

General Purpose EMC/EMI Line Filter

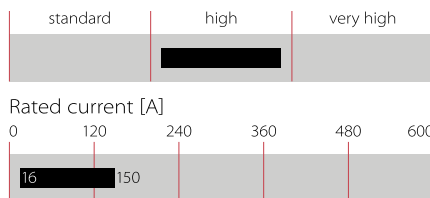


- Three-phase and neutral line filter for general four-wire filtering tasks
- Choice of connection style
- Low operating leakage current
- Compliant with IEC 60950
- Suitable to meet EN 55011/14/22



Performance indicators

Attenuation performance



Technical specifications

Maximum continuous operating voltage	3x 440/250 VAC
Rated currents	16 to 150 A @ 40°C max.
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
Protection category	IP 20 (filters with connectors -29, -33, -34) IP 00 (filters with connectors -06, -24, -28)
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 94 V-2 or better
Design corresponding to	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
MTBF @ 40°C/400 V (Mil-HB-217F)	220,000 hours

Approvals



(FN 356 up to 100 A)

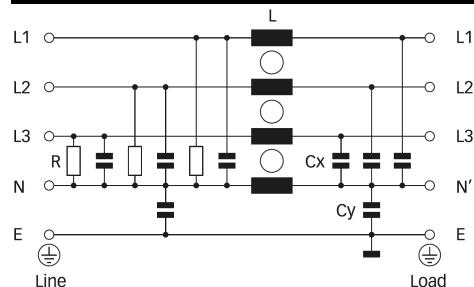
Features and benefits

- 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

Typical electrical schematic



Filter selection table

Filter*	Rated current	Leakage current**	Power loss	Input/Output connections		Weight
	@ 40°C (25°C)	@ 440 VAC/50 Hz	@ 25 °C/ 50Hz			
	[A]	[mA]	[W]			[kg]
FN 356-16-..	16 (18.4)	0.1	7.0	-06	-29	1.2
FN 356-25-..	25 (28.8)	0.1	10.1	-24	-33	1.5
FN 356-36-..	36 (41.5)	0.1	10.9	-24	-33	1.6
FN 356-50-..	50 (57.7)	0.1	15.8	-24	-33	2.3
FN 356-100-..	100 (115.0)	0.3	24.0	-28	-34	5.9
FN 356-150-28	150 (172.5)	1.7	45.9	-28		8.1

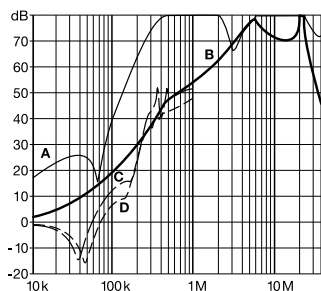
* To compile a complete part number, please replace the .. with the required I/O connection style.

