



> Description



The D10R series is a range of low power converters, which incorporate full surge and transient protection to RIA 12 and EN50155. They are single output units with nominal inputs from 24Vdc up to 110Vdc. The D10R is available in encapsulated and open frame versions and can be supplied with pins for PCB mounting or input / output cables for bulkhead mounting.

Special features include:

- Fully protected to rail norms
- Choice of construction - encapsulated or open frame
- Choice of connections - PCB pins or cables
- Wide input range

> 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 RIA 13 and EN50155
Input Protection	Reverse polarity protection. Surges and transients to RIA 12 & EN50155
Inrush Current	Limited to typically 5 x nominal current ( <i>after 0.1ms</i> )
Efficiency	85% typical
Hold up time	10ms to EN50155 Class S2

> Output Specifications

Parameter	Detail
Maximum Output Power	Up to 10W
Output Versions	Single output only
Output Voltage	Can be specified from 5V to 48V
Setting Tolerance	±1.0% at 50% load, 15°C to 25°C
Minimum Load	Zero
Line Regulation	±0.2%
Load Regulation	±0.5%
Temperature Coefficient	<0.02% / °C
Output Ripple	<1% Pk-Pk of Output Voltage
Output Noise	<50mV Pk-Pk superimposed (up to 20MHz)
Response Time	1.0mS to within 2% (for a 20% - 90% load change)
Output Protection	Protected against indirect transients to RIA 12
Current Limit	Operates at approximately 120% of rated output current
Isolation (tested at dc equivalent voltage)	Input to Output 2.0kV ac





> Environmental Details



Standard version is encapsulated with connections via solder pins

Parameter	Detail
Operating Temperature	-25°C to +65°C (no derating)
Storage Temperature	-40°C to +85°C
Cooling	Convection
Relative Humidity	99% max. (encapsulated version)
Shock & Vibration	EN 50155 (EN 61373), RIA 20
Environmental Protection	IP65 (encapsulated version)

> Applicable Norms



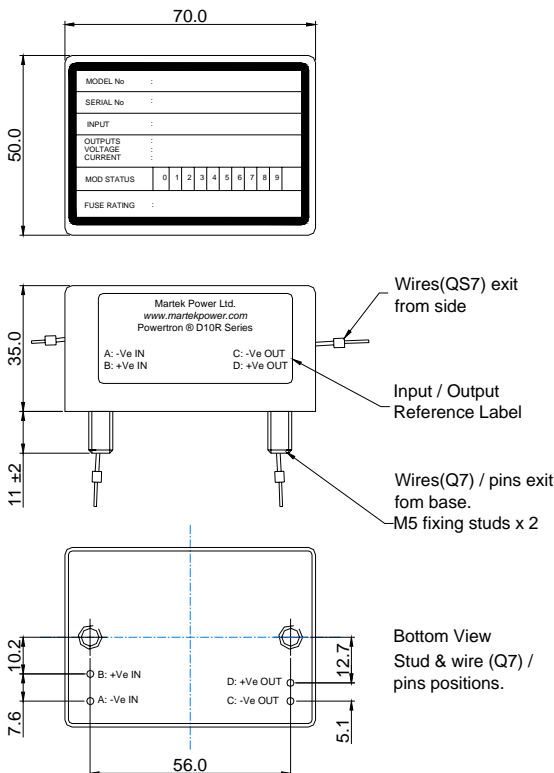
Open frame PCB version

Parameter	Detail
EMC	RIA 12, 18; EN50155 (2007), EN50121-3-2 (2006)
Other	RIA 13, 18, 20; EN50155 (2007)

> Mechanical Characteristics

Parameter	Detail
Construction	Encapsulated Module or conformal coated PCB
Dimensions	Length = 70 mm Width = 50 mm Height = 30 mm
Weight	250g
Connections	PCB pins as standard or option for cables
Fixings	Two ø 5mm fixing studs (encapsulated version)

Option	Detail	Code
Connections	Cables from underside	Q7
Connections	Cables from side	QS7
Construction	Non encapsulated version	U



Notes:

All dimensions in mm.

Case: Moulded in ABS  
Flame retardant to UL94 V-0

Pins fitted as standard  
Option U denotes Open-frame  
Option Q7 denotes wire version (wires exit from base; for open-frame wires fitted to component side)  
Option QS7 denotes wire version (exit from sides)

Wires are zero halogen type:  
Powertron 361072 (0.6sq. mm 20AWG)  
Wire Length - 370mm  
Wire termination - None

Cable marker code (as per label):  
A: -Ve IN C: -Ve OUT  
B: +Ve IN D: +Ve OUT

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