

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

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 µF, R > 1500 MΩ > 0.33 µF, 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/300V (Mil-HB-217F)	≥ 200 A: > 850,000 hours
MTBF @ 60°C/300V (Mil-HB-217F)	< 200 A: > 1,600,000 hours

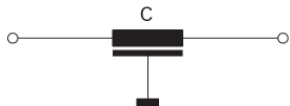
Features and benefits

- | 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 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 7510-20-M4	20	0.44	4.7	0.5	28
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%

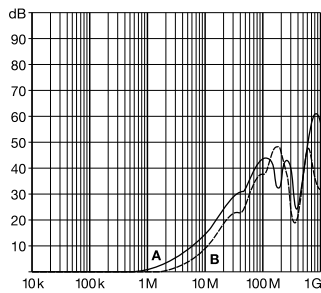
** Tolerance ±20%

*** Tolerance +15%

Typical filter attenuation

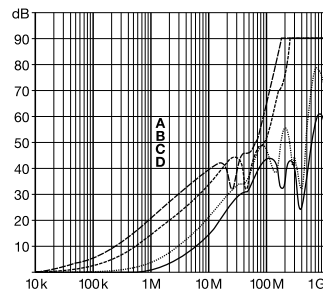
50 Ω system

10 A types



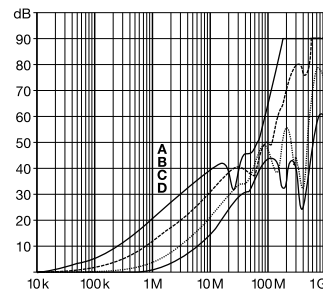
A = FN 7511-10-M3
B = FN 7510-10-M3

16 and 20 A types



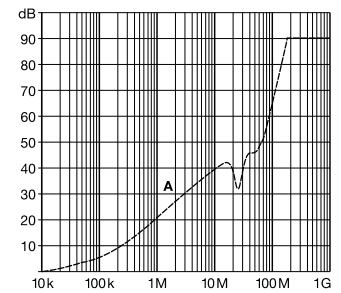
A = FN 7513-16-M4
B = FN 7512-16-M4
C = FN 7511-16-M4
D = FN 7510-16-M4
FN 7510-20-M4

32 A types



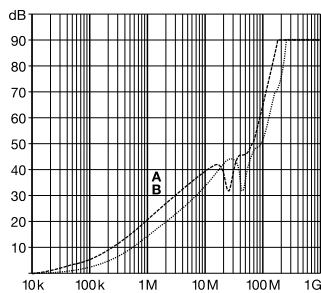
A = FN 7514-32-M4
B = FN 7512-32-M4
C = FN 7511-32-M4
D = FN 7510-32-M4

