480W AC to DC Power Supply DIN Rail Mount

multicomp PRO

Features

- High Efficiency 94%
- Built-In Active P.F.C
- 150% Peak Load Capability
- SELV Components Design
- Parallel Function
- 3 Years Warranty

RoHS Compliant

c UL us LISTED IND. CONT. EQ. UL 508 | c US Class I, Div 2 | TÜV SÜD C US UL 62368-1 | TÜV SÜD EN 62368-1 | CE

Model List						
Model No.	**Input Voltage**	**Output Wattage**	**Output Voltage**	**Output Current**	**EFF. (Min.)**	**EFF. (Typ.)**
Single Output Models						
MP-DRE480-24A	88V AC to 264V AC	480 WATTS	+24V DC	20A	91%	93%
MP-DRE480-48A			+48V DC	10 A	92%	94%

Specification

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

General					
Characteristics	**Conditions**	**Min.**	**Typ.**	**Max.**	**Unit**
Switching Frequency	Vi nom, Io nom		90		kHz
Isolation Voltage	Input - Output	3,000 / 4,242			V AC / V DC
	Input-FG	1,500 / 2,121			V AC / V DC
	Output-FG	500 / 710			V AC / V DC
Isolation Resistance	Input- Output, @ 500V DC	100			MΩ
Ambient Temperature	Operating at Vi nom	-35		+ 71	°C
Derating (see Derating curve)	Vi nom, from +61°C to +71°C			2.5	% / °C
Storage Temperature	Non operational	-40		+ 85	°C
Relative Humidity	Vi nom, Io nom	20		95	% RH
Temperature Coefficient	Vi nom, Io min			± 0.03	% / °C
MTBF	Bellcore Issue 6 @40°C, GB 12V 24V			440,000 410,000	Hours
Altitude During Operation	EN 62368-1			5,000	m
Dimension	Screw terminal type	L124.5 × W83.5 × D123.6			mm
Cooling	Free air convection				
Installation Position	Vertical (other direction may derating using)				
Pollution Degree		2			

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Input Specifications

Characteristics	Conditions		Min.	Typ.	Max.	Unit
Rated Input Voltage	Io nom			115 / 230		V AC
Input voltage Range	Ta min ... Ta max, Io nom	AC in DC in	88 120		264 375	V AC V AC
Input Current	Vi : 115 / 230 V AC, Io nom			4.8 / 2.4		A
Rated input Current	Vi : 88 VAC, Io nom				6.5	A
Line Frequency	Vi nom, Io nom		47		63	Hz
Inrush Current	Vi : 115 / 230 V AC , Io nom				24 / 48	A
Power Dissipation	Vi : 230 VAC, Io nom			37		W
Leakage Current	Input-Output					
	Input-FG				3.5	mA
P.F.C (Active)	Vi : 230V AC, Io nom			0.94		

Output Specifications

Characteristics	Conditions		Min.	Typ.	Max.	Unit
Output voltage accuracy (Adjusted before shipment)	Vi nom, Io max		0		+ 1	%
Minimum Load	Vi nom		0			%
Line Regulation	Io nom, Vi min ...Vi max				± 1	%
Load Regulation	Vi nom, Io min ...Io nom				± 1	%
Peak power I)	Vi nom				720	W
Voltage trim Range	Vi nom, 0.8 Io nom	24V 48V	22.5 47		28 56	V DC
Rated Continuous Loading	Vi nom	24V 48V	20 A @ 24V DC / 17.1 A @ 28 V DC 10 A @ 48V DC / 8.5 A @ 56 V DC			
Hold up Time	Vi : 115 / 230 V AC , Io nom		18			ms
Turn on Time	Vi nom, Io nom				1,500	ms
	Vi nom, Io nom with 10000µF CAP				3,000	ms
Rise Time	Vi nom, Io nom				150	ms
	Vi nom, Io nom with 10000µF CAP				500	ms
Fall Time	Vi nom, Io nom				150	ms
Transient Recovery Time	Vi nom, 1 to 0.5 Io nom				2	ms
Ripple & Noise	Vi nom, Io nom, BW = 20MHz				100	mV
Power Back Immunity	Vi nom, Io nom	24V 48V	35 63			V DC
Capacitor load	Vi nom, Io nom				10,000	µF
DC ON Indicator Threshold at start up (Green LED)	Vi nom, Io nom	24V 48V	17.6 37		19.4 43	V DC
DC LOW Indicator Threshold after start up (Red LED)	Vi nom, Io nom	24V 48V	17.6 37		19.4 43	V DC
Parallel Operation	0.I Io min~0.9 Io max				3	unit
Efficiency	Vi nom, Io nom, Po / Pi		Up to 94%, See model list and typ efficiency curve			

NOTE 1 : 3 sec or 20% duty cycle max, and the average output power should not exceed the rated power.

