

# DC Feedthrough Capacitor



- EN/IEC 60384-14 approval
- Rated currents from 10 to 200 A
- 2.5 kV pulse test capability
- Class Y4 capacitor



## Approvals



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 Ω. 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.

## Technical specifications

<b>Maximum continuous operating voltage</b>	130 DC (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 μF, R >1500 MΩ >0.33 μF, τ >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: >1,400,000 hours ≥200 A: >450,000 hours

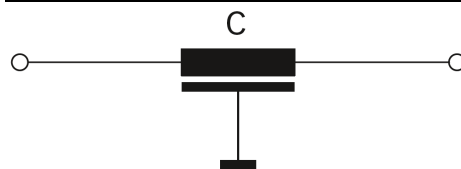
## Features and benefits

- 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

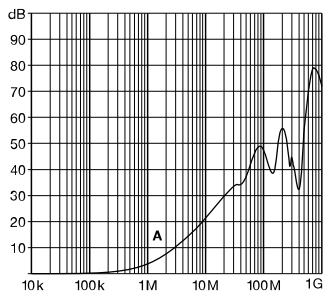
Feedthrough	Rated current @ 60°C [A]	Leakage current* @ 130 VAC/50 Hz [mA]	Capacitance** C [nF]	DC resistance*** R @ 25°C [mΩ]	Weight [g]
FN 7560-10-M3	10	0.49	10	0.8	15
FN 7562-16-M4	16	4.9	100	0.62	34
FN 7563-16-M4	16	23	470	0.63	78
FN 7562-32-M4	32	4.9	100	0.62	34
FN 7563-32-M4	32	23	470	0.63	79
FN 7560-63-M6	63	0.49	10	0.3	70
FN 7561-63-M6	63	2.3	47	0.3	70
FN 7562-63-M6	63	4.9	100	0.3	70
FN 7563-63-M6	63	23	470	0.43	103
FN 7560-100-M8	100	2.3	47	0.23	145
FN 7561-100-M8	100	4.9	100	0.23	145
FN 7562-100-M8	100	23	470	0.23	145
FN 7563-100-M8	100	49	1000	0.25	192
FN 7560-200-M10	200	4.9	100	0.16	160
FN 7561-200-M10	200	23	470	0.16	160
FN 7562-200-M10	200	49	1000	0.18	268
FN 7563-200-M10	200	230	4700	0.14	490

\* Tolerance +20%  
 \*\* Tolerance ±20%  
 \*\*\* Tolerance +15%

### Typical filter attenuation

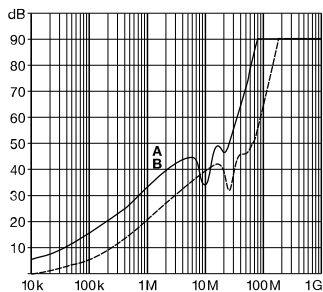
Full load, 50 Ω system

10 A types



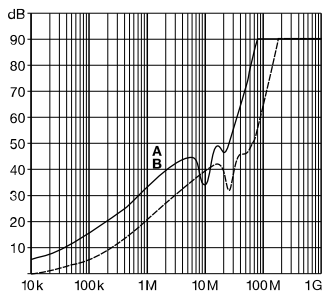
A = FN 7560-10-M3

16 A types



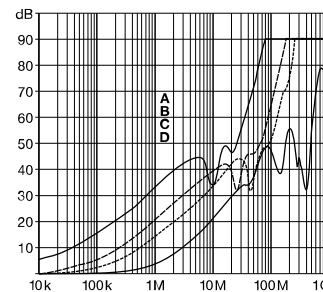
A = FN 7563-16-M4  
 B = FN 7562-16-M4

32 A types



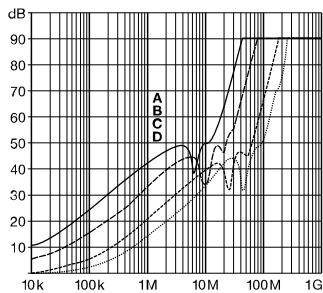
A = FN 7563-32-M4  
 B = FN 7562-32-M4

63 A types



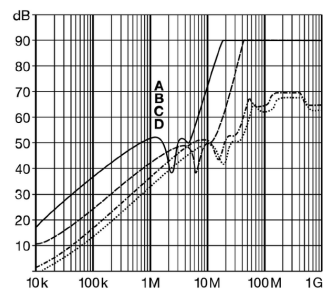
A = FN 7563-63-M6  
 B = FN 7562-63-M6  
 C = FN 7561-63-M6  
 D = FN 7560-63-M6

