

## Combo Dual Port Series

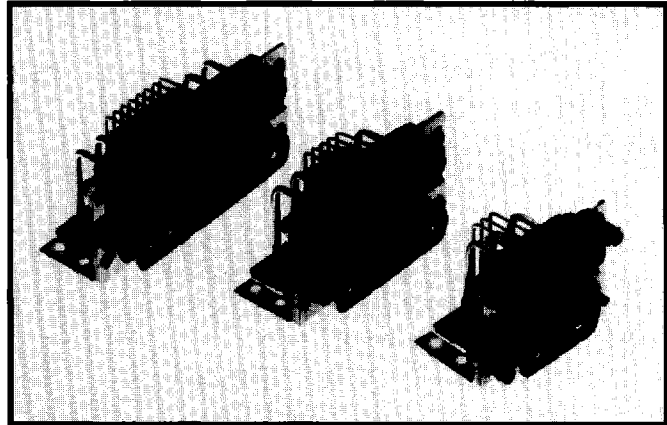
### PROFESSIONAL QUALITY PRINTED BOARD MOUNT COMBINATION POWER AND SIGNAL CONTACT DUAL PORT VERTICALLY STACKED CONNECTOR ASSEMBLY FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS

#### Power and Signal Contacts

U.L. Recognized  
File #E49351

CSA Recognized  
File #LR54219

Telecommunication  
U.L. File #14095



The Combo-Dual Port connector series offers several combinations of power and signal contacts within the same connector assembly. Fifteen different combinations of power and signal contact stacked assemblies are available within four standard shell sizes. The connector assembly can be partially populated with either signal or power contacts installed in the connector bodies to customer selected contact positions. The stacked connectors may be spaced apart to two dimensional spacings.

On special order, the 90° printed board mount 15 ampere contacts may be replaced with size 8 power, shielded or high voltage contacts

having crimp or solder cup terminations. Signal contacts remain in dual port configuration.

Mounting angle brackets can be ordered riveted to the connector by specifying R2, R6, R7 and R8 options. Locking systems are available utilizing 4-40 threaded jackscrew systems, polarized or non-polarized, or with a quick-release vibration lock system for either front or rear panel mounted connectors.

Combo-Dual Port Series connectors comply with the dimensional requirements of IEC 807-2 and DESC 85039.

### COMBO-DUAL PORT TECHNICAL CHARACTERISTICS

#### MATERIALS AND FINISHES:

<b>Insulator:</b>	Polyester, glass filled per MIL-M-24519, UL 94V-0, blue color.
<b>Signal Contacts:</b>	Male contacts—precision machined copper alloy. Female contacts—precision machined high tensile phosphor bronze.
<b>Plating:</b>	Gold flash over nickel plate.
<b>Power Contacts:</b>	Male contacts—precision machined copper alloy. Female contacts—precision machined high tensile copper alloy.
<b>Plating:</b>	Gold flash over nickel.
<b>Shells:</b>	Steel or brass with tin plate or zinc plate with dichromate seal.
<b>Mounting Spacers and Brackets:</b>	Steel or brass with tin plate or zinc with dichromate seal.
<b>Cross Bar:</b>	Nylon, UL 94V-0, black color.
<b>Push-On Fasteners:</b>	Beryllium copper, tin plated.
<b>Jackscrew Systems:</b>	Steel with clear zinc plate or zinc plate with dichromate seal.
<b>Vibration Lock Systems:</b>	Lock tabs, steel with nickel plate.

#### ELECTRICAL CHARACTERISTICS:

<b>Signal Contacts:</b>	7.5 amperes nominal.
<b>Initial Contact Resistance:</b>	0.008 ohms maximum.
<b>Power Contacts:</b>	15 ampere nominal for 90° board mount. 10, 20 and 40 ampere nominal are removable contacts with solder or crimp terminations.
<b>Initial Contact Resistance:</b>	0.005 ohms maximum.
<b>Proof Voltage:</b>	1000 V r.m.s.
<b>Insulator Resistance:</b>	5 G ohms.
<b>Clearance and Creepage Distance (minimum):</b>	0.039 inch (1.0mm)
<b>Working Voltage:</b>	300 V r.m.s.

