



Size 20 Removable Signal and
Thermocouple Crimp Contacts

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

D.E.S.C. 85039

IEC 807-3

U.L. Recognized
File #E49351

CSA Recognized
File #LR54219

Telecommunication U.L. 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 807-3, Performance Levels One and Two, D.E.S.C. 85039 and MIL-DTL-24308.



For RoHS options
see page 26.

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.



TECHNICAL CHARACTERISTICS

MATERIALS AND FINISHES:

Insulator:	Glass filled polyester per MIL-M-24519, UL 94V-0, blue color.
Contacts:	Precision machined copper alloy.
Signal:	Gold flash over nickel plate and gold 0.000050 [1.27µ] over nickel plate. Other finishes available upon request, see page 69.
Power:	Gold flash over nickel. Other finishes available upon request, see page 69.
Shielded:	<i>For contact platings, see pages 68.</i>
High Voltage:	<i>For contact platings, see pages 68.</i>
Shells:	Steel or brass 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 or aluminum with electroless nickel plate; 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 Robi-D 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 512-5.

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 pages 69.

HIGH VOLTAGE CONTACTS

For electrical characteristics, see pages 69.

CONNECTOR

Insulator 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**

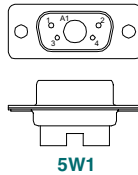
FACE VIEW OF MALE OR REAR VIEW OF FEMALE

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

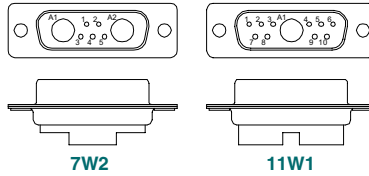
NOTES:

- *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.

