

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]



Technical specifications

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

* Type testing only

Approvals



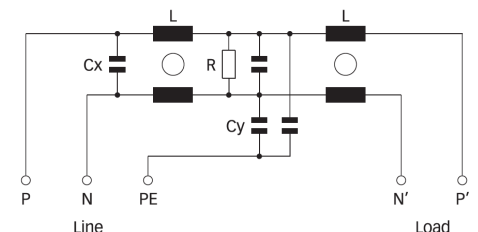
Features and benefits

- 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

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]
FN 2450 G-6-61	6 (6.8)	0.66 (0.38)	10.5	0.47	4.7	1	-61	210
FN 2450 G-10-61	10 (11.4)	0.66 (0.38)	4.9	0.47	4.7	1	-61	210
FN 2450 G-16-61	16 (18.2)	0.66 (0.38)	1.84	0.47	4.7	1	-61	210
FN 2450 G-20-61	20 (22.8)	0.66 (0.38)	0.94	0.47	4.7	1	-61	210
FN 2450 F-6-61	6 (6.8)	0.47 (0.27)	10.5	0.47	3.3	1	-61	210
FN 2450 F-10-61	10 (11.4)	0.47 (0.27)	4.9	0.47	3.3	1	-61	210
FN 2450 F-16-61	16 (18.2)	0.47 (0.27)	1.84	0.47	3.3	1	-61	210
FN 2450 F-20-61	20 (22.8)	0.47 (0.27)	0.94	0.47	3.3	1	-61	210
FN 2450 B-6-61	6 (6.8)	0.00	10.5	0.47		1	-61	210
FN 2450 B-10-61	10 (11.4)	0.00	4.9	0.47		1	-61	210
FN 2450 B-16-61	16 (18.2)	0.00	1.84	0.47		1	-61	210
FN 2450 B-20-61	20 (22.8)	0.00	0.94	0.47		1	-61	210

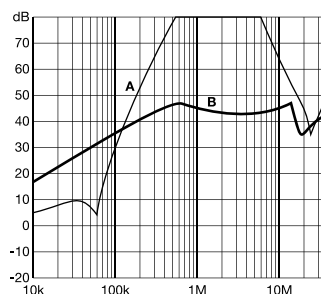
* The letter following FN2450 represents the value of the Y-capacitor and is directly related to the performance and leakage current of the filter. Other Y-capacitor values are available upon request.

** 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.

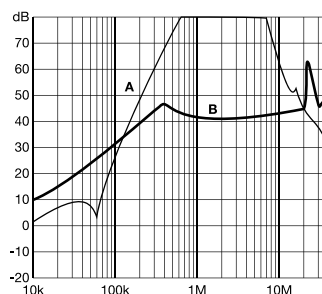
Typical filter attenuation

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

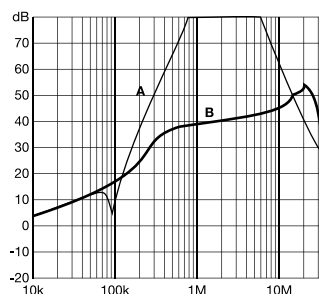
6 A types



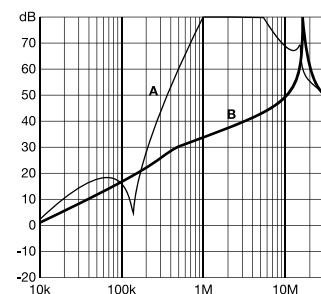
10 A types



16 A types



20 A types



Installation

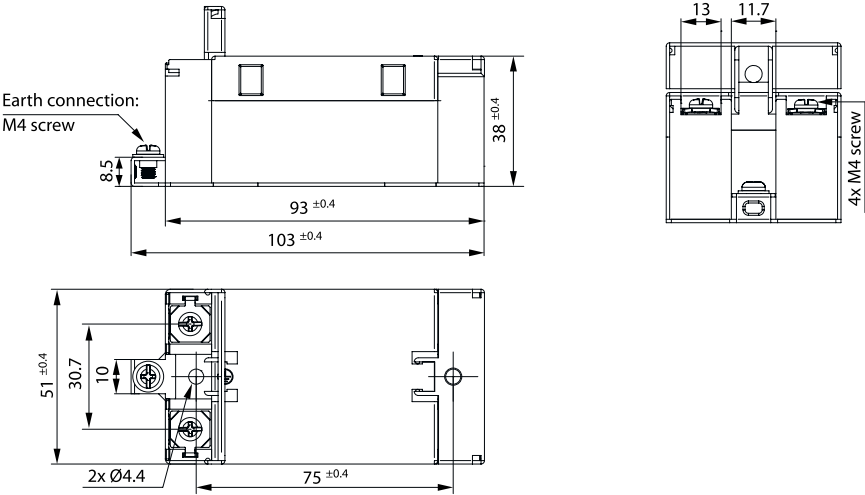


FN 2450 are delivered with closed plastic covers and fastened terminals. To install the filter please proceed as follows:

- 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)
Flex wire	1.3 - 2.5 mm ²	1.3 - 2.5 mm ²	4 - 6 mm ²	4 - 6mm ²
AWG type wire	AWG 13 - AWG 16	AWG 13 - AWG 16	AWG 12 - AWG 10	AWG 12 - AWG 10
Ring/fork lug (W/d)*	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. 11mm/min. Ø4.3mm
Recommended torque	0.8-1 Nm	0.8-1 Nm	0.8-1 Nm	0.8 - 1Nm

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

Please visit www.schaffner.com to find more details on filter connectors.



Headquarters, global innovation and development

Switzerland

Schaffner Group

Nordstrasse 11
4542 Luterbach
T +41 32 681 66 26
info@schaffner.com
www.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
www.schaffner.com.cn

Finland

Schaffner Oy

Sauvonrinne 19 H
08500 Lohja
T +358 50 468 7284
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

Germany

Schaffner Deutschland GmbH

Schoemperlenstrasse 12B
76185 Karlsruhe
T +49 721 56910
F +49 721 569110
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

Italy

Schaffner EMC S.r.l.

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

Japan

Schaffner EMC K.K.

1-32-12, Kamiura, Setagaya-ku
7F Mitsui-seimei Sangenjaya Bldg.
154-0011 Tokyo
T +81 3 5712 3650
F +81 3 5712 3651
japansales@schaffner.com
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

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

Sweden

Schaffner EMC AB

Tegeluddsvägen 76, 2tr
115 28 Stockholm
T +46 8 5050 2425
swedensales@schaffner.com
www.schaffner.com

Switzerland

Schaffner EMV AG

Nordstrasse 11
4542 Luterbach
T +41 32 681 66 26
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
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

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

USA

Schaffner EMC Inc.

52 Mayfield Avenue
08837 Edison, New Jersey
T +1 800 367 5566
T +1 732 225 9533
F +1 732 225 4789
usasales@schaffner.com
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

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Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А