Three phase 500Vac 6 to 60A EMC Filters with high attenuation and surge protection

https://product.tdk.com/en/products/emc/emc/power-line/tec_data/tdk_nf_rtmn.html
https://www.emea.lambda.tdk.com/uk/products/r-series



Industrial Test LED COMM Broadcast

The RTMN three-phase EMC filters are enclosed in compact cases with a low profile package size. They are rated for 500Vac with multiple current ratings of 6 to 60A enabling the optimum attenuation to match the current rating. The series uses TDK's amorphous core materials in a two-stage configuration to provide excellent pulse and noise attenuation. Amorphous cores offer a higher resistance to saturation from high voltage pulses and greater long term reliability than semiconductor clamps. The connection terminals are integrated into the case with both the screws and terminal covers captive, avoiding dropped or lost hardware. The RTMN 6A to 30A models are UL certified for a short circuit current rating of 14kA and 35kA for the 40 to 60A models with the appropriate breaker.

Features	Benefits
• 6 to 60A Current Ratings	• Optimizes the Attenuation for the Current Rating
• Low Profile	• Space Saving for Cabinets
• High Noise and Pulse Attenuation	• Reduces EMI and Voltage Surge Levels
• Captive Hardware	• No Lost Screws or Terminal Covers
• Safety Certified	• Global Use

Model Selector

Model	Rated Current (A)	SCCR (kA)(1)	HV Pulse Protection	Leakage Current 500V/60Hz* (mA)	Maximum DC Resistance (mΩ)	Attenuation frequency range (MHz)		
						Common mode at 25dB	Differential mode at 25dB	Weight (g)
RTMN-5006	6	14	Y	5.0	290	0.1 to 20	0.1 to 30	670
RTMN-5010	10	14	Y	5.0	120	0.1 to 20	0.2 to 30	700
RTMN-5020	20	14	Y	5.0	50	0.2 to 20	0.2 to 30	1000
RTMN-5030	30	14	Y	5.0	26	0.2 to 20	0.3 to 30	1000
RTMN-5040	40	35	Y	5.0	20	0.2 to 20	0.1 to 30	2050
RTMN-5050	50	35	Y	5.0	14	0.3 to 20	0.2 to 30	2050
RTMN-5060	60	35	Y	5.0	10	0.3 to 20	0.3 to 10	2050

*2.5mA at 250V/60Hz

RTMN	-	5	006
Series Name		Rated Voltage 5 = 500Vac	Rated Current 006 = 6A 060 = 60A

Related Products

Type	Current Rating (A)	Series	DIN Rail Mount	For use with secondary side inverters
Multipurpose with a low profile	6 - 300	RTEN	Y (Up to 30A)	
High attenuation, narrow package, 2 stage	6 - 150	RTHB		
High attenuation, low profile, 2 stage	6 - 60	RTMN		
High attenuation, low leakage (250V)	3 - 600	RTHN		
Multipurpose with HV pulse protection	6 - 60	RTAN	Y (Up to 30A)	
Compact package size, 1 stage	6 - 300	RTCN	-	Y

