

M9516 SERIES

POWER DISTRIBUTION UNIT



MILPDU

PRODUCT HIGHLIGHTS

- **MODULAR**
- **MINIATURE**
- **SINGLE OUTPUT**
- **UP TO 200A TOTAL**

M9516 SERIES POWER DISTRIBUTION UNIT - PDU

<p>Applications Military (Airborne, ground-fix, shipboard, vehicle), Ruggedized, Telecom, Industrial</p>			
<p>Special Features</p> <ul style="list-style-type: none"> • Adjustable overcurrent trip point. • Adjustable short circuit current limit - enables selectivity, prevent short circuit spread. • I²T breaking curve - enables short period high current draw while protecting system wiring. • Soft turn-on to ease inrush current demand from power source. • CAN and RS-485 communication • Outputs can be paralleled • True reverse battery protection • Surge and spike suppression 			
<p>Electrical Specifications</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p>DC Input 6 to 33 V_{DC} Steady-State Fully compliant with MIL-STD-1275E Compliance with MIL-STD-1275A-D optional</p> <p>Control</p> <ul style="list-style-type: none"> • CAN and RS-485 Interface • Discrete input signals: <ul style="list-style-type: none"> ○ 4 general-purpose control inputs ○ 3 CAN address selection inputs • Discrete open-drain output signals: <ul style="list-style-type: none"> ○ 1 Fault indication </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p>DC Output</p> <ul style="list-style-type: none"> • Input-to-Output impedance: Less than 4 mΩ @ 25 °C • Max load capacitance per channel: 30 mF (can be modified per customer request) • Max load inductance per channel: 200 μH (including line inductance) • Parallel operation capability <p>EMC Designed to meet MIL-STD-461F</p> </td> </tr> </table>		<p>DC Input 6 to 33 V_{DC} Steady-State Fully compliant with MIL-STD-1275E Compliance with MIL-STD-1275A-D optional</p> <p>Control</p> <ul style="list-style-type: none"> • CAN and RS-485 Interface • Discrete input signals: <ul style="list-style-type: none"> ○ 4 general-purpose control inputs ○ 3 CAN address selection inputs • Discrete open-drain output signals: <ul style="list-style-type: none"> ○ 1 Fault indication 	<p>DC Output</p> <ul style="list-style-type: none"> • Input-to-Output impedance: Less than 4 mΩ @ 25 °C • Max load capacitance per channel: 30 mF (can be modified per customer request) • Max load inductance per channel: 200 μH (including line inductance) • Parallel operation capability <p>EMC Designed to meet MIL-STD-461F</p>
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<p>Protections (Thresholds and protections can be modified / removed – please consult factory).</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p>Input</p> <ul style="list-style-type: none"> • Surges and Spikes Protection IAW MIL-STD-1275A-E. DEF STAN 61-5 Part 6 Issue 6 optional. • Reverse Polarity Protection Device <u>and loads</u> protected on occasion of reverse voltage application. • Under Voltage Lockout Device and outputs turn off when input voltage drops below 5.5 V. Device turns back on when input voltage rises above 6 V </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> <p>Output</p> <ul style="list-style-type: none"> • Overload Breaking Current Adjustable from 2A to 25 A according to I²T curve. • Short Circuit Current Limit Adjustable from 10 A to 125 A according to SCL curve. </td> </tr> </table>		<p>Input</p> <ul style="list-style-type: none"> • Surges and Spikes Protection IAW MIL-STD-1275A-E. DEF STAN 61-5 Part 6 Issue 6 optional. • Reverse Polarity Protection Device <u>and loads</u> protected on occasion of reverse voltage application. • Under Voltage Lockout Device and outputs turn off when input voltage drops below 5.5 V. Device turns back on when input voltage rises above 6 V 	<p>Output</p> <ul style="list-style-type: none"> • Overload Breaking Current Adjustable from 2A to 25 A according to I²T curve. • Short Circuit Current Limit Adjustable from 10 A to 125 A according to SCL curve.
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<i>Environmental Conditions</i>		
Designed to meet MIL-STD-810F		
<u>Temperature</u>	<u>Altitude</u>	<u>Salt Fog</u>
Operating: -55 °C to +105 °C (at unit's edges) Storage: -55 °C to +125 °C	Method 500.4, Procedure I & II, 40,000 ft. and 70,000 ft. Operational	Method 509-4
<u>Humidity</u>	<u>Vibration and Shock</u>	<u>Reliability</u>
Method 507.4 - Up to 95% RH.	Shock: Saw-tooth, 40 g peak, 11 ms. Vibration: Figure 514.5C-17. General minimum integrity exposure. (1 hour per axis)	150,000 hours, calculated per MIL-STD-217F at +50 °C at wedge lock edge, Ground Mobile 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.

