

DC Feedthrough Capacitor



Technical specifications

|                                                              |                                                                               |
|--------------------------------------------------------------|-------------------------------------------------------------------------------|
| Maximum continuous operating voltage                         | 130 DC (UL, ENEC)<br>130 VAC, 50/60 Hz (UL, ENEC)<br>650 VDC max.             |
| Rated currents                                               | 10 to 200 A @ 60 °C max.                                                      |
| Capacitor class                                              | Y4                                                                            |
| High potential test voltage                                  | 1700 VDC for 2 sec                                                            |
| Insulation resistance (100VDC after 60 sec)                  | < 0.33µF, R > 1500 MΩ<br>> 0.33µF, τ > 5000 s                                 |
| Temperature range (operation and storage)                    | -40 °C to +100 °C (40/100/21)                                                 |
| Flammability corresponding to MTBF @ 60°C/130V (Mil-HB-217F) | UL 94 V-2 or better<br>< 200 A: > 1,400,000 hours<br>≥ 200 A: > 450,000 hours |

Approvals







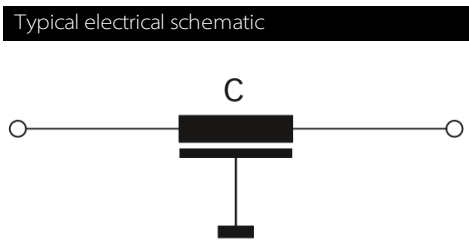
Feedthrough filters offer a high insertion loss across a broad band of frequencies from a few tens of kHz up to the GHz region. In general, feedthrough filters offer a higher level of EMI suppression than feedthrough capacitors of the same current rating. This is particularly relevant to applications where source impedance is smaller than 50Ω. Different versions are available offering a wide selection on operating currents and performance levels. DC feedthrough filters are designed and approved for 130VDC/130VAC 50/60Hz 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 48VDC battery power
- Increasing system and information security
- Telecom base stations
- Switching and cellular equipment
- Computer servers
- UPS power supplies
- Medical equipment



Feedthrough selector table

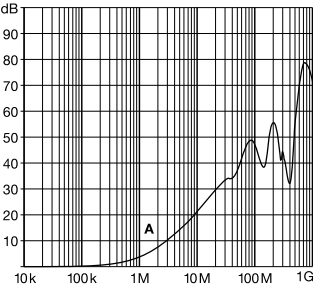
| Feedthrough     | Rated current<br>@ 60 °C | Leakage current*<br>@ 130 VAC/50 Hz | Capacitance**<br>C | DC resistance***<br>R @ 25 °C | Weight |
|-----------------|--------------------------|-------------------------------------|--------------------|-------------------------------|--------|
|                 | [A]                      | [mA]                                | [nF]               | [mΩ]                          | [g]    |
| FN 7560-10-M3   | 10                       | 0.49                                | 10                 | 0.8                           | 15     |
| FN 7562-16-M4   | 16                       | 4.9                                 | 100                | 0.62                          | 34     |
| FN 7563-16-M4   | 16                       | 23                                  | 470                | 0.63                          | 78     |
| FN 7562-32-M4   | 32                       | 4.9                                 | 100                | 0.62                          | 34     |
| FN 7563-32-M4   | 32                       | 23                                  | 470                | 0.63                          | 79     |
| FN 7560-63-M6   | 63                       | 0.49                                | 10                 | 0.3                           | 70     |
| FN 7561-63-M6   | 63                       | 2.3                                 | 47                 | 0.3                           | 70     |
| FN 7562-63-M6   | 63                       | 4.9                                 | 100                | 0.3                           | 70     |
| FN 7563-63-M6   | 63                       | 23                                  | 470                | 0.43                          | 103    |
| FN 7560-100-M8  | 100                      | 2.3                                 | 47                 | 0.23                          | 145    |
| FN 7561-100-M8  | 100                      | 4.9                                 | 100                | 0.23                          | 145    |
| FN 7562-100-M8  | 100                      | 23                                  | 470                | 0.23                          | 145    |
| FN 7563-100-M8  | 100                      | 49                                  | 1000               | 0.25                          | 192    |
| FN 7560-200-M10 | 200                      | 4.9                                 | 100                | 0.16                          | 160    |
| FN 7561-200-M10 | 200                      | 23                                  | 470                | 0.16                          | 160    |
| FN 7562-200-M10 | 200                      | 49                                  | 1000               | 0.18                          | 268    |
| FN 7563-200-M10 | 200                      | 230                                 | 4700               | 0.14                          | 490    |

