



Positronic[®]
global connector solutions

Sealed / Waterproof Combo-D Connectors

WCBD Series

FOR USE IN
APPLICATIONS
REQUIRING **IP67**
SEALING OF
ENCLOSURES



The WCBD is intended for use with the Combo-D family of connector products. For more information, visit www.connectpositronic.com.



ENVIRONMENTAL CHARACTERISTICS

IEC MOISTURE TESTS

IP65 IEC 60529 Test 14.2.5

Spray nozzle 6.3 mm diameter, delivery rate 12.5 liters per minute, 1 minute duration of connector exposure to spray. When conducting this test on portable enclosure connectors, the protective cover must be securely fastened over the face of the connector.

Requirements: No water to have penetrated enclosure through connector.

IP67 IEC 60529 Test 14.2.7

Temporary immersion, 1 meter for 30 minutes.

Requirements: No water to have penetrated enclosure through connector.

IEC CONNECTOR TESTS (Post-exposure to moisture)

IEC 60512-2, Test 3a
IEC 60512-2, Test 4a

1 G ohm minimum resistance
Voltage proof 1,000 V rms

• It is recommended that connectors be tested in the specific application.

MATERIALS AND FINISHES

Panel Mount Sealing Plate Assembly Glass-filled thermoplastic with elastomer O-ring

Protective Cover Conductive polyethylene or conductive polyester

MECHANICAL CHARACTERISTICS

Resistance to Solder Iron Heat 464° F [240° C] for 5 seconds duration per IEC 60512-6

Inside Wall Enclosure Mount
Minimum thickness 1.0mm [0.040 inch]
Maximum thickness 2.0mm [0.080 inch]

Locking Systems Jackscrews.

Mechanical Operations per IEC 60512-5

IP67 Immersion Rated 250 operations minimum
IP65 Spray Nozzle Rated 500 operations minimum

Recommended Sealing Plate Mounting Torque

Minimum 1.75 in-lb. [0.20 Nm]
Maximum 2.25 in-lb. [0.25 Nm]

CLIMATIC CHARACTERISTICS

Temperature Range -25°C to +85°C

• For additional technical information, please consult the Combo-D catalog found at www.connectpositronic.com/design-tools/catalogs

The Positronic **FEDERAL SUPPLY CODE**
(Cage Code) FOR MANUFACTURERS is **28198**

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Products described within this catalog may be
protected by the following US patent:

#7,115,002

OTHER PATENTS PENDING

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DIMENSIONAL TOLERANCES (unless otherwise specified)

- 1) ± 0.03 [0.001] for male contact mating diameters
- 2) ± 0.08 [0.003] for contact termination diameters
- 3) ± 0.13 [0.005] for all diameters
- 4) ± 0.38 [0.015] for all other dimensions

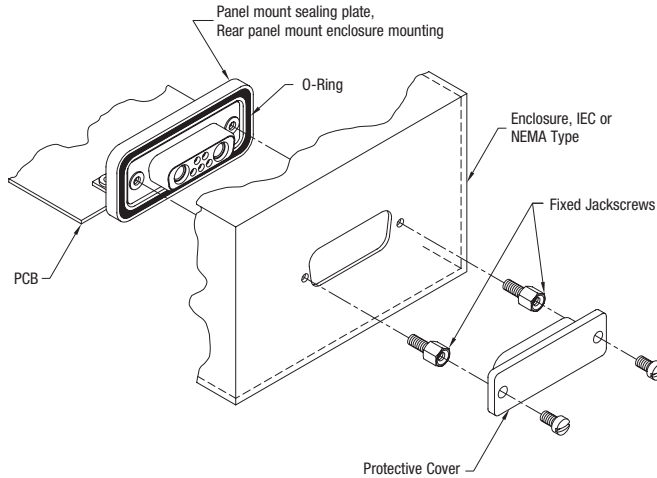
DIMENSIONS ARE IN MILLIMETER (INCHES).
ALL DIMENSIONS ARE SUBJECT TO CHANGE.

