

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 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/130 V (Mil-HB-217F)	<200 A: 680,000 hours ≥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.

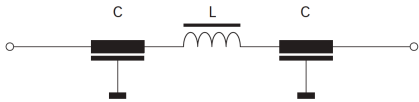
Features and Benefits

- 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

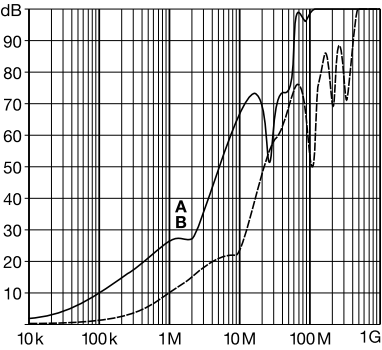
Feedthrough	Rated current @ 60°C [A]	Leakage current* @ 130 VAC/50 Hz [mA]	Capacitance** C [nF]	Inductance L @ 10 kHz [nH]	DC resistance*** R @ 25°C [mΩ]	Weight [g]
FN 7660-10-M3	10	0.98	10	58	1.06	48
FN 7661-10-M3	10	9.8	100	70	1.2	55
FN 7661-16-M4	16	9.8	100	70	0.7	58
FN 7660-32-M4	32	0.98	10	70	0.65	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

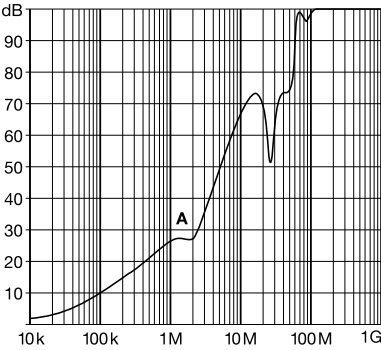
Full load, 50 Ω system

10 A types



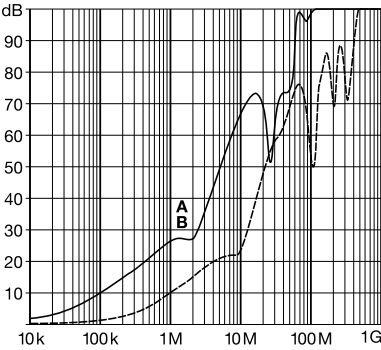
A = FN 7661-10-M3
B = FN 7660-10-M3

16 A types



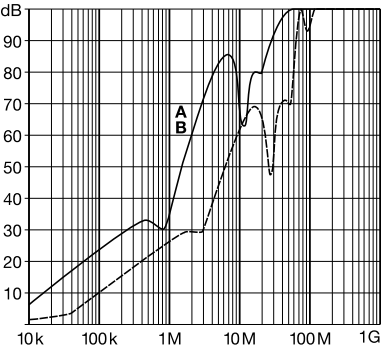
A = FN 7661-16-M4

32 A types



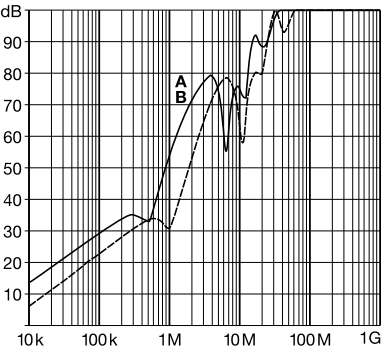
A = FN 7661-32-M4
B = FN 7660-32-M4

63 A types



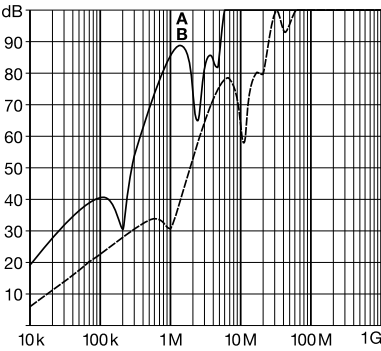
A = FN 7661-63-M6
B = FN 7660-63-M6

100 A types



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

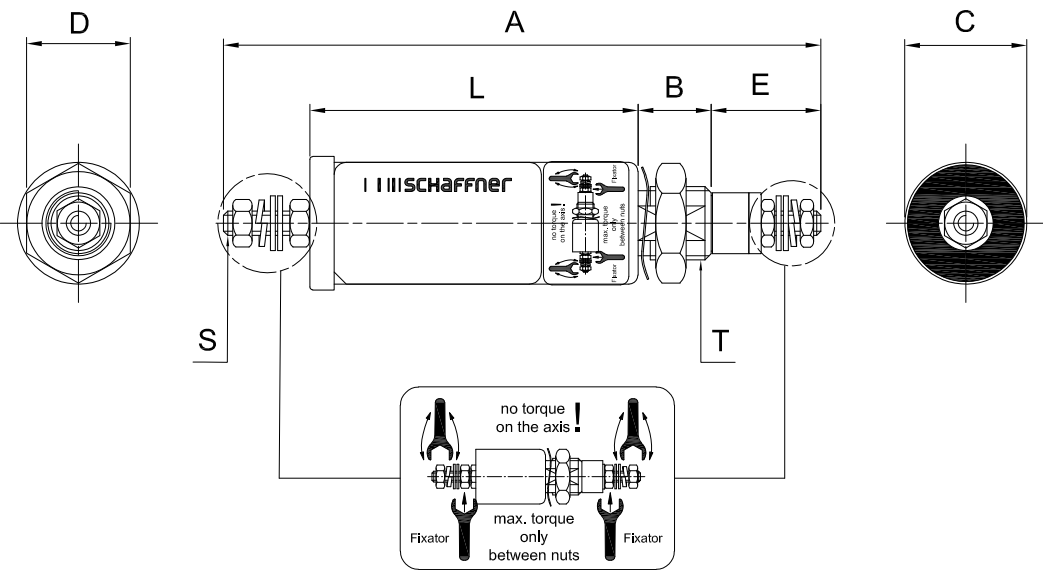
200 A types



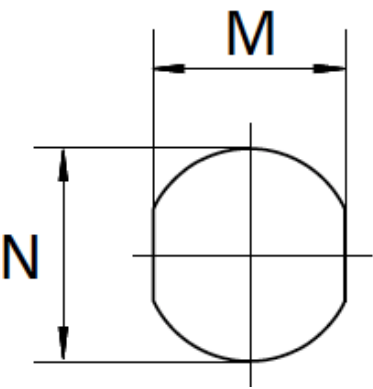
A = FN 7661-200-M10
B = FN 7660-200-M10

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

Headquarters, Global
Innovation and
Development

Switzerland
Schaffner Holding AG
Industrie Nord
Nordstrasse 11e
4542
Luterbach
+41 32 681 66 26
info@schaffner.com

To find your local partner within
Schaffner's global network [schaffner.com](https://www.schaffner.com)

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Sales and Application
Centers

China
Schaffner EMC Ltd. Shanghai
T20-3 C, No 565 Chuangye Road,Pudong district
201201
Shanghai
+86 2138139500