100 A types



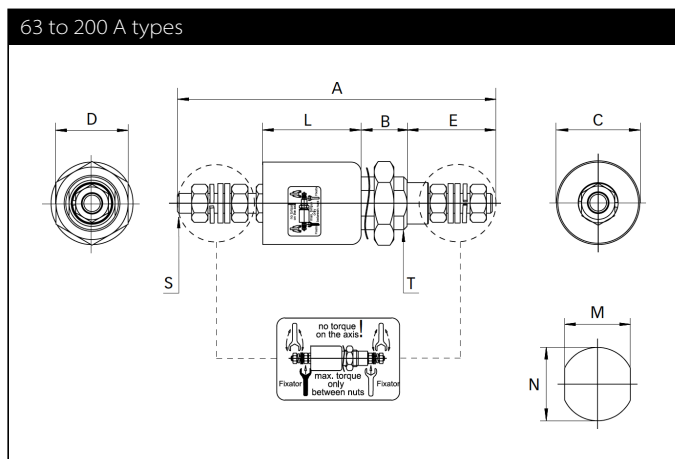
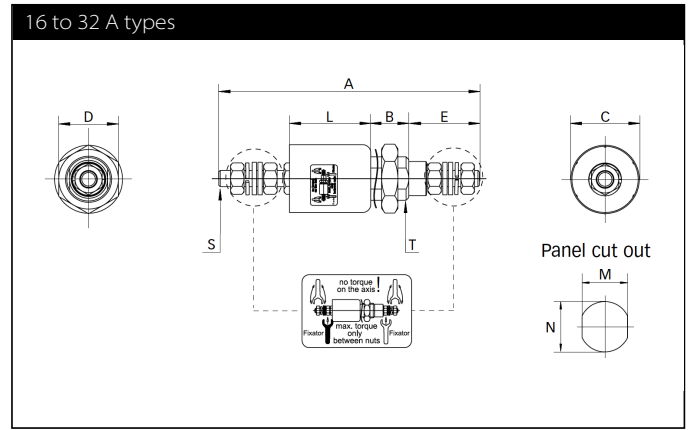
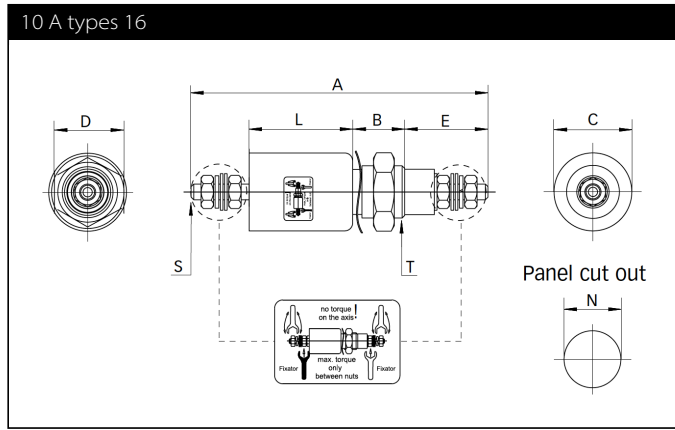
A = FN 7563-100-M8  
 B = FN 7562-100-M8  
 C = FN 7561-100-M8  
 D = FN 7560-100-M8

