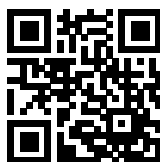


## DC Feedthrough Filter



- IEC/EN 60939 approval
- Rated currents from 10 to 200 A
- 2.5 kV pulse test capability
- Class Y4 capacitor



### Technical Specifications

<b>Maximum continuous operating voltage</b>	130 VAC, 50/60 Hz (UL, ENEC) 130 VAC, 50/60 Hz (UL, ENEC) 650 VDC max.
<b>Rated currents</b>	10 to 200 A @ 60°C max.
<b>Capacitor class</b>	Y4
<b>High potential test voltage</b>	1700 VDC for 2 sec
<b>Insulation resistance (100VDC after 60 sec)</b>	<0.33 $\mu$ F, R >15,000 M $\Omega$ >0.33 $\mu$ F, $\tau$ >5000 s
<b>Temperature range (operation and storage)</b>	-40°C to +100°C (40/100/21)
<b>Flammability corresponding to</b>	UL 94 V-2 or better
<b>MTBF @ 60°C/130 V (Mil-HB-217F)</b>	<200 A: 680,000 hours $\geq$ 200 A: 356,000 hours

### Approvals & Compliances



Feedthrough filters offer a high insertion loss across a broad band of frequencies from a few tens of kHz up to the GHz region. In general feedthrough filters offer a higher level of EMI suppression than feedthrough capacitors of the same current rating. This is particularly relevant to applications where source impedance is smaller than 50  $\Omega$ . Different versions are available offering a wide selection on operating currents and performance levels. DC feedthrough filters are designed and approved for 130 VDC/130 VAC 50/60 Hz operation.

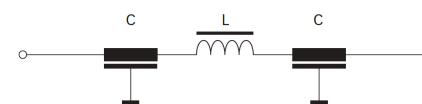
### Features and Benefits

- Very low internal series inductance
- Very high self-resonant frequency
- Self-healing dielectric
- High quality and reliability
- Through-bulkhead mounting
- Anti-twist protection
- Custom-specific or dual-versions on request

### Typical Applications

- Power line filter for 48 VDC battery power
- Increasing system and information security
- Telecom base stations
- Switching and cellular equipment
- Computer servers
- UPS power supplies
- Medical equipment

### Typical electrical schematic



## Feedthrough Selector Table

Feedthrough	Rated current @ 60°C [A]	Leakage current* @ 130 VAC/50 Hz [mA]	Capacitance** C [nF]	Inductance L @ 10 kHz [nH]	DC resistance*** R @ 25°C [mΩ]	Weight [g]
FN 7660-10-M3	10	0.98	10	58	1.06	48
FN 7661-10-M3	10	9.8	100	70	1.2	55
FN 7661-16-M4	16	9.8	100	70	0.7	58
FN 7660-32-M4	32	0.98	10	70	0.65	58
FN 7661-32-M4	32	9.8	100	70	0.7	58
FN 7660-63-M6	63	9.8	100	70	0.42	120
FN 7661-63-M6	63	46	470	186	0.47	250
FN 7660-100-M8	100	46	470	124	0.25	280
FN 7661-100-M8	100	98	1000	186	0.28	320
FN 7660-200-M10	200	46	470	124	0.24	410
FN 7661-200-M10	200	460.7	4700	124	0.24	655

