

# 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

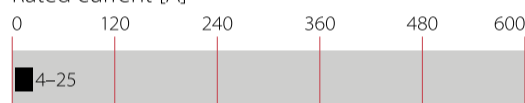


### Performance indicators

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.

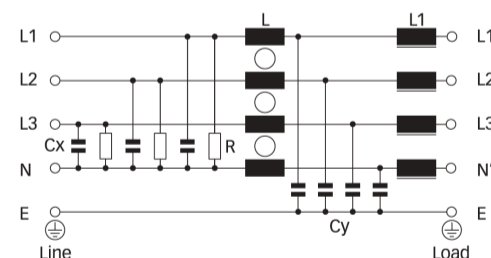
### Typical Applications

- 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			[kg]
	[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

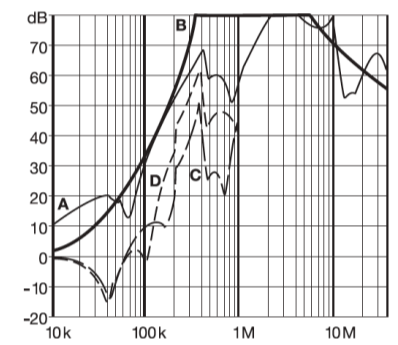
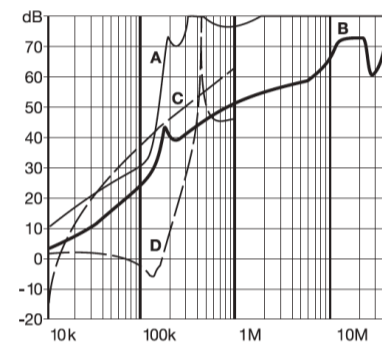
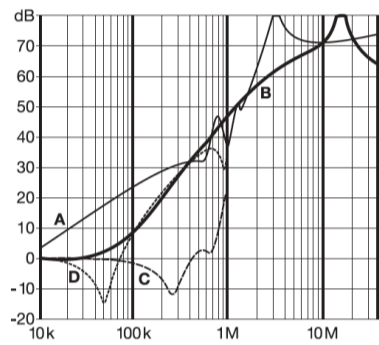
Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym; C=0.1 Ω/100 Ω sym; D=100 Ω/0.1 Ω sym

4 and 6 A types

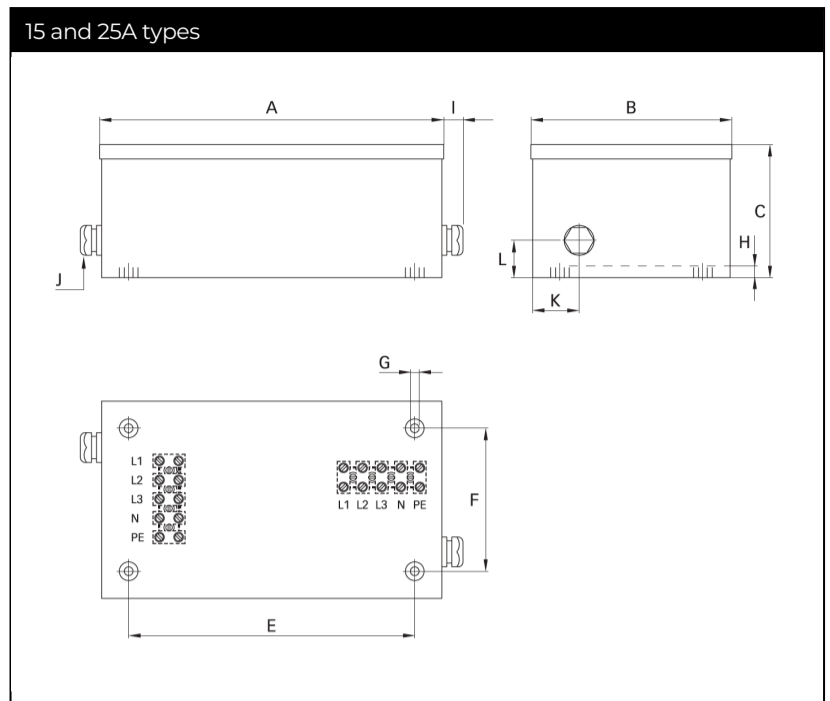
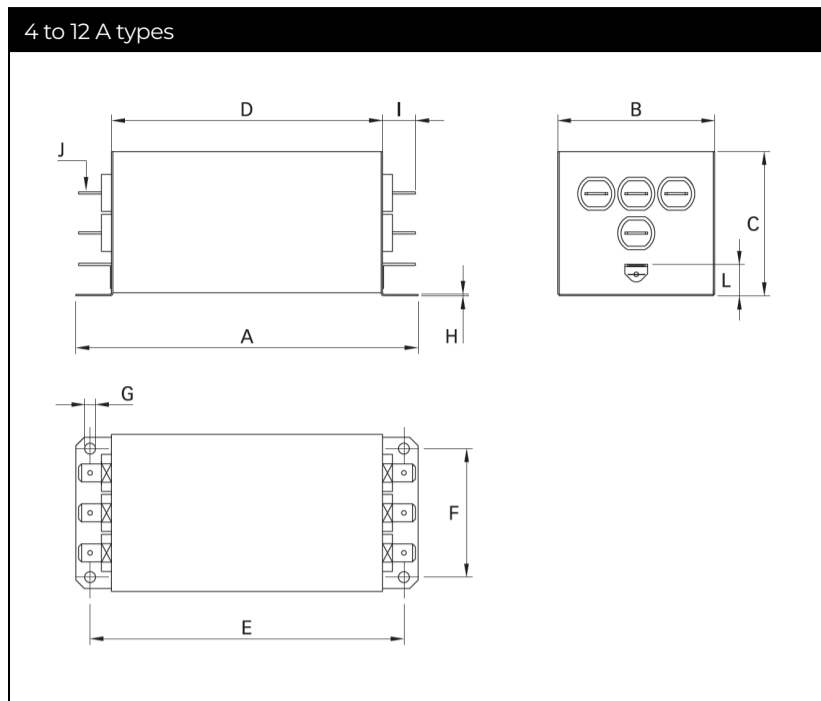
12 A types

