

**Combo  
Dual Port  
Series**

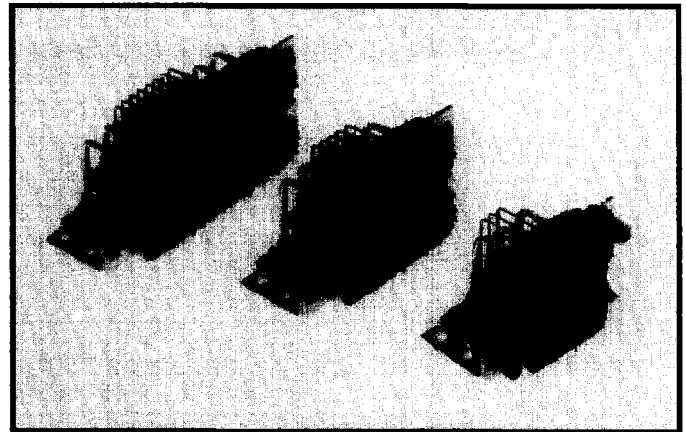
**PROFESSIONAL QUALITY PRINTED BOARD MOUNT COMBINATION POWER AND  
SIGNAL CONTACT DUAL PORT VERTICALLY STACKED CONNECTOR ASSEMBLY  
FOR SHELTERED INDOOR/OUTDOOR ENVIRONMENTAL APPLICATIONS**

**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.

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 MIL-C-24308.

**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. Gold flash over nickel plate.
<b>Plating:</b>	Male contacts-precision machined copper alloy. Female contacts-precision machined high tensile copper alloy. Gold flash over nickel.
<b>Power Contacts:</b>	Male contacts-precision machined copper alloy. Female contacts-precision machined high tensile copper alloy. Gold flash over nickel.
<b>Plating:</b>	Steel or brass with tin plate or zinc plate with dichromate seal.
<b>Shells:</b>	Steel or brass with tin plate or zinc 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>	Nominally rated at 10, 15, 20, 30 and 40 amperes.
<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 0.78 inch (1,98mm) diameter. 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 EMI/ESD 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.

