

# Compact Three-phase and Neutral Line Filter for High Frequency Attenuation



- Compact four-wire filter for applications with limited space
- High attenuation performance up to 300 MHz
- Equally suitable for star and delta power networks

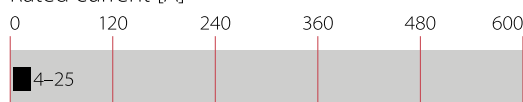


### Performance indicators

Attenuation performance



Rated current [A]



### Approvals & Compliances



### Features and Benefits

- The FN 354 family of filters is intended primarily for applications that require extremely effective interference suppression across a broad frequency spectrum.
- Advanced two-stage filter circuits with highly saturating resistant toroidal inductors, in conjunction with feedthrough capacitors on each of the three phases and the neutral line, ensure that these filters provide very high attenuation in the upper frequency band.
- FN 354 are equally suitable for the operation on star and delta power networks.

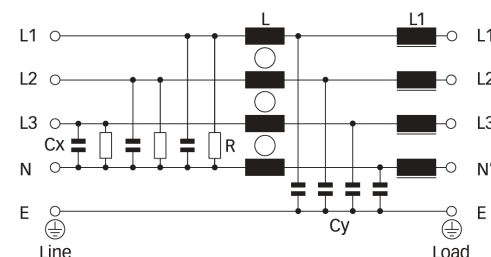
### Typical Applications

- Applications requiring high-frequency attenuation
- Power supplies
- Medical equipment
- Office and data processing equipment



## Technical Specifications

<b>Maximum continuous operating voltage</b>	3x 440/250 VAC
<b>Operating frequency</b>	DC to 60 Hz
<b>Rated currents</b>	4 to 25 A @ 40°C max
<b>High potential test voltage</b>	P/N → E 2000 VAC for 2 sec P → P 1900 VDC for 2 sec P → N 1100 VDC for 2 sec
<b>Protection category</b>	IP 20 (version with -47 connections)
<b>Overload capability</b>	4x rated current at switch on, 1.5x rated current for 1 minute, once per hour
<b>Temperature range (operation and storage)</b>	-25°C to +100°C (25/100/21)
<b>Flammability corresponding to</b>	UL 94 V-2 or better
<b>Design corresponding to</b>	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
<b>MTBF @ 40°C/230 V (Mil-HB-217F)</b>	500,000 hours

### Typical electrical schematic



### Filter Selection Table

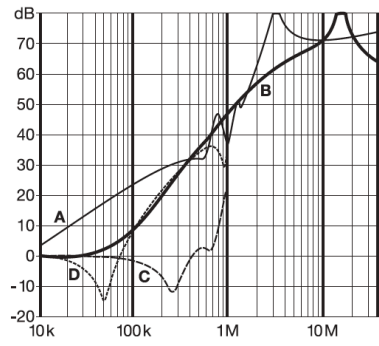
Filter	Rated current	Leakage current*	Power loss	Input/Output connections	Weight
	@ 40°C (25°C)	@ 440 VAC/50 Hz	@ 25°C/50 Hz		
	[A]	[mA]	[W]		
<b>FN 354-4-05</b>	4 (4.5)	0.1	2.0	-05	0.23
<b>FN 354-6-05</b>	6 (6.7)	0.1	3.9	-05	0.38
<b>FN 354-12-05</b>	12 (13.4)	0.1	7.8	-05	1.1
<b>FN 354-15-47</b>	15 (16.8)	0.1	10.8	-47	4.3
<b>FN 354-25-47</b>	25 (28)	0.2	16.9	-47	4.4

\* Standardized calculated leakage current acc. IEC60939 under normal operating conditions.

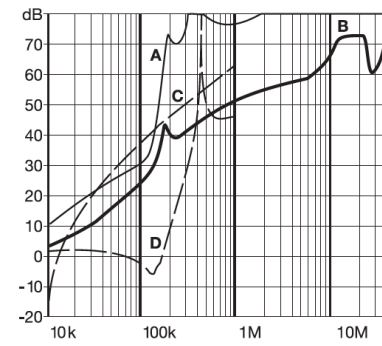
### Typical Filter Attenuation

Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym; C=0.1 Ω/100 Ω sym; D=100 Ω/0.1 Ω sym

