

# IEC inlet filters FN 390

## Versatile filtered power entry module

**SCHAFFNER**

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 → E 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
On-off operations according to UL 1054, TV 5:	6,000
On-off operations according to ENEC:	10,000

### Mechanical life:

Cycles:	50,000
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### Switch ratings:

USA (UL):	10A, 125VAC; 1/3HP; 10A, 250VAC; 1/2HP
Canada (CSA):	6A, 125VAC; 4A, 250VAC; 1/10HP
Europe (ENEC):	10A (4A), 250VAC*

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

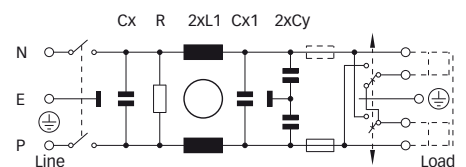
The FN 390 power entry module combines an IEC inlet, mains filter with single or dual-fuse holder, voltage selector and 2-pole rocker switch. Choosing FN 390 product line brings you the rapid availability of a standard filter associated with the necessary safety acceptances. Standard IEC connector filters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

### Features and benefits

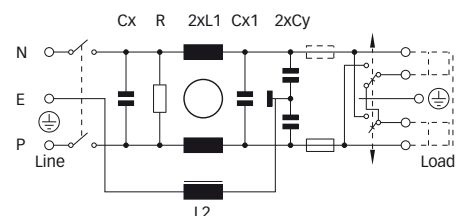
- High conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior.
- Rear or front mounting.
- Single or dual-fuse holder.
- USA Ø6.3 x 32mm or EU Ø5 x 20mm fuses.
- 2-pole rocker switch.
- Voltage selector 110-120V / 220-240V.
- Custom-specific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

### Typical electrical schematic

#### Standard types




#### E types



### 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

Filter selection table

Filter	Rated current @ 40°C (25°C) [A]	Leakage current* @ 230VAC/50Hz [µA]	Inductance		Cx [nF]	Capacitance		Resistance R [kΩ]	Output connections 	Fuses** [Qty]	Weight [g]
			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

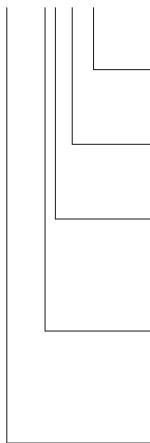
\* Maximum leakage under normal operating conditions. Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

\*\* 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

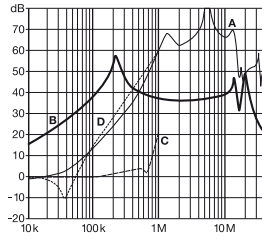
1: Additional Cx1 capacitor and higher inductivity

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

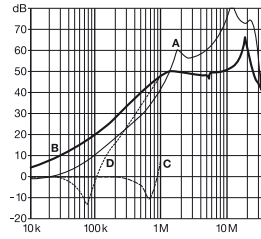
**Typical filter attenuation**

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

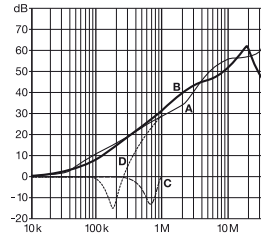
FN 39x: 1A types



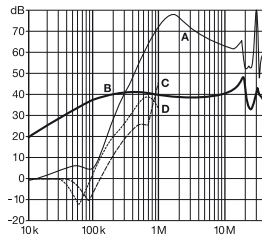
FN 39x: 2.5A types



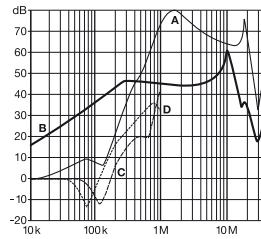
FN 39x: 6A types



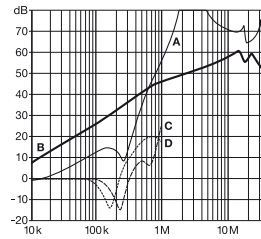
FN 139x: 1A types



FN 139x: 2.5A types

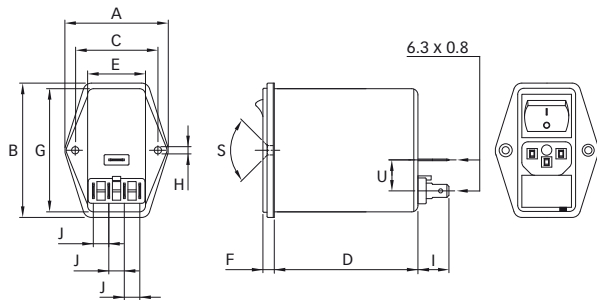


FN 139x: 6 and 10A types

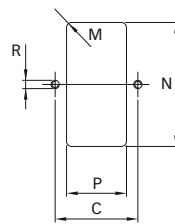


**Mechanical data**

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	∅3.3	
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