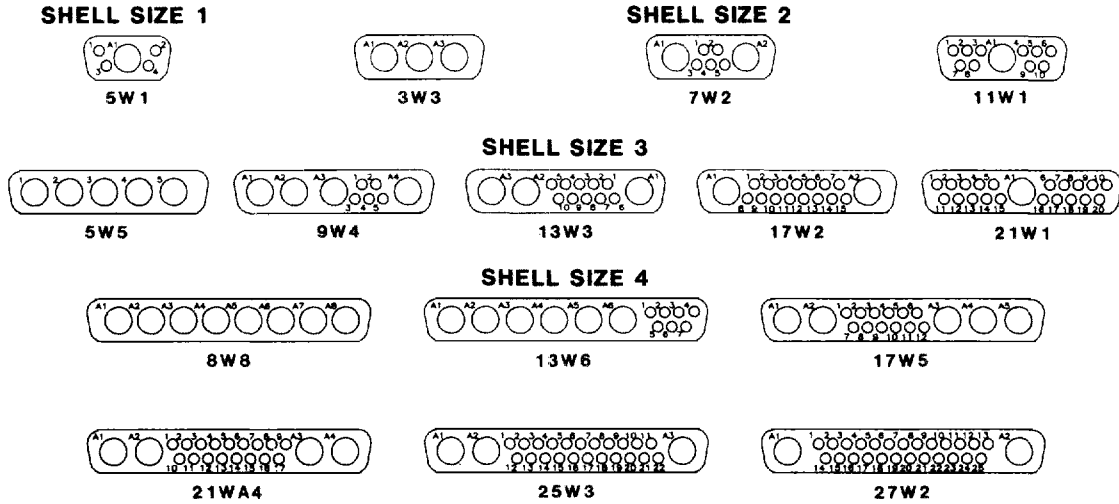
**CLIMATIC CHARACTERISTICS:**

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



**CONTACT VARIANTS**

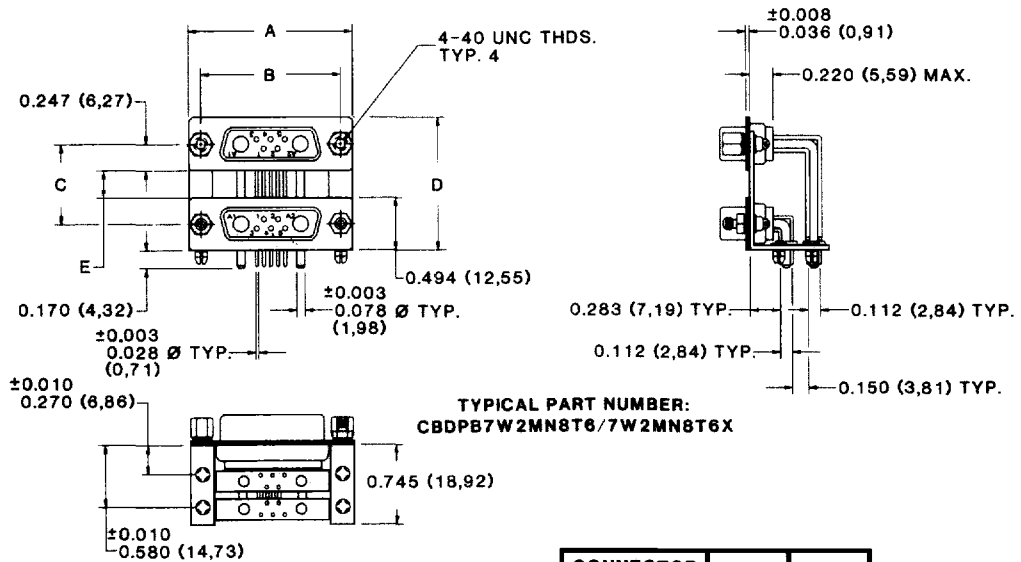
FACE VIEW OF MALE OR REAR VIEW OF FEMALE



**90° PRINTED BOARD MOUNT CONNECTOR**

**4 ROW CONNECTOR UNIT, 0.283 (7,19) CONTACT EXTENSION**

15 AMPERE MAXIMUM RATED POWER CONTACTS



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)	0.400 (10,31)

