1-phase filters
FN 612

General purpose EMI filter

schaffner
safety for electronic systems

- **Rated currents from 1 to 100A**
- **Good differential-mode attenuation**
- **Optional medical versions (B type)**

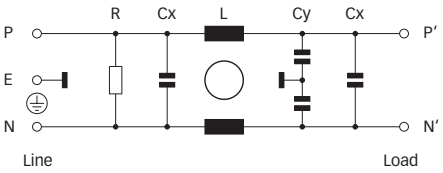
Approvals

RoHS 2002/95/EC

Technical specifications

Maximum continuous operating voltage:	250VAC, 50/60Hz
Operating frequency:	dc to 400Hz
Rated currents:	1 to 100A @ 40°C max.
High potential test voltage:	P –> E 2000VAC for 2 sec
	P –> E 2500VAC for 2 sec (B types)
	P –> N 760VAC for 2 sec
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/230V (Mil-HB-217F):	800,000 hours

Typical electrical schematic



Features and benefits

- FN 612 filters are designed for easy and fast chassis mounting.
- FN 612 offer a perfect combination of performance/size ratio.
- All filters provide a good differential-mode attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior and additional capacitor on load side.
- General purpose filter attenuation with good differential-mode performance suitable to be used in a broad range of applications.
- Multiple terminal connections like faston with additional spade solder possibility, wire connection and screw connection.
- Optional medical versions (B type) with low leakage current.
- FN 612 filters are also available as two-stage filters (FN 660, FN 670 series).
- Custom-specific versions on request.

Typical applications

- Electrical and electronical equipment
- Consumer goods
- Household equipment
- Industrial equipment
- Medical equipment
- Office automation equipment
- Datacom equipment

Filter selection table

Filter*	Rated current @ 40°C (25°C)	Leakage current** @ 230VAC/50Hz	Inductance L	Capacitance Cx	Capacitance Cy	Resistance R	Input/Output connections			Weight -03	Weight -06	Weight -10	Weight -24
	[A]	[µA]	[mH]	[nF]	[nF]	[kΩ]		-06		[g]	[g]	[g]	[g]
FN 612-1-06	1 (1.15)	190	3	100	2.2	1000		-06			80		
FN 612-3-06	3 (3.4)	190	2	100	2.2	1000		-06			115		
FN 612-6-06	6 (6.9)	190	0.75	100	2.2	1000		-06			115		
FN 612-10-06	10 (11.5)	190	0.45	100	2.2	1000		-06			115		
FN 612-20-..	20 (23)	190	0.48	100	2.2	1000	-03	-06	-10	290	260	290	
FN 612-30-..	30 (34)	190	0.61	100	2.2	1000	-03		-10	630		630	
FN 612-80-24	80 (92)	450	0.2	470	4.7	1000			-24				700
FN 612-100-24	100 (115)	450	0.2	1000	4.7	470			-24				1100
FN 612B-10-06	10 (11.5)	2	0.45	100		1000		-06			115		
FN 612B-30-..	30 (34)	2	0.61	100		1000	-03		-10	630		630	
FN 612B-100-24	100 (115)	2	0.2	1000		470			-24				1100

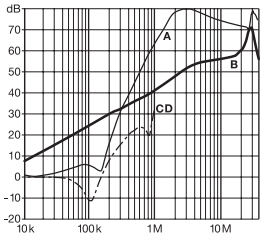
* To compile a complete part number, please replace the -.. with the required I/O connection style (e.g. FN 612-20-03, FN 612B-30-10).

