

General-purpose filter

FN 612

- current ratings from 1 to 100A
 - good differential mode attenuation
 - three choices of connector
 - optional medical versions (B type)
- Nennströme von 1 bis 100 A
 - Gute differentielle Dämpfung
 - Drei Anschlußarten
 - Für medizinische Geräte als Option (Typ B)
- courants de service de 1 à 100 A
 - bonne atténuation en mode différentiel
 - trois types de connexions
 - version pour appareils médicaux en option (type B)



Filter selection table

Choose the family FN xxx with the required current rating and features, and add /?? to determine input/output (line/load) connection style. Example: FN 612-1/06 is a 1A filter with fast-on connections.

Approvals



Family	Connections			Current ratings at 40°C (25°) A		Inductance L mH	Housing	Weight g			
								/03	/06	/10	/24
FN 612 -1 /??	-	/06	-	1	(1.15)	3	H1	-	80	-	-
FN 612 -3 /??	-	/06	-	3	(3.4)	2	H2	-	115	-	-
FN 612 -6 /??	-	/06	-	6	(6.9)	0.75	H2	-	115	-	-
FN 612 -10 /??	-	/06	-	10	(11.5)	0.45	H2	-	115	-	-
FN 612 -20 /??	/03	/06	/10	20	(23)	0.48	K2	290	260	290	-
FN 612 -30 /??	/03	-	/10	30	(34)	0.61	L1	630	-	630	-
FN 612 -80 /??	-	-	/24	80	(92)	0.2	L3	-	-	-	700
FN 612 -100/??	-	-	/24	100	(115)	0.2	L2	-	-	-	1100

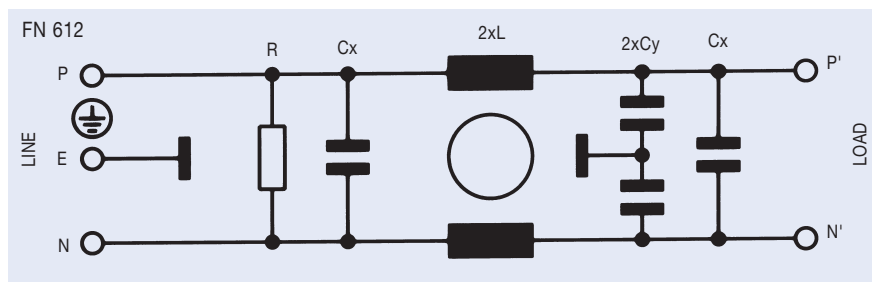
Additional specifications

Filter type	Capacitance		Res. R MΩ	Maximum leakage μA/phase	Maximum operating voltage VAC Hz		Operating frequency Hz	Hipot test voltage	
	Cx nF	Cy nF						PN→E VAC	P→N VDC
Standard types (up to 30A)	100	2.2	1	190	250	50/60	DC to 400	2000	1700
Standard types (80/100A)	470/1000	4.7	1*	450	250	50/60	DC to 400	2000	1700
B types (medical up to 30A)	100	-	1	2	250	50/60	DC to 400	2500	1700
B types (medical 80/100A)	470/1000	-	1*	2	250	50/60	DC to 400	2500	1700

MTBF at 40°C, 230V, per Mil-HB-217F: 800,000 hours.

*470k for 100A types

Electrical schematic

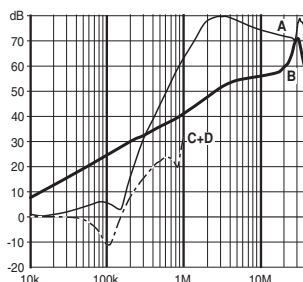


See tables for component values.