#### MECHANICAL CHARACTERISTICS:

<b>Signal Contacts:</b>	Size 20 male contacts—0.040 inch (1.0mm) diameter. Female contact—rugged open entry design.
<b>Contact Retention In Insulator:</b>	9 lbs. (40N)
<b>Contact Terminations:</b>	Printed board mount with 90° terminations supported by alignment bar. Termination diameter 0.028 inch (0.71mm).
<b>Power Contacts:</b>	Size 8 male contact—0.142 inch (3.61mm) diameter. Female contact—open entry and closed entry options.
<b>Contact Retention In Insulator:</b>	22 lbs. (92N)
<b>Contact Terminations:</b>	Printed board mount with 90° terminations of 0.078 inch (1.98mm) diameter. Size 8 removable solder cup contacts with wire hole diameters of 0.188 inch (4.78mm), 0.112 inch (2.84mm) and 0.069 inch (1.75mm).
<b>Shells:</b>	Male connector shells may be dimpled for EMVESD ground paths.
<b>Polarization:</b>	Trapezoidally shaped shells and polarized jackscrews.
<b>Mounting Bracket Riveted to Connector:</b>	Riveted fasteners with 0.120 inch (3.05mm) diameter clearance hole, with 4-40 threads or 4-40 threads with nylon lock insert.
<b>Mounting To Printed Board:</b>	Rapid installation push-on fasteners.
<b>Locking Systems:</b>	Jackscrews and vibration locking system for either front or rear panel mounted connectors.
<b>Mechanical Operations:</b>	500 operations minimum per IEC 512-5.

#### CLIMATIC CHARACTERISTICS:

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



# CBDP Series

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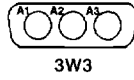
### CONTACT VARIANTS

FACE VIEW OF MALE OR REAR VIEW OF FEMALE

#### SHELL SIZE 1

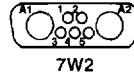


5W1

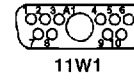


3W3

#### SHELL SIZE 2

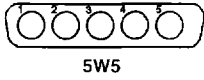


7W2

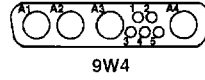


11W1

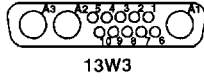
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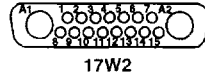
5W5



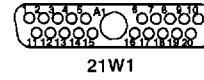
9W4



13W3

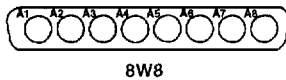


17W2

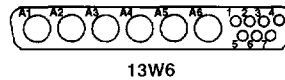


21W1

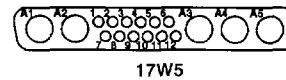
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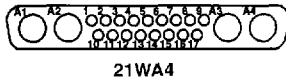
8W8



