



> [Description](#)

The PMR series is a range of cost effective, medium power converters that comply fully with the latest rail specifications and norms for protection and EMC. They can be used individually or paralleled to create dual redundant or N+1 redundant systems, or simply to provide higher power capability. Although simple in construction, the mounting arrangement ensures compliance with shock and vibration requirements of EN50155.

Special features include:

- High efficiency
- Wide choice of input and output voltages
- Output series device
- Active current share fitted as standard
- Conduction cooled or convection only cooled models available
- Fully compliant with Rail standards, EN50155, EN50121.3.2

> [Input Specifications](#)

The following input voltages versions are available as standard:

- 110V (66.0 - 137.5V) dc (Suffix A)
- 72V (43.2 - 90.0V) dc (Suffix D)
- 52V (31.2 - 65.0V) dc (Suffix C)
- 36V (21.0 - 50.4V) dc (Suffix F)
- 24V (16.8 - 33.6V) dc (Suffix B)

Other ranges are available to order

Parameter	Detail
Input Ripple	To EN50155
Input Protection	Reverse polarity protection (series device) Surges and transients EN50155 (direct and indirect)
Inrush Current	Active protection limits inrush to 6 x nominal current (<i>after 0.1ms</i>). (Except 24V input version)
Efficiency	88% typical
Hold up time	10ms to EN50155 Class S2. For Suffix B & F units (24V & 36V input versions): hold up is at a reduced load of 90%.

> [Output Specifications](#)

Parameter	Detail
Maximum Output Power	500W (24V input - 400W maximum)
Output Versions	Single output only
Output Voltage	Can be specified from 12V to 50V
Setting Tolerance	±1.0% at 50% load, 15°C to 25°C
Minimum Load	Zero
Line Regulation	±0.5%
Load Regulation	±0.5%
Remote sensing	Compensates for up to 250mV drop in each load line (for outputs between 12V & 24V).
Temperature Coefficient	<0.02% / °C
Output Ripple	<1% Pk-Pk of Output Voltage
Output Noise	<75mV Pk-Pk superimposed (up to 20MHz)
Response Time	0.5ms to within 2% (for a 10% - 100% load change)
Current limit	Operates at approximately 110% - 130% of rated output current, stop & retry
Thermal Protection	Shuts down PSU if safe internal temperature is exceeded. Auto recovery.





Over-voltage Protection	Operates if output exceeds 115% ($\pm 5\%$) of nominal. Reset by power-down, power-up sequence						
Output Good Indication	Green LED confirms output present						
Output Good Signal	Volt-free relay contacts (changeover)						
Parallel Operation	Two or more converters may be connected in parallel for dual redundant or N+1 operation, or higher system power capability.						
Output Series Device	Prevents failure of one converter from affecting operation of others connected in parallel. Implemented using low loss device for maximum efficiency.						
Current Sharing	Active current sharing ensures that two or more supplies connected in parallel share the load current to better than 60% / 40%. One interconnection between supplies required.						
Isolation	<table border="0"> <tr> <td>Input to Output</td> <td>1.0kV ac (tested at 1.4kV dc)</td> </tr> <tr> <td>Input to Case</td> <td>1.0kV ac (tested at 1.4kV dc)</td> </tr> <tr> <td>Output to Case</td> <td>1.0kV ac (tested at 1.4kV dc)</td> </tr> </table>	Input to Output	1.0kV ac (tested at 1.4kV dc)	Input to Case	1.0kV ac (tested at 1.4kV dc)	Output to Case	1.0kV ac (tested at 1.4kV dc)
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> Environmental Details

Parameter	Detail
Operating Temperature	-40°C to +55°C (70°C for 10 min.)
Storage Temperature	-55°C to +80°C
Cooling	Alternative models for convection only cooling or conduction & convection cooling. For cold wall (conduction) cooling, base plate temperature should not exceed 85°C.
Relative Humidity	95% max.
Shock & Vibration	EN51055 (EN61373)
Environmental Protection	IP20

> Applicable Norms

Parameter	Detail
EMC	EN50155 (2007), EN50121-3-2 (2006)
Other	EN50155 (2007)

> Mechanical Characteristics

Parameter	Detail	
Construction	Simple aluminium chassis	
Dimensions (Length x Width x Height)	Conduction / convection cooled	Convection cooled (option H)
	L 250mm	250mm
	W 158mm	158mm
	H 70mm	112mm
	(Note: width includes mounting flanges)	
Weight	1.6kg	3.2kg
Connections	Wago 236-501 terminal blocks as standard. M5 earth stud.	
Fixings	6x12mm slot on base, four positions. M5 earth stud.	

Option	Detail	Code
Connections	Power D types	Q1
Cooling	Heat sink fitted	H