

Three phase 500Vac 6 to 300A Filters for Secondary Side Inverters

https://product.tdk.com/en/products/emc/emc/power-line/tec_data/tdk_nf_rtcn.html

<https://www.emea.lambda.tdk.com/uk/products/r-series>



The RTCN three-phase filters are purpose designed for secondary side inverters and have a low profile package. They are rated for 500Vac with thirteen current ratings from 6 to 300A enabling the optimum attenuation to match the current rating. The connection terminals are integrated into the case with both the screws and terminal covers captive, avoiding dropped or lost hardware. The RTCN 6A to 150A models are UL certified for a short circuit current ratings of between 10kA and 35kA with the appropriate breaker. (See model selector).

Features	Benefits
• 6 to 300A Current Ratings	• Optimizes the Attenuation for the Current Rating
• Low Profile Package	• Space Saving for Cabinets
• Captive Hardware	• No Lost Screws or Terminal Covers
• Safety Certified	• Global Use

Model Selector							
Model	Rated Current (A)	SCCR (kA) ⁽¹⁾	Leakage Current 500V/60Hz (mA)	Maximum DC Resistance (mΩ)	Attenuation frequency range (MHz)		Weight (g)
					Common mode at 10dB	Common mode at 5dB	
RTCN-5006	6	14	Not Applicable	145	0.1 to 5	-	300
RTCN-5010	10	14	Not Applicable	60	0.1 to 5	-	300
RTCN-5020	20	14	Not Applicable	25	0.1 to 5	-	490
RTCN-5030	30	14	Not Applicable	13	0.2 to 4	-	490
RTCN-5040	40	10	Not Applicable	10	0.2 to 3	-	960
RTCN-5050	50	10	Not Applicable	7	-	0.2 to 3	900
RTCN-5060	60	10	Not Applicable	5	-	0.2 to 3	900
RTCN-5080	80	35	Not Applicable	5	-	0.1 to 3	3600
RTCN-5100	100	35	Not Applicable	4	-	0.1 to 3	3900
RTCN-5150	150	10	Not Applicable	3	-	0.1 to 3	6200
RTCN-5200	200	-	Not Applicable	4	-	-	8900
RTCN-5250	250	-	Not Applicable	3	-	-	8400
RTCN-5300	300	-	Not Applicable	2	-	-	8000

RTCN	-	5	006
Series Name		Rated Voltage 5 = 500Vac	Rated Current 006 = 6A 300 = 300A

Related Products				
Type	Current Rating (A)	Series	DIN Rail Mount	For use with secondary side inverters
Multipurpose with a low profile	6 - 60	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)	-	Not applicable
Safety Certifications and Markings	-	UL1283 (Up to 150A), 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 1.5mm, Sweep for 1 min. X, Y and Z directions for 2 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	RTCN-5003: 63,211,125, RTCN-5060: 138,504,155
Warranty	Years	5

*Notes

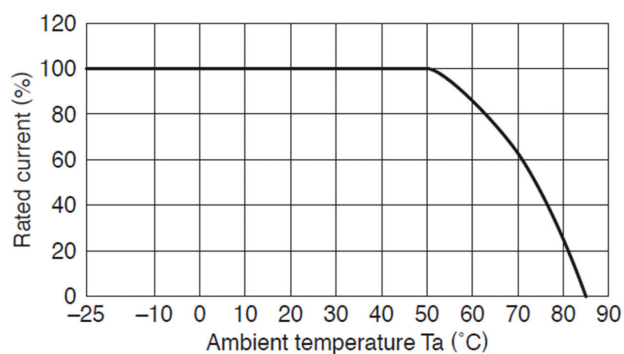
(1) With inverse time circuit breaker. See UL report on website

See website for detailed specifications, test methods and installation manual

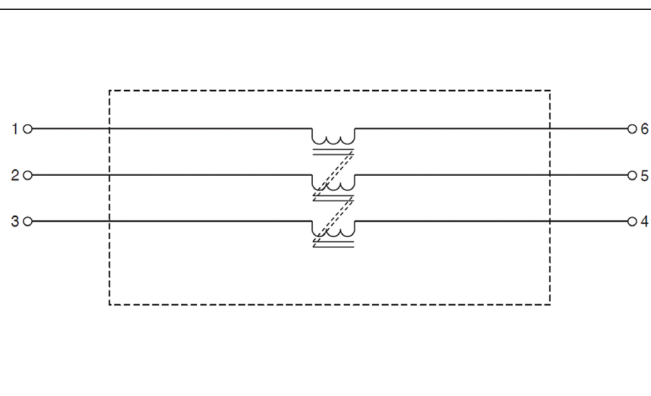
[RTCN technical files](#)

