

MCC75-250 Series



- 75 W and 150 W Regulated Outputs
- Optional 100 W Conditioned Rail
- Input Voltage to MIL-STD-1275A/B/C/D
- MIL-STD-461E/F
- Rugged Construction to MIL-STD-810F
- Available Q4 2009
- 3 Year Warranty

Specification

Input

Input Voltage Range	• 10.5 - 40 VDC steady state
Input Current	• See table
Inrush Current	• <60 A
Input Reverse Voltage Protection	• Yes
Input Transient	• MIL-STD-1275A/B/C/D
Undervoltage Lockout	• Vin <10 VDC

Output

Output Voltage	• See table
Output Voltage Adjustment	• -20%, +10% ($\pm 10\%$ for 3V3), factory set
Aux. Output Voltage	• Vout Aux (min) = Vin - 2 VDC
Aux. Output Power	• 100 W
Maximum Aux Output	• Vout clamped <40 VDC
Minimum Load	• No minimum load on single outputs, 5% minimum load required on dual outputs
Line Regulation	• $\pm 1\%$ Vout nominal
Load Regulation	• $\pm 1\%$ Vout nominal single, $\pm 2\%$ dual
Cross Regulation	• $\pm 4\%$ on duals, see note 5
Output Set Tolerance	• $\pm 1.5\%$
External Hold Up	• External connection for additional hold up capacitance, consult sales
Ripple & Noise	• 50 mV, 3V3, 5V and 1% pk-pk other models, 20 MHz bandwidth
Temperature Coefficient	• $\pm 0.05\%/^{\circ}\text{C}$
Overvoltage Protection	• 120-140% of nominal output
Overcurrent Protection	• 110-140% of nominal output
Short Circuit Protection	• Constant current
Overtemperature Protection	• $>+90^{\circ}\text{C}$ baseplate temperature, auto restart
Remote Sense	• Compensates for 0.5 V total voltage drop, single outputs only
Current Share	• Up to 2 units, single output only

General

Efficiency	• See table
Isolation Voltage	• 1500 VDC Input to Output, 1000 VDC Input to Chassis, 500 VDC Output to Chassis
Material and Finish	• Aluminium baseplate and safety cover
Input Inhibit	• Global enable and disable function on Input CN1 connector, short to input negative to inhibit
Output Inhibit	• TTL high to inhibit
Input Inhibited Current	• < 5 mA
DC OK Signal	• Optional on output voltages ≥ 5 VDC Isolated opto-coupler output (see note 4)
MTBF	• 540 kHrs to MIL-HDBK-217F at 40 $^{\circ}\text{C}$, GB

Environmental

Operating Temperature	• -40°C to $+70^{\circ}\text{C}$ ambient with baseplate temperature within -40°C to $+90^{\circ}\text{C}$ (start up at -55°C)
Cooling	• Baseplate-cooled. It is recommended that a thermal pad or compound is fitted between the MCC baseplate and any heatsink structure used in the system design.
Operating Humidity	• 20-95% non-condensing
Storage Temperature	• -40°C to $+90^{\circ}\text{C}$
Storage Humidity	• 20-95% non-condensing
Shock	• 40 g MIL-STD-810F, method 516.5-1
Vibration	• MIL-STD-810F, method 514.5C-17 minimum integrity test for military equipment

EMC

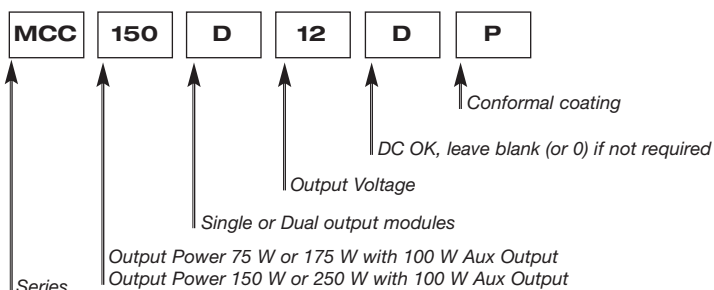
Emissions	• EN55022 Level B conducted MIL-STD-461E/F army ground use CE101 & CE102, DEF STAN 59-41 DCE01, DCE02
Conducted Immunity	• MIL-STD-1275A/B/C/D, DEF STAN 61-5 Pt 6 MIL-STD-461E/F, CS101, CS114, CS115, CS116

Models and Ratings

MCC75-250 XP

Output Power ⁽²⁾	Output Voltage	Output Current	Input Current ⁽¹⁾	Efficiency	Model Number ^(3,4)
66 W	3.3 V	20.0 A	2.91 A	81%	MCC75S3V3
75 W	5.0 V	14.0 A	3.23 A	83%	MCC75S05
75 W	12.0 V	6.25 A	3.23 A	83%	MCC75S12
75 W	15.0 V	5.0 A	3.23 A	83%	MCC75S15
75 W	28.0 V	2.7 A	3.27 A	82%	MCC75S28
75 W	±12.0 V	±3.13 A	3.27 A	82%	MCC75D12 ⁽⁵⁾
75 W	±15.0 V	±2.5 A	2.91 A	81%	MCC75D15 ⁽⁵⁾
132 W	3.3 V	40.0 A	5.90 A	80%	MCC150S3V3
150 W	5.0 V	30.0 A	6.40 A	83%	MCC150S05
150 W	12.0 V	12.5 A	6.40 A	83%	MCC150S12
150 W	15.0 V	10.0 A	6.30 A	85%	MCC150S15
150 W	28.0 V	5.35 A	6.30 A	85%	MCC150S28
150 W	±12.0 V	±6.25 A	6.40 A	83%	MCC150D12 ⁽⁵⁾
150 W	±15.0 V	±5.0 A	6.30 A	84%	MCC150D15 ⁽⁵⁾