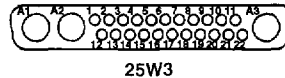
13W6



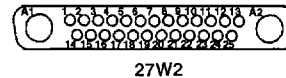
17W5



21WA4



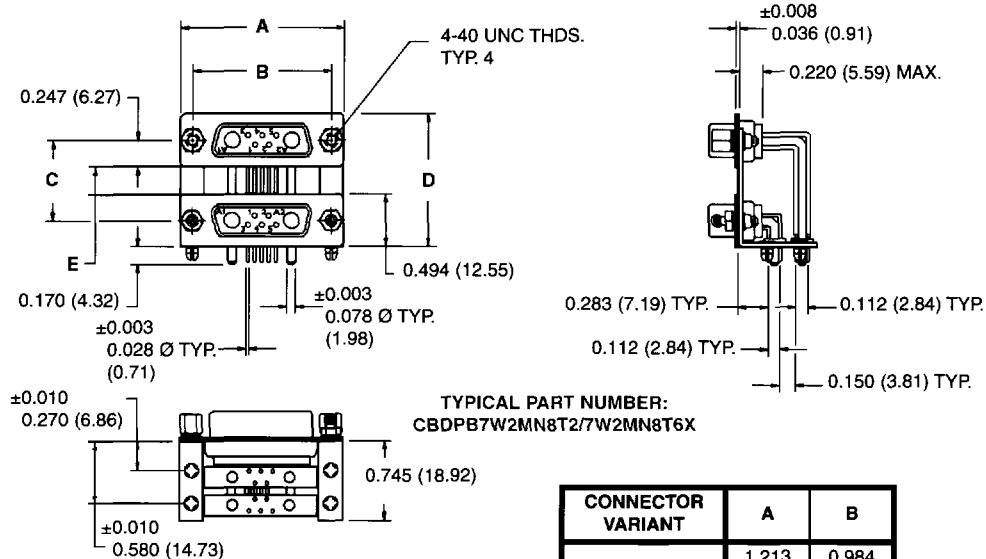
25W3



27W2

### 90° PRINTED BOARD MOUNT CONNECTOR 4 ROW CONNECTOR UNIT, 0.283 (7.19) CONTACT EXTENSION 15 AMPERE MAXIMUM RATED POWER CONTACTS

Note: 30 ampere 0.125 (3.18) Ø power contacts may be ordered at special request for a limited number of CBDP variants. Contact factory for details.



CONNECTOR DESIGNATION	C	D	E
CBDPB	0.750 (19.05)	1.244 (31.60)	0.256 (6.50)
CBDPC	0.900 (22.86)	1.394 (35.41)	0.406 (10.31)

CONNECTOR VARIANT	A	B
SHELL SIZE 1	1.213 (30.81)	0.984 (24.99)
SHELL SIZE 2	1.541 (39.14)	1.312 (33.32)
SHELL SIZE 3	2.088 (53.04)	1.852 (47.04)
SHELL SIZE 4	2.729 (69.32)	2.500 (63.50)

Note: Printed board power contacts (size 8) may be replaced with a size 8 removable power, shielded or high voltage contact having solder or crimp terminations.

