

# AC Feedthrough Capacitor



- IEC/EN 60384-14 approval

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- Rated currents from 10 to 200 A

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- 5 kV pulse test capability

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- Class Y2 capacitor

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## 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

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- Very high self-resonant frequency

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- Self-healing dielectric

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- High quality and reliability

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- Through-bulkhead mounting

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- Anti-twist protection

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- Custom-specific or dual-versions on request

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## Typical applications

- Power line filter for 110/240 VAC power lines

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- Increasing system and information security

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- Power supplies

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- Switching and cellular equipment

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- Computer servers

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- UPS power supplies

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- Medical equipment

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- Shielded rooms

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## Typical electrical schematic



### Feedthrough selector table

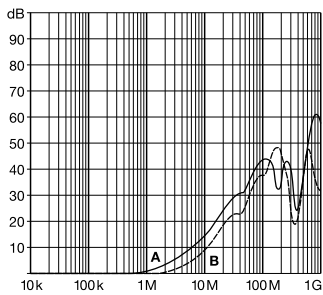
Feedthrough	Rated current	Leakage current*	Capacitance**	DC resistance***	Weight
	@ 60°C [A]	@ 250 VAC/50 Hz [mA]	C [nF]	R @ 25°C [mΩ]	
FN 7510-10-M3	10	0.21	2.2	0.8	15
FN 7511-10-M3	10	0.44	4.7	0.8	15
FN 7510-16-M4	16	0.44	4.7	0.5	28
FN 7511-16-M4	16	0.94	10	0.52	28
FN 7512-16-M4	16	4.4	47	0.62	33
FN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

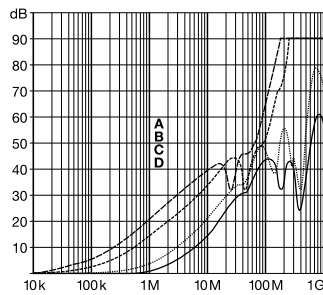
50 Ω system

10 A types



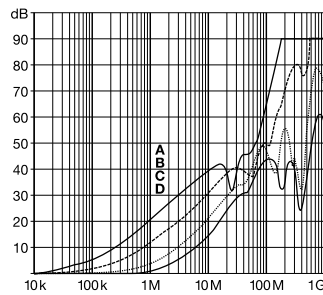
A = FN 7511-10-M3  
 B = FN 7510-10-M3

16 and 20 A types



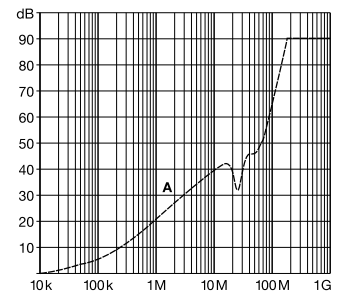
A = FN 7513-16-M4  
 B = FN 7512-16-M4  
 C = FN 7511-16-M4  
 D = FN 7510-16-M4  
 FN 7510-20-M4

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



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