Click here for TDK-Lambda single phase filters

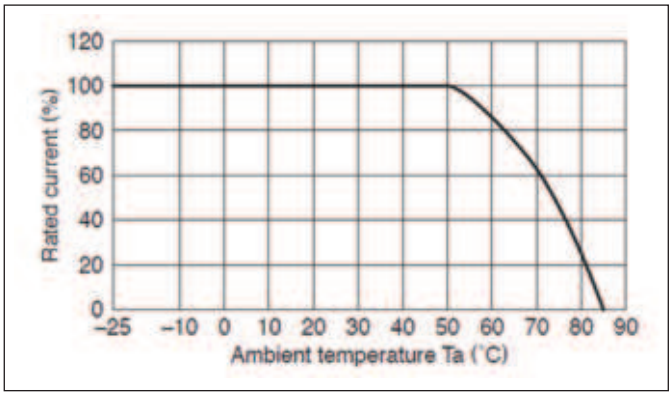
Specification

Model		
Input		
Rated Voltage (max)	Vac/Vdc	500 (Safety certified for AC input only)
Input Frequency	Hz	47 - 63
Leakage Current (500Vac, 60Hz)	mA	5. (2.5mA 250Vac, 60Hz)
Safety Certifications and Markings	-	UL1283, EN60939-1/-2 (ENEC14), conforms to RoHS Directive
Environmental		
Operating Temperature	°C	-25 to +85, derating above 50. See derating curve below
Storage Temperature	°C	-25 to +85
Humidity (non condensing)	%RH	Operating: 15 - 85, storage: 5 - 85
Cooling	-	Convection
Withstand Voltage	Vac	2,500 input to earth
Isolation Resistance (For 1 minute)	MΩ	>100 at 500Vdc
Vibration	-	10-55Hz Amplitude 0.7mm, Sweep for 1 min. X, Y and Z directions for 0.5 hours each
Other		
Weight (Typ)	-	See model selector
Size (LxWxH)	mm	See outline drawings
Size (LxWxH)	Inches	See outline drawings
Connectors	-	See outline drawings
MIL-HDBK-217F NOTICE2	Hours	2,636,853
Warranty	Years	5

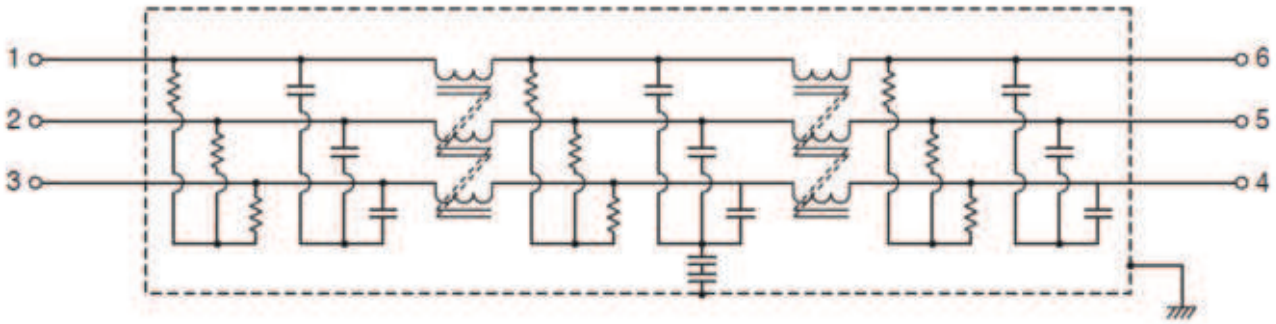
*Notes
(1) With inverse time circuit breaker. See UL report on website
See website for detailed specifications, test methods and installation manual
RTMN technical files

