

# Safe and ergonomic EMC/EMI filter with very low leakage current



- Light weight plastic enclosure design
- Very low filter leakage current
- Hinged safety covers
- Embedded filter terminals
- Different performance levels
- Environmental friendly design without potting compound

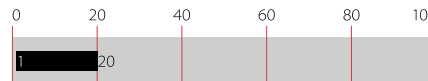


### Performance indicators

Attenuation performance



Rated current [A]



### Approvals



### Features and benefits

- A plastic housing and a metal ground plate are cleverly combined to get the lowest possible product weight without compromising EMC behaviour
- The embedded terminals from Schaffner guarantee user-friendly handling and reliable, long-lasting electrical connection
- Captive hinged protective covers contribute to overall safety by offering protection against unintended contact with live conductors. They are included in the standard scope of delivery without any extra cost
- Very low leakage current values make the filters suitable for grids with very tough requirements or sensitive GFCIs, and for applications which set value on safety and reliability
- FN 2450 feature an ecologically conscious construction without the use of potting compound or banned substances (RoHS). Used raw materials can be easily separated at the end of the product life time for proper and environmentally safe disposal

### Technical specifications

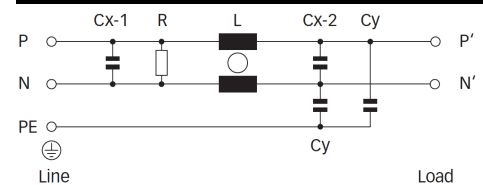
<b>Maximum continuous operating voltage</b>	250 VAC, 50/60 Hz
<b>Rated currents</b>	6 to 20 A @ 55°C
<b>Operating frequency</b>	DC to 400 Hz
<b>High potential test voltage</b>	P/N -> E 2500 VAC for 60 sec * P -> N 1100 VDC for 2 sec
<b>Temperature range (operation and storage)</b>	-25°C to +100°C (25/100/21)
<b>Flammability corresponding to</b>	UL 94 V-0 (safety covers UL 94V-1)
<b>Design corresponding to</b>	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939, EN 60601-1
<b>MTBF @ 40°C/230 V (Mil-HB-217F)</b>	>180,000 hours

\* Type testing only


### Typical applications

- Electrical and electronic equipment
- Test and measurement devices
- Medical devices n Industrial automation
- Small machines
- Office automation equipment

### Typical electrical schematic



### Filter selection table

Filter*	Rated current @ 55°C (40°C)	Leakage current** @ 250 VAC /50 Hz (@ 120 VAC /60 Hz)	Inductance L	Capacitance		Resistance R	Input/Output connections	Weight
				Cx	Cy			
	[A]	[mA]	[mH]	[uF]	[nF]	[MΩ]		[g]
<b>FN 2450 G-6-61</b>	6 (6.8)	0.66 (0.38)	10.5	0.47	4.7	1	-61	210
<b>FN 2450 G-10-61</b>	10 (11.4)	0.66 (0.38)	4.9	0.47	4.7	1	-61	210
<b>FN 2450 G-16-61</b>	16 (18.2)	0.66 (0.38)	1.84	0.47	4.7	1	-61	210
<b>FN 2450 G-20-61</b>	20 (22.8)	0.66 (0.38)	0.94	0.47	4.7	1	-61	210
<b>FN 2450 F-6-61</b>	6 (6.8)	0.47 (0.27)	10.5	0.47	3.3	1	-61	210
<b>FN 2450 F-10-61</b>	10 (11.4)	0.47 (0.27)	4.9	0.47	3.3	1	-61	210
<b>FN 2450 F-16-61</b>	16 (18.2)	0.47 (0.27)	1.84	0.47	3.3	1	-61	210
<b>FN 2450 F-20-61</b>	20 (22.8)	0.47 (0.27)	0.94	0.47	3.3	1	-61	210
<b>FN 2450 B-6-61</b>	6 (6.8)	0.00	10.5	0.47		1	-61	210
<b>FN 2450 B-10-61</b>	10 (11.4)	0.00	4.9	0.47		1	-61	210
<b>FN 2450 B-16-61</b>	16 (18.2)	0.00	1.84	0.47		1	-61	210
<b>FN 2450 B-20-61</b>	20 (22.8)	0.00	0.94	0.47		1	-61	210

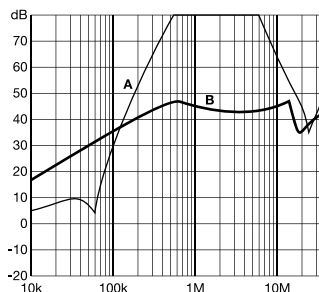
\* The letter following FN2450 represents the value of the Y-capacitor and is directly related to the performance and leakage current of the filter. Other Y-capacitor values are available upon request.