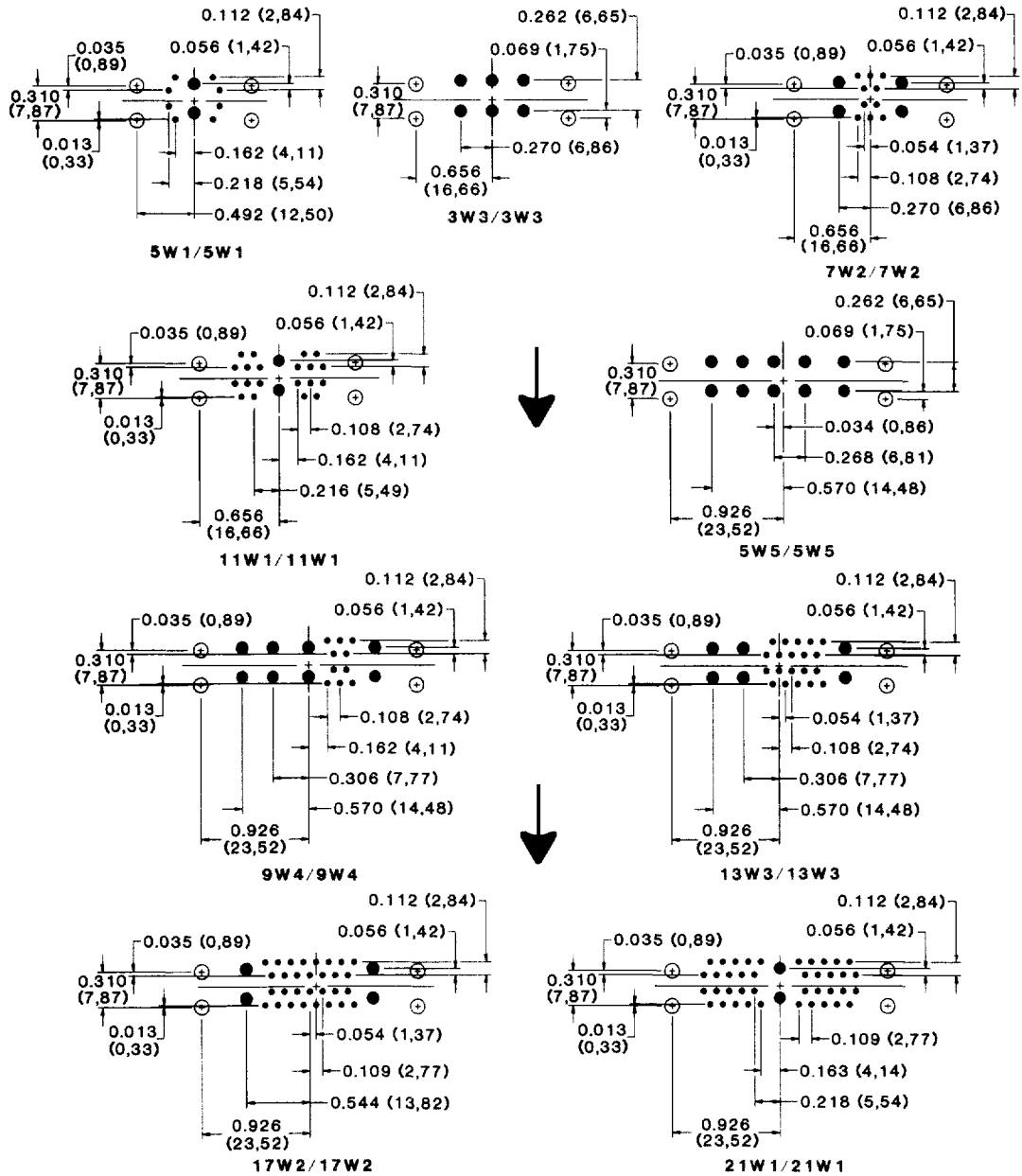
CONNECTOR VARIANT	A	B
SHELL SIZE 1	1.213 (30,81)	0.984 (24,99)
SHELL SIZE 2	1.541 (39,14)	1.312 (33,32)
SHELL SIZE 3	2.088 (53,04)	1.852 (47,04)
SHELL SIZE 4	2.729 (69,32)	2.500 (63,50)

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



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.



