contacts, closed entry female contacts.

HIGH VOLTAGE:

Insert contact to rear face of insulator, release from front face of insulator. Size 8 contacts. Straight and right angle (90°) terminations. 0.041 inch [1.04 mm] minimum hole diameter.

Durability: 500 cycles minimum.

Vibration: 20g from 10 Hz to 500 Hz.

Shock: 30g-11ms.

... continued on next page

For information regarding crimp tool and crimping tool techniques, see Application Tools section, page 82.



REMOVABLE CONTACT TECHNICAL CHARACTERISTICS

continued from previous page . . .

MECHANICAL CHARACTERISTICS, continued:

SHIELDED: Insert contact to rear face of insulator, release from front face of insulator. Size 8 contacts. See page 78 table of cable sizes for contact termination dimensions.

Durability: 500 cycles minimum.
Vibration: 20g from 10 Hz to 500 Hz.
Shock: 30g-11ms.

AIR LINE COUPLER: Insert contact to rear face of insulator, release from front face of insulator.

ELECTRICAL CHARACTERISTICS:

POWER CONTACTS:

For electrical characteristics, see page 4.

HIGH VOLTAGE:

Flash over Voltage: 3600 V r.m.s.
Proof Voltage: 2700 V r.m.s.
Initial Contact Resistance: 0.008 ohms maximum.

SHIELDED:

Initial Contact Resistance: 0.008 ohms maximum.
Nominal Impedance: 50 ohms.
Insertion Loss: -0.46 dB at 1 GHz

VSWR:

-1.5 dB at 2 GHz
1.15 average at 1 GHz
1.56 average at 2 GHz

Above values measured using frequency domain techniques.

Proof Voltage:

1000 V r.m.s.

OPTIONAL PLATING FINISHES

-14 0.000030 [0.76 μ] gold over nickel by adding "-14" suffix onto part number. Example: FC120N4-14.

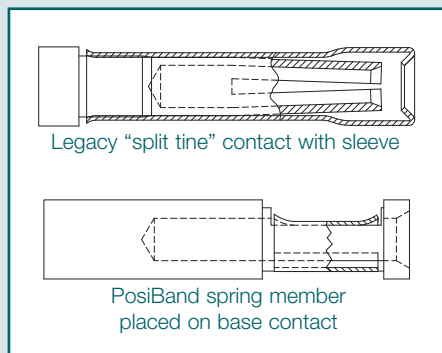
-15 0.000050 inch [1.27 μ] gold over nickel by adding "-15". Example: FC120N4-15.

RoHS OPTIONS:

/AA

Environmental Compliance Option: RoHS compliant can be achieved by adding "/AA" suffix onto part number. Examples: FC120N4/AA or for optional finishes use FC120N4/AA-14.

What makes Positronic's PosiBand® contact interface significant?



- ✓ Higher reliability in harsh environments and repeated mating cycles.
- ✓ PosiBand crimp contacts do not need to be annealed. Split tine D-subminiature contacts are commonly annealed at the crimp barrel, with the possibility of reliability problems at the contact interface if the annealing is performed incorrectly.
- ✓ Electrical and mechanical function of the contact interface are separated since the PosiBand contact is a two-piece design. Contact normal force is provided by the "Posiband spring member", which allows higher mechanical reliability. The

electrical continuity path is supported through the base contact, which allows a greater number of electrical paths on a "micro" level when compared to split tine contact design.

- ✓ Higher reliability at prices comparable to the "split tine" design.
- ✓ PosiBand is protected by US Patent 7,115,002.

For a detailed white paper visit: www.connectpositronic.com/posiband

For information regarding crimp tool and crimping tool techniques, see Application Tools section, page 82.

MILITARY LEVEL REMOVABLE CRIMP SIGNAL CONTACT

FOR USE WITH CBC SERIES CONNECTORS

SIZE 20

QUALIFIED TO AS39029

*MILITARY SPECIFICATION CONTACTS

STANDARD FINISH:

0.000050 inch [1.27μ] gold over nickel

COLOR CODE:

MALE CONTACT:

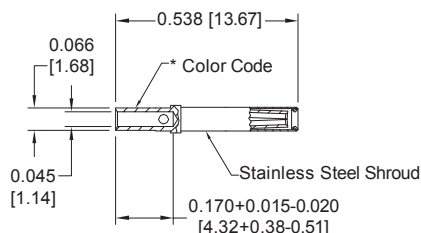
ORANGE/BLUE/WHITE

FEMALE CONTACT:

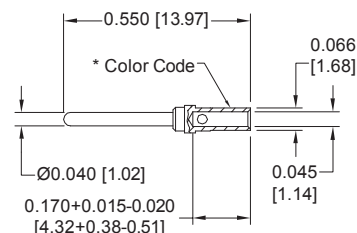
ORANGE/BLUE/GRAY

FEMALE CONTACT

"CLOSED ENTRY" DESIGN



MALE CONTACT



Note: Connectors can be kitted with all applicable removable contacts, contact Technical Sales for connector part number.

FEMALE PART NUMBER	WIRE SIZE AWG [mm ²]
*M39029/63-368	20 / 22 / 24 [0.5/0.3/0.25]

Positronic is qualified to supply the legacy design, as well as, the PosiBand design. If the requirement is for the PosiBand design exclusively, notify sales at time of quotation for order placement when requesting M39029 contacts.

MALE PART NUMBER	WIRE SIZE AWG [mm ²]
*M39029/64-369	20 / 22 / 24 [0.5/0.3/0.25]

INDUSTRIAL / MILITARY LEVEL REMOVABLE CRIMP SIGNAL CONTACT

FOR USE WITH CBC SERIES CONNECTORS

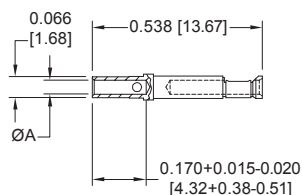
SIZE 20



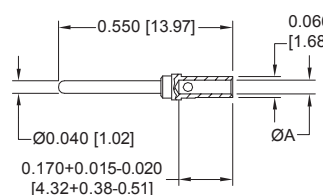
Note: Connectors can be kitted with all applicable removable contacts, contact Technical Sales for connector part number.

FEMALE CONTACT

"CLOSED ENTRY" DESIGN



MALE CONTACT



FEMALE PART NUMBER	WIRE SIZE AWG [mm ²]	ØA
FC6020D2	20 / 22 / 24 [0.5/0.3/0.25]	0.045 [1.14]
FC6026D2	26 / 28 / 30 [0.12/0.08/0.05]	0.027 [0.69]

MALE PART NUMBER	WIRE SIZE AWG [mm ²]	ØA
MC6020D	20 / 22 / 24 [0.5/0.3/0.25]	0.045 [1.14]
MC6026D	26 / 28 / 30 [0.12/0.08/0.05]	0.027 [0.69]

For information regarding crimp tool and crimping tool techniques, see Application Tools section, page 82.



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REMOVABLE CONTACTS

Combo-D
D-Sub

INDUSTRIAL / MILITARY LEVEL CRIMP SIGNAL CONTACT

FOR USE WITH CBC SERIES CONNECTORS

CONTACTS USED WITH 18 AWG WIRE

SIZE 20



Authentic Positronic®
PosiBand®

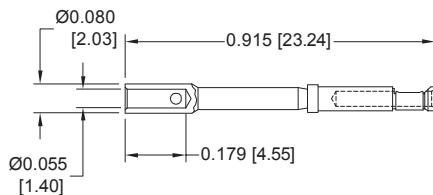
These contacts utilize authentic Positronic PosiBand® technology.
Protected by U.S. Patent 7,115,002

Note: Connectors can be kitted with all applicable crimp contacts, contact Technical Sales for connector part number.

The crimp area of these contacts is not protected when fully seated in the connector molding. These contacts require shrink tubing after installation. These contact cannot be removed from connector after installation. Not suitable for fully loaded connector.

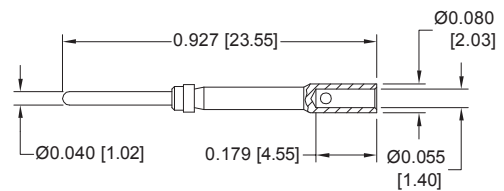
FEMALE CONTACT

"CLOSED ENTRY" DESIGN



FEMALE PART NUMBER	WIRE SIZE AWG [mm²]
FC6018D2	18 [1.0] max

MALE CONTACT



MALE PART NUMBER	WIRE SIZE AWG [mm²]
MC6018D	18 [1.0] max

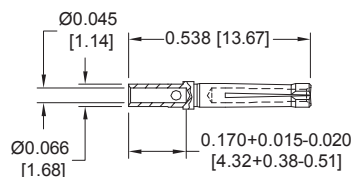
PROFESSIONAL LEVEL REMOVABLE CRIMP SIGNAL CONTACT

FOR USE WITH CBC AND QB SERIES CONNECTORS

SIZE 20

FEMALE CONTACT

"RUGGED OPEN ENTRY" DESIGN



Note: Connectors can be kitted with all applicable removable contacts, contact Technical Sales for connector part number.