\* Tolerance +20%  
\*\* Tolerance ±20%  
\*\*\* Tolerance +15%

Typical filter attenuation

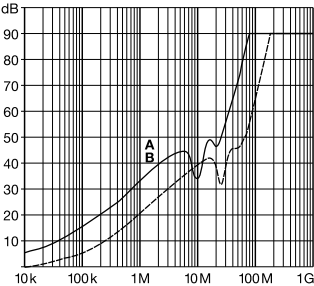
Full load, 50 Ω system

10 A types



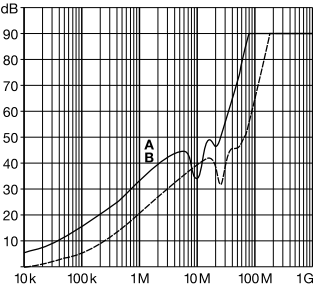
A = FN 7560-10-M3

16 A types



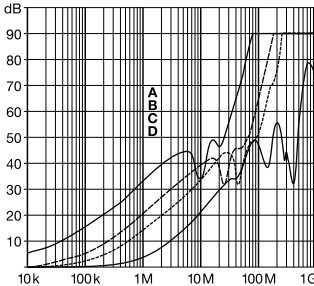
A = FN 7563-16-M4  
B = FN 7562-16-M4

32 A types



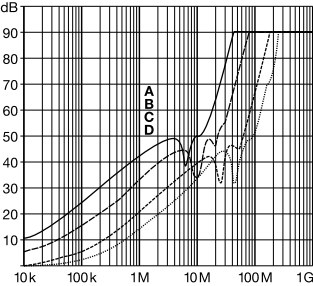
A = FN 7563-32-M4  
B = FN 7562-32-M4

63 A types



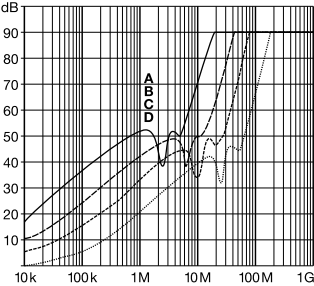
A = FN 7563-63-M6  
B = FN 7562-63-M6  
C = FN 7561-63-M6  
D = FN 7560-63-M6

100 A types



A = FN 7563-100-M8  
B = FN 7562-100-M8  
C = FN 7561-100-M8  
D = FN 7560-100-M8

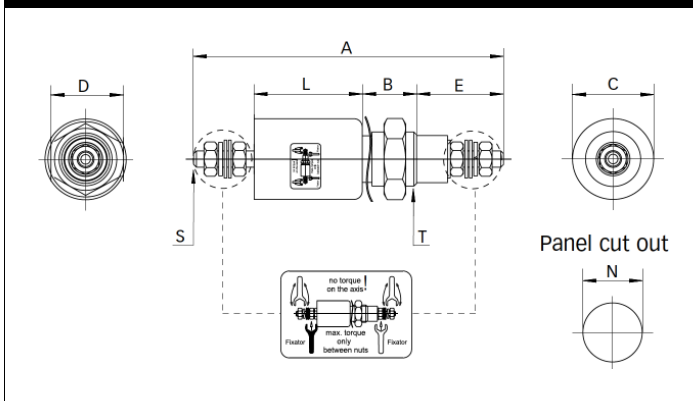
200 A types



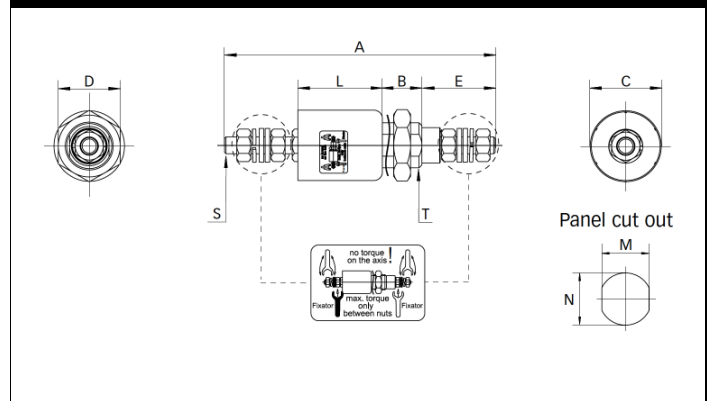
A = FN 7563-200-M10  
B = FN 7562-200-M10  
C = FN 7561-200-M10  
D = FN 7560-200-M10