cschina@schaffner.com

Finland
Schaffner Oy
Sauvonrinne 19 H
8500
Lohja
+358 50 468 7284
finlandsales@schaffner.com

France
Schaffner EMC S.A.S.
16-20 Rue Louis Rameau
95875
Bezons
+33 1 34 34 30 60
francesales@schaffner.com

Germany
Schaffner Deutschland GmbH
Schoemperlenstrasse 12B
76185
Karlsruhe
+49 721 56910
germanysales@schaffner.com

India
Schaffner India Pvt. Ltd
Regus World Trade Centre
WTC, 22nd Floor Unit No 2238, Brigade Gateway Campus, 26/1, Dr. Rajkumar Road Malleshwaram (W)
560055
Bangalore
+91 8067935355
indiasales@schaffner.com

Italy
Schaffner EMC S.r.l.
Via Ticino, 30
20900
Monza (MB)
+39 039 21 41 070
italysales@schaffner.com

Japan
Schaffner EMC K.K.
ISM Sangerjaya 7F
1-32-12 Kamiuma, Setagaya-ku
154-0011
Tokyo
+81 3 5712 3650
japansales@schaffner.com

Singapore
Schaffner EMC Pte Ltd.
Blk 3015A Ubi Road 1, #05-09, Kampong Ubi Industrial Estate
408705
Singapore
+65 63773283
singaporesales@schaffner.com

Spain
Schaffner EMC España
Calle Caléndula 93, Miniparc III, Edificio E El Soto de Moraleja, Alcobendas
28109
Madrid
+34 917 912 900
spainsales@schaffner.com

Sweden
Schaffner EMC AB
Östermalmströg 1
114 42
Stockholm
+46 8 5050 2425
swedensales@schaffner.com

Switzerland
Schaffner EMV AG
Industrie Nord
Nordstrasse 11e
4542
Luterbach
+41 32 681 66 26
switzerlandsales@schaffner.com

Taiwan
Schaffner EMV Ltd.
U-Town
20 Floor-2, No 97, Section 1, XinTai 5th Road, XiZhi District
22175
New Taipei City
+886 226975500
taiwansales@schaffner.com

Thailand
Schaffner EMC Co. Ltd.
Sathorn Square Tower
Room 3780, 37FL, 98 North-Sathorn Rd, Silom, Bangrak
10500
Bangkok
+66 621056397
thailandsales@schaffner.com

United Kingdom
Schaffner Ltd.
1, Oakmede Place
Terrace Road
RG42 4JF
Binfield
+44 118 9770070
uksales@schaffner.com

United States
Schaffner EMC Inc.
52 Mayfield Avenue
Edison, New Jersey
+1 732 225 9533
usasales@schaffner.com