



Positronic
connectpositronic.com

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

Combo-D
D-Sub

**Size 22 Removable Signal and
Thermocouple Crimp Contacts**

Size 16 Removable Power Contacts

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

**UL and CSA Recognition,
for status contact Technical Sales**



CBCD high density series connectors are quality connectors designed for use in sheltered, mildly corrosive environments having a wide range of temperature, pressure and humidity changes. CBCD series connectors offer mixed crimp-removable contact combinations of power, signal, and thermocouple contacts within the same connector body.

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

CBCD series connectors also offer a blind mating connector system for applications requiring connector couplings in recessed areas or for mobile power coupling systems.

CBCD series connectors utilize precision machined contacts and meet applicable performance and dimensional requirements of IEC 60807-7, MIL-DTL-24308 and AS39029.

TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Glass filled polyester per ASTM D 5927 UL 94V-0, blue color.
Contacts:	Precision machined copper alloy.
Contact Plating:	
<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:	Copper alloy or steel with zinc plate and chromate seal or 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, UL 94V-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 22 contacts, male – 0.030 inch
[0.76mm] mating diameter. Terminations
for 20, 22, 24, 26, 28 and 30 AWG.
Female PosiBand closed entry design,
see page 69 for details. Closed crimp
barrel.

Power Contacts,

Crimp Removable:

Size 16 contacts, male – 0.0625
inch [1.588mm] mating diameter.
Terminations for 12, 14, 16, 18, 20,
22, and 24 AWG. Female closed entry
design. Closed crimp barrel.

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.

Contact Retention In Insulator:

SIGNAL SIZE 22

POWER SIZE 16

POWER SIZE 8

9 lbs. [40N].

15 lbs. [67N]

22 lbs. [98N] - power, shielded and
high voltage.

TECHNICAL CHARACTERISTICS, continued

continued from previous page. . .

MECHANICAL CHARACTERISTICS, continued:

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:	1000 operations minimum per IEC 60512-5.

ELECTRICAL CHARACTERISTICS:

SIZE 22 CONTACTS

Contact Current Rating:	5 amperes nominal.
Initial Contact Resistance:	0.005 ohms maximum.
Proof Voltage:	1000 V r.m.s.

SIZE 16 CONTACTS

POWER CONTACTS

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.
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High Conductivity

Contact Material:	0.001 ohms max. Per IEC 60512-2, Test 2b.
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Proof Voltage:	1000 V r.m.s.
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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:	0.042 inch [1.06mm] 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 22 crimp contacts are available. See page 71 for details.

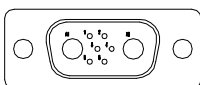
PCB mount contacts are available in CBDD series, see page 27 for details.

*1 CONTACT VARIANT

FACE VIEW OF MALE OR REAR VIEW OF FEMALE

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

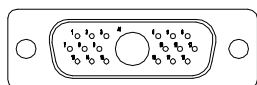
— SHELL SIZE 1 —



8W2

Six Size 22 Signal Contacts and
Two Size 16 Power Contacts

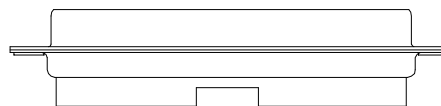
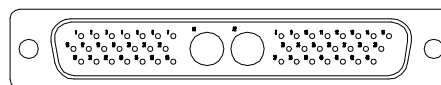
— SHELL SIZE 2 —



19W1

Eighteen Size 22 Signal Contacts
and One Size 8 Power Contact

— SHELL SIZE 4 —



***2 45W2**

Forty-three Size 22 Signal Contacts
and Two Size 8 Power Contacts

NOTES:

*1 Additional contact variants may be tooled at customer request.

*2 45W2 variant currently available in female only. Contact Technical Sales for availability of male connector.

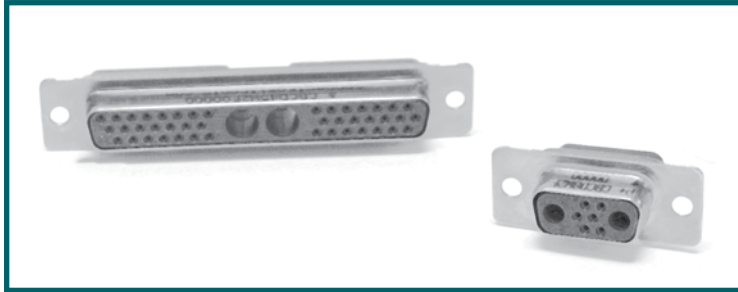


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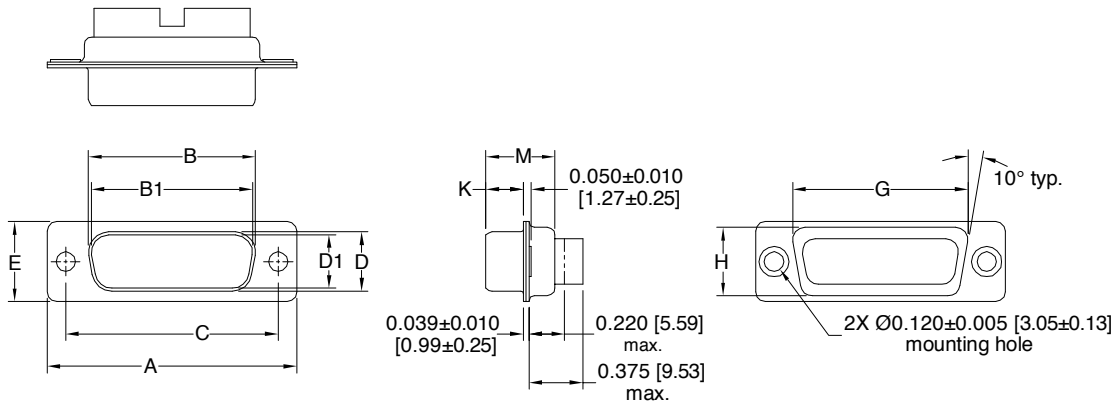
STANDARD SHELL ASSEMBLY



