

AC Feedthrough Filter



- IEC/EN 60939 approval
- Rated currents from 10 to 250 A
- 5 kV pulse test capability
- Class Y2 capacitor



Technical specifications

Maximum continuous operating voltage	300 VAC, 50/60 Hz (ENEC) 250 VAC, 50/60 Hz (UL) 1000 VDC max.
Rated currents	10 to 250 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 > 15,000 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: > 675,000 hours
MTBF @ 60°C/300V (Mil-HB-217F)	≥ 200 A: > 494,000 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 50 Ω. Different versions are available offering a wide selection on operating currents and performance levels. AC feedthrough filters are designed and approved for up to 300 VAC 50/60 Hz operation.

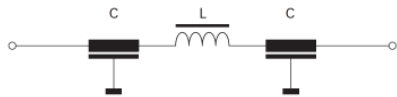
Features and benefits

- 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

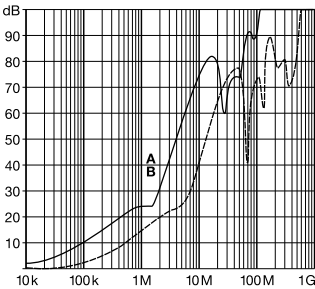
Feedthrough	Rated current @ 60 °C [A]	Leakage current* @ 250 VAC/50 Hz [mA]	Capacitance** C [nF]	Inductance L @ 10 kHz [nH]	DC resistance*** R @ 25 °C [mΩ]	Weight [g]
FN 7611-10-M3	10	1.89	10	70	1.2	55
FN 7612-10-M3	10	8.86	47	70	1.52	70
FN 7611-16-M4	16	4.15	22	70	0.65	80
FN 7612-16-M4	16	18.85	100	70	0.92	90
FN 7611-32-M4	32	4.15	22	70	0.65	80
FN 7612-32-M4	32	18.85	100	70	0.92	90
FN 7611-63-M6	63	28.3	150	186	0.47	250
FN 7612-63-M6	63	88.6	470	124	0.53	500
FN 7612-100-M8	100	188	1000	124	0.23	750
FN 7611-250-M12	250	88.6	470	169	0.23	1086

