

Multi-stage High Performance EMI Filter



- Rated currents from 1 to 16 A
- High differential and common-mode attenuation
- Good low frequency attenuation
- Optional medical versions (B type)
- Optional safety versions (A type)



Performance indicators

Attenuation performance



Technical specifications

Operating voltage	110/250 VAC, 50/60 Hz
Operating frequency	dc to 400 Hz
Rated currents	1 to 16 A @ 40 °C max.
High potential test voltage	P → PE 2000 VAC for 2 sec P → N 1100 VDC for 2 sec P → PE 2500 VAC for 2 sec (B types)
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/230V (Mil-HB-217F)	1,650,000 hours 1,700,000 hours (B types)

Approvals



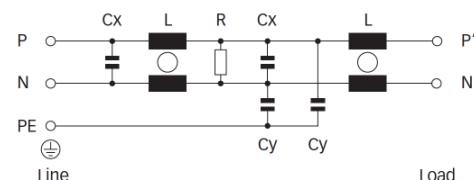
Features and benefits

- FN 2080 two-stage filters are designed for easy and fast chassis mounting
- FN 2080 filters are also available as B versions without Y-capacitors for medical applications as well as A version with low capacitance for safety critical applications with necessity for low leakage currents
- All filters provide a high conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- FN 2080 two-stage filters are designed with good low frequency attenuation
- FN 2080 filters are also available as single-stage filters
- Various terminal options allow you to select the desired connection style

Typical applications

- Electrical and electronic equipment
- Consumer goods
- Household equipment
- Building automation
- Industrial applications
- Machinery
- Medical equipment
- Electronic data processing equipment
- Office automation and datacom equipment
- Various noisy applications requiring good filter performance

Typical electrical schematic



Filter selection table

Filter*	Rated current @ 40 °C (25 °C)	Leakage current** @ 230 VAC/50 Hz	Inductance		Capacitance		Resistance R	Input/Output connections			Weight [g]
			L	L1	Cx	Cy					
	[A]	[mA]	[mH]	[μH]	[μF]	[nF]	[kΩ]				
FN 2080-1-..	1 (1.2)	0.734	22	490	0.33	4.7	1000	-06	-07		200
FN 2080-3-..	3 (3.5)	0.734	9.8	160	0.47	4.7	470	-06	-07		270
FN 2080-6-..	6 (6.9)	0.734	7.8	110	1	4.7	220	-06	-07		470
FN 2080-10-..	10 (11.5)	0.734	4.5	60	1	4.7	220	-06	-07		750
FN 2080-12-..	12 (13.8)	0.734	3.25	50	1	4.7	220	-06	-07		750
FN 2080-16-..	16 (18.4)	0.734	2.8	43	1	4.7	220	-06	-07	-08	1020
FN 2080A-1-..	1 (1.2)	0.074	22	490	0.33	0.47	1000	-06	-07		200
FN 2080A-3-..	3 (3.5)	0.074	9.8	160	0.47	0.47	470	-06	-07		270
FN 2080A-6-..	6 (6.9)	0.074	7.8	110	1	0.47	220	-06	-07		470
FN 2080A-10-..	10 (11.5)	0.074	4.5	60	1	0.47	220	-06	-07		750
FN 2080A-12-..	12 (13.8)	0.074	3.25	50	1	0.47	220	-06	-07		750
FN 2080A-16-..	16 (18.4)	0.074	2.8	43	1	0.47	220	-06	-07	-08	1020
FN 2080B-1-..	1 (1.2)	0.002	22	490	0.33		1000	-06	-07		200
FN 2080B-3-..	3 (3.5)	0.002	9.8	160	0.47		470	-06	-07		270
FN 2080B-6-..	6 (6.9)	0.002	7.8	110	1		220	-06	-07		470
FN 2080B-10-..	10 (11.5)	0.002	4.5	60	1		220	-06	-07		750
FN 2080B-12-..	12 (13.8)	0.002	3.25	50	1		220	-06	-07		750
FN 2080B-16-..	16 (18.4)	0.002	2.8	43	1		220	-06	-07	-08	1020

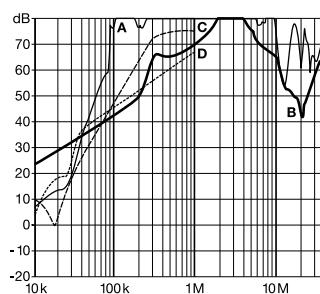
* To compile a complete part number, please replace the .. with the required I/O connection style (e.g. FN 2080-16-08, FN 2080B-10-06).