\* Tolerance +20%

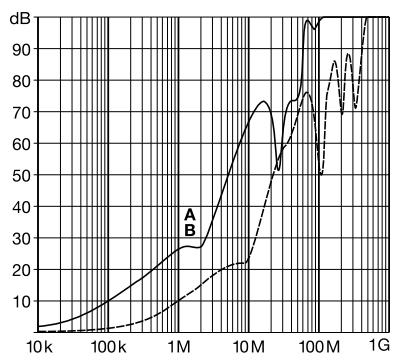
\*\* Tolerance ±20%

\*\*\* Tolerance +15%

## Typical Filter Attenuation

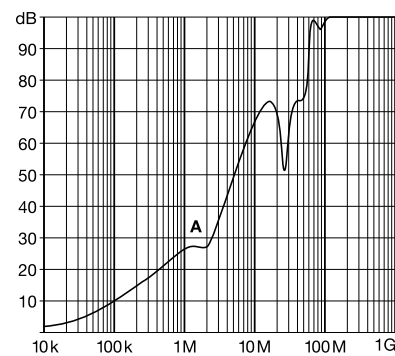
Full load, 50 Ω system

10 A types



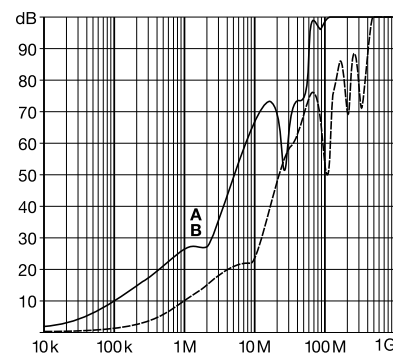
A = FN 7661-10-M3  
B = FN 7660-10-M3

16 A types



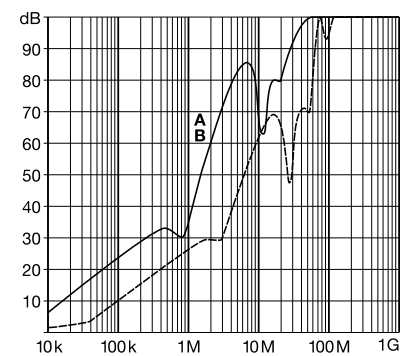
A = FN 7661-16-M4

32 A types



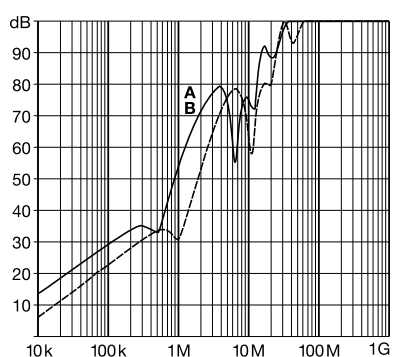
A = FN 7661-32-M4  
B = FN 7660-32-M4

63 A types



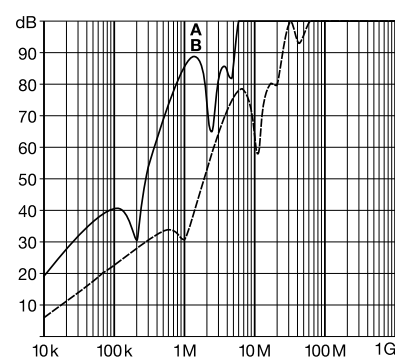
A = FN 7661-63-M6  
B = FN 7660-63-M6

100 A types



A = FN 7661-100-M8  
B = FN 7660-100-M8

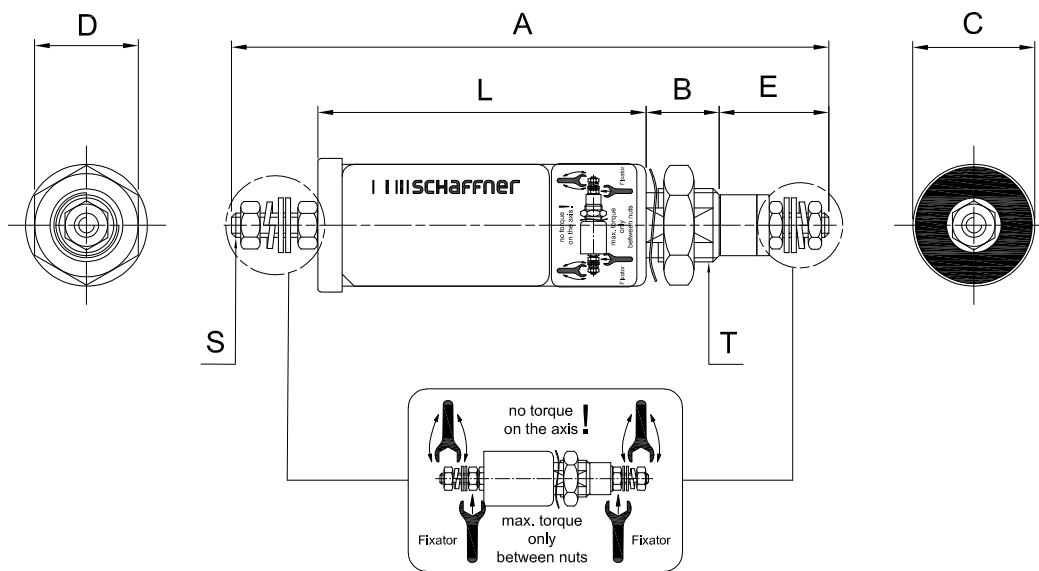
200 A types



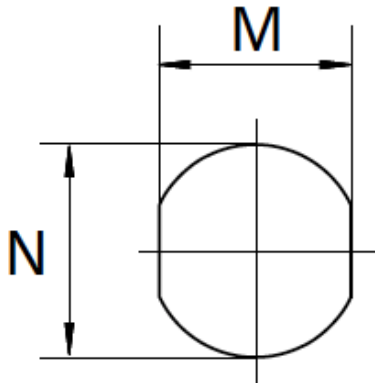
A = FN 7661-200-M10  
B = FN 7660-200-M10