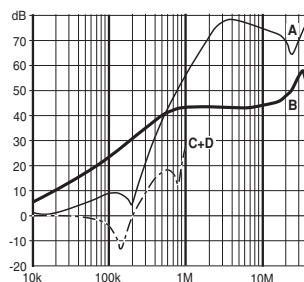
FN 612 insertion loss

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

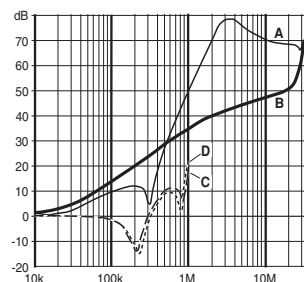
1 amp types



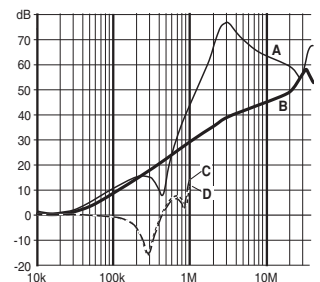
3 amp types



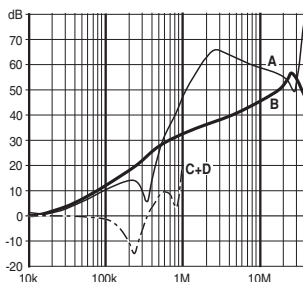
6 amp types



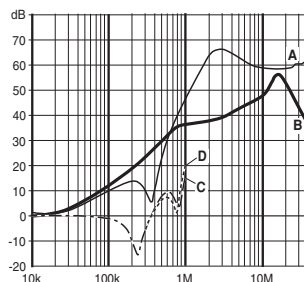
10 amp types



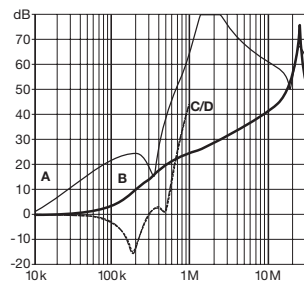
20 amp types



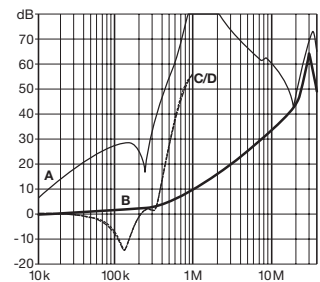
30 amp types



80 amp types



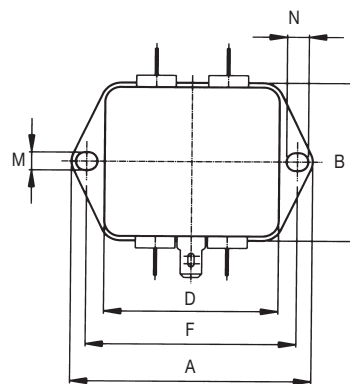
100 amp types



Mechanical data

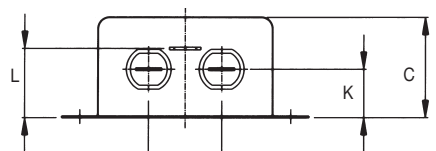
	FN 612 -1 H1	FN 612 -3-6-10 H2	FN 612 -20 K2	Tol. mm
A	71		85	± 0.5
B	46.6		54	± 1
C	22	29	40	± 1
D	50.5		65	± 1
F	61		75	± 0.2
J	21		27	± 0.5
K	10.5		12	± 0.5
L	16.5	24.5	29.5	± 0.5
M		5.3		± 0.1
N		6.3		± 0.1

