

AC Feedthrough Capacitor



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



Technical Specifications

Maximum continuous operating voltage	250 VAC, 50/60 Hz (UL) 300 VAC, 50/60 Hz (ENEC) 1000 VDC max.
Rated currents	10 to 200 A @ 60°C max.
Capacitor class	Y2
High potential test voltage	3000 VDC for 2 sec
Insulation resistance (100VDC after 60 sec)	<0.33 μ F, R >1500 M Ω >0.33 μ F, τ >5000 s
Temperature range (operation and storage)	-40°C to +100°C (40/100/21)
Flammability corresponding to	UL 94 V-2 or better
MTBF @ 60°C/300 V (Mil-HB-217F)	\geq 200 A: >850,000 hours <200 A: >1,600,000 hours
Operating frequency	DC to 60 Hz

Approvals & Compliances



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.

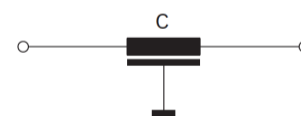
Features and Benefits

- 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%

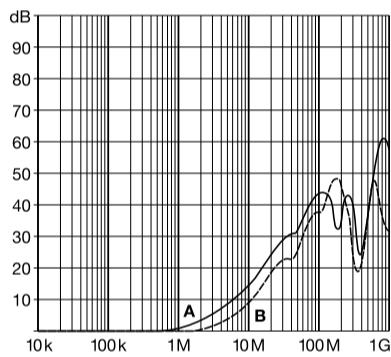
** Tolerance ±20%

*** Tolerance +15%

Typical Filter Attenuation

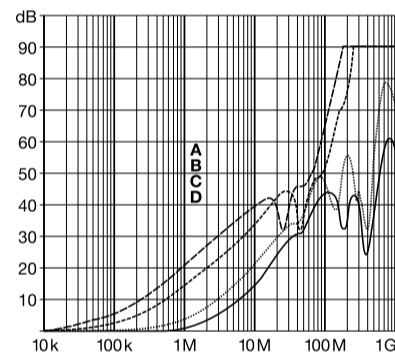
Full load, 50 Ω system

10 A types



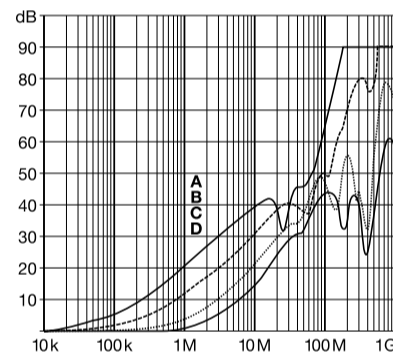
A = FN 7511-10-M3
B = FN 7510-10-M3

16 and 20 A types



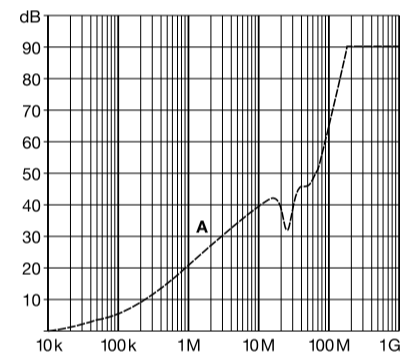
A = FN 7513-16-M4
B = FN 7512-16-M4
C = FN 7511-16-M4
D = FN 7510-16-M4
FN 7510-20-M4

32 A types



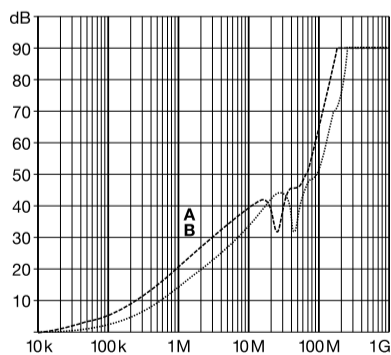
A = FN 7514-32-M4
B = FN 7512-32-M4
C = FN 7511-32-M4
D = FN 7510-32-M4