FEMALE PART NUMBER	WIRE SIZE AWG [mm²]
FC6520D	<u>20 / 22 / 24</u> [0.5/0.3/0.25]

For information regarding crimp tool and crimping tool techniques, see Application Tools section, page 82.



REMOVABLE THERMOCOUPLE CRIMP CONTACT

FOR USE WITH CBC SERIES CONNECTORS

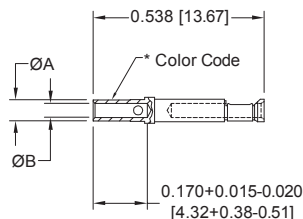
SIZE 20

Note: Connectors can be kitted with all applicable removable contacts, contact Technical Sales for connector part number.

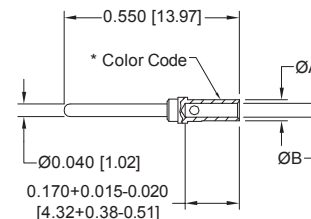


FEMALE CONTACT

“CLOSED ENTRY” DESIGN



MALE CONTACT



TYPE	MATERIAL	FEMALE PART NUMBER	MALE PART NUMBER	COLOR CODE	WIRE SIZE AWG [mm ²]	ØA	ØB
K	CHROMEL (+)	FC6020D2CH ^{††}	MC6020DCH [†]	WHITE	20 / 22 / 24 [0.5 / 0.3 / 0.25]	0.066 [1.68]	0.045 [1.14]
		FC6026D2CH	MC6026DCH		26 / 28 / 30 [0.12 / 0.08 / 0.05]	0.048 [1.23]	0.027 [0.69]
	ALUMEL (-)	FC6020D2AL ^{††}	MC6020DAL [†]	GREEN	20 / 22 / 24 [0.5 / 0.3 / 0.25]	0.066 [1.68]	0.045 [1.14]
		FC6026D2AL	MC6026DAL		26 / 28 / 30 [0.12 / 0.08 / 0.05]	0.048 [1.23]	0.027 [0.69]
T	COPPER (+) with gold flash	FC6020D2CU ^{††}	MC6020DCU [†]	RED	20 / 22 / 24 [0.5 / 0.3 / 0.25]	0.066 [1.68]	0.045 [1.14]
		FC6026D2CU	MC6026DCU		26 / 28 / 30 [0.12 / 0.08 / 0.05]	0.048 [1.23]	0.027 [0.69]
	CONSTANTAN (-)	FC6020D2C0 ^{††}	MC6020DC0 [†]	YELLOW	20 / 22 / 24 [0.5 / 0.3 / 0.25]	0.066 [1.68]	0.045 [1.14]
		FC6026D2C0	MC6026DC0		26 / 28 / 30 [0.12 / 0.08 / 0.05]	0.048 [1.23]	0.027 [0.69]
E	CHROMEL (+)	FC6020D2CH ^{††}	MC6020DCH [†]	WHITE	20 / 22 / 24 [0.5 / 0.3 / 0.25]	0.066 [1.68]	0.045 [1.14]
		FC6026D2CH	MC6026DCH		26 / 28 / 30 [0.12 / 0.08 / 0.05]	0.048 [1.23]	0.027 [0.69]
	CONSTANTAN (-)	FC6020D2C0 ^{††}	MC6020DC0 [†]	YELLOW	20 / 22 / 24 [0.5 / 0.3 / 0.25]	0.066 [1.68]	0.045 [1.14]
		FC6026D2C0	MC6026DC0		26 / 28 / 30 [0.12 / 0.08 / 0.05]	0.048 [1.23]	0.027 [0.69]

For more information on the availability of Type J thermocouple contacts, and information about thermocouple contacts with PCB solder termination, please contact Technical Sales.

Chromel[®] and Alumel[®] are registered trademarks of Hoskins Manufacturing Company.