Mechanical Specification

Derating Curve

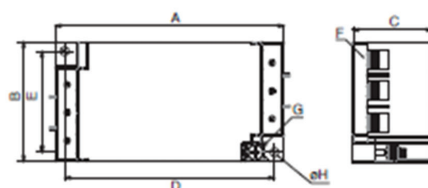


Schematic

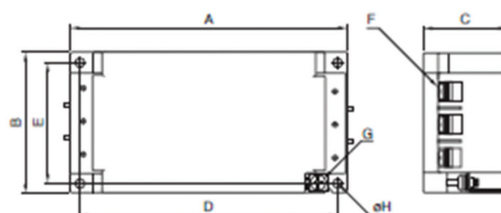


RTCN Outline Drawings

RTCN-5006/5010



RTCN-5020/5030/5040/5050/5060

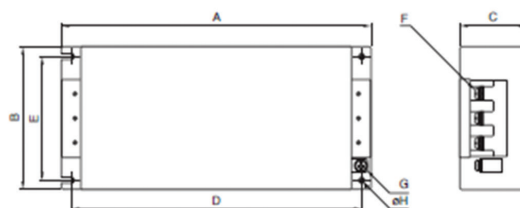


Dimensions in mm

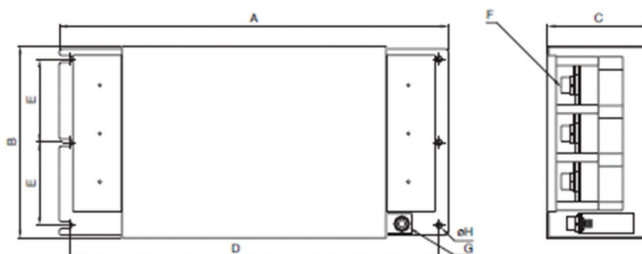
Part No.	A	B	C	D	E	F	G	φ H	Recommended clamping torque
RTCN-5006	120	63	42	110	53	M4	M4	4.5	M4 : 1.27N · m M5 : 2.5N · m
RTCN-5010									
RTCN-5020	140	70	42	130	60	M4	M4	4.5	
RTCN-5030									
RTCN-5040	170	90	54	160	80	M5	M4	4.5	
RTCN-5050									
RTCN-5060									

