

M9516 SERIES

POWER DISTRIBUTION UNIT



MILPDU

PRODUCT HIGHLIGHTS

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



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Applications

Military (Airborne, ground-fix, shipboard, vehicle), Ruggedized, Telecom, Industrial

Special Features

- 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

Electrical Specifications

DC Input

6 to 33 V_{DC} Steady-State
 Fully compliant with MIL-STD-1275E
 Compliance with MIL-STD-1275A-D optional

Control

- CAN and RS-485 Interface
- Discrete input signals:
 - 4 general-purpose control inputs
 - 3 CAN address selection inputs
- Discrete open-drain output signals:
 - 1 Fault indication

DC Output

- 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

EMC

Designed to meet MIL-STD-461F

Protections (Thresholds and protections can be modified / removed – please consult factory).

Input

- **Surges and Spikes Protection**
 IAW MIL-STD-1275A-E.
 DEF STAN 61-5 Part 6 Issue 6 optional.
- **Reverse Polarity Protection**
 Device and loads 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

Output

- **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.

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
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
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

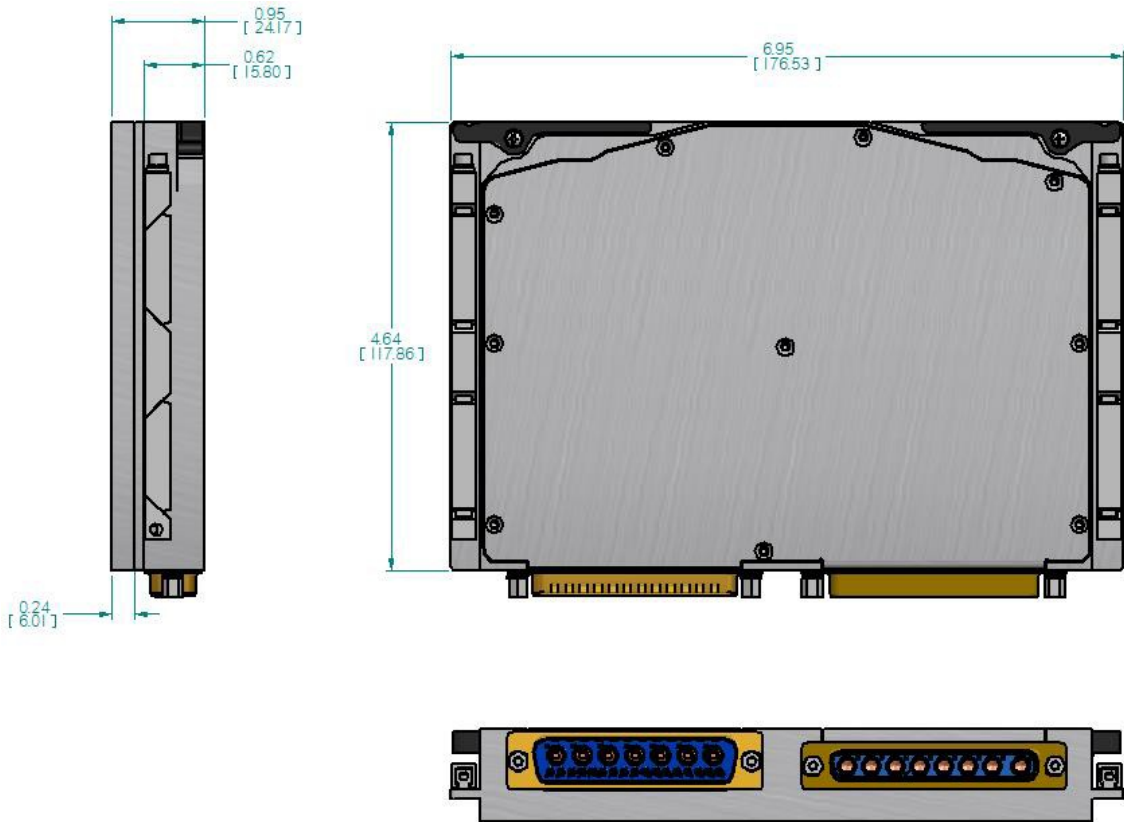
Output Connector P2

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

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