

## M9517 SERIES

POWER DISTRIBUTION UNIT



MILPDU

### PRODUCT HIGHLIGHTS

- MODULAR
- MINIATURE
- SINGLE OUTPUT
- 16 ECB OUTPUTS
- UP TO 200A TOTAL



<p><b>Applications</b></p> <p>Military (Airborne, ground-fix, shipboard, vehicle), Ruggedized, Telecom, Industrial</p>			
<p><b>Special Features</b></p> <ul style="list-style-type: none"> <li>• Adjustable overcurrent trip point.</li> <li>• Adjustable short circuit current limit - enables selectivity, prevent short circuit spread.</li> <li>• I<sup>2</sup>T breaking curve - enables short period high current draw while protecting system wiring.</li> <li>• Soft turn-on to ease inrush current demand from power source.</li> <li>• CAN and RS-485 communication</li> <li>• Outputs can be paralleled</li> <li>• True reverse battery protection</li> <li>• Surge and spike suppression</li> </ul>			
<p><b>Electrical Specifications</b></p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><b>DC Input</b></p> <p>6 to 33 V<sub>DC</sub> Steady-State Fully compliant with MIL-STD-1275E Compliance with MIL-STD-1275A-D optional Maximum total load of 200A</p> <p><b>Control</b></p> <ul style="list-style-type: none"> <li>• CAN and RS-485 Interface</li> <li>• Discrete input signals:                             <ul style="list-style-type: none"> <li>○ 4 general-purpose control inputs</li> <li>○ 3 CAN address selection inputs</li> </ul> </li> <li>• Discrete open-drain output signals:                             <ul style="list-style-type: none"> <li>○ 1 Fault indication</li> </ul> </li> </ul> </td> <td style="width: 50%; vertical-align: top;"> <p><b>DC Output</b></p> <ul style="list-style-type: none"> <li>• Input-to-Output impedance: Less than 4 mΩ @ 25 °C</li> <li>• Max load capacitance per channel: 30 mF (can be modified per customer request)</li> <li>• Max load inductance per channel: 200 μH (including line inductance)</li> <li>• Parallel operation capability</li> </ul> <p><b>EMC</b></p> <p>Designed to meet MIL-STD-461F</p> </td> </tr> </table>		<p><b>DC Input</b></p> <p>6 to 33 V<sub>DC</sub> Steady-State Fully compliant with MIL-STD-1275E Compliance with MIL-STD-1275A-D optional Maximum total load of 200A</p> <p><b>Control</b></p> <ul style="list-style-type: none"> <li>• CAN and RS-485 Interface</li> <li>• Discrete input signals:                             <ul style="list-style-type: none"> <li>○ 4 general-purpose control inputs</li> <li>○ 3 CAN address selection inputs</li> </ul> </li> <li>• Discrete open-drain output signals:                             <ul style="list-style-type: none"> <li>○ 1 Fault indication</li> </ul> </li> </ul>	<p><b>DC Output</b></p> <ul style="list-style-type: none"> <li>• Input-to-Output impedance: Less than 4 mΩ @ 25 °C</li> <li>• Max load capacitance per channel: 30 mF (can be modified per customer request)</li> <li>• Max load inductance per channel: 200 μH (including line inductance)</li> <li>• Parallel operation capability</li> </ul> <p><b>EMC</b></p> <p>Designed to meet MIL-STD-461F</p>
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**General Notice:** Specifications are subject to change without prior notice by the manufacturer.

**Environmental Conditions**

Designed to meet MIL-STD-810F

**Temperature**

Operating: -55 °C to +105 °C (at unit's edges)

Storage: -55 °C to +125 °C

**Altitude**

Method 500.4, Procedure I & II, 40,000 ft. and 70,000 ft.

Operational

**Salt Fog**

Method 509-4

**Humidity**

Method 507.4 - Up to 95% RH.

**Vibration and Shock**

Shock: Saw-tooth, 40 g peak, 11 ms.

Vibration: Figure 514.5C-17.

General minimum integrity exposure. (1 hour per axis)

**Reliability**

150,000 hours, calculated per MIL-STD-217F at +50 °C at wedge lock edge, Ground

Mobile

**Environmental Stress Screening (ESS)**

Including random vibration and thermal cycles is also available. **Please consult factory for details.**

**Signals**

**Input Signals**

There are 5 configurable discrete inputs available. Initial configuration of inputs is as follows:

- RAT / GPIN2 - Reset Trips
- DCI\_N / GPIN1 - Selected Outputs On
- BATTLE\_SHORT\_N / GPIN0 - Battle Short mode (Prevents tripping due to overcurrent)
- BR1, BR2 / GPIN3, GPIN4 - Communication baud rate selection

**Fault Indication**

Active when one channel or more have tripped

**Shutdown**

Turns the unit OFF.

