General Purpose EMC/RFI Line Filter

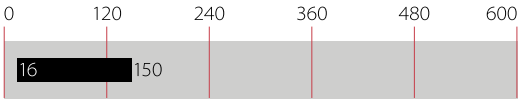
Discontinued

- Three-phase and neutral line filter for general four-wire filtering tasks
- Choice of connection style
- Low operating leakage current
- Compliant with IEC 60950
- Suitable to meet EN 55011/14/22

Performance indicators

Attenuation performance

Rated current [A]



Approvals & Compliances

(FN 356 up to 100 A)

Features and Benefits

- FN 356 represents the industry standard filter solutions for EMC compliance on three-phases and the neutral conductor, providing high attenuation of both symmetrical and asymmetrical interference
- Choice of connection style is offered for an application-specific filter selection
- Solid touch-safe terminal blocks (-29, -33, -34 versions) offer a generous contacting cross section and contribute to overall safety (IP 20)
- Used as a mains input filter, FN 356 filters increase the conducted immunity and thus contribute to system reliability
- Design compliance with IEC 60950 provides additional application flexibility

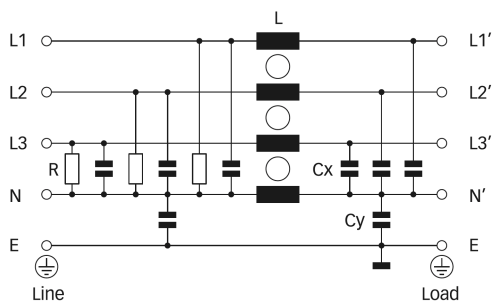
Typical Applications

- General purpose four-wire filtering
- Mainframe computer systems
- High power office equipment
- UPS
- Installations comprising automation equipment

Technical Specifications

Maximum continuous operating voltage	3x440/250 VAC
Nominal operating voltage	400 VAC
Rated currents	16 to 150 A @ 40°C
Overload capability	4x rated current at switch on, 1.5x rated current for 1 minute, once per hour
High potential test voltage	P/N –> E 2000 VAC for 2 sec P –> P 1900 VDC for 2 sec P -> N 1100 VDC for 2 sec
Temperature range (operation and storage)	-25°C to +100°C (25/100/21)
Protection category	IP 20 (filters with connectors -29, -33, -34) IP 00 (filters with connectors -06, -24, -28)
Flammability corresponding to	UL 94 V-0
Design corresponding to	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
MTBF (Mil-HB-217F)	>220,000 h @ 40°C/400 V

Typical electrical schematic



Filter Selection Table

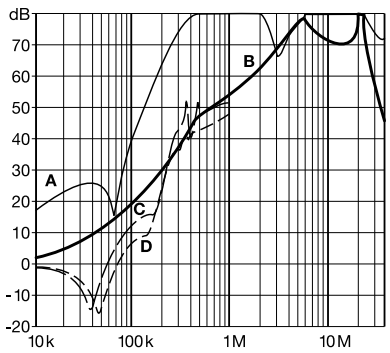
Filter*	Buy	Rated current @ 40°C (25°C) [A]	Leakage current** @ 440 VAC/50 Hz [mA]	Power loss @ 25 °C/ 50Hz [W]	Input/Output connections			Weight [kg]
FN356-16-..		16 (18.4)	0.1	7.0	-06		-29	1.2
FN356-25-..		25 (28.8)	0.1	10.1		-24	-33	1.5
FN356-36-..		36 (41.5)	0.1	10.9		-24	-33	1.6
FN356-50-..		50 (57.7)	0.1	15.8		-24	-33	2.3
FN356-100-..		100 (115.0)	0.3	24.0		-28	-34	5.9
FN356-150-28		150 (172.5)	1.7	45.9		-28		8.1

* To compile a complete part number, please replace the -.. with the required I/O connection style.
** Standardized calculated leakage current acc. IEC60939 under normal operating conditions.

