

DC Feedthrough Filter



- IEC/EN 60939 approval
- Rated currents from 10 to 200 A
- 2.5 kV pulse test capability
- Class Y4 capacitor



Technical Specifications

Maximum continuous operating voltage	130 VAC, 50/60 Hz (UL, ENEC) 130 VAC, 50/60 Hz (UL, ENEC) 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)	<0.33 μ F, R >15,000 M Ω >0.33 μ F, 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/130 V (Mil-HB-217F)	<200 A: 680,000 hours \geq 200 A: 356,000 hours

Approvals & Compliances



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. DC feedthrough filters are designed and approved for 130 VDC/130 VAC 50/60 Hz operation.

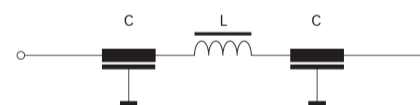
Features and Benefits

- 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 48 VDC battery power
- Increasing system and information security
- Telecom base stations
- Switching and cellular equipment
- Computer servers
- UPS power supplies
- Medical equipment

Typical electrical schematic



Feedthrough Selector Table

Feedthrough	Rated current @ 60°C [A]	Leakage current* @ 130 VAC/50 Hz [mA]	Capacitance** C [nF]	Inductance L @ 10 kHz [nH]	DC resistance*** R @ 25°C [mΩ]	Weight [g]
FN 7660-10-M3	10	0.98	10	58	1.06	48
FN 7661-10-M3	10	9.8	100	70	1.2	55
FN 7661-16-M4	16	9.8	100	70	0.7	58
FN 7660-32-M4	32	0.98	10	70	0.65	58
FN 7661-32-M4	32	9.8	100	70	0.7	58
FN 7660-63-M6	63	9.8	100	70	0.42	120
FN 7661-63-M6	63	46	470	186	0.47	250
FN 7660-100-M8	100	46	470	124	0.25	280
FN 7661-100-M8	100	98	1000	186	0.28	320
FN 7660-200-M10	200	46	470	124	0.24	410
FN 7661-200-M10	200	460.7	4700	124	0.24	655

