

1-phase filters FN 2030

General purpose EMI filter with high attenuation performance

SCHAFNER

energy efficiency and reliability



- Rated currents from 1 to 30A
- High performance filter attenuation
- High differential-mode attenuation
- Optional medical versions (B type)
- Optional safety versions (A type)
- Optional overvoltage protection (Z type)

Approvals

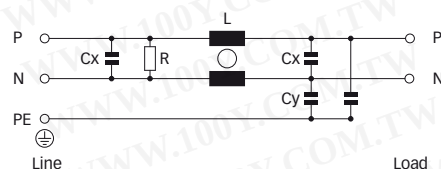


勝特力材料 886-3-5753170
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[Http://www.100y.com.tw](http://www.100y.com.tw)

Technical specifications

Maximum continuous operating voltage:	250VAC, 50/60Hz
Operating frequency:	dc to 400Hz
Rated currents:	1 to 30A @ 40°C max.
High potential test voltage:	P → E 2000VAC for 2 sec (standard types) P → E 2500VAC for 2 sec (B types) P → N 1100VDC for 2 sec
Temperature range (operation and storage):	-25°C to +100°C (25/100/21)
Design corresponding to:	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
Flammability corresponding to:	UL 94V-2 or better
Surge pulse protection (optional):	2kV, IEC 61000-4-5
MTBF @ 40°C/230V (Mil-HB-217F):	2,200,000 hours (1 to 10A types) 1,200,000 hours (12 to 30A types)

Typical electrical schematic



Features and benefits

- FN 2030 filters are designed for easy and fast chassis mounting.
- The FN 2030 filters are also available as B versions with no Y-capacitors for medical applications as well as A versions with low capacitance for safety critical applications with a requirement for low leakage currents.
- All filters provide an exceptional conducted attenuation performance, based on chokes with high permeable core material and excellent thermal behavior.
- The higher inductivity versus amperage offers increased attenuation performance with same form factor compared to FN 2010 and FN 2020 filter series.
- All FN 2030 filters can be delivered with optional surge pulse protection.
- FN 2030 filters are also available as two-stage filters (FN 2090 series) for very noisy environment.
- Various terminal options allow you to select the desired connection style.

Typical applications

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

Filter selection table

Filter*	Rated current @ 40°C (25°C)	Leakage current** @ 230VAC/50Hz	Inductance L	Capacitance		Resistance R	Input/Output connections			Weight
	[A]	[mA]	[mH]	Cx [μF]	Cy [nF]	[kΩ]				[g]
FN 2030-1-..	1 (1.1)	0.34	20	0.22	2.2	1000	-06	-07		58
FN 2030-3-..	3 (3.4)	0.52	14	0.33	3.3	1000	-06	-07		87
FN 2030-4-..	4 (4.5)	0.52	14	0.33	3.3	1000	-06	-07		92
FN 2030-6-..	6 (6.7)	0.73	8	0.47	4.7	680	-06	-07		100
FN 2030-8-..	8 (8.9)	0.73	8	0.47	4.7	680	-06	-07		170
FN 2030-10-..	10 (11.2)	0.73	8	0.47	4.7	680	-06	-07		196
FN 2030-12-..	12 (13.4)	0.87	4	1.0	10	330	-06	-07		185
FN 2030-16-..	16 (17.9)	0.87	4	1.0	10	330	-06	-07		225
FN 2030-20-..	20 (22.4)	0.87	4	1.0	10	330	-06		-08	285
FN 2030-30-08	30 (33.5)	0.87	2	1.0	10	330			-08	326
FN 2030A-1-..	1 (1.1)	0.04	20	0.22	0.47	1000	-06	-07		58
FN 2030A-3-..	3 (3.4)	0.04	14	0.33	0.47	1000	-06	-07		87
FN 2030A-4-..	4 (4.5)	0.04	14	0.33	0.47	1000	-06	-07		92
FN 2030A-6-..	6 (6.7)	0.04	8	0.47	0.47	680	-06	-07		100
FN 2030A-8-..	8 (8.9)	0.04	8	0.47	0.47	680	-06	-07		170
FN 2030A-10-..	10 (11.2)	0.04	8	0.47	0.47	680	-06	-07		196
FN 2030A-12-..	12 (13.4)	0.04	4	1.0	0.47	330	-06	-07		185
FN 2030A-16-..	16 (17.9)	0.04	4	1.0	0.47	330	-06	-07		225
FN 2030A-20-..	20 (22.4)	0.04	4	1.0	0.47	330	-06		-08	285
FN 2030A-30-08	30 (33.5)	0.04	2	1.0	0.47	330			-08	326
FN 2030B-1-..	1 (1.1)	0.002	20	0.22		1000	-06	-07		58
FN 2030B-3-..	3 (3.4)	0.002	14	0.33		1000	-06	-07		87
FN 2030B-4-..	4 (4.5)	0.002	14	0.33		1000	-06	-07		92
FN 2030B-6-..	6 (6.7)	0.002	8	0.47		680	-06	-07		100
FN 2030B-8-..	8 (8.9)	0.002	8	0.47		680	-06	-07		170
FN 2030B-10-..	10 (11.2)	0.002	8	0.47		680	-06	-07		196
FN 2030B-12-..	12 (13.4)	0.002	4	1.0		330	-06	-07		185
FN 2030B-16-..	16 (17.9)	0.002	4	1.0		330	-06	-07		225
FN 2030B-20-..	20 (22.4)	0.002	4	1.0		330	-06		-08	285
FN 2030B-30-08	30 (33.5)	0.002	2	1.0		330			-08	326