Mechanical Specification

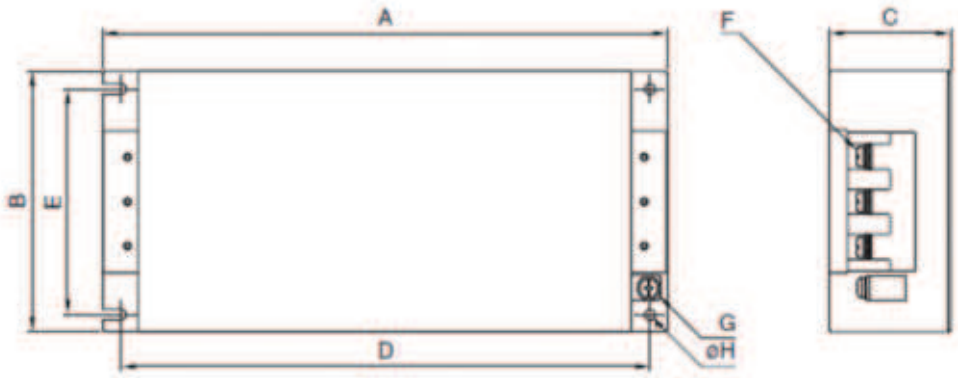
Derating Curve



Schematic



RTMN Outline Drawings

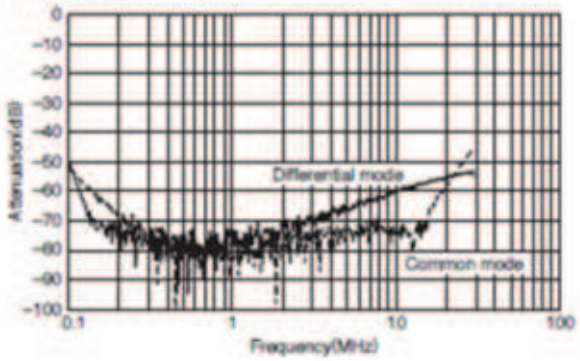


Dimensions in mm

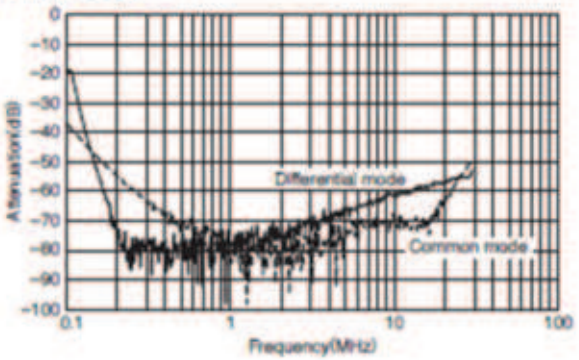
Part No.	A	B	C	D	E	F	G	ϕH	Recommended clamping torque
RTMN-5006 RTMN-5010	210	95	50	195	78	M4	M4	4.5	M4 : 1.27N・m M5 : 2.5N・m
RTMN-5020 RTMN-5030	240	105	55	225	85	M4	M4	4.5	
RTMN-5040 RTMN-5050 RTMN-5060	300	128	68	280	102	M5	M4	5.5	