** Standardized calculated leakage current acc. IEC60939 under normal operating conditions.

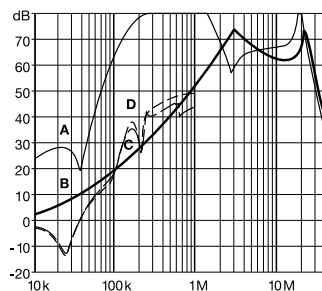
Typical filter attenuation

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

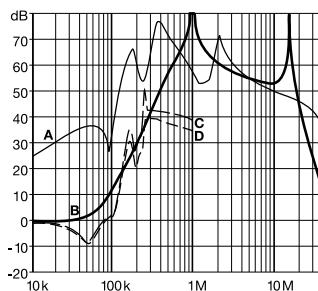
16 A types



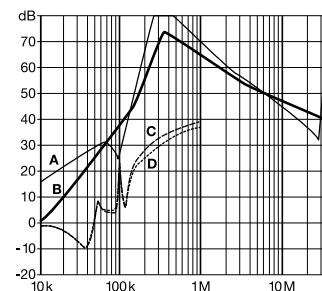
25 to 50 A types



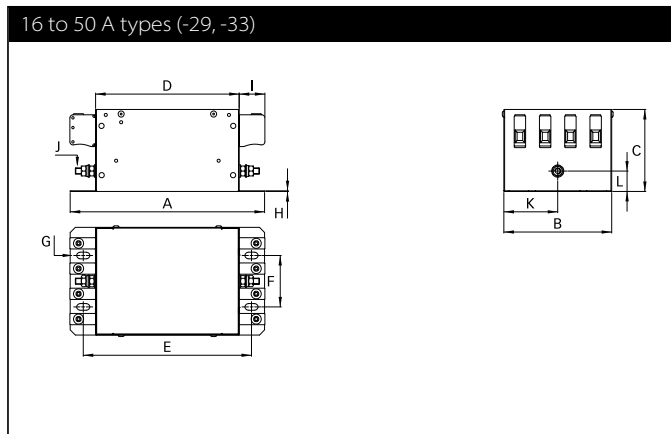
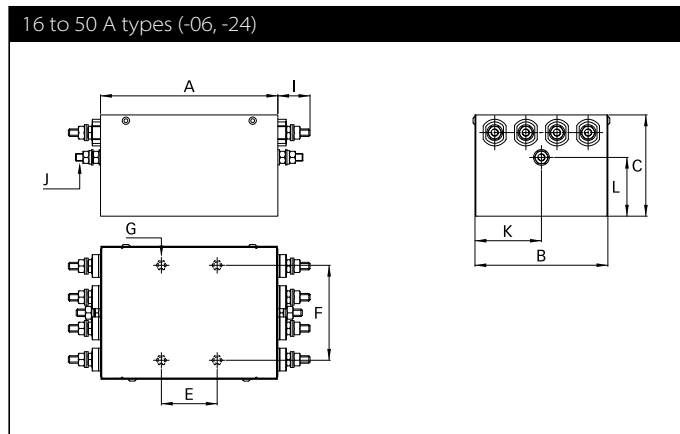
100 A types

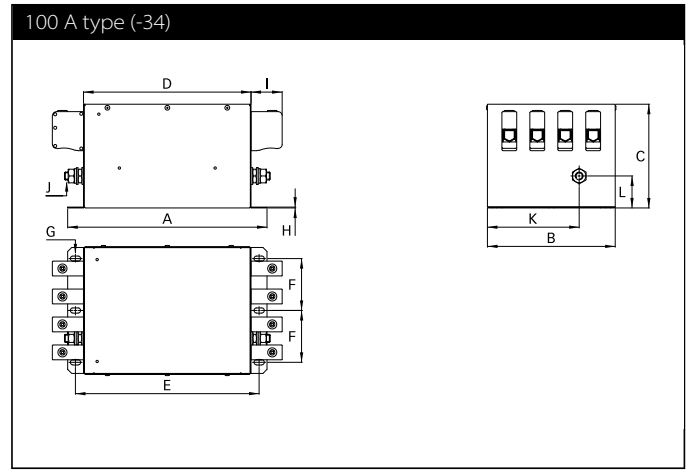
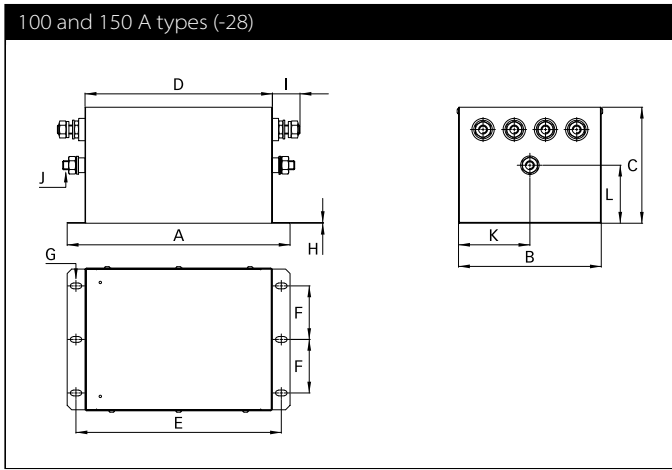


150 A types



Mechanical data





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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