

# AC Feedthrough Capacitor



- | IEC/EN 60384-14 approval
- | Rated currents from 10 to 200 A
- | 5 kV pulse test capability
- | Class Y2 capacitor



## Approvals



Feedthrough capacitors offer a high insertion loss across a broad band of frequencies from a few tens of kHz up to the GHz region. The construction of feedthrough capacitors cause a better suppression performance over a much wider frequency range than a conventional two-wire capacitor of equivalent value. Different versions are available offering a wide selection on operating currents and performance levels. AC feedthrough capacitors are designed and approved for up to 300 VAC 50/60 Hz operation.

## Technical specifications

<b>Maximum continuous operating voltage</b>	250 VAC, 50/60 Hz (UL) 300 VAC, 50/60 Hz (ENEC) 1000 VDC max.
<b>Rated currents</b>	10 to 200 A @ 60°C max.
<b>Capacitor class</b>	Y2
<b>High potential test voltage</b>	3000 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/300 V (Mil-HB-217F)</b>	≥200 A: >850,000 hours <200 A: >1,600,000 hours
<b>Operating frequency</b>	DC to 60 Hz

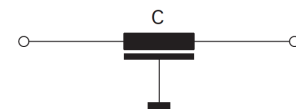
## Features and benefits

- | 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 110/240 VAC power lines
- | Increasing system and information security
- | Power supplies
- | Switching and cellular equipment
- | Computer servers
- | UPS power supplies
- | Medical equipment
- | Shielded rooms

## Typical electrical schematic



### Feedthrough selector table

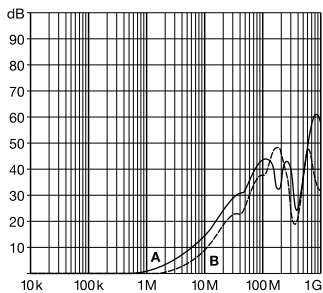
Feedthrough	Rated current	Leakage current*	Capacitance**	DC resistance***	Weight
	@ 60°C [A]	@ 250 VAC/50 Hz [mA]	C [nF]	R @ 25°C [mΩ]	
FN 7510-10-M3	10	0.21	2.2	0.8	15
FN 7511-10-M3	10	0.44	4.7	0.8	15
FN 7510-16-M4	16	0.44	4.7	0.5	28
FN 7511-16-M4	16	0.94	10	0.52	28
FN 7512-16-M4	16	4.4	47	0.62	33
FN 7513-16-M4	16	9.4	100	0.58	65
FN 7510-32-M4	32	0.44	4.7	0.52	28
FN 7511-32-M4	32	0.94	10	0.52	28
FN 7512-32-M4	32	3.1	33	0.62	34
FN 7514-32-M4	32	9.4	100	0.58	65
FN 7512-63-M6	63	9.4	100	0.3	70
FN 7510-100-M8	100	4.4	47	0.23	100
FN 7511-100-M8	100	9.4	100	0.23	100
FN 7511-200-M10	200	20.7	220	0.16	157

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

### Typical filter attenuation

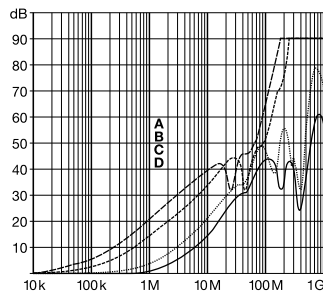
50 Ω system

10 A types



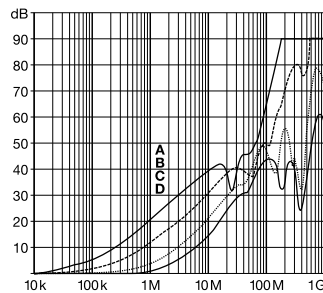
A = FN 7511-10-M3  
 B = FN 7510-10-M3

16 and 20 A types



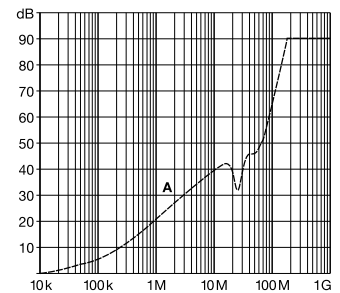
A = FN 7513-16-M4  
 B = FN 7512-16-M4  
 C = FN 7511-16-M4  
 D = FN 7510-16-M4  
 FN 7510-20-M4

32 A types



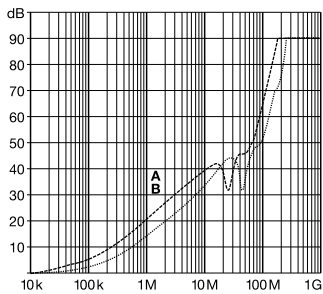
A = FN 7514-32-M4  
 B = FN 7512-32-M4  
 C = FN 7511-32-M4  
 D = FN 7510-32-M4

