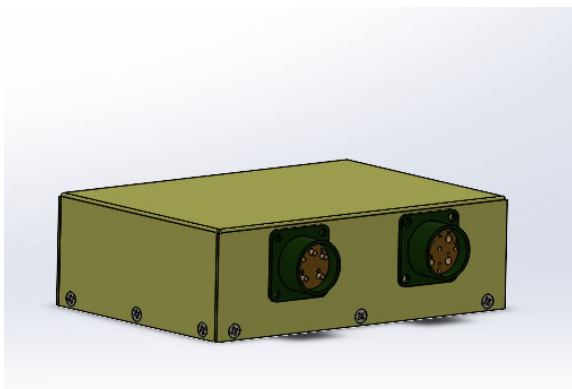




MDC4001-XX(X)

DATASHEET REV A 3/25/2023

400W SINGLE OUTPUT DC/DC POWER SUPPLY



- 100V / 1S Max Surge Rated
- Operates -40°C to +85°C Base Plate
- Ruggedized For MIL-STD-810 Requirements
- MIL-STD-704 / MIL-STD-1275 Compliant
- Meets MIL-STD-461 Requirements
- Over Current and Over Voltage Protection
- Less Than 1U in Height for System Integration
- >90% Efficiency

DESCRIPTION:

This line of DC/DC power supply is designed to be compact and ruggedized for military applications. The MDC4001 series Power Supply operates over a wide input voltage range while providing a tightly regulated output voltage at high efficiency. It also provides transient protection for surges to MIL-STD-704 and MIL-STD-1275. Many features are incorporated that make it an ideal choice for use in Airborne, Shipboard, or Ground Fixed applications.

GENERAL SPECIFICATIONS			
INPUT VOLTAGE:	16-70VDC		
PART NUMBER:			
MDC4001-(XX)	12	28	50
OUTPUT VOLTAGE:	12VDC	28VDC	50VDC
OUTPUT CURRENT:	33A	14A	8A
OUTPUT POWER:	UP TO 400 WATTS		
CASE STYLE:	D-SUB CONNECTORS	CIRCULAR CONNECTORS	
MDC4001-XX(X)	MDC4001-XXD	MDC4001-XXC	
PHYSICAL SIZE (L, W, H):	4.0" X 5.8" X 1.6"		
WEIGHT:	<3LBS		
MTBF:	CONTACT SALES@PRIME-POWER.COM TO SPECIFY ENVIRONMENT AND TEMPERATURE		

*NOTE: () IN PART NUMBERS SHOW OPTIONAL CHARACTERS.

PHYSICAL CHARACTERISTICS		
MAXIMUM CASE SIZE	4.0" X 5.8" X 1.6"	
COOLING METHOD	CONDUCTION	
ENCAPSULATION	CONFORMAL COAT.	
SUPPLY FINISH	YELLOW CHROMATE MIL-C-5541 CLASS 1A	
IN/OUT TERMINATION(D-SUB)	9 PIN MALE DSUB	25 PIN FEMALE DSUB
IN/OUT TERMINATION (C-MIL)	MIL-DTL-26482 SERIES II, size 14	MIL-DTL-26482 SERIES II, size 14
MOUNTING	THREADED BASE PLATE	

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1 OWENS CT.
HAMPSTEAD NH, 03841.



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ELECTRICAL SPECIFICATIONS			
INPUT VOLTAGE	16Vdc - 70Vdc		
UNDERVOLTAGE LOCKOUT	Turn on Threshold: 15.1V - 15.9V turn-on / 13.4V - 14.2V turn-off		
ISOLATION	IN TO OUT & IN to CASE: 1500Vdc, OUT TO CASE: 500Vdc		
ISOLATION RESISTANCE	100MOHM		
EMI/EMC	DESIGNED TO MEET MIL-STD-461F: CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102		
OUTPUT VOLTAGE:	12VDC	28VDC	50VDC
OUTPUT POWER	396W	392W	400W
CURRENT LIMIT (MIN-MAX)	36A - 44A	15.4A - 18.2A	8.8A - 10.4A
O.V.P. (MIN-MAX)	14-16V	32-38V	58-64V
LOAD STEP RECOVERY (TYP) (50% - 75% - 50%)	500mV 500 μ s	1V 1 mS	400mV 600 μ s
LINE/LOAD REGULATION	1% TYP. N.L. TO F.L.		
PARD (RIPPLE/NOISE) DC-20MHZ	1% TYP. OF VOUT		
SHORT CIRCUIT	INDEFINITE, AUTO RECOVERY		
OVER TEMPERATURE	SHUTDOWN: 125°C TYP., AUTO RECOVERY: 10°C HYSTERESIS		
EFFICIENCY	$\geq 90\%$		

