65 Watts
MCS Series



- Rugged Desktop Design
- 65 W – Convection–Cooled
- IP67 Ingress Protection
- Wide Operating Temp. Range –40°C to +70°C
- MIL–STD EMC, Shock & Vibration
- <0.5 W No Load Input Power
- 3 Year Warranty

Specification

Input

Input Voltage	• 90-264 VAC
Input Frequency	• 47-440 Hz
Input Current	• 1.1/0.7 A typical at 115/230 VAC
Inrush Current	• 60 A typical at 230 VAC, cold start at 25 ˚C
Power Factor	• EN61000-3-2, class A compliant
No Load Input Power	• <0.5 W
Earth Leakage Current	• 260 µA at 264 VAC/60 Hz max, 0.7/1.5 mA typical 115/230 VAC 400 Hz.
Input Protection	• Internal T3.15/250 V fuse in line and neutral

Output

Output Voltage	• 12-28 VDC (see table)
Output Voltage Trim	• No user adjustment
Minimum Load	• No minimum load required
Start Up Delay	• 1 s typical
Start Up Rise Time	• 50 ms
Hold Up Time	• 16 ms typ. at 115 VAC
Drift	• ±0.2% after 20 min warm up
Total Regulation	• See table
Transient Response	• 4% max. deviation, recovery to within 1% in 500 µs for a 50-75-50% load change
Ripple & Noise	• 1% pk-pk, 20 MHz bandwidth[1]
Overvoltage Protection	• 115-140% Vnom, recycle input to reset
Overload Protection	• 110-160%
Short Circuit Protection	• Continuous trip and restart (hiccup mode)
Temperature Coefficient	• 0.05%/˚C

General

Efficiency	• Up to 88% model dependent
Isolation	• 4000 VAC Input to Output, 1500 VAC Input to Ground, 500 VDC Output to Ground,
Switching Frequency	• 65 KHz typical
MTBF	• 1057 kHrs, to MIL-HDBK-217F at 25 ˚C, GB

Environmental

Operating Temperature	• -40 ˚C to +70 ˚C derate linearly from +50 ˚C at 2.5%/˚C to 50% load at +70 ˚C. See derating curves.
Cooling	• Convection-cooled (see tables)
Operating Humidity	• 95% RH, non-condensing
Storage Temperature	• -40 ˚C to +85 ˚C
Operating Altitude	• 3048 m
Shock	• MIL-STD-810F, Method 516, Procedure 1 40g, 3 shocks, 6 axis, total 18 shocks, operational
Vibration	• MIL-STD-810F, Method 514, Procedure 1 (fig 514.5C-3 composite wheeled vehicle) 5 - 500Hz, 3 axis, operational.
Ingress Protection	• IP67

EMC & Safety

Emissions	• MIL-STD-461F - Ground Army, CE102. MIL-STD-461F - Ground Army, RE102. Figure RE102-3 fixed wing external 2MHz - 18GHz. EN55011/22 level B conducted EN55011/22 level A radiated
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3
Radiated Immunity	• EN61000-4-3, level 3 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, class 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 3 Perf Criteria A
Dips & Interruptions	• EN61000-4-11, Class 3
Other Immunity	• MIL-STD-461F - Ground Army, CS101, Conducted Susceptibility, Power Leads, 30 Hz to 150 kHz. - CS101-1 Curve #1 CS114, Conducted Susceptibility, Bulk Cable Injection, 10 kHz to 200 MHz CS114-1 Curve #2, CS115, Conducted Susceptibility, Bulk Cable Injection, Impulse Excitation. CS116, Conducted Susceptibility, Damped Sinusoidal Transients, Cables and Power RS103, Radiated Susceptibility, Electric Field, 2 MHz to 40 GHz. Table VII - Ground Limits