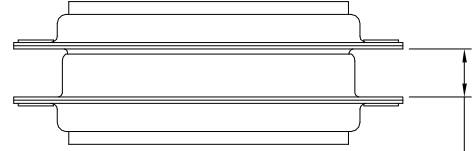
CBCD45W2S00000

CBCD8W2S00000

TYPICAL CONNECTOR TOP VIEW

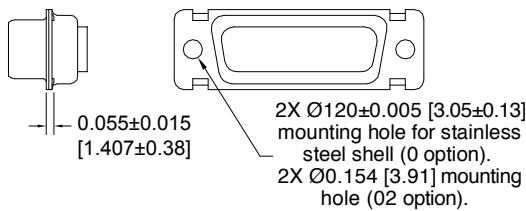


RECOMMENDED MATING DIMENSIONS

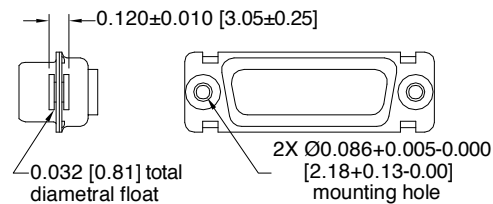


Shell Sizes 1 & 2 =
0.265±0.015 [6.73±0.38]
Shell Sizes 3, 4, 5 & 6 =
0.256±0.015 [6.50±0.38]

OPTIONAL SHELL ASSEMBLY (0, 02)



OPTIONAL SHELL ASSEMBLY WITH UNIVERSAL FLOAT MOUNTS (F)



SHELL SIZES	VARIANT	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]
1	8W2M	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]
	8W2S	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]
2	19W1M	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]
	19W1S	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]
4	45W2S	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]

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

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	CBCD	8W2	S	0	0	0	0	S	/AA	-14

STEP 1 - BASIC SERIES

CBCD Series

*3 STEP 10 - SPECIAL OPTIONS

FOR SPECIAL OPTIONS, SEE
SPECIAL OPTIONS APPENDIX
ON PAGE 81.

STEP 2 - CONNECTOR VARIANTS

Shell Size 1 - 8W2

Shell Size 2 - 19W1

*1 Shell Size 4 - 45W2

STEP 3 - CONNECTOR GENDER

M - Male

S - Female - PosiBand Closed Entry Signal Contacts

STEP 4 - CONTACT TERMINATION TYPE

0 - Connector ordered without contacts. Order signal, power, thermocouple, shielded, high voltage or air contacts separately. See pages 68-80 for contact part numbers.

1 - Signal contacts, 22 AWG-30 AWG [0.03mm²-0.05mm²].

*2 11 - Signal contacts, 22 AWG-30 AWG [0.03mm²-0.05mm²] with MC/FC 4012D power contact.

*2 12 - Signal contacts, 22 AWG-30 AWG [0.03mm²-0.05mm²] with MC/FC 4016D power contact.

*2 13 - Signal contacts, 22 AWG-30 AWG [0.03mm²-0.05mm²] with MCC/FCC 4101D shielded contacts.

*2 14 - Signal contacts, 22 AWG-30 AWG [0.03mm²-0.05mm²] with MCC/FCC 4102D shielded contacts.

*3 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

STEP 9 - ENVIRONMENTAL COMPLIANCE OPTIONS

/AA - RoHS Compliant

NOTE: If compliance to environmental legislation is not required, this step will not be used. Example: CBCD8W2S0000S

STEP 8 - SHELL OPTIONS

0 - Zinc Plated, with Chromate Seal.

*5 S - Stainless Steel, passivated.

X - Tin Plated.

Z - Tin Plated and Dimpled (male connectors only).

*3 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.

*3 STEP 6 - HOODS AND PUSH-ON FASTENERS

0 - None

AN - Lightweight Aluminum Hood, nickel finish.

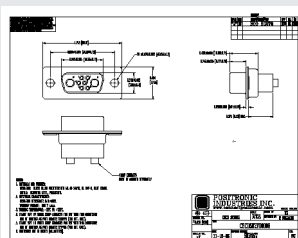
AC - Lightweight Aluminum Hood, no finish.

H - Hood, Top Opening, Metal

*4 G - Hood, EMI/RFI, Die Cast Zinc

Z - Hood, Top or Side Opening, robust extended height, plastic and composite, with rotating male jackscrews

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

NOTES

*1 45W2 variant currently available in female only.

*2 Available on 19W1 and 45W2 connectors only.

*3 For additional information on accessories listed in steps 5, 6, 7 and 10, see Accessory Catalog.

*4 When using G hood with CBCD variants, use the extended height hood. See Accessories Catalog for extended G hood options.

*5 For stainless steel dimpled male versions, contact Technical Sales.

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