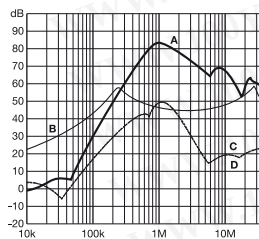
* To compile a complete part number, please replace the -.. with the required I/O connection style. For surge pulse protection, please add Z (e.g. FN 2030Z-10-06, FN 2030BZ-20-08).

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

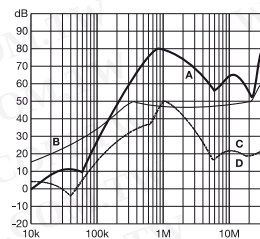
Typical filter attenuation

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

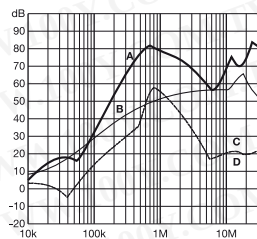
1 to 4A types



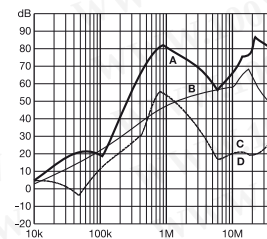
6 to 10A types



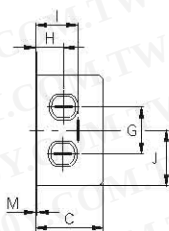
12 to 20A types



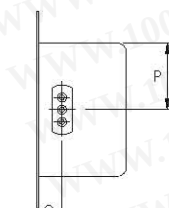
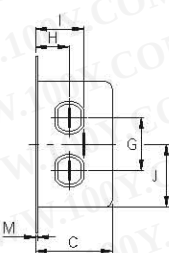
30A types



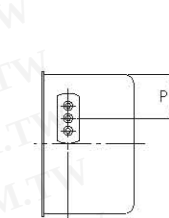
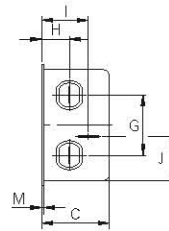
Connection style -06, 1A types



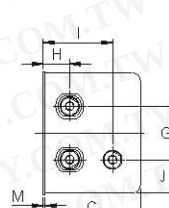
Technical drawing of a square flange with dimensions A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z.



Technical drawing of a rectangular plate with dimensions A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z.



Technical drawing of a cylindrical roller bearing showing dimensions A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z.

[illegible]

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	6.3 x 0.8	6.3 x 0.8
Connection style -07								
O	8.3	8.3	8.3	8.3	8.3	8.3	8.3	±0.5
P	21.8	14	14	14	14.9	14.9	14.9	±0.5
AWG type wire	AWG 20	AWG 20	AWG 20	AWG 18	AWG 18	AWG 18	AWG 16	AWG 16
Wire length*	140	140	140	140	140	140	140	
Connection style -08								
N							M4	M4