Notes

1. Measured at the end of the output cable with 10 µF electrolytic and 0.1 µF ceramic capacitor.

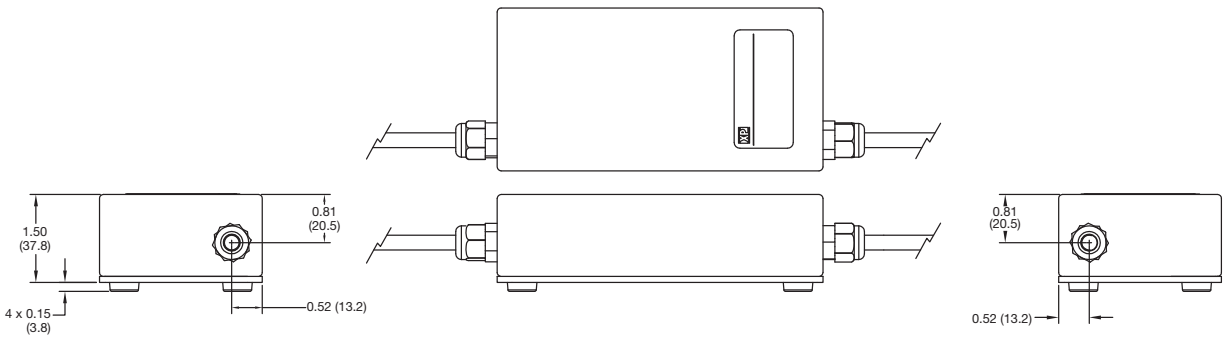
Models and Ratings

Output Power	Output Voltage	Output Current	Regulation	Model Number[1]
65 W	12.0 VDC	5.4 A	11.40V - 12.60V	MCS65US12-D9
65 W	15.0 VDC	4.3 A	14.25V - 15.75V	MCS65US15-D9
65 W	18.5 VDC	3.4 A	17.10V - 18.90V	MCS65US18-D9
65 W	24.0 VDC	2.7 A	22.80V - 25.20V	MCS65US24-D9
65 W	28.0 VDC	2.3 A	26.60V - 29.40V	MCS65US28-D9

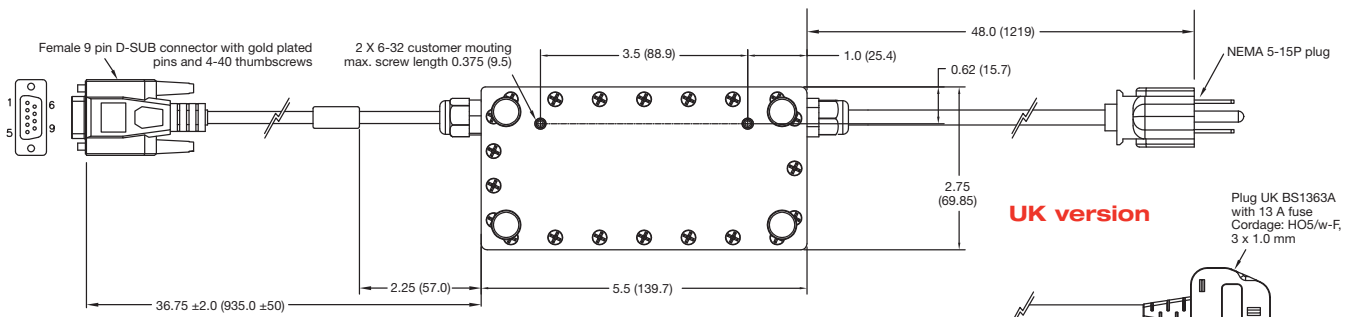
Notes

1. These models are supplied with integral US style AC plug, for UK or EU alternatives add suffix -UK or -EU respectively e.g. MCS65US12-D9-EU.

Mechanical Details

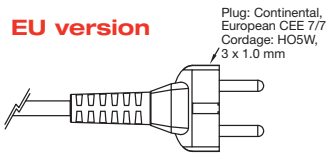


US version



UK version

EU version



Notes

1. All dimensions in inches (mm).
   Tolerance .xx = ±0.02 (0.50); .xxx = ±0.01 (0.25), except output cable length
2. Weight: 2.50 lbs (1.13 Kg)

Ouput Connector D-SUB 9 Pin			
Pin	Connection	Pin	Connection
Pin 1	Ground	Pin 6	N/C
Pin 2	N/C	Pin 7	N/C
Pin 3	N/C	Pin 8	-Vout
Pin 4	+Vout	Pin 9	-Vout
Pin 5	+Vout		

Derating Curves