** Maximum leakage under normal operating conditions. Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

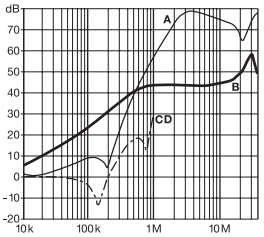
Typical filter attenuation

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

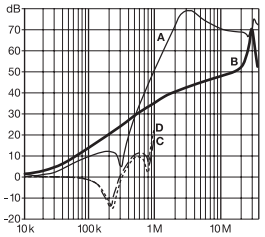
1A types



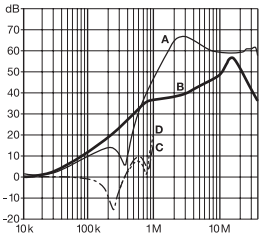
3A types



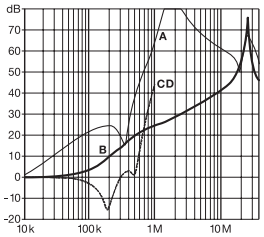
6 and 10A types



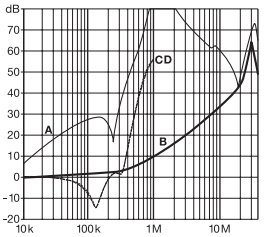
20 and 30A types



80A types

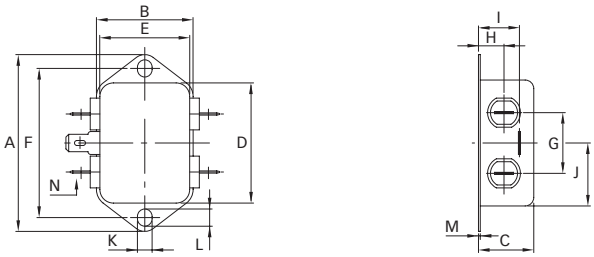


100A types

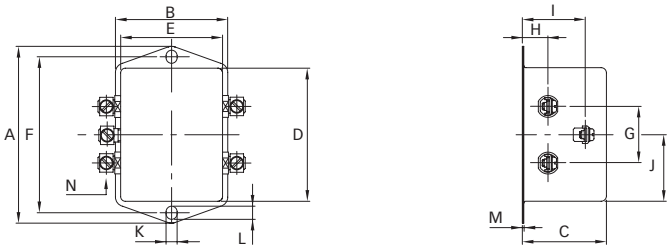


Mechanical data

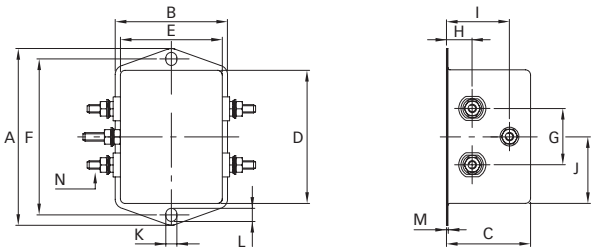
Connection style -06, 1 to 20A types



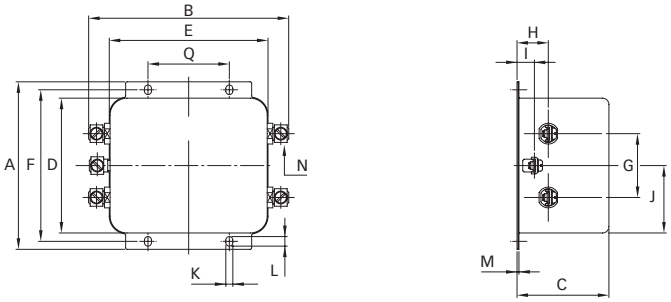
Connection style -03, 20A types



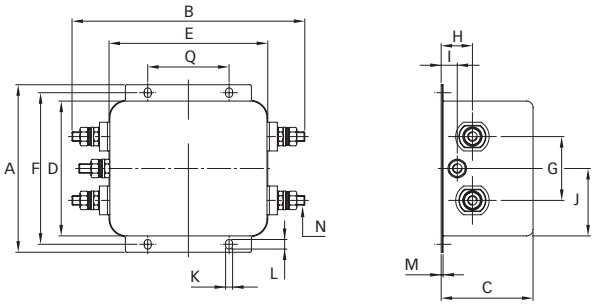
Connection style -10, 20A types



Connection style -03, 30A types



Connection style -10 and -24, 30 to 100A types



Dimensions

	1A	3A	6A	10A	20A	30A	80A	100A	Tolerances
A	71	71	71	71	85	105	105	105	±0.5
B	46.6	46.6	46.6	46.6	54	126	126	126	±1
C	22.3	29.3	29.3	29.3	40.3	38.6	45	57.6	±1
D	50.5	50.5	50.5	50.5	64.8	84.5	84.5	84.5	±1
E	44.5	44.5	44.5	44.5	49.8	99.5	99.5	99.5	±1
F	61	61	61	61	75	95	95	95	±0.2
G	21	21	21	21	27	40	40	40	±0.5
H	10.8	10.8	10.8	10.8	12	19.3	19.3	19.3	±0.5
I	16.8	24.8	24.8	24.8	29.5	9.8	9.8	9.8	±0.5
J	25.25	25.25	25.25	25.25	32.4	42.25	42.25	42.25	±0.5
K	5.3	5.3	5.3	5.3	5.3	4.4	4.4	4.4	
L	6.3	6.3	6.3	6.3	6.3	6	6	6	
M	0.7	0.7	0.7	0.7	0.7				
N	6.3 x 0.8	6.3 x 0.8	6.3 x 0.8	6.3 x 0.8	6.3 x 0.8				
Connection style -03									
N									
Q						51			±0.1
Connection style -10									
N					UNC 8-32	UNC 8-32			
Q						51			±0.1
Connection style -24									
N							M6	M6	
Q							51	51	±0.1

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