[†]Dimensionally equivalent to M39029/64-369

^{††}Dimensionally equivalent to M39029/63-368



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REMOVABLE CONTACTS

Combo-D
D-Sub

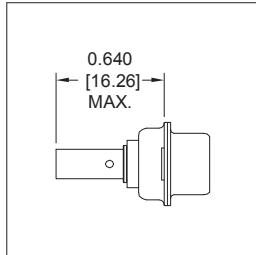
REMOVABLE CRIMP POWER CONTACT

FOR USE WITH CBD, CBC, CBCD AND CBDD SERIES CONNECTORS

SIZE 8

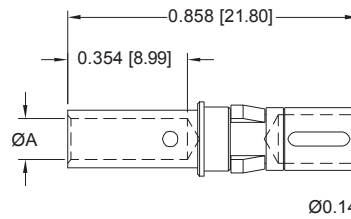
Note: Connectors can be kitted with all applicable removable contacts, contact Technical Sales for connector part number.

For contact current rating, see page 4.

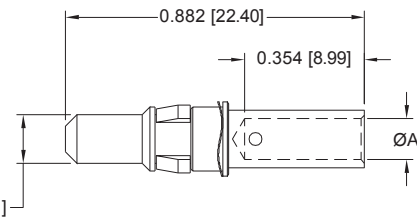


*1 FEMALE CONTACT

"CLOSED ENTRY" DESIGN, L.S.A.



MALE CONTACT



FEMALE PART NUMBER	WIRE SIZE AWG [mm ²]	Ø A
FC4008DS	8 [10.0]	0.181 [4.60]
FC4008D	8 [10.0]	0.181 [4.60]
FC4010D	10 [5.3]	0.122 [3.10]
FC4012D	12 [4.0]	0.101 [2.57]
FC4016D	16 [1.5]	0.067 [1.70]

"S" in part number indicates high conductivity copper alloy material.

MALE PART NUMBER	WIRE SIZE AWG [mm ²]	Ø A
MC4008DS	8 [10.0]	0.181 [4.60]
MC4008D	8 [10.0]	0.181 [4.60]
MC4010D	10 [5.3]	0.122 [3.10]
MC4012D	12 [4.0]	0.101 [2.57]
MC4016D	16 [1.5]	0.067 [1.70]

****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.

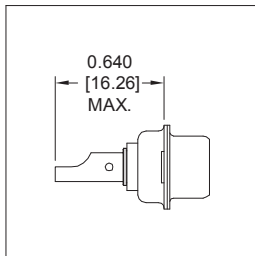
REMOVABLE SOLDER CUP POWER CONTACT

FOR USE WITH CBD, CBC, CBCD AND CBDD SERIES CONNECTORS

SIZE 8

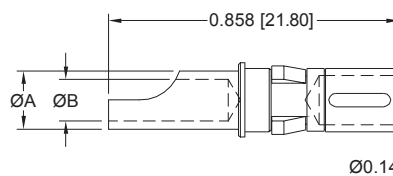
Note: Connectors can be kitted with all applicable removable contacts, contact Technical Sales for connector part number.

For contact current rating, see page 4.

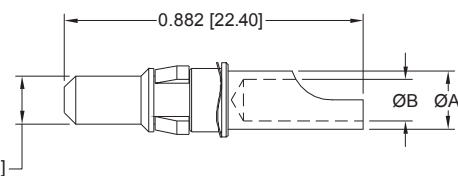


*1 FEMALE CONTACT

"CLOSED ENTRY" DESIGN, L.S.A.



MALE CONTACT



FEMALE PART NUMBER	WIRE SIZE AWG [mm ²]	Ø A	Ø B
FS4008D	8 [10.0]	0.219 [5.56]	0.188 [4.78]
FS4012D	12 [4.0]	0.143 [3.63]	0.112 [2.84]
FS4016D	16 [1.5]	0.100 [2.54]	0.069 [1.75]

MALE PART NUMBER	WIRE SIZE AWG [mm ²]	Ø A	Ø B
MS4008D	8 [10.0]	0.219 [5.56]	0.188 [4.78]
MS4012D	12 [4.0]	0.143 [3.63]	0.112 [2.84]
MS4016D	16 [1.5]	0.100 [2.54]	0.069 [1.75]

****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.

For information regarding crimp tool and crimping tool techniques, see Application Tools section, page 82.