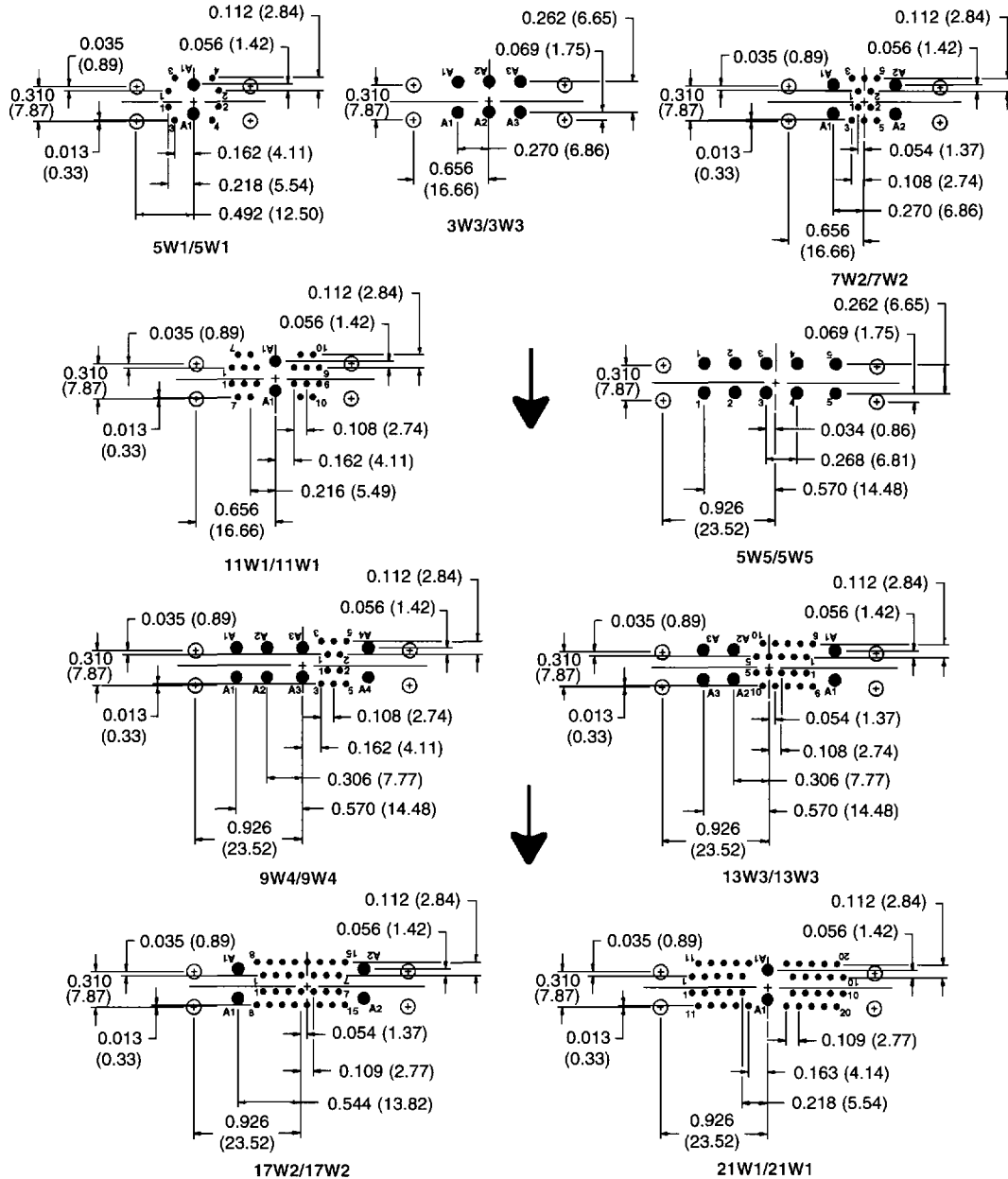
DIMENSIONS ARE IN INCHES (MILLIMETERS)  
ALL DIMENSIONS SUBJECT TO CHANGE



Positronic Industries, Inc.

### 90° PRINTED BOARD CONTACT HOLE PATTERN

Hole identification shown is for female connector over male connector.  
Mount connector with mating face positioned to follow direction of arrow.



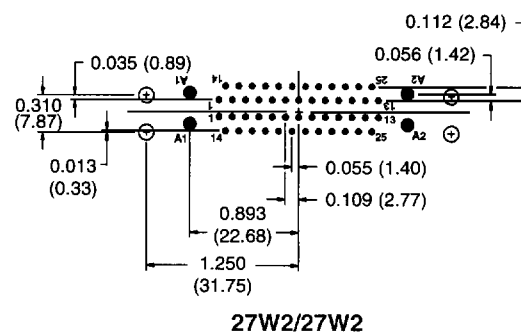
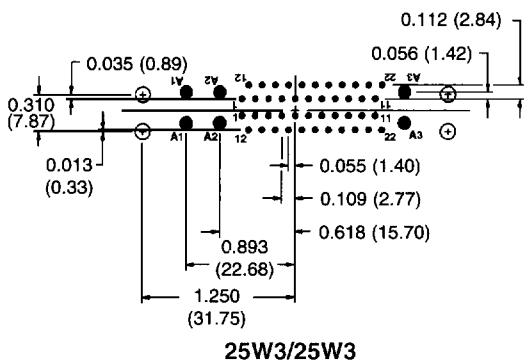
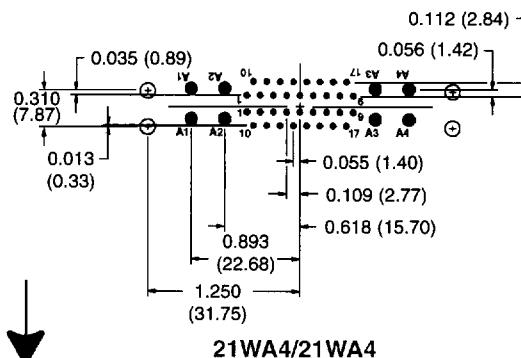
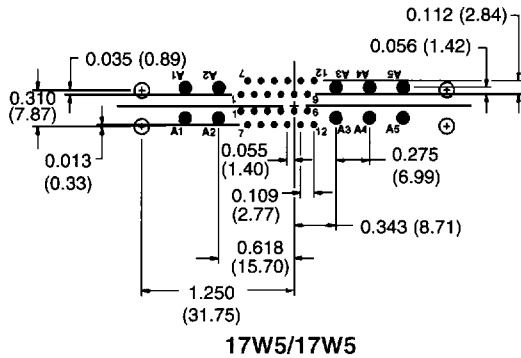
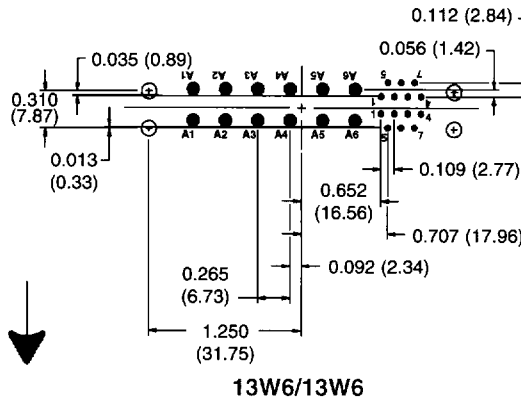
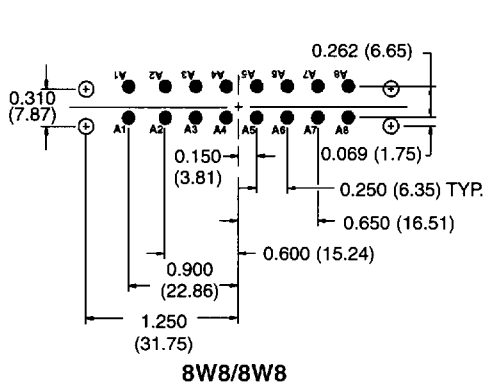
Suggest 0.045 (1.14) Ø hole for signal contact termination positions.  
Suggest 0.098 (2.49) Ø hole for 0.078 (1.98) Ø power contact termination positions.  
Suggest 0.123 ±0.003 (3.12) Ø hole for mounting connector with push-on fasteners.