63 A types



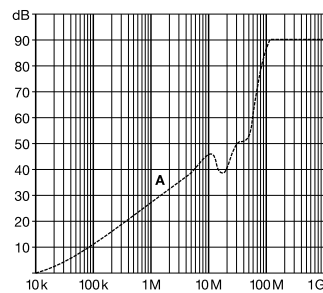
A = FN 7512-63-M6

100 A types



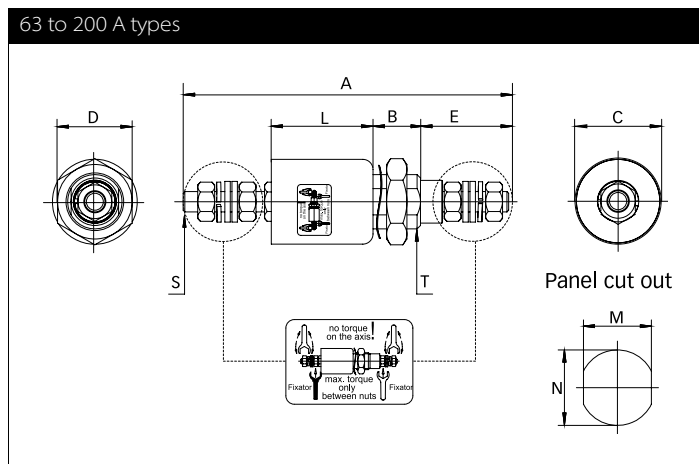
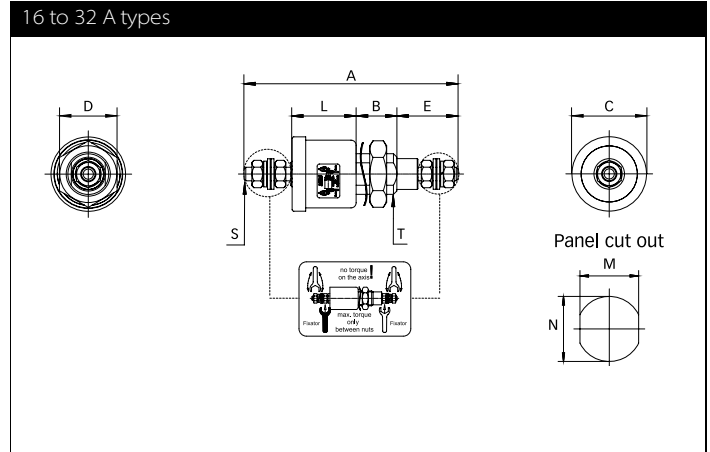
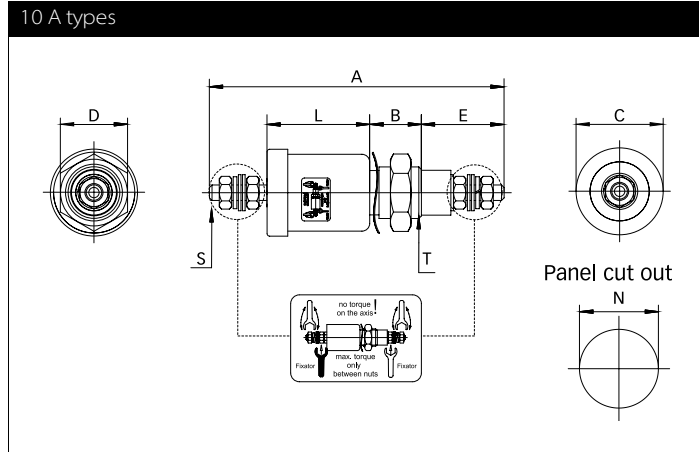
A = FN 7511-100-M8
B = FN 7510-100-M8

200 A types



A = FN 7511-200-M10

Mechanical data



Dimensions

	A	B	C	D	E	L	M	N	S	T
FN 7510-10-M3	57	10	16.85 ±0.3	13	16 ±2.0	19.85 ±0.5		Ø10.3	M3	M10x1
FN 7511-10-M3	57	10	16.85 ±0.3	13	16 ±2.0	19.85 ±0.5		Ø10.3	M3	M10x1
FN 7510-16-M4	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	Ø12.3	M4	M12x1
FN 7511-16-M4	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	Ø12.3	M4	M12x1
FN 7512-16-M4	75	12	21.95 ±0.3	17	18 ±2.0	30.85 ±0.5	10.3	Ø12.3	M4	M12x1
FN 7513-16-M4	77	14	26.95 ±0.3	22	18 ±2.0	30.85 ±0.5	14.3	Ø16.3	M4	M16x1
FN 7510-20-M4	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	Ø12.3	M4	M12x1
FN 7510-32-M4	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	Ø12.3	M4	M12x1
FN 7511-32-M4	63	12	21.95 ±0.3	17	18 ±2.0	18.85 ±0.5	10.3	Ø12.3	M4	M12x1
FN 7512-32-M4	75	12	21.95 ±0.3	17	18 ±2.0	30.85 ±0.5	10.3	Ø12.3	M4	M12x1
FN 7514-32-M4	77	14	26.95 ±0.3	22	18 ±2.0	30.85 ±0.5	14.3	Ø16.3	M4	M16x1
FN 7512-63-M6	96	14	25	22	26 ±2.0	30	14.3	Ø16.3	M6	M16x1
FN 7510-100-M8	113	16	32	27	32 ±2.0	33	18.3	Ø20.3	M8	M20x1
FN 7511-100-M8	113	16	32	27	32 ±2.0	33	18.3	Ø20.3	M8	M20x1
FN 7511-200-M10	130	19	38	27	40 ±2.0	33	22.3	Ø24.3	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 center