63 A types



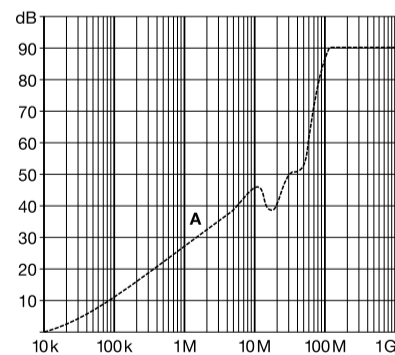
A = FN 7512-63-M6

100 A types



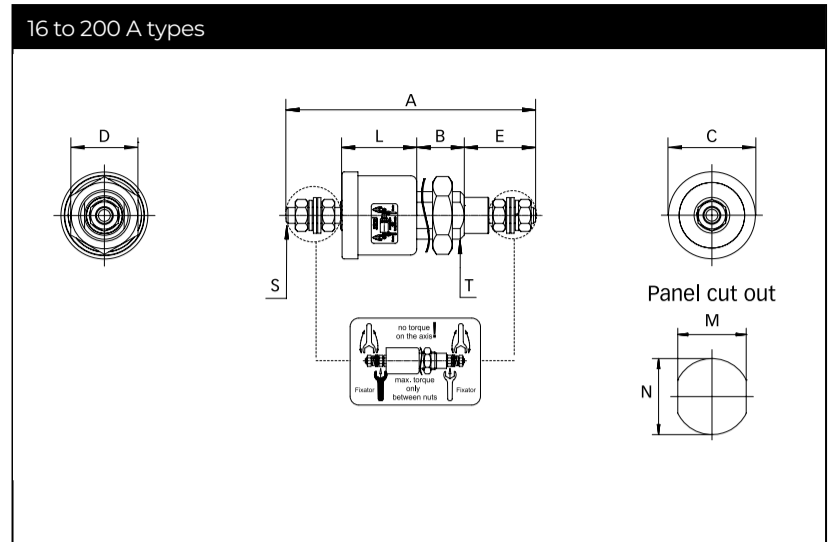
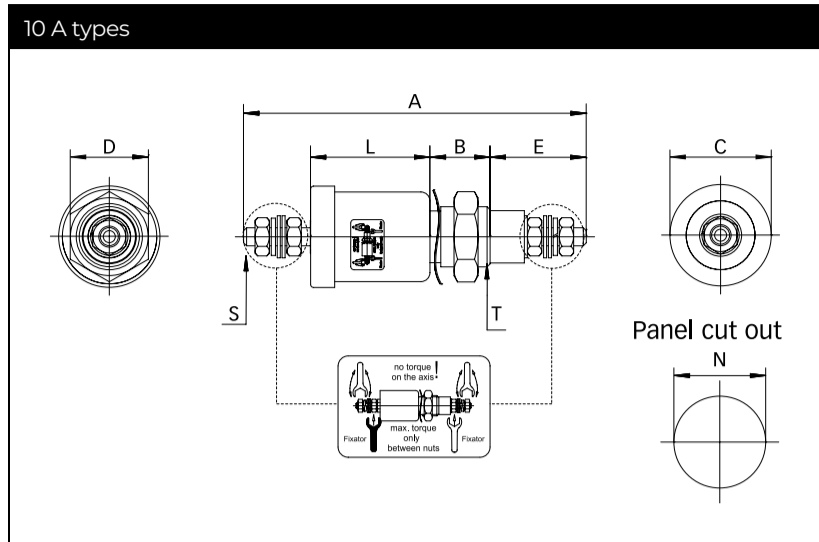
A = FN 7511-100-M8
B = FN 7510-100-M8

200 A types



A = FN 7511-200-M10

Mechanical Data



Dimensions

	A	B	C	D	E	L	M	N	S	T
FN 7510-10-M3	57	10	16.85 ±0.3	13	16 ±2.0	19.85 ±0.5		∅10.3	M3	M10x1
FN 7511-10-M3	57	10	16.85 ±0.3	13	16 ±2.0	19.85 ±0.5		∅10.3	M3	M10x1
FN 7510-16-M4	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	∅12.3	M4	M12x1
FN 7511-16-M4	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	∅12.3	M4	M12x1
FN 7512-16-M4	75	12	21.95 ±0.3	17	18 ±2.0	30.85 ±0.5	10.3	∅12.3	M4	M12x1
FN 7513-16-M4	77	14	26.95 ±0.3	22	18 ±2.0	30.85 ±0.5	14.3	∅16.3	M4	M16x1
FN 7510-32-M4	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	∅12.3	M4	M12x1
FN 7511-32-M4	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	∅12.3	M4	M12x1
FN 7512-32-M4	75	12	21.95 ±0.3	17	18 ±2.0	30.85 ±0.5	10.3	∅12.3	M4	M12x1
FN 7514-32-M4	77	14	26.95 ±0.3	22	18 ±2.0	30.85 ±0.5	14.3	∅16.3	M4	M16x1
FN 7512-63-M6	96	14	25	22	26 ±2.0	30	14.3	∅16.3	M6	M16x1
FN 7510-100-M8	113	16	32	27	32 ±2.0	33	18.3	∅20.3	M8	M20x1
FN 7511-100-M8	113	16	32	27	32 ±2.0	33	18.3	∅20.3	M8	M20x1
FN 7511-200-M10	130	19	38	27	40 ±2.0	33	22.3	∅24.3	M10	M24x1
Tolerances					±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
Terminal thread	0.5 Nm	1.2 Nm	2.5 Nm	5 Nm	8 Nm					
Mounting thread						2 Nm	3 Nm	4 Nm	7 Nm	8 Nm

Headquarters, Global Innovation and Development

Switzerland

Schaffner Holding AG

Industrie Nord
Nordstrasse 11e
4542
Luterbach
+41 32 681 66 26
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

Finland

Schaffner Oy

Sauvonrinne 19 H
8500
Lohja
+358 50 468 7284
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

Germany

Schaffner Deutschland GmbH

Schoemperlenstrasse 12B
76185
Karlsruhe
+49 721 56910
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

Italy

Schaffner EMC S.r.l.

Via Ticino, 30
20900
Monza (MB)
+39 039 21 41 070
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

Singapore

Schaffner EMC Pte Ltd.

Blk 3015A Ubi Road 1, #05-09, Kampong Ubi Industrial Estate
408705
Singapore
+65 63773283
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

Sweden

Schaffner EMC AB

Östermalmstrorg 1
114 42
Stockholm
+46 8 5050 2425
swedensales@schaffner.com

Switzerland

Schaffner EMV AG

Industrie Nord
Nordstrasse 11e
4542
Luterbach
+41 32 681 66 26
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

Thailand

Schaffner EMC Co. Ltd.

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

United Kingdom

Schaffner Ltd.

1, Oakmede Place
Terrace Road
RG42 4JF
Binfield
+44 118 9770070
uksales@schaffner.com

United States

Schaffner EMC Inc.

52 Mayfield Avenue
Edison, New Jersey
+1 732 225 9533
usasales@schaffner.com

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