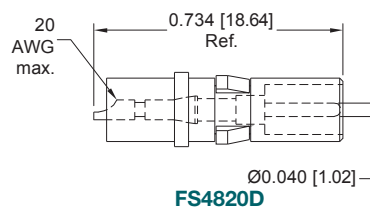
REMOVABLE HIGH VOLTAGE POWER CONTACT FOR USE WITH CBD, CBC, CBCD AND CBDD SERIES CONNECTORS

SIZE 8

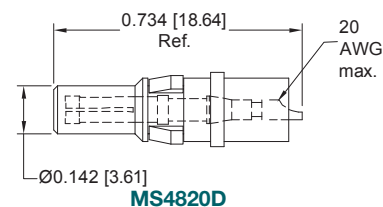
Note: Connectors can be kitted with all applicable removable contacts, contact Technical Sales for connector part number.

STRAIGHT SOLDER WIRE TERMINATION

FEMALE CONTACT

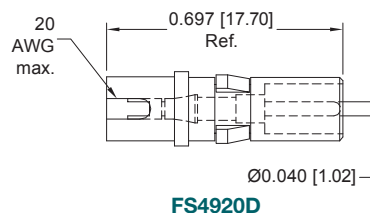


MALE CONTACT

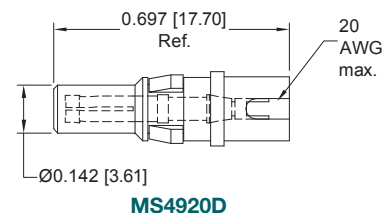


RIGHT ANGLE (90°) SOLDER WIRE TERMINATION

FEMALE CONTACT



MALE CONTACT



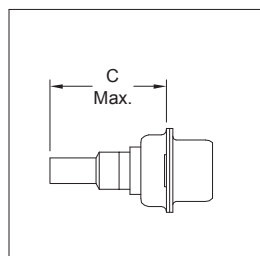
0.485
[12.32]

0.448
[11.38]

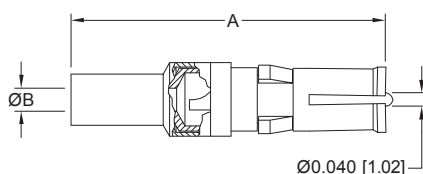
REMOVABLE SHIELDED CONTACT
FOR USE WITH CBD, CBC, CBCD AND CBDD SERIES CONNECTORS
SIZE 8

Note: Connectors can be kitted with all applicable removable contacts, contact Technical Sales for connector part number.