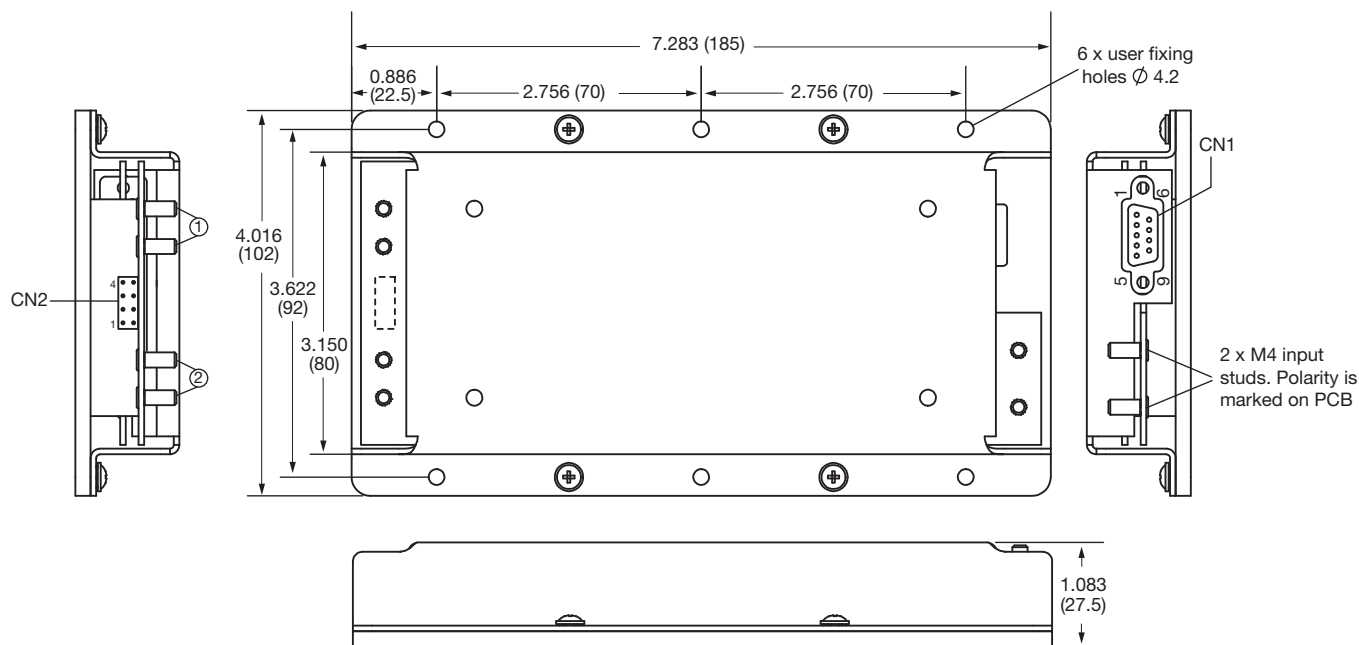
Example



Notes

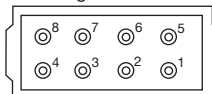
1. Typical and measured at 28 V input, 100% load
2. Output power increases by 100 W when auxiliary output option is specified.
3. 175 W and 250 W units include 100 W non-regulated auxiliary output. Change 75 in part number to 175 or change 150 to 250, (see example).
4. For DC OK signal, add suffix D to the part number.
5. Minimum load of 5% required on one output for 4% regulation on the other.

Mechanical Details



Signals Connector CN2	
Pin	Function
1	Disable
2	+sense
3	DC OK
4	Current Share
5	Disable RTN
6	-sense
7	DC OK RTN
8	N/C

CN2 Signal connector



Harwin 2mm Datamate Connector.
Horizontal male latched.
Harwin p/n: M80-8680842

① ② = M3 output studs, polarity is marked on PCB

9-Pin Aux Output Connector CN1	
Pin	Function
1	External Holdup Negative
2	External Holdup Positive
3	Aux Output Positive
4	Aux Output Positive
5	Aux Output Positive
6	Global Inhibit
7	Aux Output Negative
8	Aux Output Negative
9	Aux Output Negative

Notes

For mating signal connector kit order part number MCC 8SIG CON KIT
All dimensions are in inches (mm).
Maximum weight 1.76 lb (0.8kg).

Tolerance: ±0.008 in (±0.2 mm)
Max Torque: M3 studs 13.3 lbs-in (1.5 Nm), M4 studs 17.7 lbs-in (2.0 Nm)