\*\* Maximum leakage current under normal operating conditions (acc. to IEC60939-3). Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

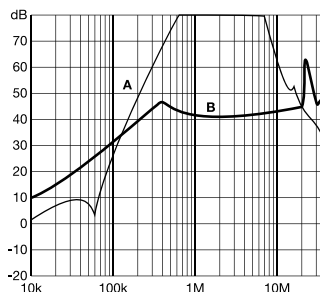
### Typical filter attenuation

Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym

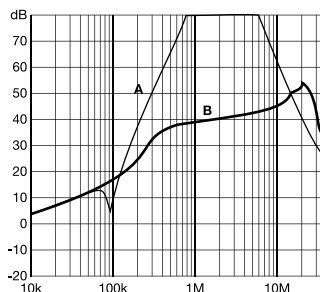
6 A types



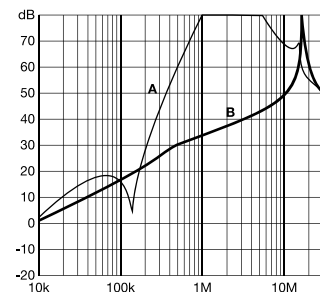
10 A types



16 A types



20 A types



## Installation

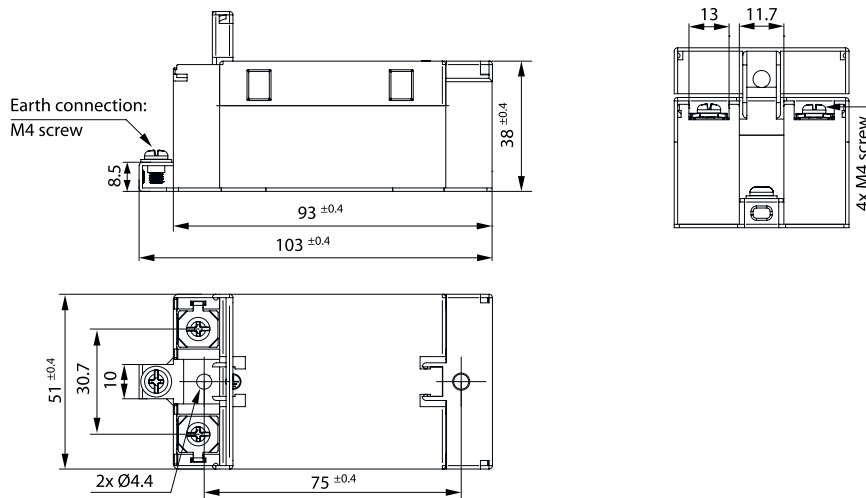


FN 2450 are delivered with closed plastic covers and fastened terminals. To install the filter please proceed as follows:

- Mount the filter on a metal surface with two appropriate bolts
- First connect the green/yellow wire to the earth stud of the filter
- Gently lift the two hinged plastic covers. n Untighten the terminals with an appropriately sized screw driver
- Connect phase and neutral wires with cable lugs by pushing down and tightening the bolts
- Please note the torque recommendation on the next page
- Push the safety covers back into their locked position to finish the filter installaton

## Mechanical data

FN 2450



## Filter input/output connector cross sections

	-61 (6 A)	-61 (10 A)	-61 (16 A)	-61 (20 A)
<b>Flex wire</b>	1.3 - 2.5 mm <sup>2</sup>	1.3 - 2.5 mm <sup>2</sup>	4 - 6 mm <sup>2</sup>	4 - 6 mm <sup>2</sup>
<b>AWG type wire</b>	AWG 13 - AWG 16	AWG 13 - AWG 16	AWG 12 - AWG 10	AWG 12 - AWG 10
<b>Ring/fork lug (W/d)*</b>	max. 11 mm/min. Ø 4.3 mm	max. 11 mm/min. Ø 4.3 mm	max. 11 mm/min. Ø 4.3 mm	max. 11 mm/min. Ø 4.3 mm
<b>Recommended torque</b>	0.8-1 Nm	0.8-1 Nm	0.8-1 Nm	0.8 - 1 Nm

\* Schaffner recommends the use of insulated and UL-recognized ring lugs or fork lugs of the appropriate size.

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



## Headquarters, global innovation and development

### Switzerland

#### Schaffner Group

Industrie Nord  
Nordstrasse 11e  
4542 Luterbach  
T +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  
T +86 21 3813 9500  
[cschina@schaffner.com](mailto:cschina@schaffner.com)  
[www.schaffner.com.cn](http://www.schaffner.com.cn)

### Finland

#### Schaffner Oy

Sauvonrinne 19 H  
08500 Lohja  
T +358 10 567 2855  
[finlandsales@schaffner.com](mailto:finlandsales@schaffner.com)

### France

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

16-20 Rue Louis Rameau  
95875 Bezons  
T +33 1 34 34 30 60  
F +33 1 39 47 02 28  
[francesales@schaffner.com](mailto:francesales@schaffner.com)