Control and Protection					
Characteristics	**Conditions**	**Min.**	**Typ.**	**Max.**	**Unit**
Input Fuse		T8A / 250V AC internal			
Internal Surge Voltage Protection	IEC 61000-4-5	Varistor			
Rated Over Load Protection	Vi nom (see typ current limited curve)	110		150	%
Power Rdy (for 24V model only)	Threshold voltage of contact closed(at start up)	17.6		19.4	V DC
	Electrical isolation	500			V DC
	Contact rating at 80V DC			0.6	A
Over Voltage Protection	Vi nom, 0.8 Io nom 24V (Auto-restart protect) 48V	29 58		33 63	V
Output Short Circuit		Auto-restart			
Over Temperature	Detect on heat sink, shut down O/P voltage, recovers automatically after temperature goes down.	100		110	°C
Degree of Protection		IP20			

Approvals and Standards	
UL / cUL	UL 508 Listed, ISA 12.12.01 (Class I, Division 2, Groups A, B, C and D)
cTUVus	UL 62368-1
TUV	EN 62368-1, EN 61558-1, EN 61558-2-16 (meet EN 60204-1)
CE	EN 61000-6-3, EN 55032 Class B, CISPR32, EN 61000-3-2 Class D, EN 61000-3-3 EN 61000-6-2, EN 55024, EN 61000-4-2 Level 4, EN 61000-4-3 Level 3 EN 61000-4-4 Level 4, EN 61000-4-5 L-N Level 3, L / N-FG Level 4 EN 61000-4-6 Level 3, EN 61000-4-8 Level 4, EN 61000-4-11 ENV 50204 Level 2, EN 61204-3
CCC	GB4943.1, GB9254, GB17625.1
Vibration resistance	Meet IEC 60068-2-6 (Mounting by rail : Random wave, 10-500 Hz, 2G, each along X, Y, Z axes 10 min / cycle, 60 min)
Shock resistance	Meet IEC 60068-2-27 (Half sine wave, 4G, 22ms, 3 axes, 6 Faces, 3 times for each face)

Physical Characteristics

Case Size	91mm × 53mm × 56.5mm (3.58 inches × 12.09 inches × 2.22 inches)
Case Material	Plastic
Weight	180g

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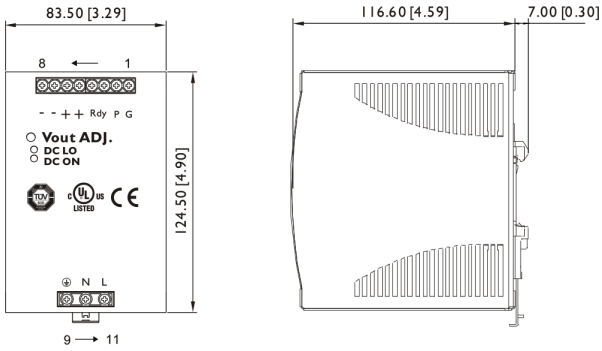
Mechanism & Pin Configuration



Mechanism & Pin Configuration

General Tolerance	
0[0.00] - 30[1.18]	±0.3[0.01]
30[1.18] - 120[4.72]	±0.5[0.02]
120[4.72] - 400[15.75]	±0.8[0.03]

Construction

Easy snap-on mounting onto the DIN-Rail (TS35/7.5 or TS35/15), unit sits safely and firmly on the rail.

Installation

Ventilation / Cooling Normal convection

All sides 25m/m free space For cooling recommended Connector size range

Screw terminal: Input and output:

AWG20-10 (0.5~5mm^2) flexible / solid cable.

Rdy and P. G. Control:

AWG24-10 (0.2~4mm^2) flexible / solid cable,

-Input connector can withstand torque at maximum 9 pound-inches.

-Output connector can withstand torque at maximum 5.5 pound-inches.

8 m/m stripping at cable end recommends

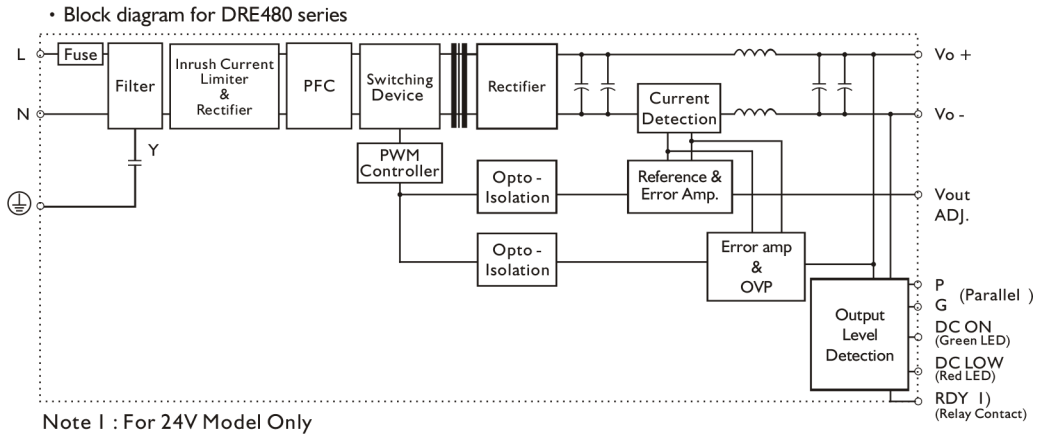
Use copper conductors only, 60°C / 75°C

Dimensions : Millimetres (Inches)