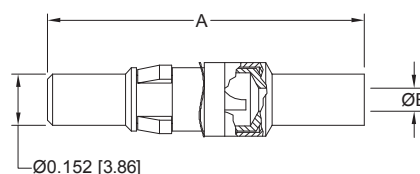
STRAIGHT SOLDER/CRIMP CONTACTS



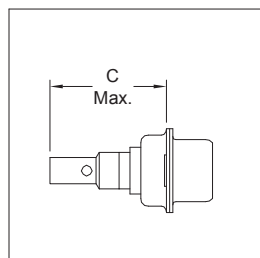
FEMALE CONTACT



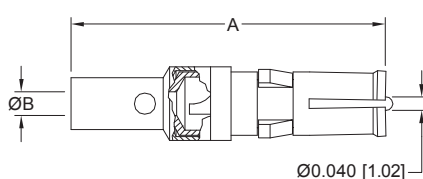
MALE CONTACT



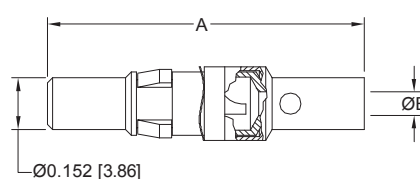
STRAIGHT SOLDER/SOLDER CONTACTS



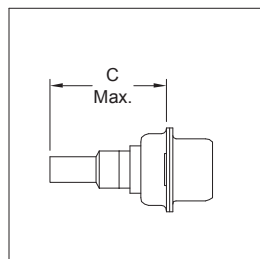
FEMALE CONTACT



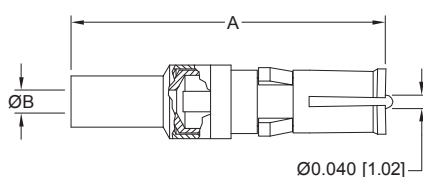
MALE CONTACT



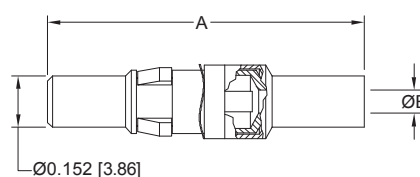
STRAIGHT CRIMP/CRIMP CONTACTS



FEMALE CONTACT



MALE CONTACT



TYPE OF CONTACT	FEMALE PART NUMBER	MALE PART NUMBER	A	Ø B	C MAX.	RG CABLE NUMBER
SOLDER/CRIMP	FC4101D	MC4101D	0.929 [23.60]	0.040 [1.02]	0.739 [18.77]	178 B/U 196 B/U
SOLDER/CRIMP	FC4102D	MC4102D	0.929 [23.60]	0.067 [1.70]	0.739 [18.77]	179 B/U 316 /U
SOLDER/CRIMP	FC4103D	MC4103D	1.037 [26.34]	0.108 [2.74]	0.847 [21.51]	180 B/U
SOLDER/CRIMP	FC4104D	MC4104D	1.037 [26.34]	0.120 [3.05]	0.847 [21.51]	58 B/U
SOLDER/SOLDER	FS4101D	MS4101D	0.929 [23.60]	0.040 [1.02]	0.739 [18.77]	178 B/U 196 B/U
SOLDER/SOLDER	FS4102D	MS4102D	0.929 [23.60]	0.067 [1.70]	0.739 [18.77]	179 B/U 316 /U
SOLDER/SOLDER	FS4103D	MS4103D	1.037 [26.34]	0.108 [2.74]	0.847 [21.51]	180 B/U
SOLDER/SOLDER	FS4104D	MS4104D	1.037 [26.34]	0.120 [3.05]	0.847 [21.51]	58 B/U
CRIMP/CRIMP	FCC4101D	MCC4101D	0.929 [23.60]	0.040 [1.02]	0.739 [18.77]	178 B/U 196 B/U
CRIMP/CRIMP	FCC4102D	MCC4102D	0.929 [23.60]	0.067 [1.70]	0.739 [18.77]	179 B/U 316 /U
CRIMP/CRIMP	FCC4103D	MCC4103D	1.037 [26.34]	0.108 [2.74]	0.847 [21.51]	180 B/U
CRIMP/CRIMP	FCC4104D	MCC4104D	1.037 [26.34]	0.120 [3.05]	0.847 [21.51]	58 B/U



SHIELDED CONTACTS

Two-step crimping action for signal and shielding conductors.

For information regarding crimp tool and crimping tool techniques, see Application Tools section, page 82.

REMOVABLE AIR LINE COUPLERS

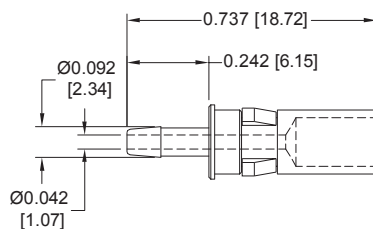
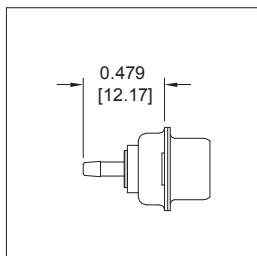
FOR USE WITH CBD, CBC, CBCD AND CBDD SERIES CONNECTORS

SIZE 8

**AIR LINE COUPLER CONTACTS
REQUIRE JACKSCREWS TO
COUPLE MATING CONNECTORS**

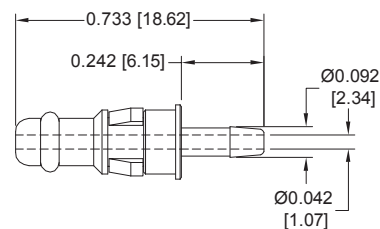
Note: Connectors can be kitted with all applicable removable contacts, contact Technical Sales for connector part number.

FEMALE CONTACT



FA4063S

MALE CONTACT



MA4063S



TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Contacts: Stainless steel

MECHANICAL CHARACTERISTICS:

**Size 8 Removable
Contacts:**

Rear insertion, front release.

CLIMATIC CHARACTERISTICS:

Temperature Range: -55°C to +125°C.

CONTACT TECHNICAL SALES FOR MORE INFORMATION!

For information regarding crimp tool and crimping tool techniques, see Application Tools section, page 82.