M03C-1C-NC

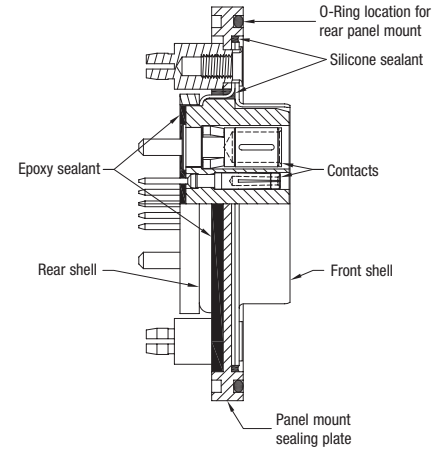
TYPICAL USE

INGRESS PROTECTION AT THE ENCLOSURE

This system consists of an input/output connector mechanically mounted and sealed to the enclosure wall. The connector and enclosure together provide a degree of protection from dust and moisture in accordance with IEC and NEMA ingress protection requirements. The connector will protect the enclosure from dust, splashing water, rain, or limited water immersion.



CONNECTOR ANATOMY

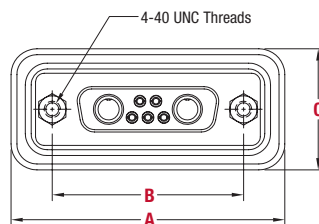


CONTACT VARIANTS

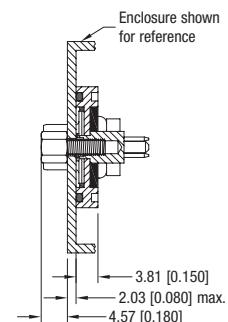
SHELL SIZE	VARIANT OPTIONS		
	Face view of male or rear view of female		
1	5W1		
2	3W3		7W2
			11W1
3	5W5		9W4
	17W2		21W1
4	8W8		13W6
	21WA4		25W3
5	24W7		36W4
	47W1		43W2

SEALING PLATE / ENCLOSURE

SHELL SIZE	A ±0.76 [0.030]	B	C ±0.76 [0.030]
1	39.37 [1.550]	24.99 [0.984]	21.08 [0.830]
2	47.70 [1.878]	33.32 [1.312]	
3	61.42 [2.418]	47.04 [1.852]	
4	77.88 [3.066]	63.50 [2.500]	
5	75.49 [2.972]	61.11 [2.406]	



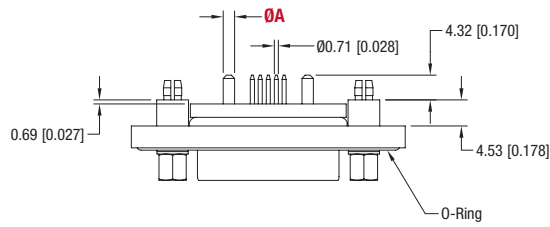
INSIDE WALL ENCLOSURE



PCB STRAIGHT SOLDER

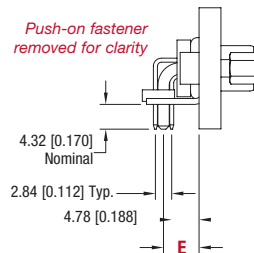
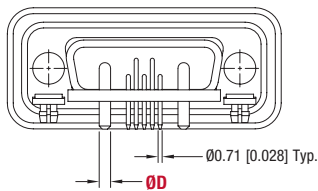
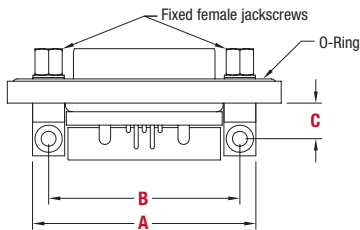
Choose **code 35** or **37** in step 4 of part number definition section on page 4.

CODE (STEP 4)	ØA
35	1.98 [0.078]
37	3.18 [0.125]



PCB RIGHT ANGLE SOLDER

Choose **code 55** or **57** in step 4 of part number definition section on page 4.