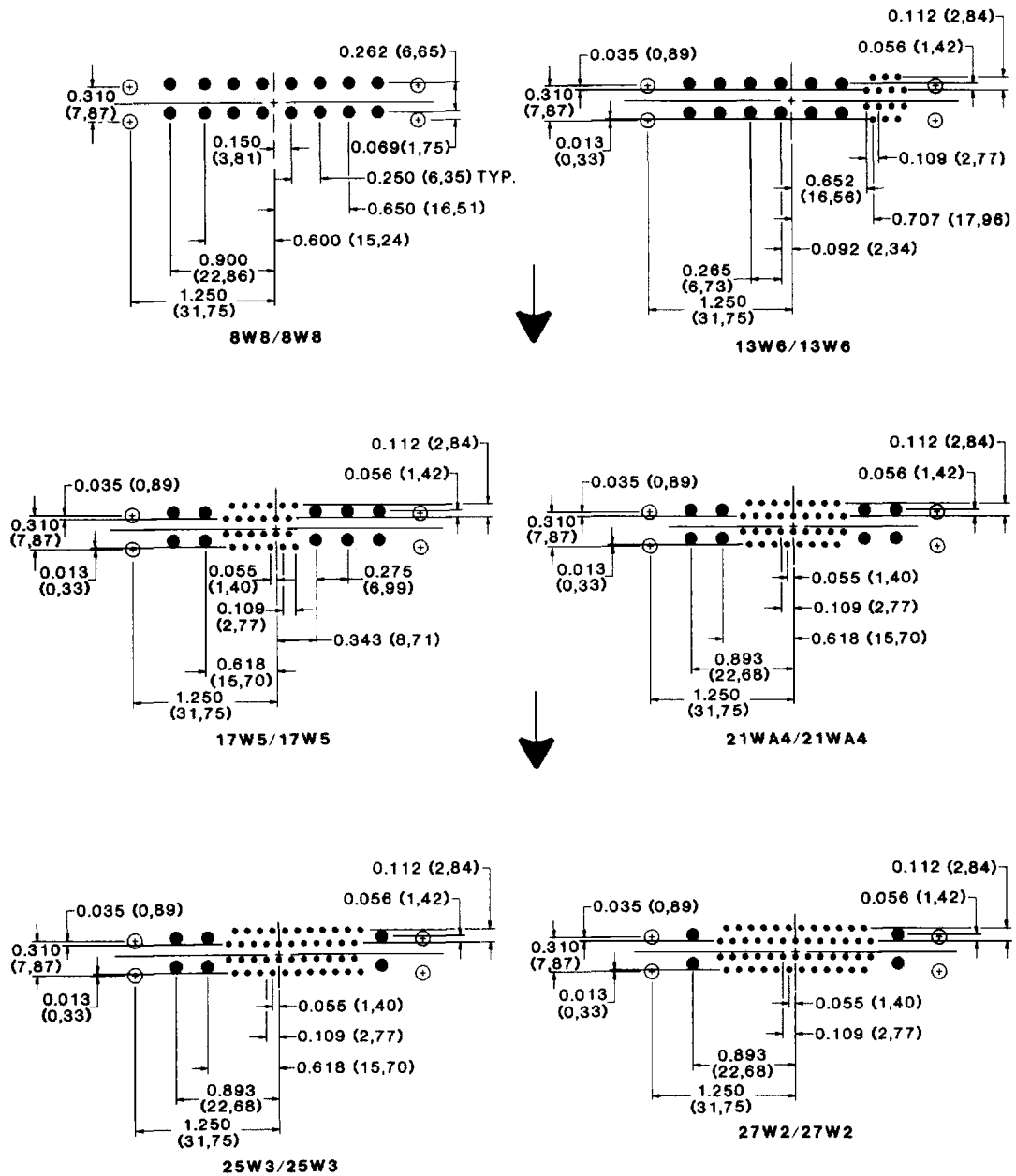
Suggest 0.045 (1,14)  $\varnothing$  hole for signal contact termination positions.  
Suggest 0.098 (2,49)  $\varnothing$  hole for 0.078 (1,98)  $\varnothing$  power contact termination positions.  
Suggest 0.123  $\pm$ 0.003 (3,12)  $\varnothing$  hole for mounting connector with push-on fasteners.

Mounting holes must move 0.020 (0,51)  $\pm$ 0.010 opposite direction of arrow for use of unriveted mounting bracket with connectors.

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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
Upper Connector	CBDPB	7W2	F	R7T
<b>STEP 1 Basic Series</b> CBDPB Series CBDPC Series				
<b>STEP 2 CBDP Series Connector Variants</b> 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				
<b>STEP 3 Connector Gender</b> M – Male F – Female				
<b>STEP 4 Locking, Polarizing, Mounting and Push-on Fastener Systems</b> 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				

5	6	7
7W2	M	R7T

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

8	9
0	

Lower Connector

**STEP 9 Special Options**  
Consult Sales Department

**STEP 8 Shell Options**

- 0 – Zinc Plate with Dichromate Seal
- X – Tin Plated
- Z – Tin Plated and Dimpled

**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 contacts. Removable size 8 shielded and high voltage contacts may also be ordered separately in lieu of the power contact. See catalog of Subminiature-D Connectors for contact part numbers.