

IEC Inlet Filters FN 390

Versatile Filtered Power Entry Module

SCHAFNER
energy efficiency and reliability



- Rated currents up to 10A
- For one or two fuses
- Fuses Ø6.3 x 32mm or Ø5 x 20mm
- 2-pole rocker switch
- Voltage selector
- Optional earth line choke (E type)

Approvals



RoHS
2002/95/EC

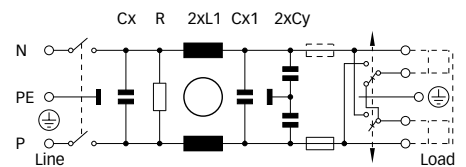
Technical specifications

Maximum continuous operating voltage:	250VAC, 50/60Hz
Operating frequency:	50 to 400Hz
Rated currents:	1 to 10A @ 40°C max.
High potential test voltage:	P → PE 2000VAC for 2 sec P → N 760VAC for 2 sec
Protection category:	IP40 according to IEC 60529
Temperature range (operation and storage):	-25°C to +85°C (25/85/21)
Design corresponding to:	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
Flammability corresponding to:	UL 94V-2 or better
MTBF @ 40°C/230V (Mil-HB-217F):	2,200,000 hours
Voltage selector description:	
Function:	Series/parallel
Voltage marking:	
Series:	110-120V
Parallel:	220-240V
Rocker switch description:	
Function:	2-pole, dark not illuminated Marking I - 0
Electrical specifications:	Inrush current 51A 6,000 on-off operations according to UL 1054, TV 5 10,000 on-off operations according to ENEC
Mechanical life:	50,000 cycles
Switch ratings:	
USA (UL) and Canada (C-UL):	10A, 125VAC; 10A, 250VAC; 1/3HP
Europe (ENEC):	10A (4A), 250VAC*

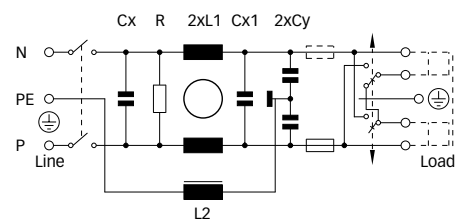
* Value in () relates to the inductive current charge: $\cos \gamma = 0.65$

Typical electrical schematic

Standard types



E types



Features and benefits

- High conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior.
- Rear or front mounting.
- Single or dual-fuse holder.
- USA Ø6.3 x 32mm or EU Ø5 x 20mm fuses.
- 2-pole rocker switch.
- Voltage selector 110-120V / 220-240V.
- Custom-specific versions are available on request.

Typical applications

- Portable electrical and electronic equipment
- Consumer goods
- EDP and office equipment
- Single-phase power supplies, switch-mode power supplies
- Test and measurement equipment

The FN 390 power entry module combines an IEC inlet, mains filter with single or dual-fuse holder, voltage selector and 2-pole rocker switch. Choosing FN 390 product line brings you the rapid availability of a standard filter associated with the necessary safety acceptances. Standard IEC connector filters are a practical solution helping you to pass EMI system approval in a short time. Multiple options designed to offer you the desired solution.