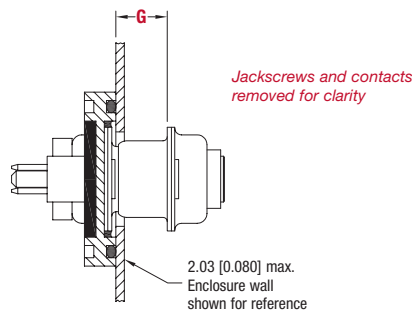


SHELL SIZE	CODE (STEP 4)	AMPS NOMINAL	A	B ±0.20 [0.008]	C	ØD TYPICAL	E	
1	55	15	30.58 [1.204]	24.99 [0.984]	6.20 [0.244]	1.98 [0.078]	6.20 [0.244]	
	57	30				3.18 [0.125]	18.16 [0.715]	
2	55	15	38.91 [1.532]	33.32 [1.312]		1.98 [0.078]	6.20 [0.244]	
	57	30				3.18 [0.125]	18.16 [0.715]	
3	55	15	52.63 [2.072]	47.04 [1.852]		1.98 [0.078]	6.20 [0.244]	
	57	30				3.18 [0.125]	18.16 [0.715]	
4	55	15	69.09 [2.720]	63.50 [2.500]		1.98 [0.078]	6.20 [0.244]	
	57	30				3.18 [0.125]	18.16 [0.715]	
5	55	15	66.70 [2.626]	61.11 [2.406]		7.62 [0.300]	1.98 [0.078]	9.04 [0.356]
	57	30					3.18 [0.125]	18.16 [0.715]

COUPLING

Recommended coupling dimensions to ensure water and dust ingress protection.

SHELL SIZE	G	
	MIN	MAX
1	5.84 [0.230]	6.60 [0.260]
2		
3		
4	5.61 [0.221]	6.38 [0.251]
5		





Specify a part number by selecting an option from each step.

STEP	1	2	3	4	5	6	7	8	9	—	10
EXAMPLE	WCBD	17W2	S	57	67	A	T7	S	/AA		
<p>STEP 1 - BASIC SERIES WCBD</p> <p>STEP 2 - CONNECTOR VARIANTS Shell Size 1 – 5W1 Shell Size 2 – 3W3, 7W2, 11W1 Shell Size 3 – 5W5, 9W4, 13W3, 17W2, 21W1 Shell Size 4 – 8W8, 13W6, 17W5, 21WA4, 25W3, 27W2 Shell Size 5 – 24W7, 36W4, 43W2, 47W1</p> <p>STEP 3 - CONNECTOR GENDER S – Female - PosiBand closed entry signal contacts <i>(Not for use with 3W3, 5W5, and 8W8 variants)</i> F – Female - Open entry signal contacts M – Male</p> <p>STEP 4 - CONTACT TERMINATION TYPE 35 – Solder, straight printed board mount with signal and/or 1.98 [0.078] Ø power contacts, 4.32 [0.170] tail length. 37 – Solder, straight printed board mount with signal and/or 3.18 [0.125] Ø power contacts, 4.32 [0.170] tail length. 55 – Solder, right angle (90°) printed board mount with signal and/or 1.98 [0.078] Ø power contacts, 7.19 [0.283] signal contact extension. 57 – Solder, right angle (90°) printed board mount with signal and/or 3.18 [0.125] Ø power contacts, 7.19 [0.283] signal contact extension. <i>Please contact Technical Sales for pre-wired options.</i></p> <p>STEP 5 - CUL-DE-SAC STYLE MOUNTING ACCESSORIES C5 – Inside wall mounting for Code 35 and 37 (step 4) only. Zinc plated steel or stainless steel. C7 – Inside wall mounting for Code 55 and 57 (step 4), right angle (90°) printed board mount only. Consists of an assembly of angle bracket, alignment bar and push-on fastener. Zinc plated steel or stainless steel. C8 – Inside wall mounting for Code 35 and 37 (step 4) only. Includes push-on fastener. Tin plated phosphor bronze.</p>										<p>STEP 10 - SPECIAL OPTIONS Available upon request, contact Technical Sales.</p> <p>STEP 9 - ENVIRONMENTAL COMPLIANCE OPTIONS /AA - RoHS Compliant <i>If RoHS compliance is not required, this step in the part number will not be used.</i></p> <p>STEP 8 - SHELLS AND ACCESSORY OPTIONS 0 – Corrosion Protected Steel shells and jackscrews zinc plated with chromate seal. Contacts gold flash over nickel plate. S – Corrosion Resistant Stainless steel shells and jackscrews. Contacts 0.76µ [0.000030 inch] gold plated over nickel.</p> <p>STEP 7 - FIXED FEMALE JACKSCREWS T7 – Always used when ordering C5, C7 or C8 (step 5) cul-de-sac style mounting accessories.</p> <p>STEP 6 - ENCLOSURE WALL MOUNT SEALING PLATES A – Inside wall enclosure mounted connector.</p>	

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