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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
A1	VIN
A2	VIN
A3	VIN
A4	VIN
A5	VIN
A6	VIN
A7	VIN_RTN
1	CAN_L
2	CAN_H
3	BATTLE_OVERRIDE_N
4	DCI_N
5	BR1

Pin No.	Function
6	BR2
7	ADDR_RTN
8	ADDR_1
9	DigitalOut (TSO)
10	ADDR_2
11	DigitalIn(RAT)
12	ADDR_3
13	SHUTDOWN_N
14	28VDC_RTN
15	IS_COM_GND
16	RS_485_P
17	RS_485_N

Output Connector P2

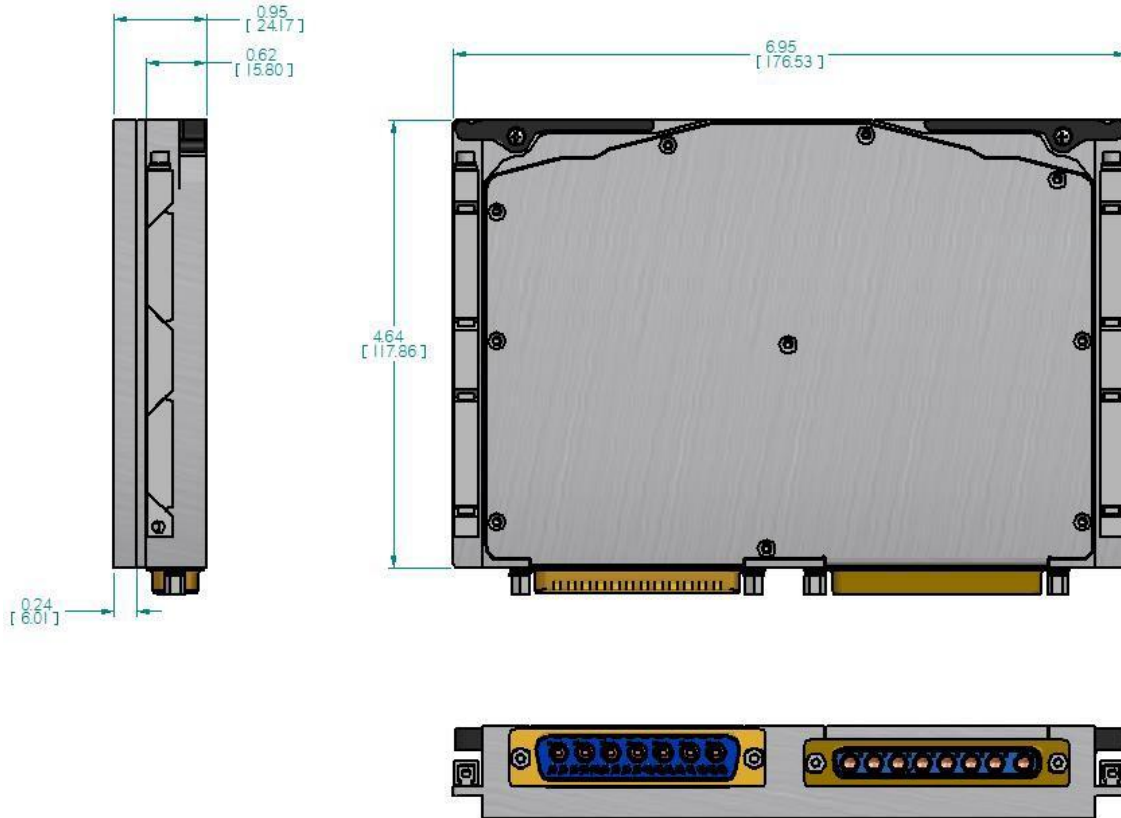
Connector type: CBM8W8S570000/AA or eq.

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

Pin No.	Function
A1	CH7_OUT
A2	CH6_OUT
A3	CH5_OUT
A4	CH4_OUT
A5	CH3_OUT
A6	CH2_OUT
A7	CH1_OUT
A8	CH0_OUT

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Outline Drawing



Notes

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

Note: Specifications are subject to change without prior notice by the manufacturer