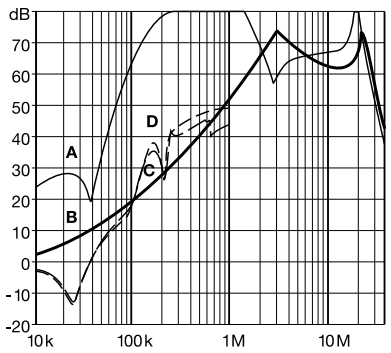
Typical Filter Attenuation

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

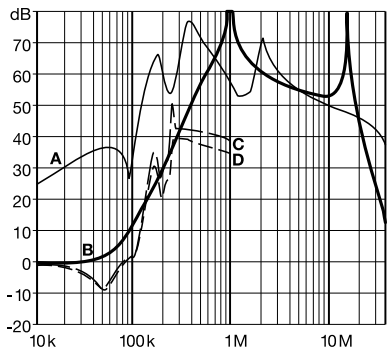
16 A types



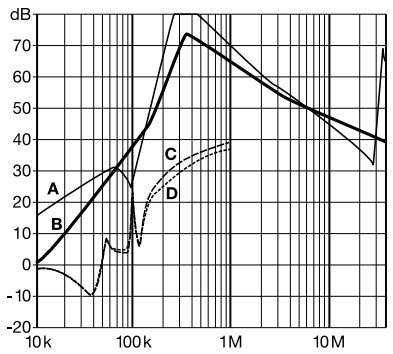
25 to 50 A types



100 A types

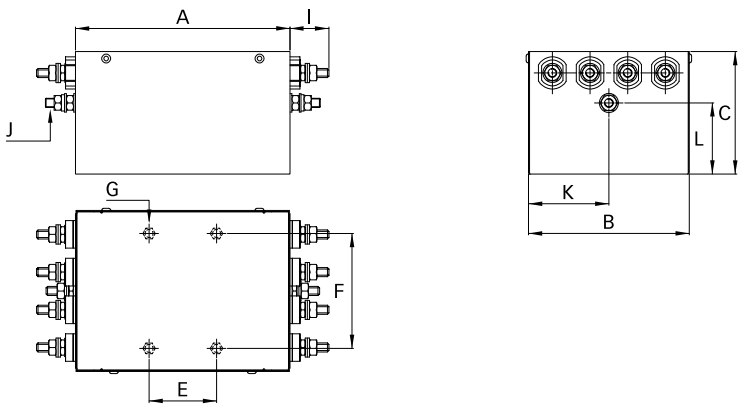


150 A types

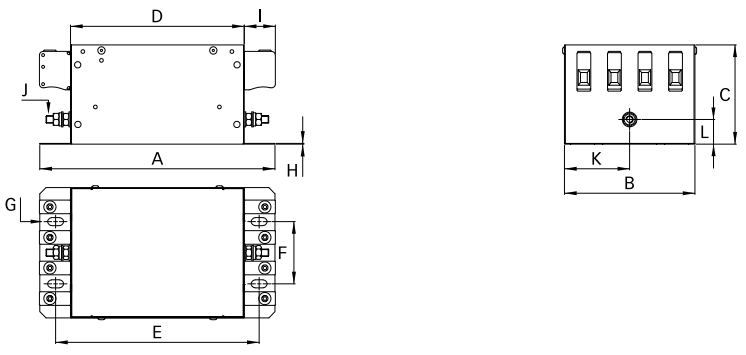


Mechanical Data

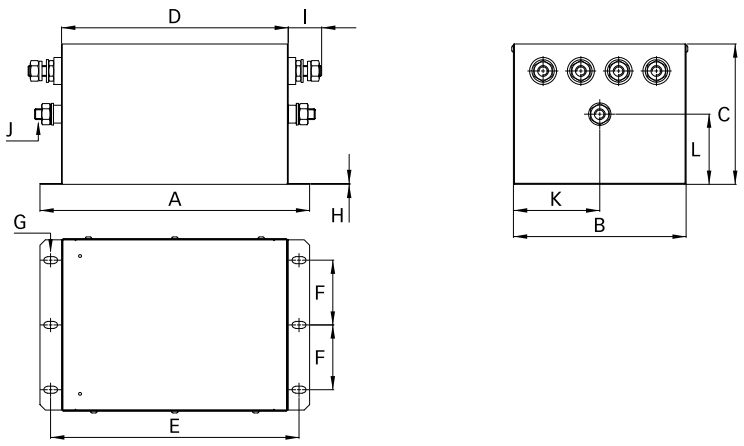
16 to 50 A types (-06, -24)