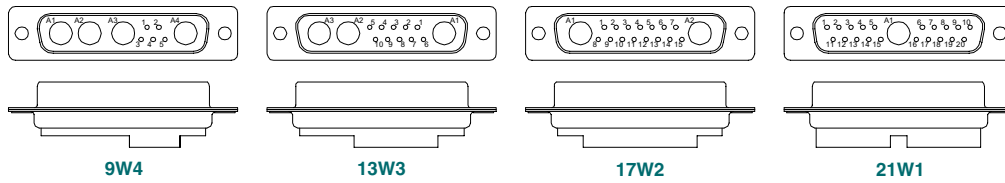
— SHELL SIZE 1 —



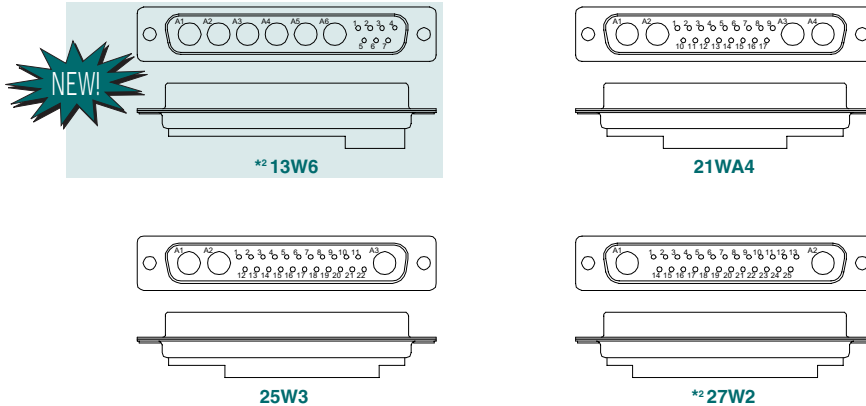
— SHELL SIZE 2 —



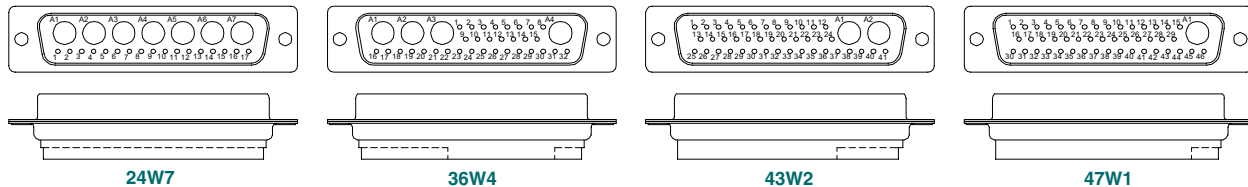
— SHELL SIZE 3 —



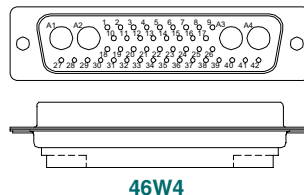
— SHELL SIZE 4 —



— SHELL SIZE 5 —



— SHELL SIZE 6 —



CBC SERIES



Positronic Industries
connectpositronic.com

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

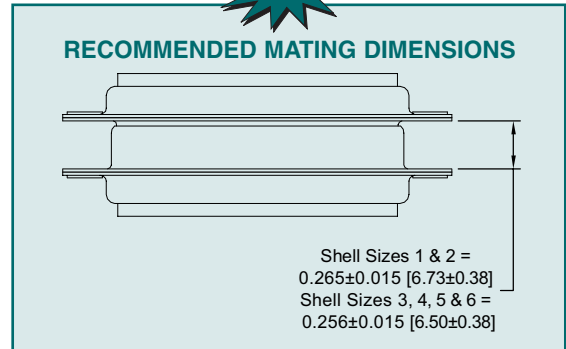
Combo-D
D-Sub

STANDARD SHELL ASSEMBLY

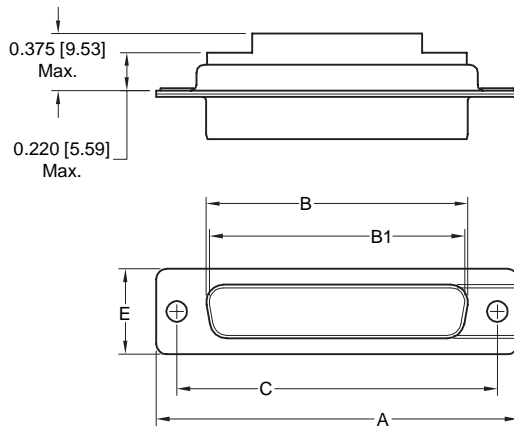


CBC7W2S00000

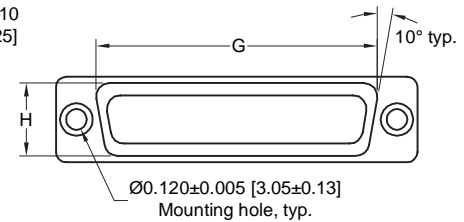
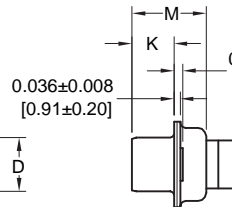
CBC17W2M00000



TYPICAL CONNECTOR TOP VIEW



See page 6 for Optional Shell Assemblies (F, 0, 02)



CBC SERIES

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]



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

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 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 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 [0.5mm²-0.25mm²].
11 - Signal contacts, 20 AWG-24 AWG [0.5mm²-0.25mm²] with MC/FC 4012D Power Contact.
12 - Signal contacts, 20 AWG-24 AWG [0.5mm²-0.25mm²] with MC/FC 4016D power contact.
13 - Signal contacts, 20 AWG-24 AWG [0.5mm²-0.25mm²] with MCC/FCC 4101D shielded contacts.
14 - Signal contacts, 20 AWG-24 AWG [0.5mm²-0.25mm²] with MCC/FCC 4102D shielded contacts.

***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 10 - SPECIAL OPTIONS**
FOR SPECIAL OPTIONS, SEE SPECIAL OPTIONS APPENDIX ON PAGE 89.

STEP 9 - ENVIRONMENTAL COMPLIANCE OPTIONS
/AA - Compliant per EU Directive 2002/95/EC (RoHS)
NOTE: If compliance to environmental legislation is not required, this step will not be used. Example: CBC7W2M10Z00

STEP 8 - SHELL OPTIONS
0 - Zinc Plated, with Chromate Seal.
*2 S - Stainless Steel, passivated.
X - Tin Plated.
Z - Tin Plated and Dimpled (male connectors only)

***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.

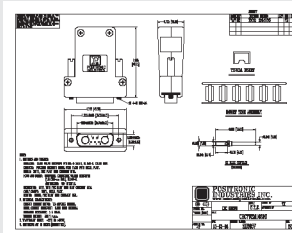
***2 STEP 6 - HOODS**
0 - None
H - Hood, Top Opening, Metal, shell sizes 2 through 5
AN - Lightweight Aluminum Hood, nickel finish.
AC - Lightweight Aluminum Hood, no finish.
*3 G - Hood, EMI/RFI, Metal, shell sizes 1 through 6
Z - Hood, Top or Side Opening, robust extended height, plastic and composite, with rotating jackscrews, shell sizes 1 through 5

NOTE: Once you have made a connector selection, contact Technical Sales if you would like to receive a drawing in DXF, PDF format or a 3-dimensional IGES, STEP, or SOLIDWORKS file.

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, pages 81-89.



SK Drawing



3-dimensional model