RTMN Attenuation vs. Frequency

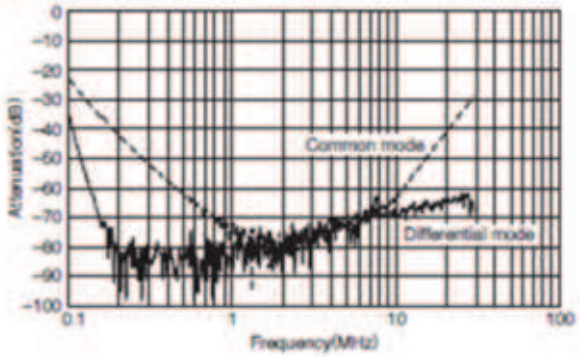
RTMN-5006



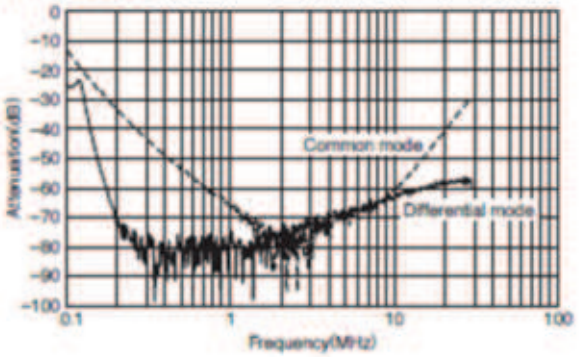
RTMN-5010



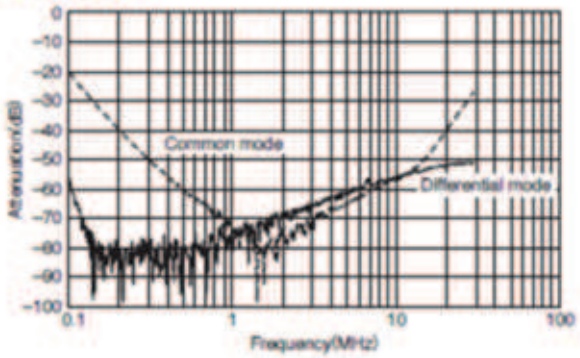
RTMN-5020



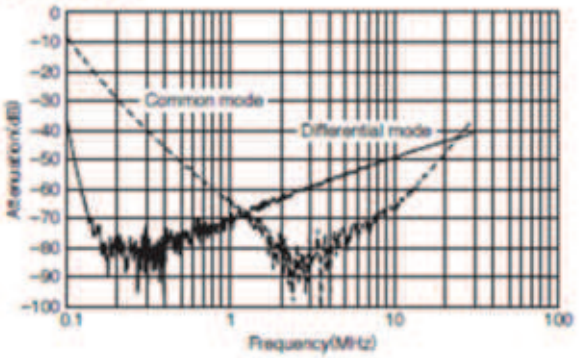
RTMN-5030



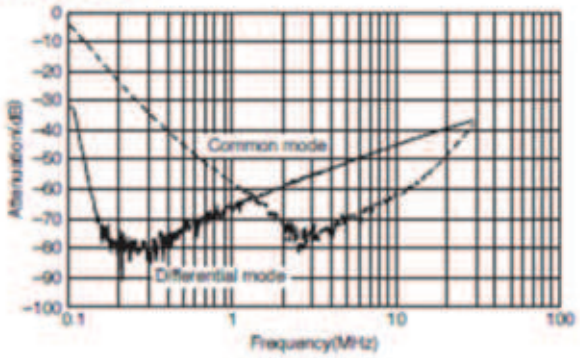
RTMN-5040



RTMN-5050

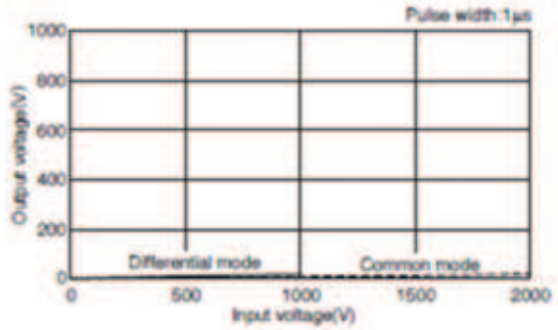


RTMN-5060

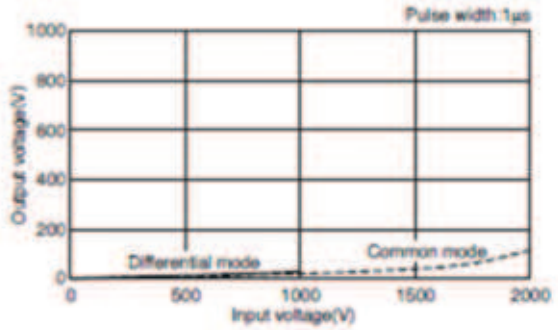


RTMN Pulse Attenuation Characteristics

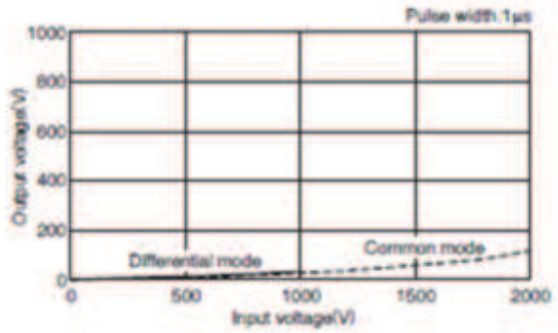
RTMN-5006



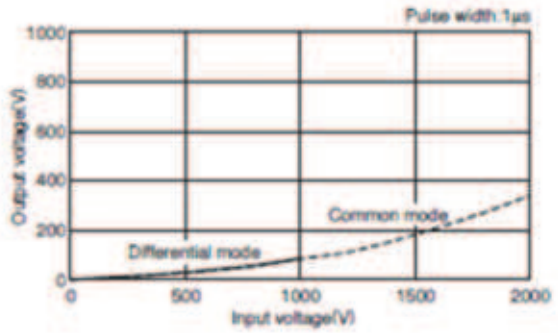
RTMN-5010



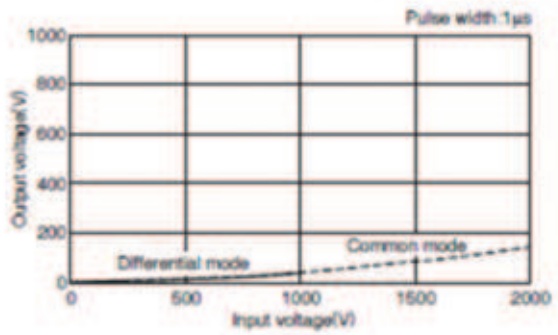
RTMN-5020



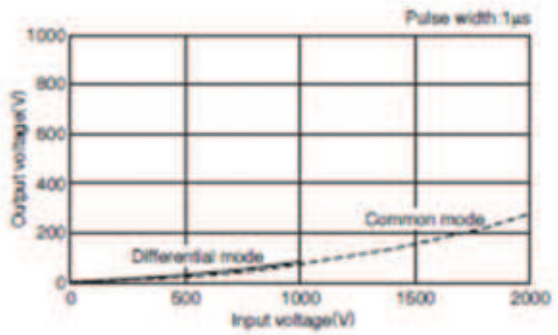
RTMN-5030



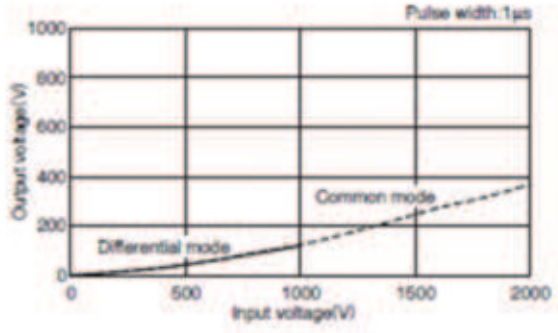
RTMN-5040



RTMN-5050



RTMN-5060



TDK-Lambda France SAS
Tel: +33 1 60 12 71 65
tlf.fr-powersolutions@tdk.com
www.emea.lambda.tdk.com/fr

Italy Sales Office
Tel: +39 02 61 29 38 63
tlf.it-powersolutions@tdk.com
www.emea.lambda.tdk.com/it

Netherlands
tlf.nl-powersolutions@tdk.com
www.emea.lambda.tdk.com/nl

TDK-Lambda Germany GmbH
Tel: +49 7841 666 0
tlg.powersolutions@tdk.com
www.emea.lambda.tdk.com/de

Austria Sales Office
Tel: +43 2256 655 84