## Mechanical data

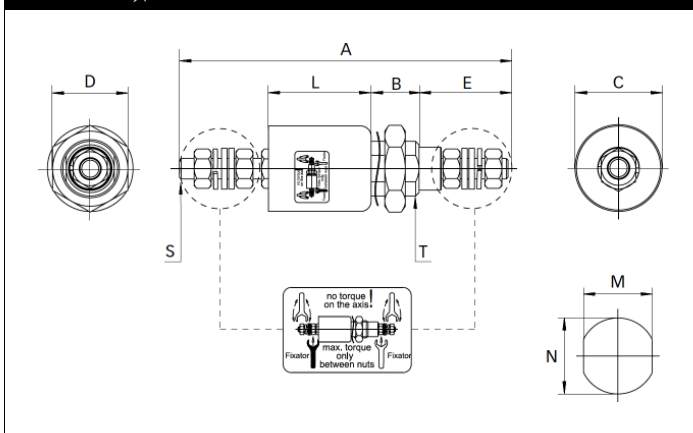
10 A types 16



16 to 32 A types



63 to 200 A types



## Dimensions

|                        | A   | B  | C  | D  | E  | L  | M    | N      | S   | T       |
|------------------------|-----|----|----|----|----|----|------|--------|-----|---------|
| <b>FN 7560-10-M3</b>   | 57  | 10 | 15 | 13 | 16 | 19 |      | Ø 10.3 | M3  | M10x1   |
| <b>FN 7562-16-M4</b>   | 75  | 12 | 20 | 17 | 18 | 30 | 10.3 | Ø 12.3 | M4  | M12x1   |
| <b>FN 7563-16-M4</b>   | 82  | 16 | 32 | 27 | 18 | 33 | 18.3 | Ø 20.3 | M4  | M20x1   |
| <b>FN 7562-32-M4</b>   | 75  | 12 | 20 | 17 | 18 | 30 | 10.3 | Ø 12.3 | M4  | M12x1   |
| <b>FN 7563-32-M4</b>   | 82  | 16 | 32 | 27 | 18 | 33 | 18.3 | Ø 20.3 | M4  | M20x1   |
| <b>FN 7560-63-M6</b>   | 96  | 14 | 25 | 22 | 26 | 30 | 14.3 | Ø 16.3 | M6  | M16x1   |
| <b>FN 7561-63-M6</b>   | 96  | 14 | 25 | 22 | 26 | 30 | 14.3 | Ø 16.3 | M6  | M16x1   |
| <b>FN 7562-63-M6</b>   | 96  | 14 | 25 | 22 | 26 | 30 | 14.3 | Ø 16.3 | M6  | M16x1   |
| <b>FN 7563-63-M6</b>   | 99  | 16 | 32 | 27 | 26 | 33 | 18.3 | Ø 20.3 | M8  | M20x1   |
| <b>FN 7560-100-M8</b>  | 113 | 16 | 32 | 27 | 32 | 33 | 18.3 | Ø 20.3 | M8  | M20x1   |
| <b>FN 7561-100-M8</b>  | 113 | 16 | 32 | 27 | 32 | 33 | 18.3 | Ø 20.3 | M8  | M20x1   |
| <b>FN 7562-100-M8</b>  | 113 | 16 | 32 | 27 | 32 | 33 | 18.3 | Ø 20.3 | M8  | M20x1   |
| <b>FN 7563-100-M8</b>  | 133 | 19 | 38 | 27 | 32 | 50 | 22.3 | Ø 20.3 | M8  | M24x1   |
| <b>FN 7560-200-M10</b> | 130 | 19 | 32 | 27 | 40 | 33 | 22.3 | Ø 20.3 | M10 | M24x1   |
| <b>FN 7561-200-M10</b> | 130 | 19 | 32 | 27 | 40 | 33 | 22.3 | Ø 20.3 | M10 | M24x1   |
| <b>FN 7562-200-M10</b> | 147 | 19 | 38 | 27 | 40 | 50 | 22.3 | Ø 20.3 | M10 | M24x1   |
| <b>FN 7563-200-M10</b> | 165 | 19 | 54 | 41 | 40 | 68 | 24.3 | Ø 27.3 | M10 | M27x1.5 |
| <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 | M27x1.5 |
|------------------------|--------|--------|--------|------|------|-------|-------|-------|-------|-------|---------|
| <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  | 12 Nm   |



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