

# Versatile Filtered Power Entry Module



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



### Performance indicators



### Approvals



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 32 mm or EU Ø5 x 20 mm fuses
- 2-pole rocker switch
- Voltage selector 110-120 V/220-240 V
- Custom-specific versions are available on request

### Technical specifications

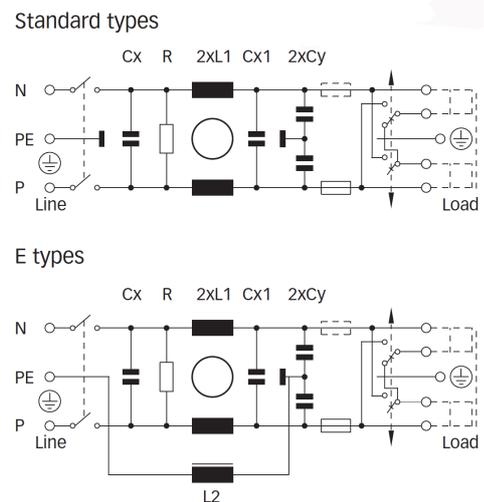
<b>Maximum continuous operating voltage</b>	250 VAC, 50/60 Hz
<b>Operating frequency</b>	dc to 400 Hz
<b>Rated currents</b>	1 to 10 A @ 40°C max.
<b>High potential test voltage</b>	P → PE 2000 VAC for 2 sec P → N 760 VAC for 2 sec
<b>Protection category</b>	IP 40 according to IEC 60529
<b>Temperature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

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

### 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

### Typical electrical schematic



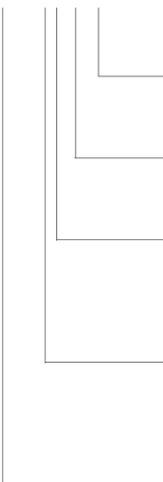
## Filter selection table

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

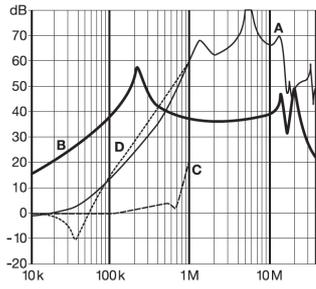
Product selector	
FN (1)39xx-y-zz	
	
05-11:	Faston 6.3 x 0.8mm
1 to 10:	Rated current
Blank:	Standard version
E:	Optional earth line choke
3:	1 fuse (Ø5 x 20mm or Ø6.3 x 32mm)
4:	2 fuses (Ø5 x 20mm or Ø6.3 x 32mm)
Blank:	Standard version
1:	Additional Cx1 capacitor and higher inductivity