* Tolerance +20%

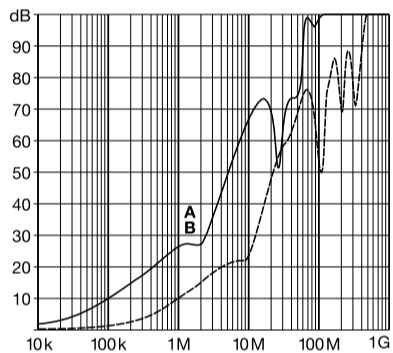
** Tolerance ±20%

*** Tolerance +15%

Typical Filter Attenuation

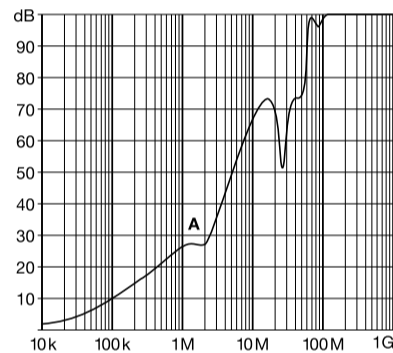
Full load, 50 Ω system

10 A types



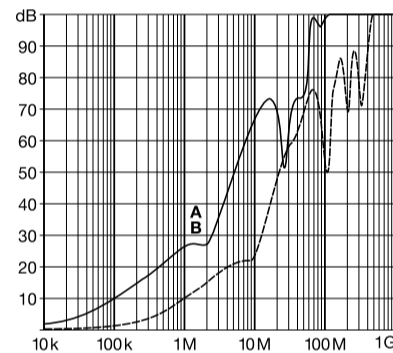
A = FN 7661-10-M3
B = FN 7660-10-M3

16 A types



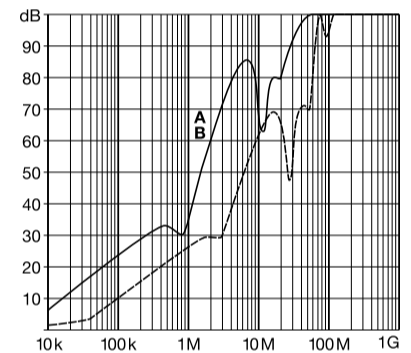
A = FN 7661-16-M4

32 A types



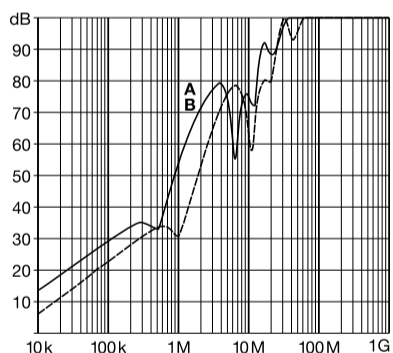
A = FN 7661-32-M4
B = FN 7660-32-M4

63 A types



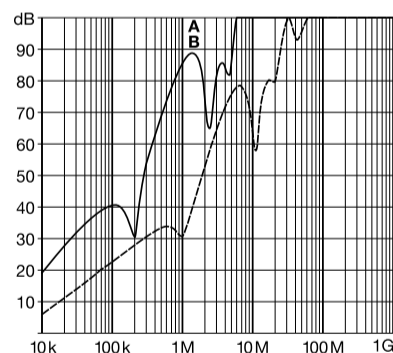
A = FN 7661-63-M6
B = FN 7660-63-M6

100 A types



A = FN 7661-100-M8
B = FN 7660-100-M8

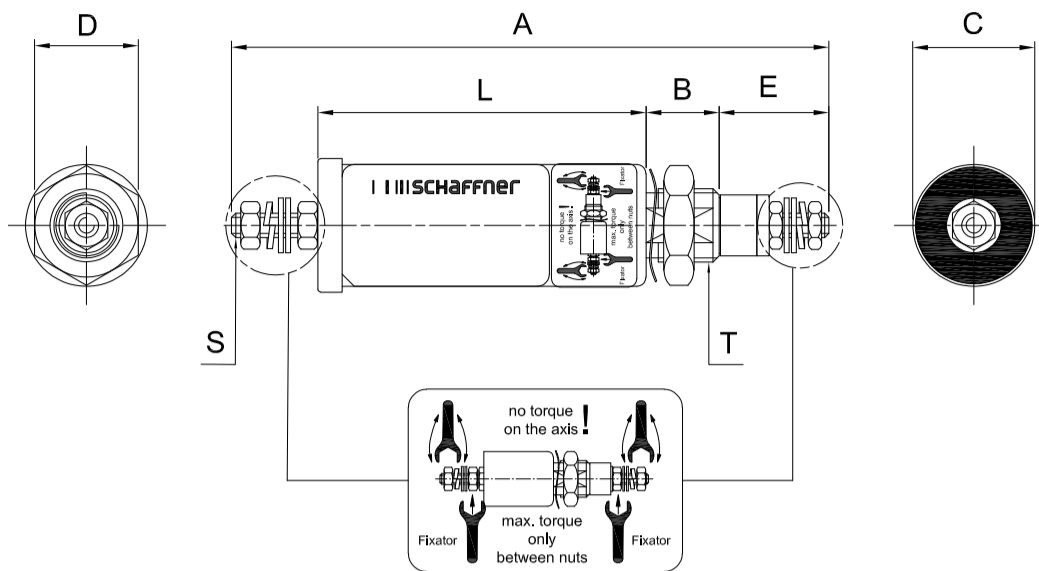
200 A types



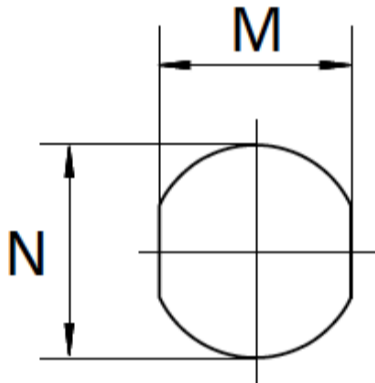
A = FN 7661-200-M10
B = FN 7660-200-M10

Mechanical Data

FN 766x mechanical



Panel cut out



Dimensions

	A	B	C	D	E	L	M	N	S	T
FN 7660-10-M3	90	12	20	17	16	49	10.3	Ø12.3	M3	M12x1
FN 7661-10-M3	107	12	20	17	16	66	10.3	Ø12.3	M3	M12x1
FN 7661-16-M4	106	12	20	17	18	61	10.3	Ø12.3	M4	M12x1
FN 7660-32-M4	98	12	20	17	18	53	10.3	Ø12.3	M4	M12x1
FN 7661-32-M4	106	12	20	17	18	61	10.3	Ø12.3	M4	M12x1
FN 7660-63-M6	160	14	25	22	26	94	14.3	Ø16.3	M6	M16x1
FN 7661-63-M6	173	16	32	27	26	105	18.3	Ø20.3	M6	M20x1
FN 7660-100-M8	184	16	32	27	32	104	18.3	Ø20.3	M8	M20x1
FN 7661-100-M8	200	16	32	27	32	120	18.3	Ø20.3	M8	M20x1
FN 7660-200-M10	209	19	38	27	40	112	22.3	Ø24.3	M10	M24x1
FN 7661-200-M10	209	19	54	41	40	112	24.3	Ø27.3	M10	M27x1.5
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	M10	M12x1	M16x1	M20x1	M24x1	M27x1.5
Terminal thread	0.5 Nm	1.2 Nm	2.5 Nm	5 Nm	8 Nm					
Mounting thread						3 Nm	4 Nm	7 Nm	8 Nm	12 Nm

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