ENVIRONMENTAL SPECIFICATIONS		
ALTITUDE	MIL-STD-810G	Method 500.5, Procedure 1 & 2
HIGH TEMPERATURE	MIL-STD-810G	Method 501.5, Procedure 1 & 2
LOW TEMPERATURE	MIL-STD-810G	Method 502.5, Procedure 1 & 2
HUMIDITY	MIL-STD-810G	Method 507.5, Procedure 2
FUNGUS	MIL-STD-810G	Method 508.6, Table 508.6-I
SALT FOG	MIL-STD-810G	Method 509.5, Storage
SAND AND DUST	MIL-STD-810G	Method 510.5, Procedure 1 & 2
EXPLOSIVE ATMOSPHERE	MIL-STD-810G	Method 511.5, Procedure 1
ACCELERATION	MIL-STD-810G	Method 513.6, Procedure 2
VIBRATION	MIL-STD-810G	Method 514.6, Procedure 1
HIGH-IMPACT SHOCK	MIL-DTL-901E	Light Weight, Class 1, Type A

* These are typical tests performed on similar products.

TEMPERATURE SPECIFICATIONS	
OPERATING TEMPERATURE (BASEPLATE)	-40°C TO +85°C
STORAGE TEMPERATURE	-55°C TO +125°C
TEMPERATURE COEFFICIENT	.02%/°C

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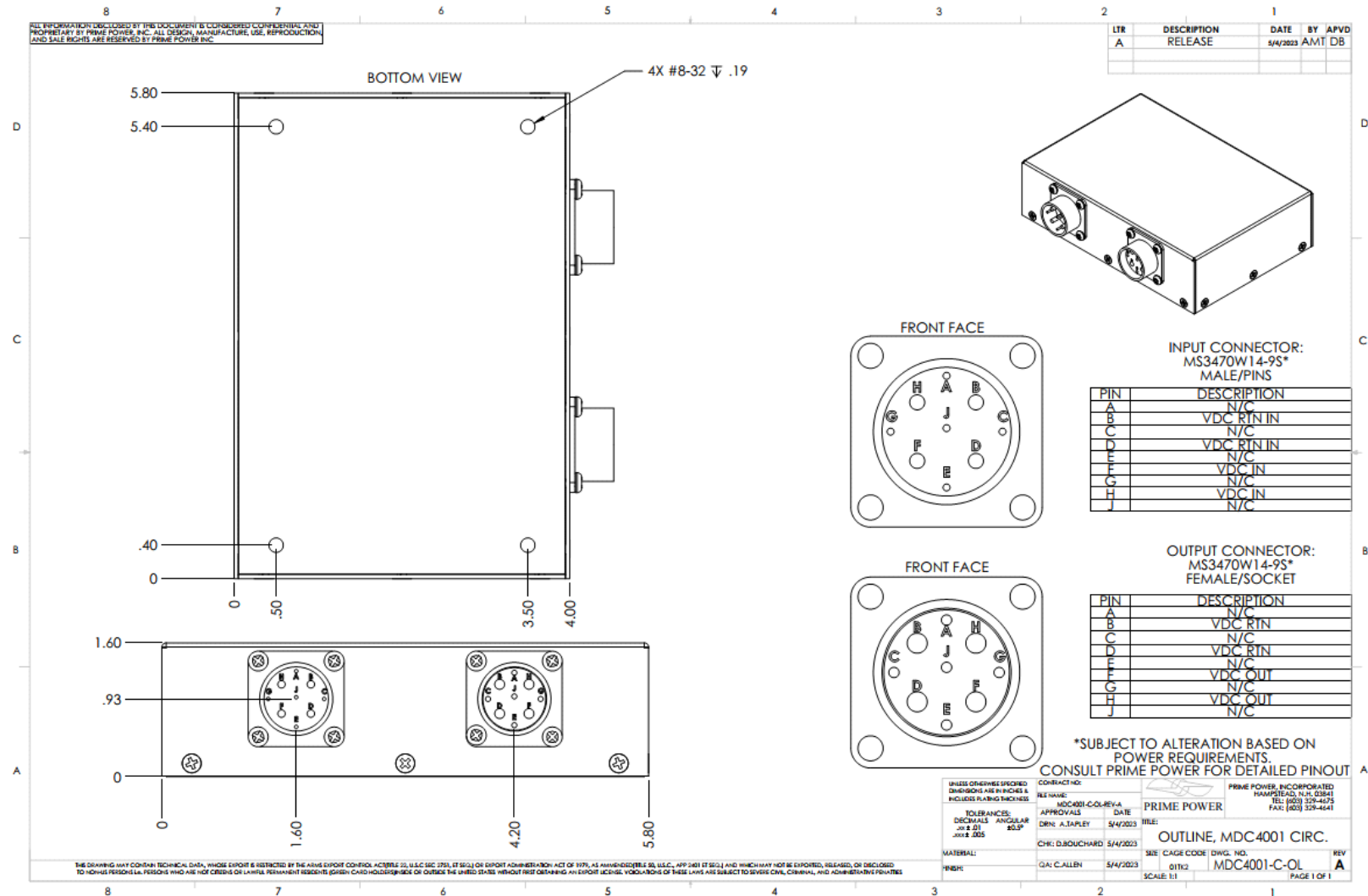
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