

# 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

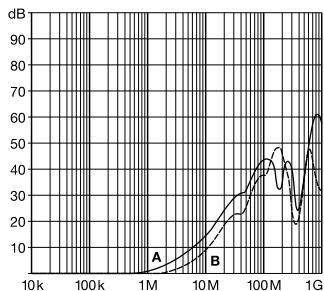
Feedthrough	Rated current @ 60°C [A]	Leakage current* @ 250 VAC/50 Hz [mA]	Capacitance** C [nF]	DC resistance*** R @ 25°C [mΩ]	Weight [g]
FN 7510-10-M3	10	0.21	2.2	0.8	15
FN 7511-10-M3	10	0.44	4.7	0.8	15
FN 7510-16-M4	16	0.44	4.7	0.5	28
FN 7511-16-M4	16	0.94	10	0.52	28
FN 7512-16-M4	16	4.4	47	0.62	33
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

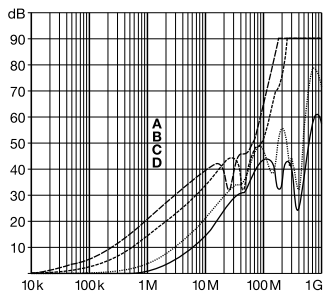
50 Ω system

10 A types



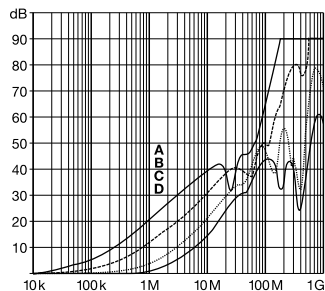
A = FN 7511-10-M3  
 B = FN 7510-10-M3

16 and 20 A types



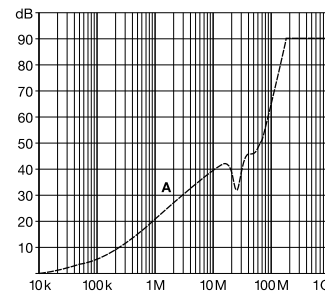
A = FN 7513-16-M4  
 B = FN 7512-16-M4  
 C = FN 7511-16-M4  
 D = FN 7510-16-M4  
 FN 7510-20-M4

32 A types



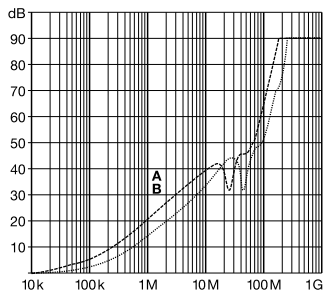
A = FN 7514-32-M4  
 B = FN 7512-32-M4  
 C = FN 7511-32-M4  
 D = FN 7510-32-M4

63 A types



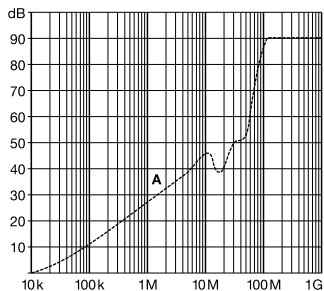
A = FN 7512-63-M6

100 A types



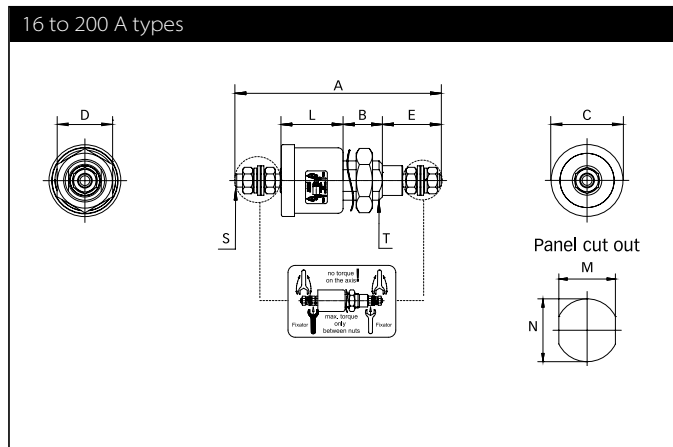
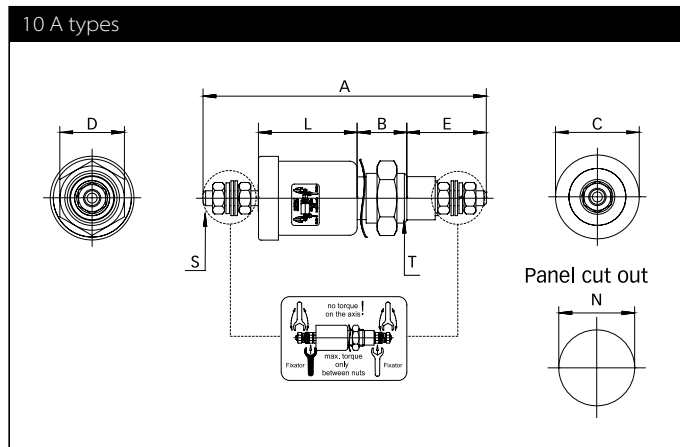
A = FN 7511-100-M8  
 B = FN 7510-100-M8

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

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### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

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