



55W DR SERIES

DC/DC CONVERTER



Description

The DR series is a well-established product range designed specifically for use on railway rolling stock. Units are available in single, dual and triple output versions with input ranges to cover all of those typically found in rail applications. Housed in a rugged 3U Eurocassette, the DR series is suitable for both rack and bulkhead mounting. The range is fully compliant with the current national and international railway standards and norms.

Input Specifications

The following input voltage versions are available as standard:

110V (66.0 -137V)	dc	(suffix A)	52V (31.2 -65V)	dc	(suffix C)
83V (48.0 -96V)	dc	(suffix G)	36V (21.0 - 50.4V)	dc	(suffix F)
72V (43.2 -90V)	dc	(suffix D)	24V (16.8 - 33.6V)	dc	(suffix B)

Other ranges are available to order

Product reference	All references
Input Ripple	To RIA 13 and EN50155
Input Protection	Reverse polarity protection; surges and transients to BRB/RIA 12, EN50155
Inrush Current	Limited to typically 5 x nominal current (after 0.1ms)
Efficiency	75% to 85% dependent on input / output voltage
Input Fuse	20mm cartridge style mounted on rear panel (option for internal or none)

Output Specifications

Part Number	Output 1		Output 2		Output 3	
	$U_{o\ nom}$ [V dc]	$I_{o\ nom}$ [A]	$U_{o\ nom}$ [V dc]	$I_{o\ nom}$ [A]	$U_{o\ nom}$ [V dc]	$I_{o\ nom}$ [A]
DR 0500	5	8.0				
DR 1200	12	4.5				
DR 2400	24	2.2				
DR 3000	30	1.8				
DR 0512	5	5.0	12	2.0		
DR 1212	12	2.2	12	2.2		
DR 1515	15	1.8	15	1.8		
DR 2424	24	1.1	24	1.1		
DR 3030	30	0.9	30	0.9		
DR 051212	5	5.0	2	1.0	12	1.0
DR 051515	5	5.0	15	0.8	15	0.75
DR 051224	5	4.0	12	0.8	24	0.4
DR 241515	24	1.0	15	0.8	15	0.75

Product reference	All references
Output Power	55W (45W for triple output)
Minimum Load	Zero for all outputs
Setting Accuracy	±0.5% at 50% load, 15°C to 25°C
Line Regulation	±0.2% all outputs
Load Regulation	±0.5% all outputs
Temperature Coeff.	<0.02% / °C
Output Ripple	<1% Pk-Pk of output voltage
Output Noise	<1% Pk-Pk super-imposed (up to 20 MHz)
Response Time	0.5ms to within 2% (for a 20% - 90% load change)
Indicators	Green "Output good" LED for each output
Protection	Output and signal lines protected against indirect transients to BRB/RIA 12, EN50155
Current Limit	Operates at a minimum of 110% of nominal load. Auto recovery.
Primary Protection	Operates at approximately 60W
Thermal Protection	Shuts down PSU if safe internal temperature is exceeded. Auto recovery.
Isolation	Input to Output 3.0 kV dc. Input to Case 1.5 kV dc. Output to Case 1.5 kV dc. Output to Output 0.5 kV dc.

Option	Operation	Code
Input Fuse	Fitted internally on PCB	B
	Not Fitted	Z
Current Sharing	Red LED indication (only available on single output units)	F
Input Fail	Operates when input falls below minimum. (Active high or active low)	I or J
Output Fail	Operates when U1 output falls below 96% of nominal value. (Active high or active low)	K or L
Over-voltage	Limits voltage of U1 to safe level under fault conditions	P
Inhibit	TTL high to inhibit	V
Enable	Link to U1 return to enable	W



Environmental Details

Product reference	All references
Operating Temperature (no derating)	-25°C to +71°C
Storage Temperature	-40°C to +71°C (option T)
Cooling	Convection
Relative Humidity	95% maximum
Sealing	IP54
Shock and Vibration	BRB/RIA 13 - Para 10.5.11, BRB/RIA 20, EN50155 para 10.2.11

Option	Details	Code
Operating Temperature	Extended to -40°C	T

Applicable Norms

Item	Reference
EMC	BRB/RIA 12, 18; EN50155, EN50121-3-2
Other	BRB/RIA 13, 18, 20; EN50155, IEC571

Option	Details	Code
Connections	Gold plated pins to Class 1	G
	Flying leads	Q6
Enclosure	Alochrom front panel	Q4
	Additional mounting plate	M
	Connector retaining clips	H

Mechanical Characteristics

Product reference	All references
Construction	Eurocassette (front panel optional)
Dimensions	Depth = 168.5mm Width = 8TE Height = 3U
Weight	0.7kg
Mounting	Six M3 tapped holes in base (additional mounting plate with clear holes optional)
Connections	DIN 41612 H11 Class 1 (silver or gold). Clips for retaining mating connector are available as an option. Alternatively, specify option Q6 for connections via flying leads (halogen free cable).

NOTES

Output voltages:
See table overleaf for standard voltages available

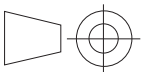
Output currents:
The values specified overleaf are the standard current option '1'

Alternative voltages & currents are available on request.

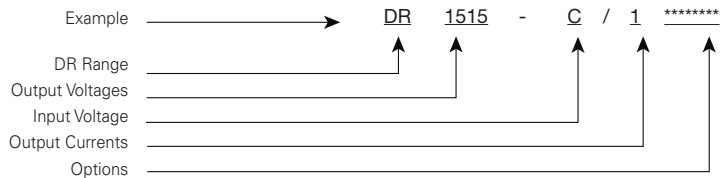
1. All dimensions in mm

2. Specifications subject to change without notification

3.



Ordering Information



Technical Drawing

