R SERIES
RIA 12 FILTER 300W

STANDARD IS JUST THE BEGINNING

The R series RIA 12 filters are designed to be used in conjunction with a dc-dc converter or other equipment rated at 300 watts or lower, which will allow it to meet the surge and transient requirements of RIA 12.
The input to the module has an extremely rugged input filter with full reverse polarity protection built in as standard. The filter absorbs the surge energy, whilst continuing to provide uninterupted regulated dc voltage.

- Convection cooled, high efficiency
- Wide input voltage ranges
- Designed to meet EN50155 and EN50121
- 48V and 110Vdc versions available
- Wide operating temperature range
- IP66 rated die-cast case with integral mounting flanges
- Robust, keyed, latching, Deutsch connectors
- Fully tested to RIA12 and EN45545

MODEL SELECTION		
PART NO	CONTINUOUS INPUT	SURGE INPUT
RA-RIA12-FILTER300W-48	28.8 - 70Vdc	182V 20ms
RA-RIA12-FILTER300W-110	43 - 154Vdc	385V 20ms

GENERAL SPECIFICATIONS					
CHARACTERISTICS	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Insulation resistance	Input/earth @ 500Vdc	1G			Ω
Ambient temperature	Operating at Vi nom, Io nom	-40		+70	°C
Case temperature	Operating at Vi nom, Io nom			+85	°C
Storage temperature	Non operational	-40		+100	°C
Relative humidity	Operating at Vi nom, Io nom	20		95	%RH
MTBF	Operating at Vi nom, Io nom	1000			k hours
Cooling	Free air convection				
Reverse polarity protection	Internal shunt diode				
Shock and vibration	Operating at Vi nom, Io nom	EN61373: 2010 cat 1			
Dimensions		139.7 x 63.7 x 55.4 mm			
Weight		400g			
All specifications typical at nominal line, full load, 25 °C unless stated otherwise.					

INPUT SPECIFICATIONS						
CHARACTERISTICS	CONDITIONS		MIN.	TYP.	MAX.	UNIT
Input voltage range	Ta min ... Ta max, Io nom	48V models	28.8	48	70	Vdc
		110V models	43	72/110	154	Vdc
Max input current [1]	I max	48V			8	A
		110V			3.5	A
1 Max output power should be limited to <350W across all input voltage range						

Relec Electronics Ltd, Animal House, Justin Business Park, Sandford Lane, Wareham, Dorset BH20 4DY
T: +44 (0) 1929 555700 F: +44 (0) 1929 555701 E: sales@relec.co.uk
www.relec.co.uk

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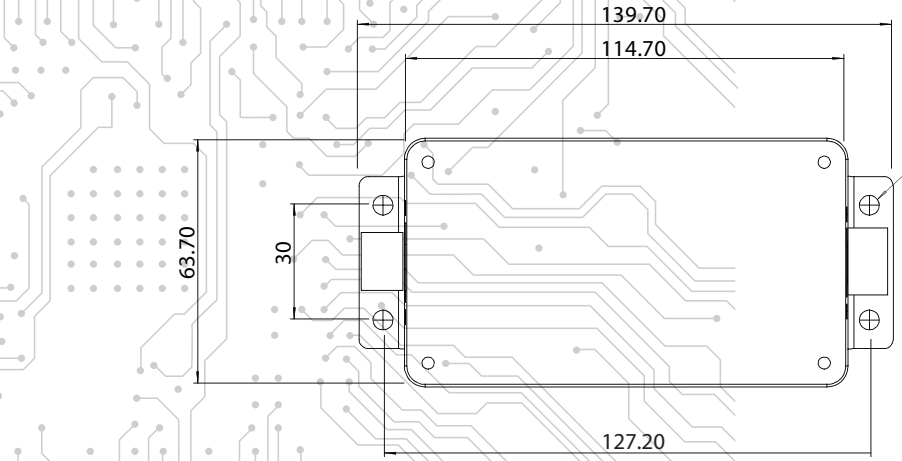
OUTPUT SPECIFICATIONS

CHARACTERISTICS	CONDITIONS		MIN.	TYP.	MAX.	UNIT
Max continuous o/p power	Vin min - Vin max range			300	350	W
o/p clamping trigger voltage	Po max - 300W	48V	71	72	73	V
		110V	158	160	162	V
o/p clamping voltage - steady state	Po max - 300W	48V	62	65	66	V
		110V	146	150	154	V
Voltage drop	48V model, Io = 8A				1000	mV
	110V model, Io = 3A				500	mV
Efficiency	Vi nom, Io nom, Po/Pi				>95	%

ELECTROMAGNETIC IMMUNITY

PHENOMENON	STANDARD	LEVEL	COUPLING MODE [1]	VALUE APPLIED	WAVEFORM	SOURCE IMPED.	TEST PROCEDURE	IN OPER.	PERF. CRIT [2]
Supply related surges	RIA 12	A	+i/–i	3.5 ·V_{batt}	2/20/2ms	0.2 Ω	1 positive surge	yes	A
		B		1.5 ·V_{batt}	0.1/1/0.1s				
Direct transients		C	i/c, +i/–i	960 Vp	10/100 µs	5 Ω	5 positive and 5 negative impulses	yes	A
		D		1800 Vp	5/50 µs				
		E		3600 Vp	0.5/5 µs	100 Ω			
		F		4800 Vp	0.1/1 µs				
		G		8400 Vp	0.5/50 µs				
Indirect coupled transients		H	-o/c, + o/c, -o/-l	1800 Vp	5/50 µs				
		J		3600 Vp	0.5/5 µs				
		K		4800 Vp	0.1/1 µs				
		L		8400 Vp	0.05/01. µs				

1 i = input, o = output, c = case
2 A = normal operation, no deviation from specs.; B = normal operation, temporary loss of function or deviation from specs possible



CONNECTORS (DEUTSCH)	
Input Connector	2 Pin DT13-2P
Output Connector	4 Pin DT13-4P

MATING CONNECTORS (DEUTSCH)		
Input	DT062S-CE06	(RS 425-692)
Output	DT064S-CE06	(RS 425-686)
Crimps	0462-201-16141	(RS 425-800) Pack 10