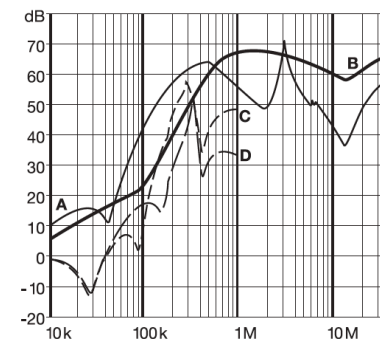
4 and 6 A types



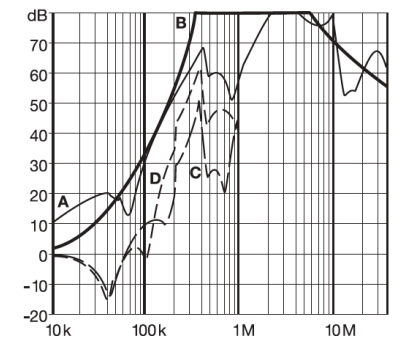
12 A types



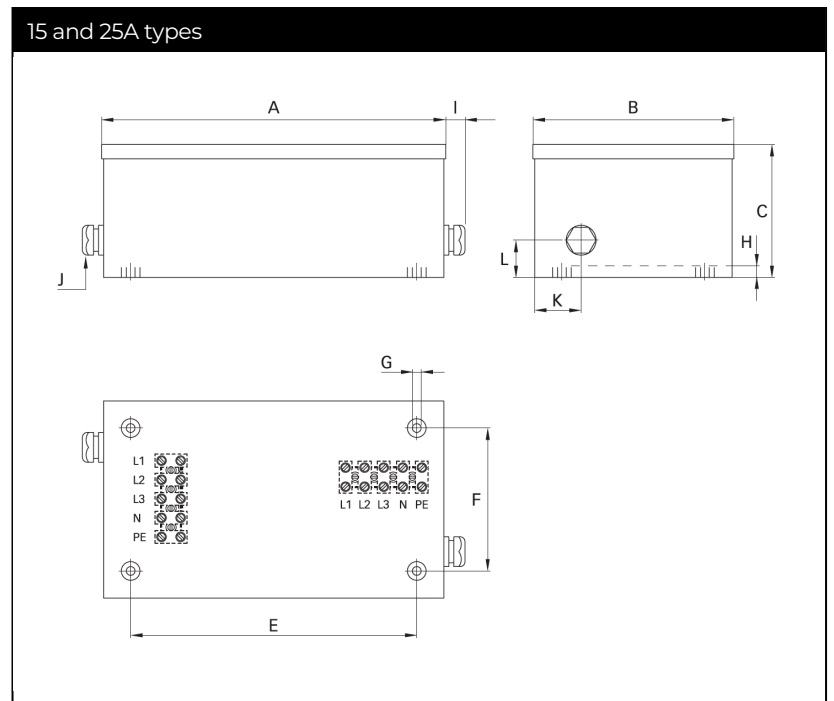
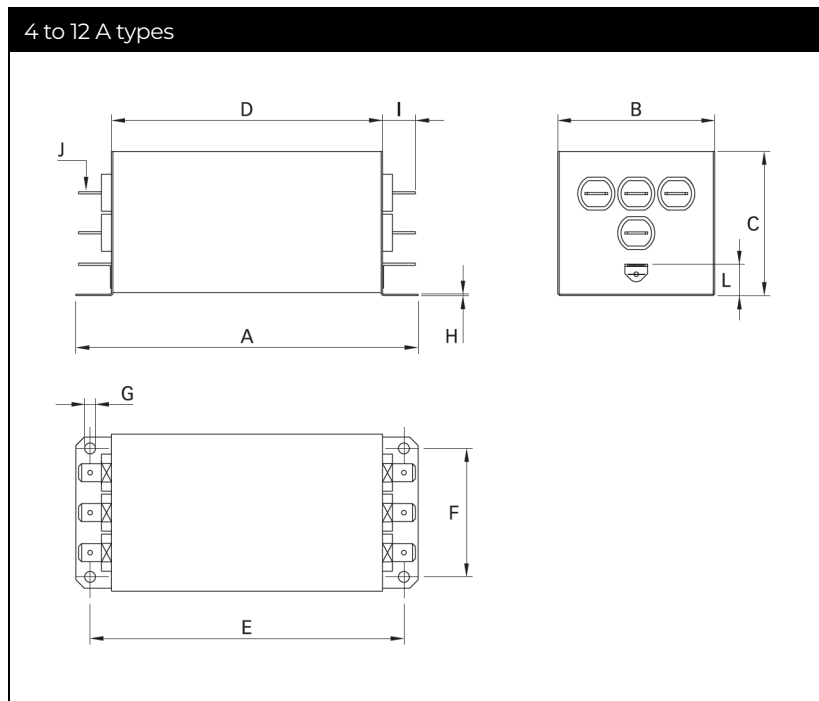
15 A types



25 A types



### Mechanical Data



### Dimensions

	4 A	6 A	12 A	15 A	25 A
<b>A</b>	103	120	150	273.6	273.6
<b>B</b>	43	55	65	158.6	158.6
<b>C</b>	40.5	50.5	60	107	107
<b>D</b>	80	95	125		
<b>E</b>	95	110	140	230	230
<b>F</b>	35	45	55	115	115
<b>G</b>	Ø3.8	Ø3.8	7.5 x 4.4	M8	M8
<b>H</b>	0.5	0.5	0.75	9.5	9.5
<b>I</b>	11.1	11.1	11.1	~20	~20
<b>J</b>	Faston 6.3 x 0.8	Faston 6.3 x 0.8	Faston 6.3 x 0.8	PG13	PG13
<b>K</b>				35.5	35.5
<b>L</b>	7	11	11	30	30

All dimensions in mm; 1 inch=25.4 mm  
Tolerances according: ISO 2768-m/EN 22768-m

### Filter Input/Output Connector Cross Sections

	-05	-47
<b>Solid wire</b>	n/a	16 mm <sup>2</sup>
<b>Flex wire</b>	n/a	10 mm <sup>2</sup>
<b>AWG type wire</b>	n/a	AWG 8
<b>Recommended torque</b>	n/a	1.9-2.2 Nm

Please visit [www.schaffner.com](http://www.schaffner.com) to find more details on filter connectors.

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