### Germany

#### Schaffner Deutschland GmbH

Schoemperlenstrasse 12B  
76185 Karlsruhe  
T +49 721 56910  
F +49 721 569110  
[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  
T +91 80 67935355  
[indiasales@schaffner.com](mailto:indiasales@schaffner.com)

### Italy

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

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

### Japan

#### Schaffner EMC K.K.

Taiju-Seimei Sangenjaya Bldg.  
1-32-12, Kamiuma, Setagaya-ku  
154-0011 Tokyo  
T +81 3 5712 3650  
F +81 3 5712 3651  
[japansales@schaffner.com](mailto:japansales@schaffner.com)  
[www.schaffner.jp](http://www.schaffner.jp)

### Singapore

#### Schaffner EMC Pte Ltd.

#05-09, Kg Ubi Ind. Estate  
408705 Singapore  
T +65 6377 3283  
F +65 6377 3281  
[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  
T +34 917 912 900  
F +34 917 912 901  
[spainsales@schaffner.com](mailto:spainsales@schaffner.com)

### Sweden

#### Schaffner EMC AB

Östermalmstorg 1  
114 42 Stockholm  
T +46 8 5050 2425  
[swedensales@schaffner.com](mailto:swedensales@schaffner.com)  
[www.schaffner.com](http://www.schaffner.com)

### Switzerland

#### Schaffner EMV AG

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

### Taiwan R.O.C.

#### Schaffner EMV Ltd.

20 Floor-2, No 97, Section 1, XinTai 5th Road  
22175 XiZhi District New Taipei City 22175  
T +886 2 2697 5500  
F +886 2 2697 5533  
[taiwansales@schaffner.com](mailto:taiwansales@schaffner.com)  
[www.schaffner.com.tw](http://www.schaffner.com.tw)

### Thailand

#### Schaffner EMC Co. Ltd.

Northern Region Industrial Estate  
67 Moo 4 Tambon Ban Klang  
Amphur Muangng P.O. Box 14  
51000 Lamphun  
T +66 53 58 11 04  
F +66 53 58 10 19  
[thailandsales@schaffner.com](mailto:thailandsales@schaffner.com)

### United Kingdom

#### Schaffner Ltd.

5 Ashville Way, Molly Millars Lane  
Wokingham  
RG41 2PL Berkshire  
T +44 118 9770070  
F +44 118 9792969  
[uksales@schaffner.com](mailto:uksales@schaffner.com)

### USA

#### Schaffner EMC Inc.

52 Mayfield Avenue  
Edison, New Jersey  
T +1 732 225 9533  
F +1 732 225 4789  
[usasales@schaffner.com](mailto:usasales@schaffner.com)  
[www.schaffnerusa.com](http://www.schaffnerusa.com)

#### Schaffner North America

6722 Thirlane Road  
24019 Roanoke, Virginia  
T +1 276 228 7943  
F +1 276 228 7953

#### Schaffner North America

823 Fairview Road  
24382 Wytheville, Virginia  
T +1 276 228 7943  
F +1 276 228 7258

To find your local partner within Schaffner's global network: [www.schaffner.com](http://www.schaffner.com)

© 2018 Schaffner Group

The content of this document has been carefully checked and understood. However, neither Schaffner nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Schaffner does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Swiss law and resulting disputes shall be settled by the courts at the place of business of Schaffner Holding AG. Latest publications and a complete disclaimer can be downloaded from the Schaffner website. All trademarks recognized.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Power Line Filters](#) category:*

*Click to view products by [Schaffner](#) manufacturer:*

Other Similar products are found below :

[6609019-3](#) [6609026-5](#) [6609030-6](#) [6609973-2](#) [D30A](#) [7-1609090-5](#) [F2810](#) [F4456A](#) [F7382Z](#) [F7863Z](#) [FAHAV3100ZC000](#) [806276](#) [FN2020B-1-06](#) [FN2080B-10-06](#) [FN2410H-32-33](#) [FP144](#) [FS4153-20-06](#) [FS4353-500-99](#) [12-MMB-030-11-D](#) [DB4-393](#) [15811T200](#) [20B1](#) [LC630](#) [2B1](#) [1609080-2](#) [1609993-8](#) [1-6609070-1](#) [F1100AA02](#) [F1150CC10](#) [F1500CA10](#) [F1500CA15](#) [F4041Z](#) [F7585E](#) [1B1](#) [FN2070A-16-06](#) [FN2090A-20-06](#) [FN2090B-12-06](#) [FN2090Z-1-06](#) [FN2410H-25-33](#) [FN2410H-60-34](#) [FN2410H-8-44](#) [FN2412H-8-44](#) [FN323B-6-01](#) [FN3258H-130-35](#) [FN610R-3-06](#) [20EHQ7](#) [20EHZ7](#) [20K1](#) [30B6](#) [3K1](#)