Mounting holes must move 0.020 (0.51) ±0.010 opposite direction of arrow for use of unriveted mounting bracket with connectors.

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

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Hole identification shown is for female connector over male connector.  
Mount connector with mating face positioned to follow direction of arrow.



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## ORDERING INFORMATION – CODE NUMBERING SYSTEM

Specify Complete Connector By Following Steps 1 Through 9  
Insert "0" When Step Is Not Used

	STEP	1	2	3	4		5	6	7	8	9
Upper Connector		CBDPB	7W2	F	R7T	/	7W2	M	R7T	0	
											Lower Connector

**STEP 1 - Basic Series**  
 CBDPB Series  
 CBDPC Series

**STEP 2 - CBDP Series 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

**STEP 3 - Connector Gender**  
 M – Male  
 F – Female

**STEP 4 - Locking, Polarizing, Mounting and Push-on Fastener Systems**

- 0 – None
- R2 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Thread, Fixed Female Jackscrews and Cross Bar
- R6 – Bracket, Mounting, 90° Metal, Swaged to Connector with 0.120 (3.05) Ø Mounting Hole with Cross Bar
- R7 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Threads with Cross Bar
- R8 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Locknut with Cross Bar
- N2 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Thread, Fixed Female Jackscrews with Cross Bar and Push-On Fastener
- N6 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Threads with Cross Bar and Push-on Fastener
- N7 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Threads with Cross Bar and Push-on Fastener
- N8 – Bracket, Mounting, 90° Metal, Swaged to Connector with 4-40 Locknut with Cross Bar and Push-on Fastener
- T – Fixed Female Jackscrews
- T2 – Fixed Female Jackscrews
- T6 – Fixed Male and Female Polarized Jackscrews

Options are the same as for Upper Connector Steps 2, 3, and 4

**STEP 8 - Shell Options**  
 0 – Zinc Plate with Dichromate Seal  
 X – Tin Plated  
 Z – Tin Plated and Dimpled

**STEP 9 - Special Options**  
 Consult Sales Department

Note: Size 8 removable power contacts with solder or crimp terminations with power ratings of 10, 20 and 40 amperes may be ordered in lieu of the 90° board mounted power contact. Removable size 8 shielded and high voltage contacts may also be ordered separately in lieu of the power contact. See pages 16 through 20 for contact part numbers.