Filter selection table

Filter	Rated current @ 40°C (25°C)	Leakage current* @ 230VAC/50Hz	Inductance		Cx	Capacitance		Resistance R	Output connections 	Fuses** [Qty]	Weight [g]
	[A]	[µA]	L1 [mH]	L2 [mH]		Cx1 [nF]	Cy [nF]				
FN 393-1-05-11	1 (1.2)	560	7.5		220		3.3	1000	05-11	1	200
FN 393-2.5-05-11	2.5 (3)	560	2		220		3.3	1000	05-11	1	200
FN 393-6-05-11	6 (7.2)	560	0.45		220		3.3	1000	05-11	1	200
FN 394-1-05-11	1 (1.2)	560	7.5		220		3.3	1000	05-11	2	200
FN 394-2.5-05-11	2.5 (3)	560	2		220		3.3	1000	05-11	2	200
FN 394-6-05-11	6 (7.2)	560	0.45		220		3.3	1000	05-11	2	200
FN 393E-1-05-11	1 (1.2)	560	7.5	0.4	220		3.3	1000	05-11	1	205
FN 393E-2.5-05-11	2.5 (3)	560	2	0.4	220		3.3	1000	05-11	1	205
FN 393E-6-05-11	6 (7.2)	560	0.45	0.4	220		3.3	1000	05-11	1	205
FN 394E-1-05-11	1 (1.2)	560	7.5	0.4	220		3.3	1000	05-11	2	205
FN 394E-2.5-05-11	2.5 (3)	560	2	0.4	220		3.3	1000	05-11	2	205
FN 394E-6-05-11	6 (7.2)	560	0.45	0.4	220		3.3	1000	05-11	2	205
FN 1393-1-05-11	1 (1.2)	797	16		220	100	4.7	470	05-11	1	210
FN 1393-2.5-05-11	2.5 (3)	797	8		220	100	4.7	470	05-11	1	210
FN 1393-6-05-11	6 (7.2)	797	2.5		220	100	4.7	470	05-11	1	210
FN 1393-10-05-11	10 (12)	797	0.6		220	100	4.7	470	05-11	1	210
FN 1394-1-05-11	1 (1.2)	797	16		220	100	4.7	470	05-11	2	210
FN 1394-2.5-05-11	2.5 (3)	797	8		220	100	4.7	470	05-11	2	210
FN 1394-6-05-11	6 (7.2)	797	2.5		220	100	4.7	470	05-11	2	210
FN 1394-10-05-11	10 (12)	797	0.6		220	100	4.7	470	05-11	2	210

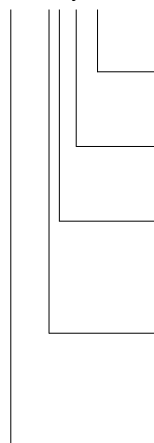
* Maximum leakage under normal operating conditions. Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

** Filters are delivered without fuse.

Note: for medical versions please contact your local partner within Schaffner's global network.

Product selector

FN (1)39xx-y-zz



05-11: Faston 6.3 x 0.8mm

1 to 10: Rated current

Blank: Standard version

E: Optional earth line choke

3: 1 fuse (Ø5 x 20mm or Ø6.3 x 32mm)

4: 2 fuses (Ø5 x 20mm or Ø6.3 x 32mm)

Blank: Standard version

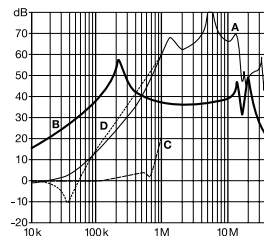
1: Additional Cx1 capacitor and higher inductivity