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

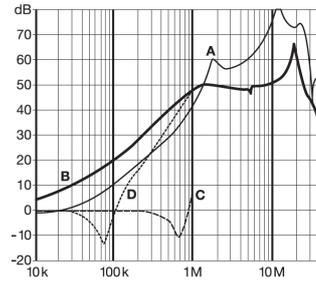
### Typical filter attenuation

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

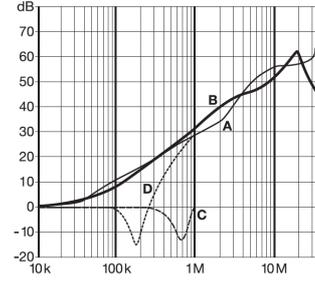
FN 39x: 1 A types



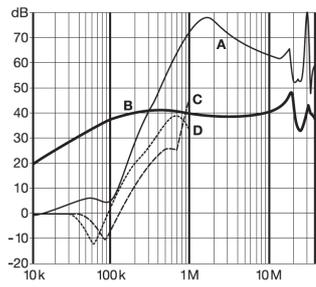
FN 39x: 2.5 A types



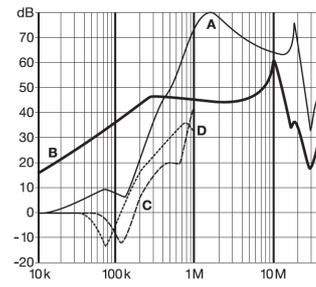
FN 39x: 6 A types



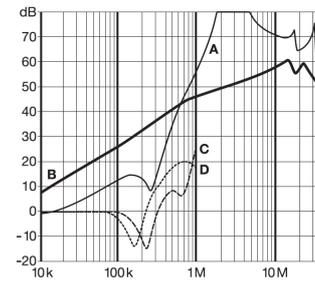
FN 139x: 1 A types



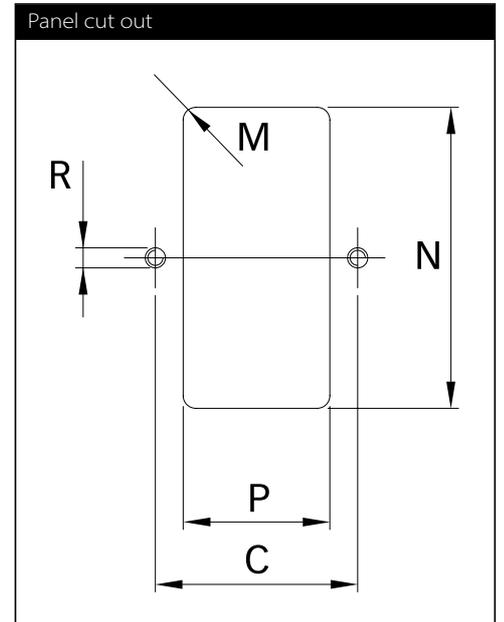
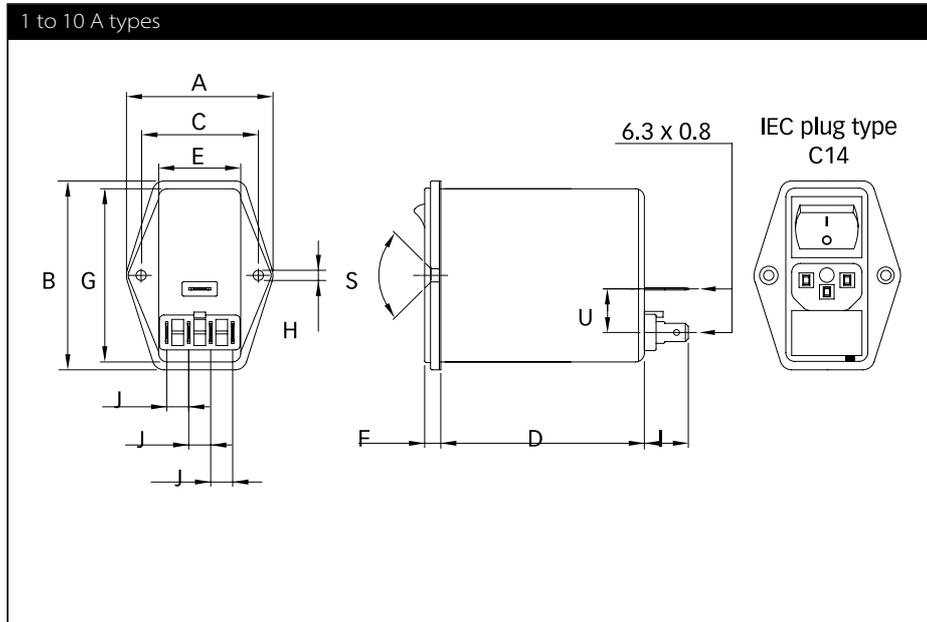
FN 139x: 2.5 A types



FN 139x: 6 and 10 A types



### Mechanical data



## Dimensions

	1 to 10 A	Tolerances
<b>A</b>	50	±0.3
<b>B</b>	65	±0.3
<b>C</b>	40	±0.1
<b>D</b>	69.5	±0.3
<b>E</b>	28	
<b>F</b>	5.5	±0.3
<b>G</b>	59.6	
<b>H</b>	Ø 3.3	
<b>I</b>	15	
<b>J</b>	7.5	
<b>M</b>	R ≤ 2.5	
<b>N</b>	60.00	±0.5
<b>P</b>	29.00	±0.5
<b>R</b>	M3	
<b>S</b>	90°	
<b>U</b>	15	

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

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



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