Amphenol
MILITARY HIGH SPEED

M9516 Series
POWER DISTRIBUTION UNIT

DESCRIPTION

The M9516 Series is an 8-channel VME form factor power distribution unit, designed for airborne and ground applications. This power management solution distributes 28VDC (current is up to 200A) through overload and short-circuit protected switches. The M9516 supports CAN and RS-485 communication to control and configure the device. Complies with MIL-STD-1275, MIL-STD-461E & MIL-STD-810. Packed in a small form factor with operating temperature of -55°C to +105°C and altitude of up to 70,000 ft, making it the ultimate PDU solution for UAV applications.

FEATURES

- Adjustable overcurrent trip point.
- Adjustable short circuit current limit enables selectivity, prevent short circuit spread.
- I^2T 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

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HOW TO ORDER:

Part Number	CF-02EM9516	Power distribution unit

PRODUCT SPECIFICATIONS:

Electrical Specifications		
DC Input	6 to 33 VDC 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:	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	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 Designed to meet MIL-STD-810G		
Temperature	Operating:	–55°C to +105°C (at unit's edges)
	Storage:	–55°C to +125°C
Humidity	Method 507.4 Up to RH 95%	
Altitude	Method 500.4, Procedure I & II, 40,000 ft. and 70,000 ft. Operational	
Vibration and Shock	Shock: Saw-tooth, 40 g peak, 11 ms. Vibration: Figure 514.5C-17. General minimum integrity exposure. (1 hour per axis)	
Salt Fog	Method 509.5	
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
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

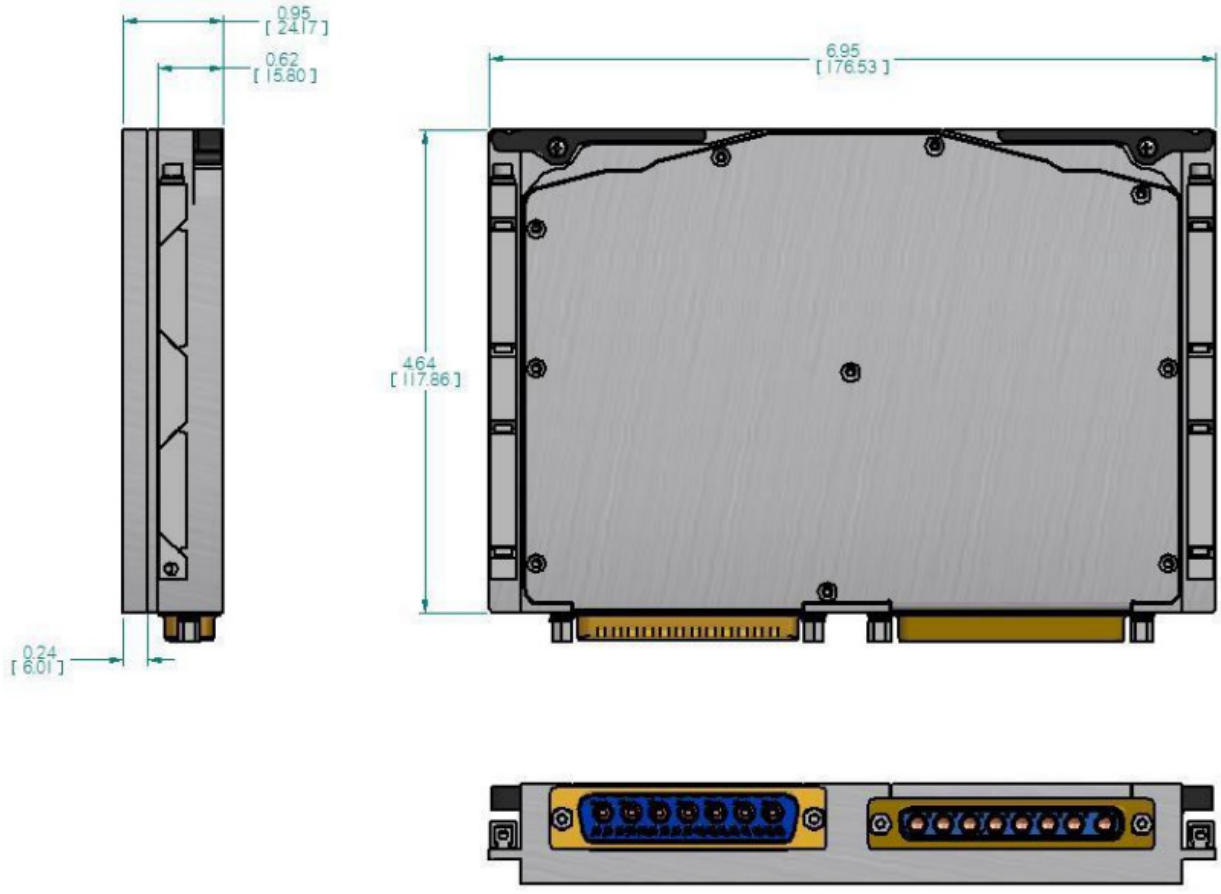
Pin No.	Function
6	BR2
7	ADDR _RTN
8	ADDR_1
9	DigitalOut (TSO)
10	ADDR_2
11	DigitalIn(RAT)
12	ADDR_3
13	SHUTDOWN_N
14	28VDC_RTN
15	IS_COM_GND
16	RS_485_P
17	RS_485_N

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]

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