TOP VIEW



Housing H1, H2, K2

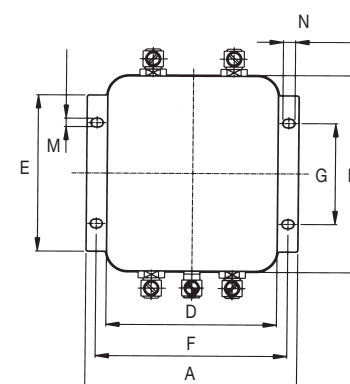
FRONT VIEW



Housing H1, H2, K2

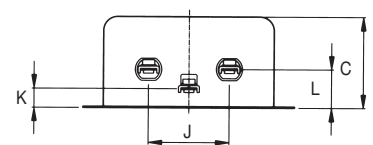
	FN 612 -30 L1	FN 612 -80 L3	FN 612 -100 L2	Tol. mm
A		105		± 0.5
B		99.5		± 1
C	38	45	57	± 1
D		84.5		± 1
E		79		± 0.5
F		95		± 0.2
G		51		± 0.1
J		40		± 0.5
K		9.5		± 0.5
L		19		± 0.5
M		4.4		± 0.1
N		6		± 0.1

TOP VIEW



Housing L1, L2, L3

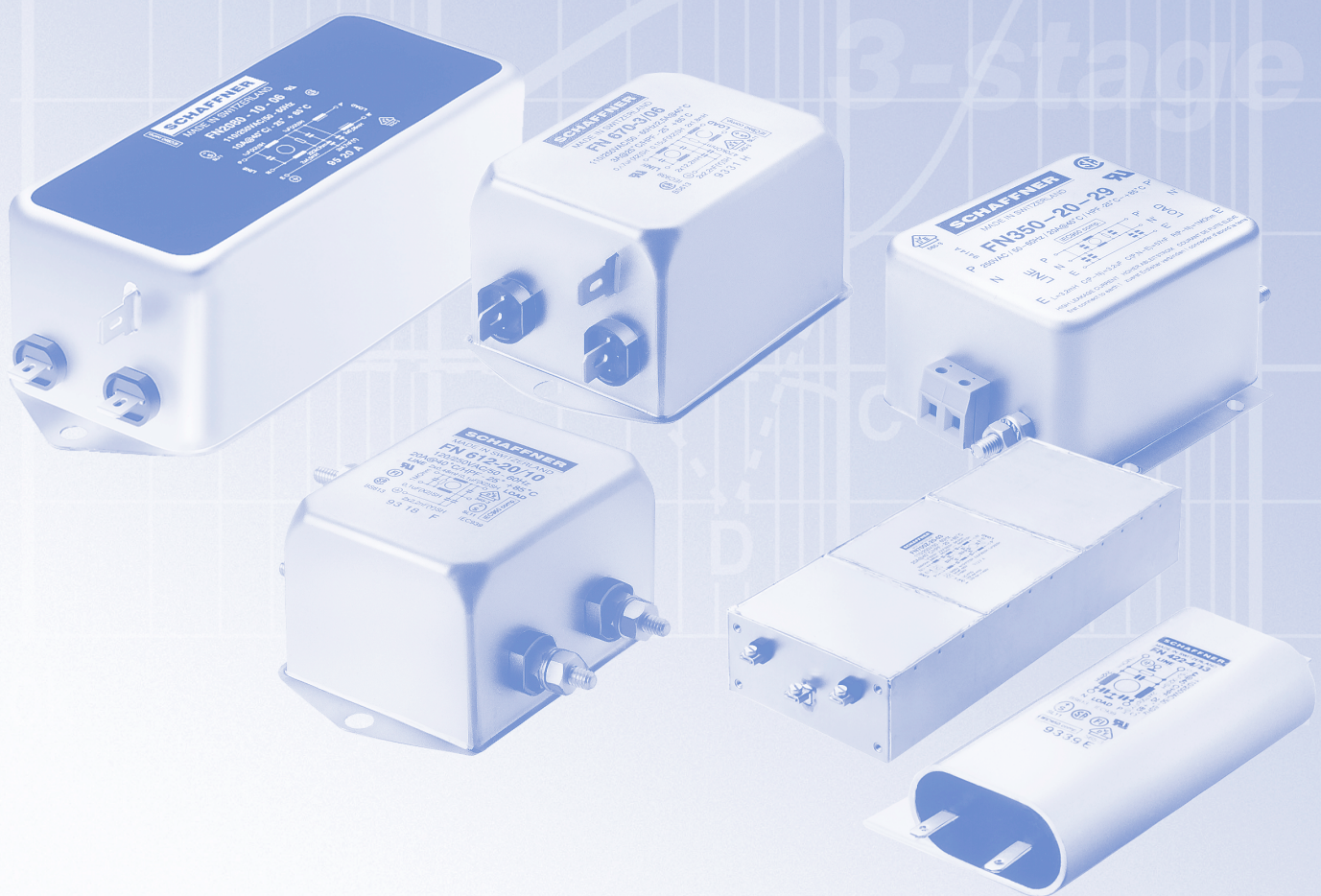
FRONT VIEW



Housing L1, L2, L3

All dimensions in mm; 1 inch = 25.4 mm

Single-phase filters



Single-phase filters

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FN 660.....	126
FN 670.....	128
FN 680.....	130
FN 685.....	132
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Three-stage filters

FN 352Z	148
FN 700Z	150

INHALT

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FN 2330.....	116
FN 2340.....	118
FN 9675.....	120

Zweistufen Filter

FN 343.....	124
FN 660.....	126
FN 670.....	128
FN 680.....	130
FN 685.....	132
FN 2060.....	134
FN 2070.....	136
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FN 352Z	148
FN 700Z	150

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FN 610.....	106
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FN 2010.....	110
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FN 2310.....	114
FN 2330.....	116
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FN 9675.....	120

Filtres à double-étage

FN 343.....	124
FN 660.....	126
FN 670.....	128
FN 680.....	130
FN 685.....	132
FN 2060.....	134
FN 2070.....	136
FN 2080.....	138
FN 2320.....	140
FN 2350.....	142
FN 2360.....	144

Filtres à triple-étage

FN 352Z	148
FN 700Z	150

Single-phase filters

Schaffner's single-phase filter range