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

Typical filter attenuation

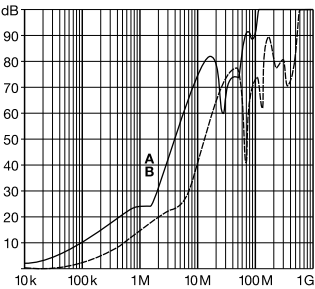
Full load, 50 Ω system

10 A types



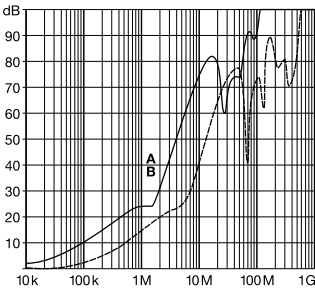
A = FN 7612-10-M3
B = FN 7611-10-M3

16 A types



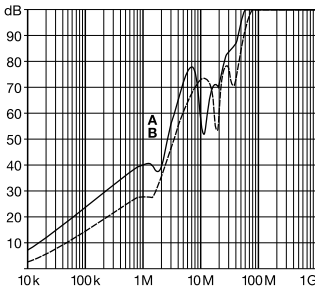
A = FN 7612-16-M4
B = FN 7611-16-M4

32 A types



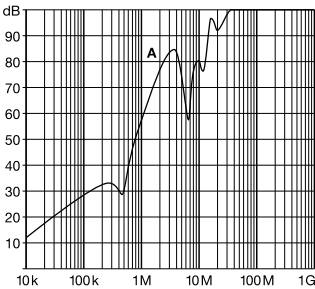
A = FN 7612-32-M4
B = FN 7611-32-M4

63 A types



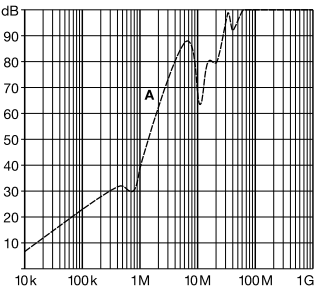
A = FN 7612-63-M6
B = FN 7611-63-M6

100 A types



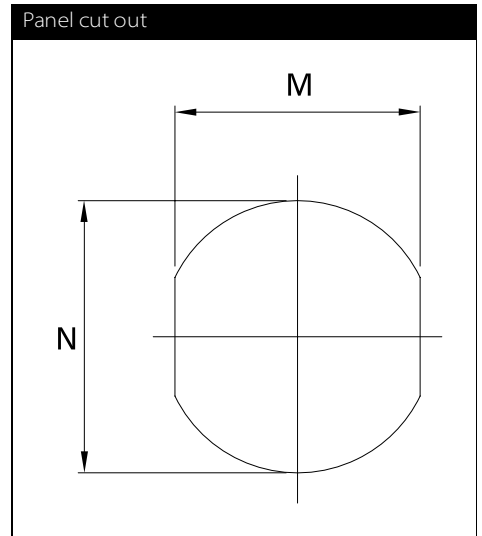
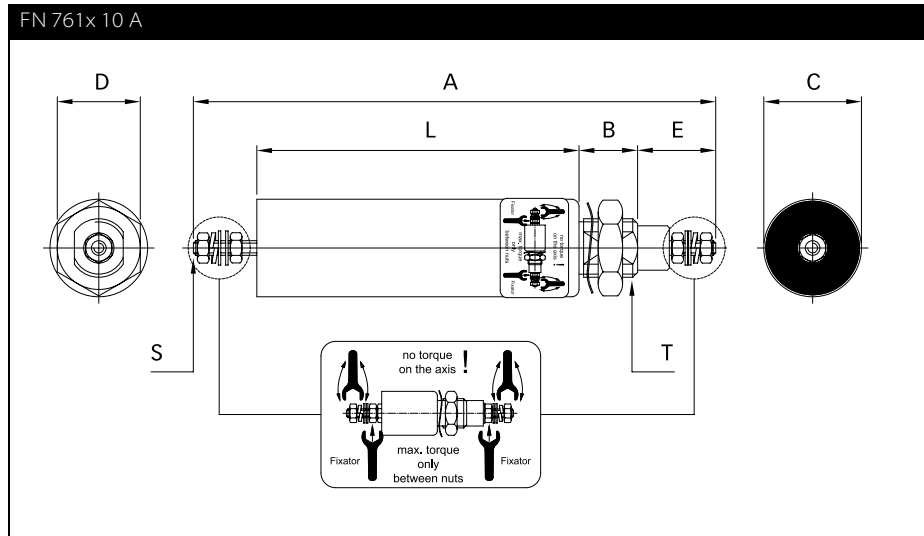
A = FN 7612-100-M8

250 A types



A = FN 7611-250-M12

Mechanical data



Dimensions

	A	B	C	D	E	L	M	N	S	T
FN 7611-10-M3	107	12	20	17	16	66	10.3	Ø 12.3	M3	M12x1
FN 7612-10-M3	140	12	20	17	16	99	10.3	Ø 12.3	M3	M12x1
FN 7611-16-M4	116	14	25	22	18	69	14.3	Ø 16.3	M4	M16x1
FN 7612-16-M4	148	14	25	22	18	101	14.3	Ø 16.3	M4	M16x1
FN 7611-32-M4	116	14	25	22	18	69	14.3	Ø 16.3	M4	M16x1
FN 7612-32-M4	148	14	25	22	18	101	14.3	Ø 16.3	M4	M16x1
FN 7611-63-M6	173	16	32	27	26	105	18.3	Ø 20.3	M6	M20x1
FN 7612-63-M6	189	19	54	41	26	118	24.3	Ø 27.3	M6	M27x1.5
FN 7612-100-M8	227	19	54	41	32	144	24.3	Ø 27.3	M8	M27x1.5
FN 7611-250-M12	267	19	54	41	46	160	29.3	Ø 32.3	M12	M32x1.5
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	M12	M12x1	M16x1	M20x1	M27x1.5	M32x1.5
Terminal thread	0.5 Nm	1.2 Nm	2.5 Nm	5 Nm	11 Nm					
Mounting thread						3 Nm	4 Nm	7 Nm	12 Nm	14 Nm



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