63 A types



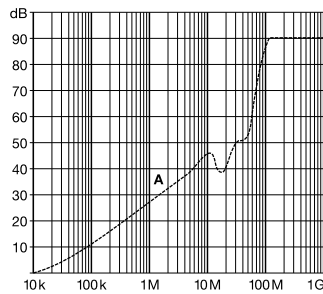
A = FN 7512-63-M6

100 A types



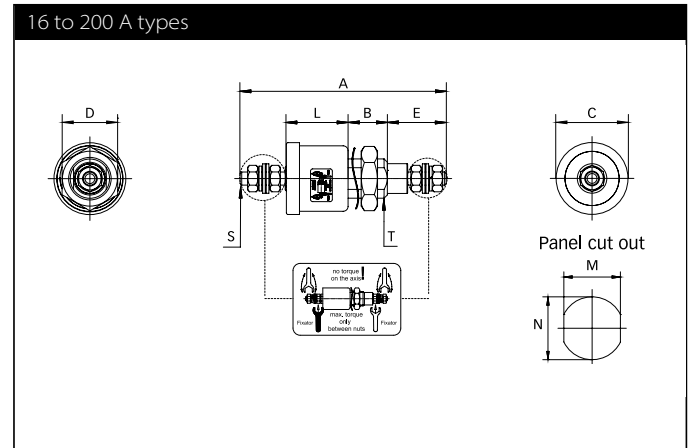
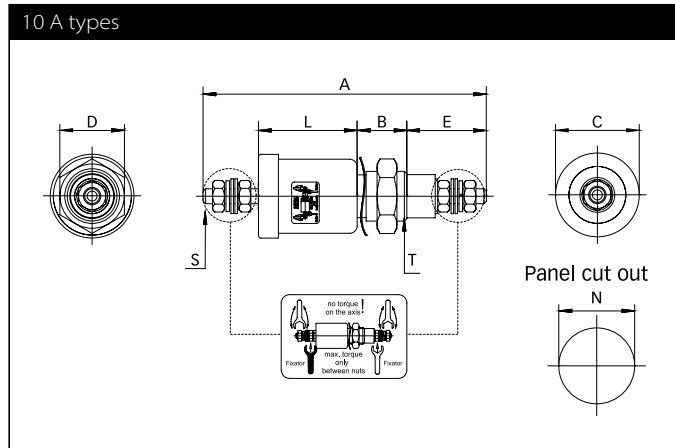
A = FN 7511-100-M8  
 B = FN 7510-100-M8

200 A types



A = FN 7511-200-M10

## Mechanical data



## Dimensions

	A	B	C	D	E	L	M	N	S	T
<b>FN 7510-10-M3</b>	57	10	16.85 ±0.3	13	16 ±2.0	19.85 ±0.5		Ø10.3	M3	M10x1
<b>FN 7511-10-M3</b>	57	10	16.85 ±0.3	13	16 ±2.0	19.85 ±0.5		Ø10.3	M3	M10x1
<b>FN 7510-16-M4</b>	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	Ø12.3	M4	M12x1
<b>FN 7511-16-M4</b>	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	Ø12.3	M4	M12x1
<b>FN 7512-16-M4</b>	75	12	21.95 ±0.3	17	18 ±2.0	30.85 ±0.5	10.3	Ø12.3	M4	M12x1
<b>FN 7513-16-M4</b>	77	14	26.95 ±0.3	22	18 ±2.0	30.85 ±0.5	14.3	Ø16.3	M4	M16x1
<b>FN 7510-32-M4</b>	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	Ø12.3	M4	M12x1
<b>FN 7511-32-M4</b>	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	Ø12.3	M4	M12x1
<b>FN 7512-32-M4</b>	75	12	21.95 ±0.3	17	18 ±2.0	30.85 ±0.5	10.3	Ø12.3	M4	M12x1
<b>FN 7514-32-M4</b>	77	14	26.95 ±0.3	22	18 ±2.0	30.85 ±0.5	14.3	Ø16.3	M4	M16x1
<b>FN 7512-63-M6</b>	96	14	25	22	26 ±2.0	30	14.3	Ø16.3	M6	M16x1
<b>FN 7510-100-M8</b>	113	16	32	27	32 ±2.0	33	18.3	Ø20.3	M8	M20x1
<b>FN 7511-100-M8</b>	113	16	32	27	32 ±2.0	33	18.3	Ø20.3	M8	M20x1
<b>FN 7511-200-M10</b>	130	19	38	27	40 ±2.0	33	22.3	Ø24.3	M10	M24x1
<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
<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



## 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.