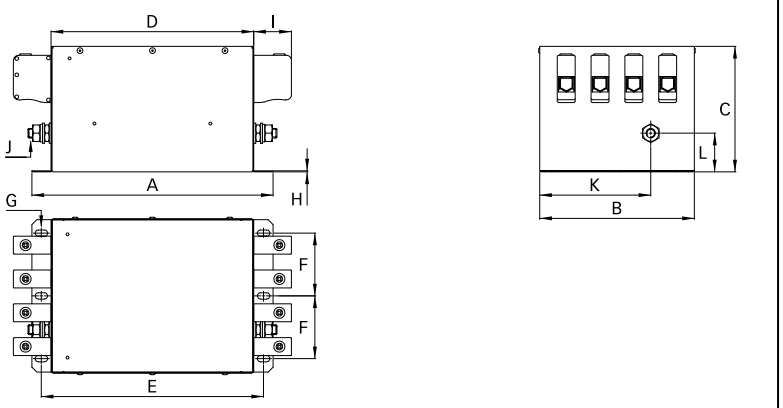
16 to 50 A types (-29, -33)



100 and 150 A types (-28)



100 A type (-34)



Note: in favour of a better readability, connectors and earth studs are not shown in the horizontal projection.

Dimensions

	16 A (-06)	16 A (-29)	25 A (-24)	25 A (-33)	36 A (-24)	36 A (-33)	50 A (-24)	50 A (-33)	100 A (-28)	100 A (-34)	150 A
A	149	189.5	140	189.5	140	189.5	143.25	192	250	250	340
B*	104	105	105	105	105	105	122	122	160	160	160
C	50	80	80	80	80	80	102	102	130	130	130
D		140		140		140		142.5	210	210	300
E	44 ±0.3	165.5	44 ±0.3	165.5	44 ±0.3	165.5	44 ±0.3	168	230	230	320
F	75 ±0.3	80	75 ±0.3	50	75 ±0.3	50	75 ±0.3	98	60	65	60
G	M5 x 7	13 x 6.5	M5 x 7	13 x 6.5	M5 x 7	13 x 6.5	M5 x 7	13 x 6.5	13 x 6.5	13 x 6.5	13 x 6.5
H		0.7		0.7		0.7		0.7	1	1	1
I	11	10.9	25.4	25	25.4	25	25.4	25	34	39	34
J	6.3 x 0.8	M6	M6	M6	M6	M6	M6	M6	M10	M10	M10
K	52	82	52.5	52.5	52.5	52.5	61	61	80	116	80
L	22.5	25	46.5	20	46.5	20	68.5	35	65	40	65

* Rivets exceed this dimension by max. 1.3mm on each side.

All dimensions in mm; 1 inch = 25.4 mm
Tolerances according: ISO 2768-m/EN 22768-m

Filter Input/Output Connector Cross Sections

	-06 (6.3 x 0.8mm)	-24 (M6)	-28 (M10)	-29	-33	-34
Solid wire	n/a	n/a	n/a	6 mm^2	16 mm^2	35 mm^2
Flex wire	n/a	n/a	n/a	4 mm^2	10 mm^2	25 mm^2
AWG type wire	n/a	n/a	n/a	AWG 10	AWG 6	AWG 2
Recommended torque	n/a	3.5 4.0 Nm	15-17 Nm	0.6-0.8 Nm	1.5-1.8 Nm	4.0-4.5 Nm

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

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