200 A types



A = FN 7563-200-M10  
 B = FN 7562-200-M10  
 C = FN 7561-200-M10  
 D = FN 7560-200-M10

### Mechanical data



### Dimensions

	A	B	C	D	E	L	M	N	S	T
<b>FN 7560-10-M3</b>	57	10	15	13	16	19		Ø10.3	M3	M10x1
<b>FN 7562-16-M4</b>	75	12	20	17	18	30	10.3	Ø12.3	M4	M12x1
<b>FN 7563-16-M4</b>	82	16	32	27	18	33	18.3	Ø20.3	M4	M20x1
<b>FN 7562-32-M4</b>	75	12	20	17	18	30	10.3	Ø12.3	M4	M12x1
<b>FN 7563-32-M4</b>	82	16	32	27	18	33	18.3	Ø20.3	M4	M20x1
<b>FN 7560-63-M6</b>	96	14	25	22	26	30	14.3	Ø16.3	M6	M16x1
<b>FN 7561-63-M6</b>	96	14	25	22	26	30	14.3	Ø16.3	M6	M16x1
<b>FN 7562-63-M6</b>	96	14	25	22	26	30	14.3	Ø16.3	M6	M16x1
<b>FN 7563-63-M6</b>	99	16	32	27	26	33	18.3	Ø20.3	M8	M20x1
<b>FN 7560-100-M8</b>	113	16	32	27	32	33	18.3	Ø20.3	M8	M20x1
<b>FN 7561-100-M8</b>	113	16	32	27	32	33	18.3	Ø20.3	M8	M20x1
<b>FN 7562-100-M8</b>	113	16	32	27	32	33	18.3	Ø20.3	M8	M20x1
<b>FN 7563-100-M8</b>	133	19	38	27	32	50	22.3	Ø24.3	M8	M24x1
<b>FN 7560-200-M10</b>	130	19	32	27	40	33	22.3	Ø24.3	M10	M24x1
<b>FN 7561-200-M10</b>	130	19	32	27	40	33	22.3	Ø24.3	M10	M24x1
<b>FN 7562-200-M10</b>	147	19	38	27	40	50	22.3	Ø24.3	M10	M24x1
<b>FN 7563-200-M10</b>	165	19	54	41	40	68	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	M10x1	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>						2 Nm	3 Nm	4 Nm	7 Nm	8 Nm	12 Nm



## Headquarters, global innovation and development

### Switzerland

#### Schaffner Group

Nordstrasse 11  
4542 Luterbach  
T +41 32 681 66 26  
[info@schaffner.com](mailto:info@schaffner.com)  
[www.schaffner.com](http://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](mailto:cschina@schaffner.com)  
[www.schaffner.com.cn](http://www.schaffner.com.cn)

### Finland

#### Schaffner Oy

Sauvonrinne 19 H  
08500 Lohja  
T +358 50 468 7284  
[finlandsales@schaffner.com](mailto: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](mailto:francesales@schaffner.com)

### Germany

#### Schaffner Deutschland GmbH

Schoemperlenstrasse 12B  
76185 Karlsruhe  
T +49 721 56910  
F +49 721 569110  
[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  
Malleswaram (W)  
560055 Bangalore  
T +91 80 67935355  
[indiasales@schaffner.com](mailto:indiasales@schaffner.com)

### Italy

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

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

### Japan

#### Schaffner EMC K.K.

1-32-12, Kamiyama, Setagaya-ku  
7F Mitsui-seimei Sangenjaya Bldg.  
154-0011 Tokyo  
T +81 3 5712 3650  
F +81 3 5712 3651  
[japansales@schaffner.com](mailto:japansales@schaffner.com)  
[www.schaffner.jp](http://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](mailto: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](mailto:spainsales@schaffner.com)

### Sweden

#### Schaffner EMC AB

Tegeluddsvägen 76, 2tr  
115 28 Stockholm  
T +46 8 5050 2425  
[swedensales@schaffner.com](mailto:swedensales@schaffner.com)  
[www.schaffner.com](http://www.schaffner.com)

### Switzerland

#### Schaffner EMV AG

Nordstrasse 11  
4542 Luterbach  
T +41 32 681 66 26  
[switzerlandsales@schaffner.com](mailto: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](mailto:taiwansales@schaffner.com)  
[www.schaffner.com.tw](http://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](mailto: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](mailto: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](mailto:usasales@schaffner.com)  
[www.schaffnerusa.com](http://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

To find your local partner within Schaffner's global network: [www.schaffner.com](http://www.schaffner.com)

© 2018 Schaffner Group

The content of this document has been carefully checked and understood. However, neither Schaffner nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Schaffner does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Swiss law and resulting disputes shall be settled by the courts at the place of business of Schaffner Holding AG. Latest publications and a complete disclaimer can be downloaded from the Schaffner website. All trademarks recognized.