tlg.at-powersolutions@tdk.com
www.emea.lambda.tdk.com/at

Switzerland Sales Office
Tel: +41 44 850 53 53
tlg.ch-powersolutions@tdk.com
www.emea.lambda.tdk.com/ch

Nordic Sales Office
Tel: +45 8853 8086
tlg.dk-powersolutions@tdk.com
www.emea.lambda.tdk.com/dk

TDK-Lambda UK Ltd.
Tel: +44 (0) 12 71 85 66 66
tlu.powersolutions@tdk.com
www.emea.lambda.tdk.com/uk

TDK-Lambda Ltd.
Tel: +9 723 902 4333
tli.powersolutions@tdk.com
www.emea.lambda.tdk.com/il-en

TDK-Lambda Americas
Tel: +1 800-LAMBDA-4 or 1-800-526-2324
tla.powersolutions@tdk.com
www.us.lambda.tdk.com

TDK Electronics do Brasil Ltda
Tel: +55 11 3289-9599
sales.br@tdk-electronics.tdk.com
www.tdk-electronics.tdk.com/en

TDK-Lambda Corporation
Tel: +81-3-6778-1113
www.jp.lambda.tdk.com

TDK-Lambda (China) Electronics Co. Ltd.
Tel: +86 21 6485-0777
tlc.powersolutions@tdk.com
www.lambda.tdk.com.cn

TDK-Lambda Singapore Pte Ltd.
Tel: +65 6251 7211
tls.marketing@tdk.com
www.sg.lambda.tdk.com

TDK India Private Limited, Power Supply Division
Tel: +91 80 4039-0660
mathew.philip@tdk.com
www.sg.lambda.tdk.com

For Additional Information, please visit
https://product.tdk.com/en/power/