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.

## Headquarters, Global Innovation and Development

### Switzerland

#### Schaffner Holding AG

Industrie Nord  
Nordstrasse 11e  
4542  
Luterbach  
+41 32 681 66 26  
[info@schaffner.com](mailto:info@schaffner.com)

## Sales and Application Centers

### China

#### Schaffner EMC Ltd. Shanghai

T20-3 C, No 565 Chuangye Road, Pudong district  
201201  
Shanghai  
+86 2138139500  
[cschina@schaffner.com](mailto:cschina@schaffner.com)

### Finland

#### Schaffner Oy

Sauvonrinne 19 H  
8500  
Lohja  
+358 50 468 7284  
[finlandsales@schaffner.com](mailto:finlandsales@schaffner.com)

### France

#### Schaffner EMC S.A.S.

16-20 Rue Louis Rameau  
95875  
Bezons  
+33 1 34 34 30 60  
[francesales@schaffner.com](mailto:francesales@schaffner.com)

### Germany

#### Schaffner Deutschland GmbH

Schoemperlenstrasse 12B  
76185  
Karlsruhe  
+49 721 56910  
[germanysales@schaffner.com](mailto:germanysales@schaffner.com)

### India

#### Schaffner India Pvt. Ltd

Regus World Trade Centre  
WTC, 22nd Floor Unit No 2238, Brigade Gateway Campus, 26/1, Dr. Rajkumar Road Malleshwaram (W)  
560055  
Bangalore  
+91 8067935355  
[indiasales@schaffner.com](mailto:indiasales@schaffner.com)

### Italy

#### Schaffner EMC S.r.l.

Via Ticino, 30  
20900  
Monza (MB)  
+39 039 21 41 070  
[italysales@schaffner.com](mailto:italysales@schaffner.com)

### Japan

#### Schaffner EMC K.K.

ISM Sangenjaya 7F  
1-32-12 Kamiuma, Setagaya-ku  
154-0011  
Tokyo  
+81 3 5712 3650  
[japansales@schaffner.com](mailto:japansales@schaffner.com)

### Singapore

#### Schaffner EMC Pte Ltd.

Blk 3015A Ubi Road 1, #05-09, Kampong Ubi Industrial Estate  
408705  
Singapore  
+65 63773283  
[singaporesales@schaffner.com](mailto:singaporesales@schaffner.com)

### Spain

#### Schaffner EMC España

Calle Caléndula 93, Miniparc III, Edificio E El Soto de Moraleja, Alcobendas  
28109  
Madrid  
+34 917 912 900  
[spainsales@schaffner.com](mailto:spainsales@schaffner.com)

### Sweden

#### Schaffner EMC AB

Östermalmstrorg 1  
114 42  
Stockholm  
+46 8 5050 2425  
[swedensales@schaffner.com](mailto:swedensales@schaffner.com)

### Switzerland

#### Schaffner EMV AG

Industrie Nord  
Nordstrasse 11e  
4542  
Luterbach  
+41 32 681 66 26  
[switzerlandsales@schaffner.com](mailto:switzerlandsales@schaffner.com)

### Taiwan

#### Schaffner EMV Ltd.

U-Town  
20 Floor-2, No 97, Section 1, XinTai 5th Road, XiZhi District  
22175  
New Taipei City  
+886 226975500  
[taiwansales@schaffner.com](mailto:taiwansales@schaffner.com)

### Thailand

#### Schaffner EMC Co. Ltd.

Sathorn Square Tower  
Room 3780, 37FL, 98 North-Sathorn Rd, Silom, Bangrak  
10500  
Bangkok  
+66 621056397  
[thailandsales@schaffner.com](mailto:thailandsales@schaffner.com)

### United Kingdom

#### Schaffner Ltd.

1, Oakmede Place  
Terrace Road  
RG42 4JF  
Binfield  
+44 118 9770070  
[uksales@schaffner.com](mailto:uksales@schaffner.com)

### United States

#### Schaffner EMC Inc.

52 Mayfield Avenue  
Edison, New Jersey  
+1 732 225 9533  
[usasales@schaffner.com](mailto:usasales@schaffner.com)

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