At this state, current consumption from the power source decreases to less than 300µA.

## Pin Assignment

### Input Connector P1

**Connector type:** Positronic CBM24W7M570000/AA or eq.

**Mates with:** Positronic CBC24W7S00000/AA (crimp removable contacts) or eq.

Pin No.	Function	Pin No.	Function
A1	VIN	6	BR2
A2	VIN	7	ADDR_RTN
A3	VIN	8	ADDR_1
A4	VIN	9	DigitalOut (TSO)
A5	VIN	10	ADDR_2
A6	VIN	11	DigitalIn(RAT)
A7	VIN_RTN	12	ADDR_3
1	CAN_L	13	SHUTDOWN_N
2	CAN_H	14	28VDC_RTN
3	BATTLE_OVERRIDE_N	15	IS_COM_GND
4	DCI_N	16	RS_485_P
5	BR1	17	RS_485_N

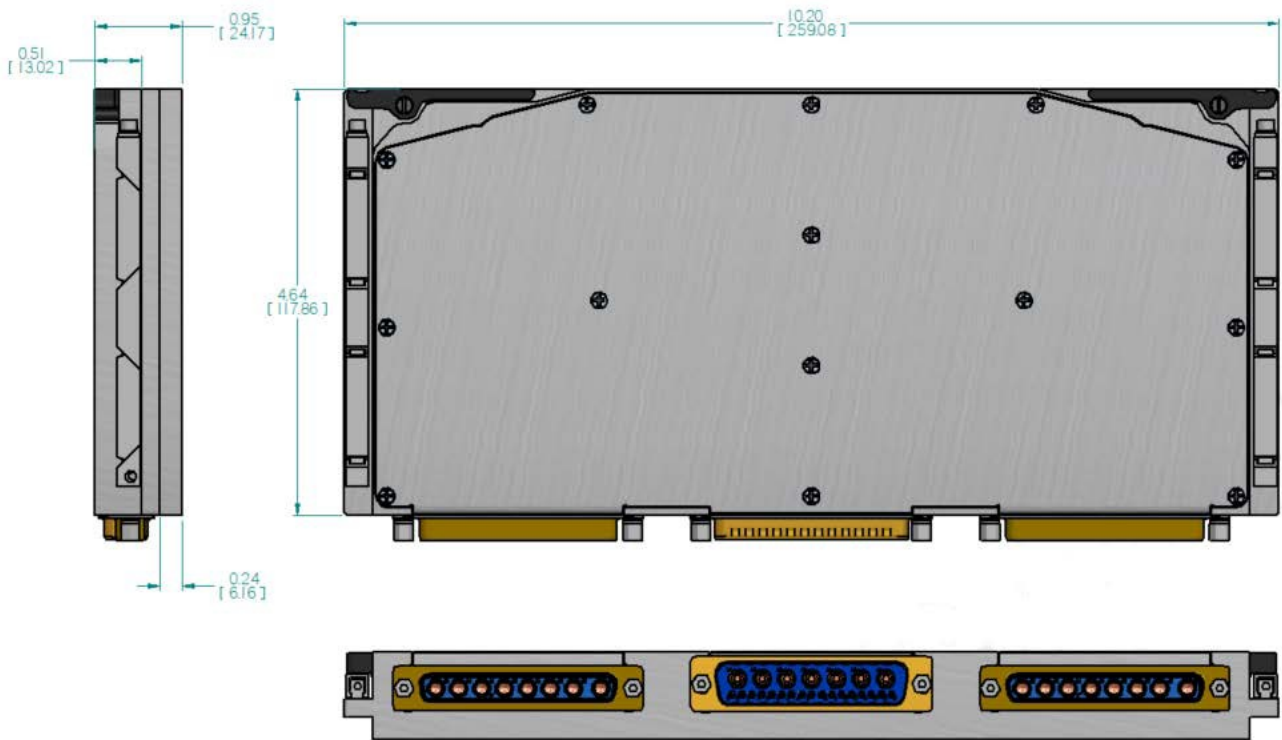
### Output Connector P2

**Connector type:** CBM8W8S570000/AA or eq.

**Mates with:** CBC8W8M00000/AA (crimp removable contacts) or eq.

Pin No.	Function P2	Function P3
A1	CH7_OUT	CH15_OUT
A2	CH6_OUT	CH14_OUT
A3	CH5_OUT	CH13_OUT
A4	CH4_OUT	CH12_OUT
A5	CH3_OUT	CH11_OUT
A6	CH2_OUT	CH10_OUT
A7	CH1_OUT	CH9_OUT
A8	CH0_OUT	CH8_OUT

**Outline Drawing**



**Notes**

1. Dimensions are in inches [mm]
2. Tolerance is:  
.XX  $\pm 0.01$  in  
.XXX  $\pm 0.005$  in
3. Weight: Approx. 22.2 oz [630 g]

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