

3-phase + Neutral Line Filters FN 354

Compact Three-phase and Neutral Line Filter for High Frequency Attenuation

SCHAFNER
energy efficiency and reliability



- Compact four-wire filter for applications with limited space
- High attenuation performance up to 300MHz
- Equally suitable for star and delta power networks

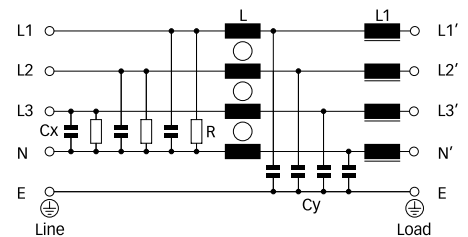
Approvals



Technical specifications

Maximum continuous operating voltage:	3x 440/250VAC
Operating frequency:	dc to 60Hz
Rated currents:	4 to 25A @ 40°C
High potential test voltage:	P → E 2000VAC for 2 sec P → P 1900VDC for 2 sec
Protection category:	IP20
Overload capability:	4x rated current at switch on, 1.5x rated current for 1 minute, once per hour
Temperature range (operation and storage):	-25°C to +100°C (25/100/21)
Flammability corresponding to:	UL 94V-2 or better
Design corresponding to:	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
MTBF @ 40°C/400V (Mil-HB-217F):	500,000 hours

Typical electrical schematic



Features and benefits

- The FN 354 family of filters is intended primarily for applications that require extremely effective interference suppression across a broad frequency spectrum.
- Advanced two-stage filter circuits with highly saturating resistant toroidal inductors, in conjunction with feedthrough capacitors on each of the three phases and the neutral line, ensure that these filters provide very high attenuation in the upper frequency band.
- FN 354 are equally suitable for the operation on star and delta power networks.

Typical applications

- Applications requiring high-frequency attenuation
- Power supplies
- Medical equipment
- Office and data processing equipment

Filter selection table

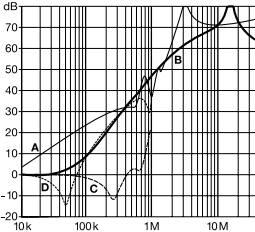
Filter	Rated current @ 40°C (25°C)	Leakage current* @ 400VAC/50Hz	Power loss @ 25°C/50Hz	Input/Output connections		Weight
	[A]	[mA]	[W]			[kg]
FN 354-4-05	4 (4.5)	0.175	2.0	-05		0.23
FN 354-6-05	6 (6.7)	0.175	3.9	-05		0.38
FN 354-12-05	12 (13.4)	0.175	7.8	-05		1.1
FN 354-15-47	15 (16.8)	0.5	10.8		-47	4.7
FN 354-25-47	25 (28)	0.5	16.9		-47	4.7

* Maximum leakage under normal operating conditions, based on the assumption that all three phases and the neutral conductor are connected to the supply and the consumer. In this case, the current will mainly return through the neutral line, not as earth leakage.

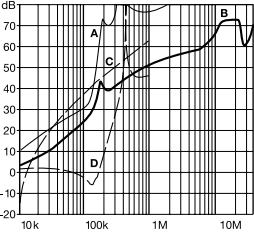
Typical filter attenuation

Per CISPR 17; A = 50Ω/50Ω sym; B = 50Ω/50Ω asym; C = 0.1Ω/100Ω sym; D = 100Ω/0.1Ω sym

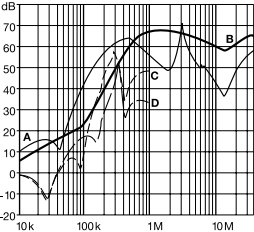
4 and 6A types



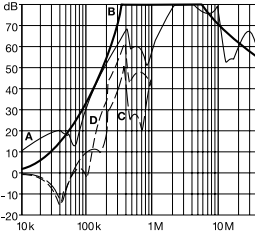
12A types



15A types

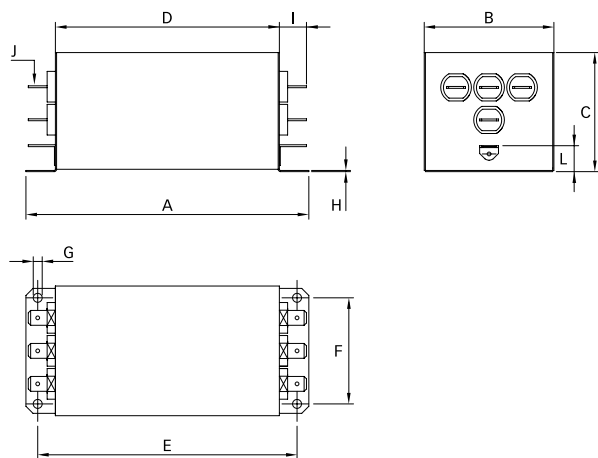


25A types

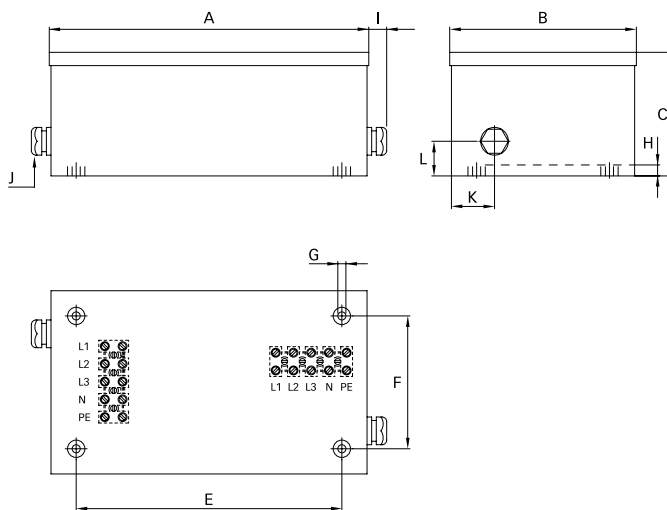


Mechanical data

4 to 12A types



15 and 25A types



Dimensions

	4A	6A	12A	15A	25A
A	103	120	150	273.6	273.6
B	43	55	65	158.6	158.6
C	40.5	50.5	60	107	107
D	80	95	125		
E	95	110	140	230	230
F	35	45	55	115	115
G	Ø3.8	Ø3.8	7.5 x 4.4	M8	M8
H	0.5	0.5	0.75	9.5	9.5
I	11.1	11.1	11.1	~20	~20
J	Faston 6.3 x 0.8	Faston 6.3 x 0.8	Faston 6.3 x 0.8	PG13	PG13
K				35.5	35.5
L	7	11	11	30	30

All dimensions in mm; 1 inch = 25.4mm

Tolerances according: ISO 2768-m / EN 22768-m

Filter input/output connector cross sections

	-05	-47
Solid wire	n/a	16mm ²
Flex wire	n/a	10mm ²
AWG type wire	n/a	AWG 8
Recommended torque	n/a	1.9 - 2.2Nm

Please visit www.schaffner.com to find more details on filter connectors.

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