Rapid selection Using the current rating and attenuation performance indicators, together with the major features shown on the right, this table allows you to quickly identify a 'short list' of filter families which are potentially suitable for your application, for subsequent detailed investigation using the technical specifications on the following pages.

Filter family	5101520253035404550 Current rating [A] Insertion loss 1 standard middle high very high 9										with earth line choke	with overvoltage protection	2 stage	3 stage	with IEC inlet	for SMPS	for medical equipment	NEMP, TEMPEST	for telecom applications	for motor drives	catalog page
FN 332												✓				✓					100
FN 350																✓				✓	102
FN 610, 612																✓					106
FN 2010																✓					110
FN 2020																✓					112
FN 2310																					114
FN 2330																					116
FN 2340																					118
FN 9675/76																✓	✓			✓	120
FN 343												✓	✓								124
FN 660, 670													✓			✓	✓			✓	126
FN 680, 685													✓			✓				✓	130
FN 2060													✓				✓				134
FN 2070													✓			✓	✓			✓	136
FN 2080													✓			✓	✓			✓	138
FN 2320													✓			✓					140
FN 2350													✓								142
FN 2360													✓			✓	✓				144
FN 352Z												✓		✓		✓					148
FN 700Z												✓		✓	✓	✓		✓			150

Ordering information

For all single-phase filters

FN 2070 & - x / y

connections 01 = solder-lug
03 = clamp terminal with M4 screw
05 = AMP fast-on
06 = solder-lug/fast-on combination
07 = wire
08 = screw terminal M4
10 = screw feed-through
13 = AMP fast-on
23 = clamp terminal with M5 screw
24 = screw terminal M6
29 = terminal block
33 = terminal block

for details see page 235

current rating (A)

A = low leakage (small Y capacitors)
B = medical version (without Y capacitors)
Z = surge voltage protection

filter type

Examples:

FN 670-1.8/07 Type FN 670; current rating 1.8A; with wire connections

FN 350-55/33 Type FN 350; current rating 55A; with safety terminal block connections