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

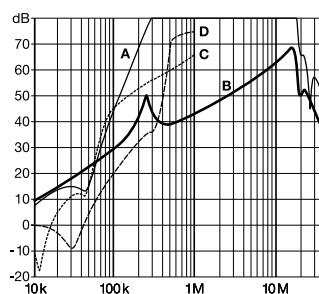
Typical filter attenuation

Per CISPR 17; A = 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

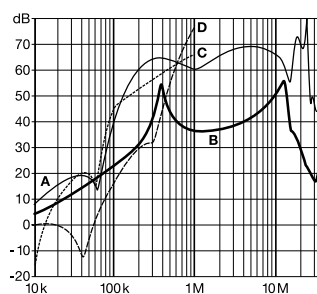
1 to 6 A types



10 and 12 A types

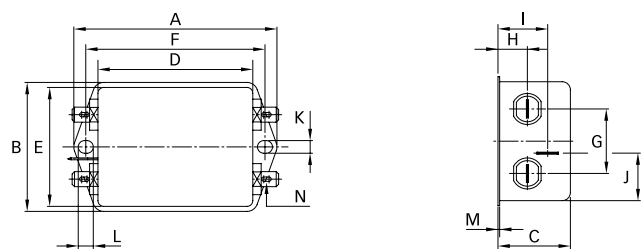


16 A types

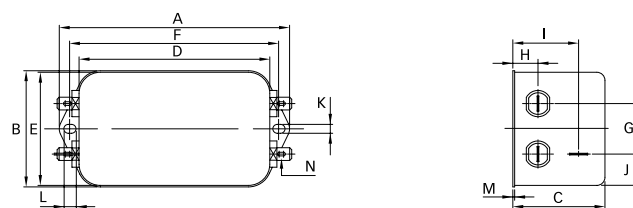


Mechanical data

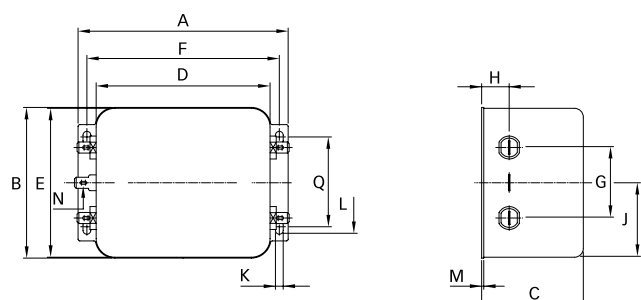
Connection style -06, 1 and 3 A types



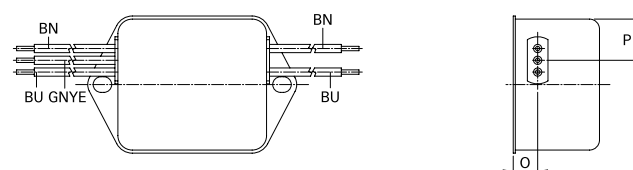
Connection style -06, 6 to 12 A types



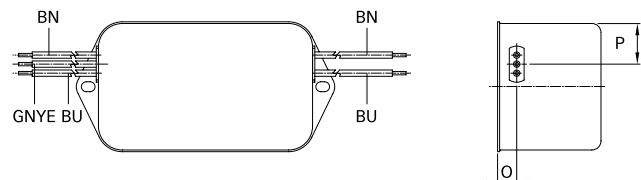
Connection style -06, 16 A types



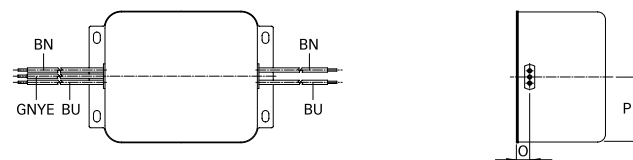
Connection style -07, 1 and 3 A types (same dimensions as style -06)



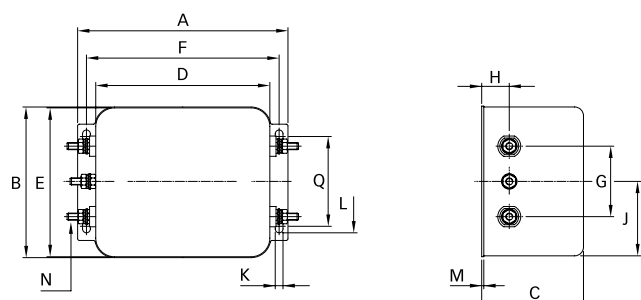
Connection style -07, 6 to 12 A types (same dimensions as style -06)



Connection style -07, 16 A types (same dimensions as style -06)



Connection style -08, 16 A types (same dimensions as style -06)



Dimensions

	1 A	3 A	6 A	10 A	12 A	16 A	Tolerances
A	85	85	113.5 ±1	156 ±1	156 ±1	119 ±1	±0.5
B	54	54	57.5 ±1	57.5 ±1	57.5 ±1	85.5 ±1	±0.5
C	30.3	40.3	45.4 ±1	45.4 ±1	45.4 ±1	57.6 ±1	±0.5
D	64.8	64.8	94 ±1	130.5 ±1	130.5 ±1	98.5 ±1	±0.5
E	49.8	49.8	56	56	56	84.5	±0.5
F	75	75	103	143	143	109	±0.3
G	27	27	25	25	25	40	±0.2
H	12.3	12.3	12.4	12.4	12.4	15.6	±0.5
I	20.8	29.8	32.4	32.5	32.5		±0.5
J	19.9	11.4	15.5	15.5	15.5	42.25	±0.5
K	5.3	5.3	4.4	5.3	5.3	4.4	
L	6.3	6.3	6	6	6	7.4	
M	0.7	0.7	0.9	1	1	1.2	
Connection style -06							
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	6.3 x 0.8	
Connection style -07							
O	8.3	8.3	8.4	8.4	8.4	8.6	±0.5
P	14.9	14.9	18	18	18	42.25	±0.5
AWG type wire	AWG 20	AWG 20	AWG 18	AWG 18	AWG 16	AWG 16	
Wire length	140	140	140	140	140	140	+5
Connection style -08							
N						M4	
Q						51	±0.2

All dimensions in mm; 1 inch = 25.4 mm

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

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