For example: FN 393-1-05-11, FN 394E-2.5-05-11, FN 1394-10-05-11

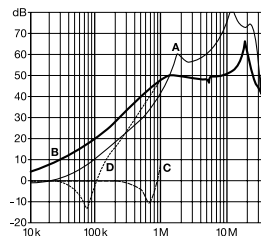
Typical filter attenuation

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

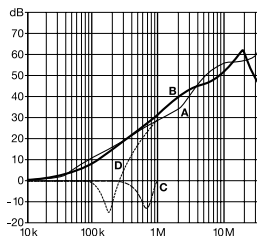
FN 39x: 1A types



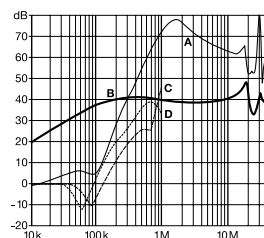
FN 39x: 2.5A types



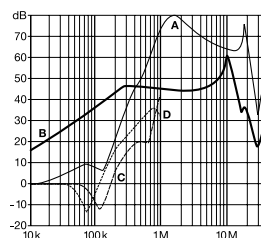
FN 39x: 6A types



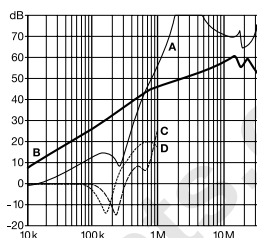
FN 139x: 1A types



FN 139x: 2.5A types

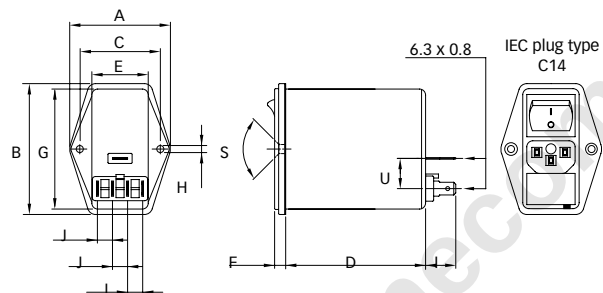


FN 139x: 6 and 10A types

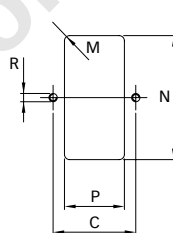


Mechanical data

1 to 10A types



Panel cut out



Dimensions

	1 to 10A	Tolerances
A	50	±0.3
B	65	±0.3
C	40	±0.1
D	69.5	±0.3
E	28	
F	5.5	±0.3
G	59.6	
H	Ø3.3	
I	15	
J	7.5	
M	R ≤ 2.5	
N	60.03	±0.2
P	29.03	±0.2
R	M3	
S	90°	
U	15	

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

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**Headquarters and
global innovation and
development center**

Schaffner Group
Nordstrasse 11
4542 Luterbach
Switzerland
T +41 32 681 66 26
F +41 32 681 66 30
info@schaffner.ch
www.schaffner.com

Sales and application centers

China

Schaffner EMC Ltd. Shanghai
Building 11, Lane 1365
East Kangqiao Road
Shanghai 201319
T +86 21 6813 9855
F +86 21 6813 9811
cschina@schaffner.com
www.schaffner.com

Germany

Schaffner Deutschland GmbH
Schoemperlenstrasse 12B
76185 Karlsruhe
T +49 721 56910
F +49 721 569110
germanysales@schaffner.com

Finland

Schaffner Oy
Tynninkuja 7
08700 Lohja
T +358 19 35 72 71
F +358 19 32 66 10
finlandsales@schaffner.com

France

Schaffner EMC S.A.S.
112, Quai de Bezons
95103 Argenteuil
T +33 1 34 34 30 60
F +33 1 39 47 02 28
francesales@schaffner.com

Italy

Schaffner EMC S.r.l.
Via Galileo Galilei, 47
20092 Cinisello Balsamo (MI)
T +39 02 66 04 30 45/47
F +39 02 61 23 943
italysales@schaffner.com

Japan

Schaffner EMC K.K.
Mitsui-Seimei Sangenjaya Bldg. 7F
1-32-12, Kamiyama, Setagaya-ku
Tokyo 154-0011
T +81 3 5712 3650
F +81 3 5712 3651
japansales@schaffner.com
www.schaffner.jp

Sweden

Schaffner EMC AB
Turebergstorg 1, 6
19147 Sollentuna
T +46 8 5792 1121 / 22
F +46 8 92 96 90
swedensales@schaffner.com

Switzerland

Schaffner EMV AG
Nordstrasse 11
4542 Luterbach
T +41 32 681 66 26
F +41 32 681 66 41
sales@schaffner.ch

Singapore

Schaffner EMC Pte Ltd.
Blk 3015A Ubi Road 1
05-09 Kampong Ubi Industrial
Estate
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 la Moraleja,
Alcobendas
28109 Madrid
T +34 618 176 133
spainsales@schaffner.com

Taiwan

Schaffner EMV Ltd.
6th Floor, No 413
Rui Guang Road
Neihu District
Taipei City 114
T +886 2 87525050
F +886 2 87518086
taiwansales@schaffner.com

Thailand

Schaffner EMC Co. Ltd.
Northern Region Industrial Estate
67 Moo 4 Tambon Ban Klang
Amphur Muang P.O. Box 14
Lamphun 51000
T +66 53 58 11 04
F +66 53 58 10 19
thailandsales@schaffner.com

UK

Schaffner Ltd.
5 Ashville Way
Molly Millars Lane
Wokingham
Berkshire RG41 2PL
T +44 118 9770070
F +44 118 9792969
uksales@schaffner.com
www.schaffner.uk.com

USA

Schaffner EMC Inc.
52 Mayfield Avenue
Edison, New Jersey 08837
T +1 732 225 9533
F +1 732 225 4789
usasales@schaffner.com
www.schaffner.com/us

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