## Mechanical Data

### FN 766x mechanical



### Panel cut out



## Dimensions

	A	B	C	D	E	L	M	N	S	T
<b>FN 7660-10-M3</b>	90	12	20	17	16	49	10.3	Ø12.3	M3	M12x1
<b>FN 7661-10-M3</b>	107	12	20	17	16	66	10.3	Ø12.3	M3	M12x1
<b>FN 7661-16-M4</b>	106	12	20	17	18	61	10.3	Ø12.3	M4	M12x1
<b>FN 7660-32-M4</b>	98	12	20	17	18	53	10.3	Ø12.3	M4	M12x1
<b>FN 7661-32-M4</b>	106	12	20	17	18	61	10.3	Ø12.3	M4	M12x1
<b>FN 7660-63-M6</b>	160	14	25	22	26	94	14.3	Ø16.3	M6	M16x1
<b>FN 7661-63-M6</b>	173	16	32	27	26	105	18.3	Ø20.3	M6	M20x1
<b>FN 7660-100-M8</b>	184	16	32	27	32	104	18.3	Ø20.3	M8	M20x1
<b>FN 7661-100-M8</b>	200	16	32	27	32	120	18.3	Ø20.3	M8	M20x1
<b>FN 7660-200-M10</b>	209	19	38	27	40	112	22.3	Ø24.3	M10	M24x1
<b>FN 7661-200-M10</b>	209	19	54	41	40	112	24.3	Ø27.3	M10	M27x1.5
<b>Tolerances</b>					±2		±0.2			

All dimensions in mm; 1 inch = 25.4 mm

Tolerances according: ISO 2768-m/EN 22768-m

## Recommended Torque

	M3	M4	M6	M8	M10	M12x1	M16x1	M20x1	M24x1	M27x1.5
<b>Terminal thread</b>	0.5 Nm	1.2 Nm	2.5 Nm	5 Nm	8 Nm					
<b>Mounting thread</b>						3 Nm	4 Nm	7 Nm	8 Nm	12 Nm

## Headquarters, Global Innovation and Development

### Switzerland

#### Schaffner Holding AG

Industrie Nord  
Nordstrasse 11e  
4542  
Luterbach  
+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  
+86 2138139500  
[cschina@schaffner.com](mailto:cschina@schaffner.com)

### Finland

#### Schaffner Oy

Sauvonrinne 19 H  
8500  
Lohja  
+358 50 468 7284  
[finlandsales@schaffner.com](mailto:finlandsales@schaffner.com)

### France

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

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

### Germany

#### Schaffner Deutschland GmbH

Schoemperlenstrasse 12B  
76185  
Karlsruhe  
+49 721 56910  
[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  
+91 8067935355  
[indiasales@schaffner.com](mailto:indiasales@schaffner.com)

### Italy

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

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

### Japan

#### Schaffner EMC K.K.

ISM Sangenjaya 7F  
1-32-12 Kamiuma, Setagaya-ku  
154-0011  
Tokyo  
+81 3 5712 3650  
[japansales@schaffner.com](mailto:japansales@schaffner.com)

### Singapore

#### Schaffner EMC Pte Ltd.

Blk 3015A Ubi Road 1, #05-09, Kampong Ubi Industrial Estate  
408705  
Singapore  
+65 63773283  
[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  
+34 917 912 900  
[spainsales@schaffner.com](mailto:spainsales@schaffner.com)

### Sweden

#### Schaffner EMC AB

Östermalmstrorg 1  
114 42  
Stockholm  
+46 8 5050 2425  
[swedensales@schaffner.com](mailto:swedensales@schaffner.com)

### Switzerland

#### Schaffner EMV AG

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

### Taiwan

#### Schaffner EMV Ltd.

U-Town  
20 Floor-2, No 97, Section 1, XinTai 5th Road, XiZhi District  
22175  
New Taipei City  
+886 226975500  
[taiwansales@schaffner.com](mailto:taiwansales@schaffner.com)

### Thailand

#### Schaffner EMC Co. Ltd.

Sathorn Square Tower  
Room 3780, 37FL, 98 North-Sathorn Rd, Silom, Bangrak  
10500  
Bangkok  
+66 621056397  
[thailandsales@schaffner.com](mailto:thailandsales@schaffner.com)

### United Kingdom

#### Schaffner Ltd.

1, Oakmede Place  
Terrace Road  
RG42 4JF  
Binfield  
+44 118 9770070  
[uksales@schaffner.com](mailto:uksales@schaffner.com)

### United States

#### Schaffner EMC Inc.

52 Mayfield Avenue  
Edison, New Jersey  
+1 732 225 9533  
[usasales@schaffner.com](mailto:usasales@schaffner.com)

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