RTCN Outline Drawings

RTCN-5080/5100/5150

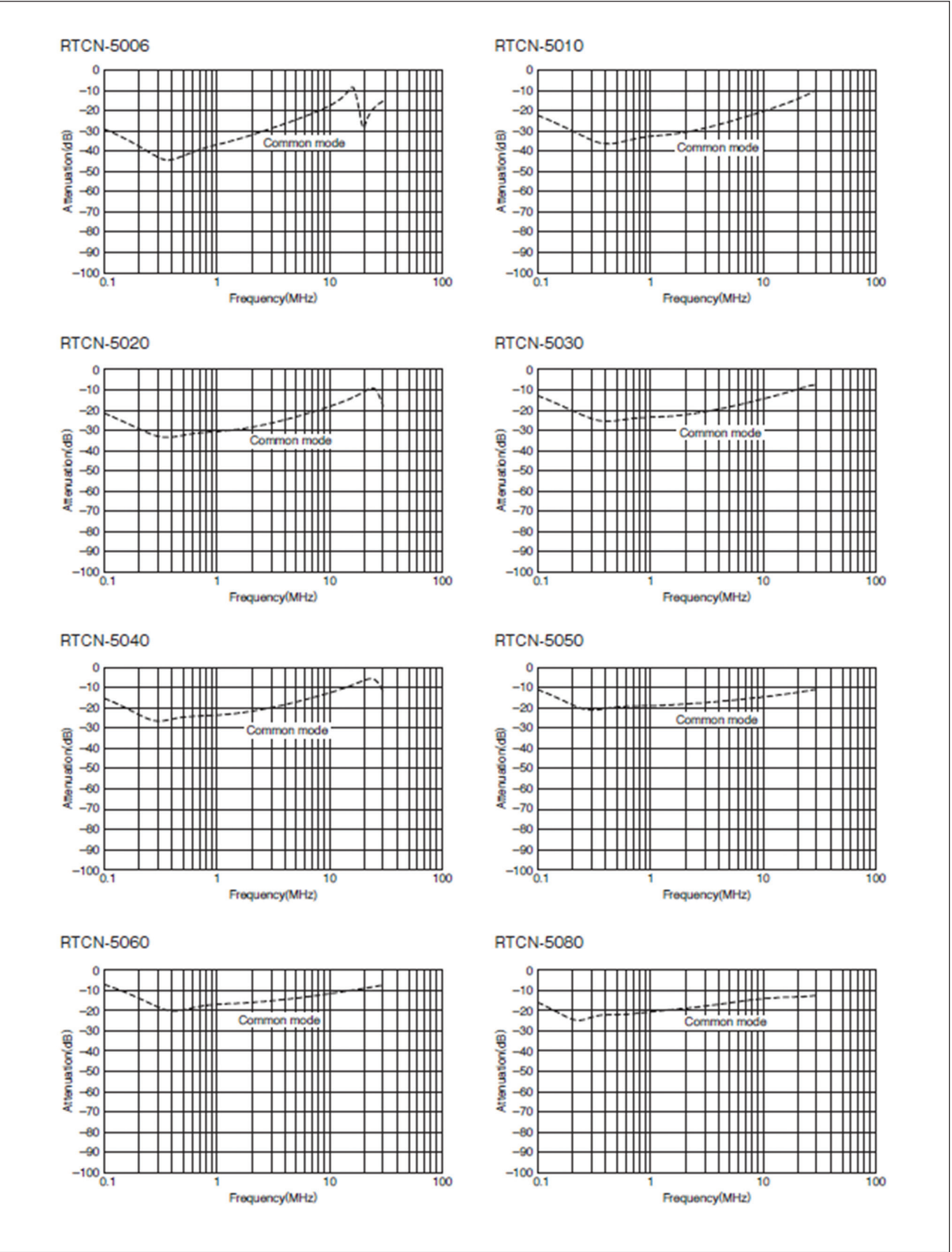


RTCN-5200/5250/5300

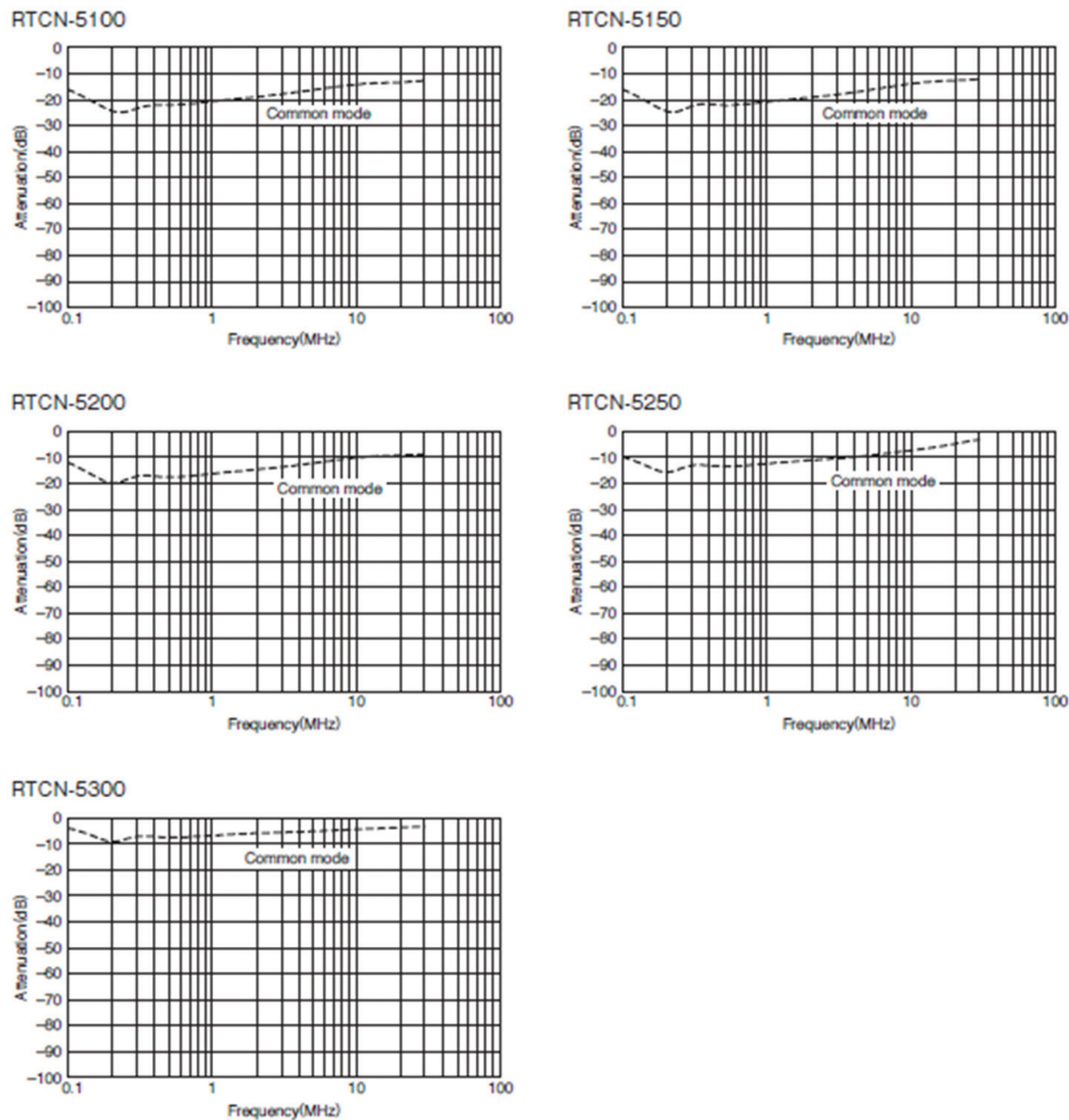


Dimensions in mm									
Part No.	A	B	C	D	E	F	G	φ H	Recommended clamping torque
RTCN-5080	267	161	85	247	135	M8	M6	6.5	M6 : 4.8N · m
RTCN-5100									
RTCN-5150	290	190	88	270	164	M8	M6	6.5	M8 : 7.64N · m
RTCN-5200									
RTCN-5250	390	195	103	370	84.5	M10	M8	6.5	M10 : 11.8N · m
RTCN-5300									

RTCN Attenuation vs. Frequency



RTCN Attenuation vs. Frequency



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