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# 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)<br>300 VAC, 50/60 Hz (ENEC)<br>1000 VDC max. |
| **Rated currents** | 10 to 200 A @ 60°C |
| **Operating frequency** | DC to 60 Hz |
| **High potential test voltage** | 3000 VDC for 2 sec |
| **Temperature range (operation and storage)** | -40°C to +100°C (40/100/21) |
| **Flammability corresponding to** | UL 94 V-0 |
| **Capacitor class** | Y2 |
| **MTBF (Mil-HB-217F)** | <200 A:>1,600,000 h @ 60°C/300 V<br>=200 A:>850,000 h @ 60°C/300 V |

### 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.

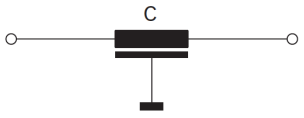
## Features and Benefits

- 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

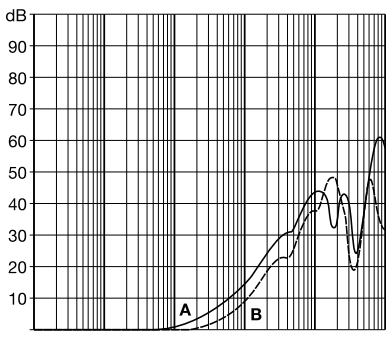
| Feedthrough | Rated current @ 60°C [A] | Leakage current* @ 250 VAC/50 Hz [mA] | Capacitance** C [nF] | DC resistance*** R @ 25°C [mΩ] | Weight [g] |
|---|---|---|---|---|---|
| **FN 7510-10-M3** | 10 | 0.21 | 2.2 | 0.8 | 15 |
| **FN 7511-10-M3** | 10 | 0.44 | 4.7 | 0.8 | 15 |
| **FN 7510-16-M4** |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

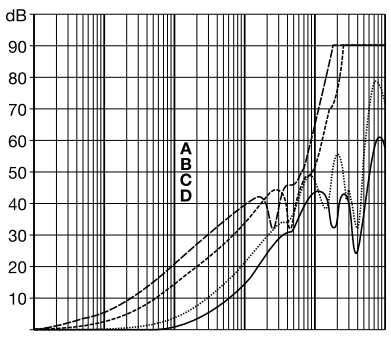
Full load, 50 Ω system

10 A types



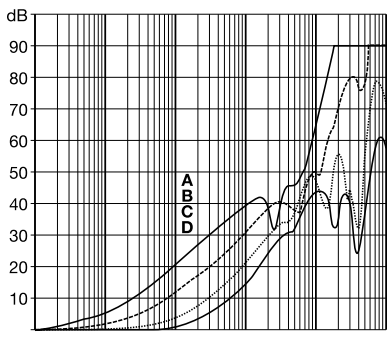

A = FN 7511-10-M3
B = FN 7510-10-M3

16 and 20 A types



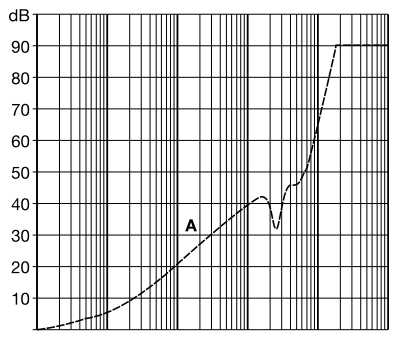

A = FN 7513-16-M4
B = FN 7512-16-M4
C = FN 7511-16-M4
D = FN 7510-16-M4
FN 7510-20-M4

32 A types



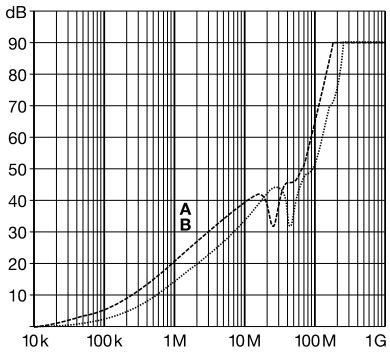

A = FN 7514-32-M4
B = FN 7512-32-M4
C = FN 7511-32-M4
D = FN 7510-32-M4

63 A types



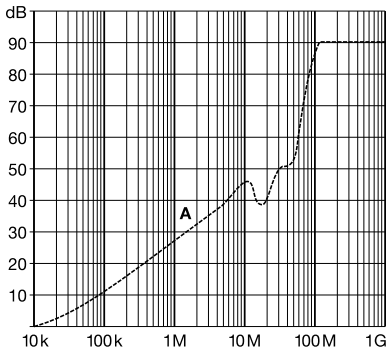

A = FN 7512-63-M6

100 A types




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

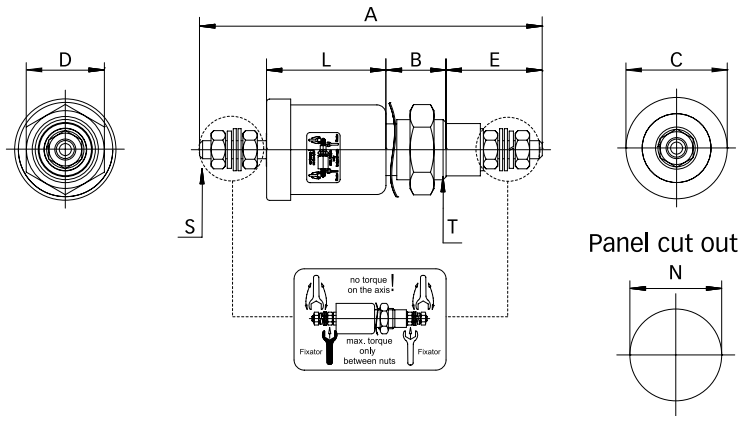
200 A types



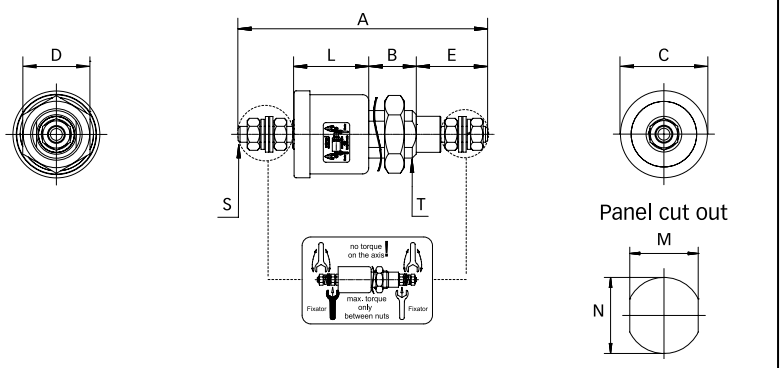

A = FN 7511-200-M10

## Mechanical Data

10 A types




16 to 200 A types




## 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 7510-32-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 |

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