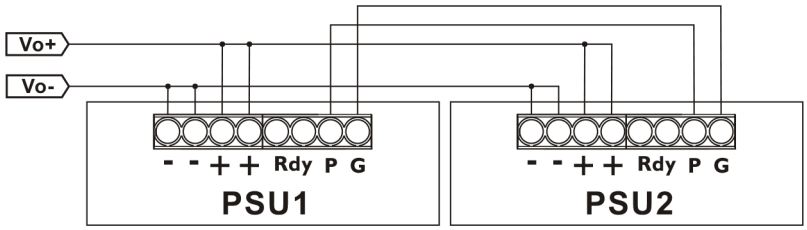
Pin Assignment

PIN NO.	Designation		Description
3 4	OUT	RDY	A normal open circuit of PhotoMOS Relay (24V model only
5, 6		V +	Positive output terminal
7, 8		V -	Negative output terminal
9	IN	⏚	Ground this terminal to minimize high-frequency emissions
10		N	Input terminals (neutral conductor, no polarity at DC input)
11		L	Input terminals (phase conductor, no polarity at DC input)
	OTHER	DC ON	Operation indicator LED
		DC LO	DC LOW voltage indicator LED
		Vout ADJ.	Trimmer-potentiometer for Vout adjustment
1		P	Parallel PIN for current share
2		G	Parallel GND PIN for current share

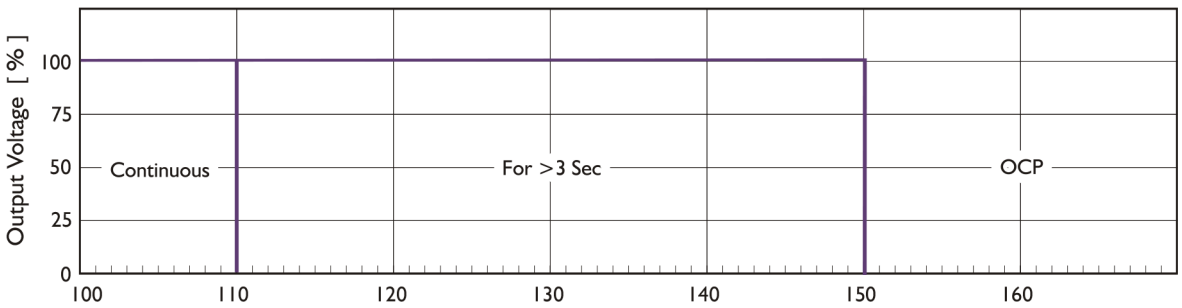
Circuit Schematic



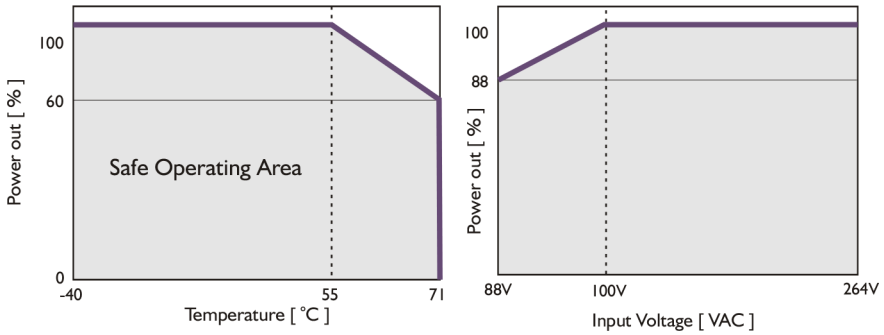
Parallel Connection



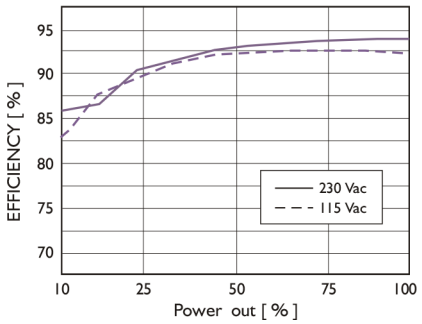
Typ. Current Limited Curve



Derating Curve



Typ. Efficiency Curve



Peak Loading