Switzerland

Schaffner Group

Nordstrasse 11
4542 Luterbach
T +41 32 6816 626
F +41 32 6816 630
info@schaffner.com
<http://www.schaffner.com>



Sales and application centers

China

Schaffner EMC Ltd. Shanghai

T20-3, No 565 Chuangye Road
Pudong New Area
201201 Shanghai
T +86 21 3813 9500
F +86 21 3813 9501 / 02
cschina@schaffner.com
<http://www.schaffner.com.cn/>

Finland

Schaffner Oy

Sauvonrinne 19 H
08500 Lohja
T +358 19 35 72 71
finlandsales@schaffner.com

France

Schaffner EMC S.A.S.

112, Quai de Bezons
Boîte postale 133
95103 Argenteuil
T +33 1 34 34 30 60
F +33 1 39 47 02 28
francesales@schaffner.com

Germany

Schaffner Deutschland GmbH

Schoemperlenstrasse 12B
76185 Karlsruhe
T +49 721 56910
F +49 721 569110
germanysales@schaffner.com

Italy

Schaffner EMC S.r.l.

Via Galileo Galilei 47
20092 Cinisello Balsamo (MI)
T +39 02 66 04 30 45/47
F +39 02 61 23 943
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
<http://www.schaffner.jp>

Singapore

Schaffner EMC Pte Ltd.

Blk 3015A Ubi Road 1
05-09 Kampong Ubi Industrial Estate
408705 Singapore
T +65 6377 3283
F +65 6377 3281
singaporesales@schaffner.com

Spain

Schaffner EMC España

Calle Caléndula 93
Miniparc III, Edificio E
El Soto de la Moraleja
Alcobendas
28109 Madrid
T +34 618 176 133
spainsales@schaffner.com

Sweden

Schaffner EMC AB

Turebergstorg 1, 6
19147 Sollentuna
T +46 8 5792 1121 / 22
F +46 8 92 96 90
swedensales@schaffner.com

Switzerland

Schaffner EMV AG

Nordstrasse 11
4542 Luterbach
T +41 32 6816 626
F +41 32 6816 641
sales@schaffner.ch

Taiwan R.O.C.

Schaffner EMV Ltd.

6 Floor, No. 413
Rui Guang Road
114 Neihs District Taipei City
T +886 2 87525050
F +886 2 87518086
taiwansales@schaffner.com

Thailand

Schaffner EMC Co. Ltd.

Northern Region Industrial Estate
67 Moo 4 Tambon Ban Klang
Amphur Muang P.O. Box 14
51000 Lamphun
T +66 53 58 11 04
F +66 53 58 10 19
thailandsales@schaffner.com

UK

Schaffner Ltd.

5 Ashville Way
Molly Millars Lane
Wokingham
RG41 2PL Berkshire
T +44 118 9770070
F +44 118 9792969
uksales@schaffner.com
<http://www.schaffner.uk.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
<http://www.schaffner.com/us>

Schaffner MTC LLC

6722 Thirlane Road
24019 Roanoke, Virginia
T +1 276 228 7943
F +1 276 228 7953
<http://www.schaffner-mtc.com>

Schaffner Trencos LLC

2550 Brookpark Road
44134 Cleveland, Ohio
T +1 216 741 5282
F +1 216 741 4860
www.schaffner-trencos.com

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