

3-phase filters FN 3270

Compact three-phase EMC/RFI filter for industrial motor drive applications

SCHAFFNER

energy efficiency and reliability



- Very compact and light weight design requiring minimum space
- Easy, time-saving installation and contacting
- Protective covers as optional accessory available
- Attenuation performance according to EN 61800-3/A11

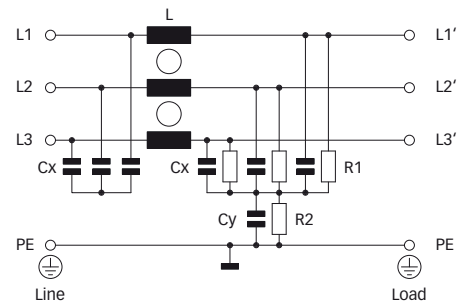
Approvals



Technical specifications

Maximum continuous operating voltage:	3x 520/300VAC (480VAC +10% possible)
Operating frequency:	dc to 60Hz
Rated currents:	10 to 1000A @ 50°C
High potential test voltage:	P → E 2750VDC for 2 sec P → P 2250VDC for 2 sec
Protection category:	IP20 (10 to 100A) IP00 (150 to 1000A)
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 94V-2 or better
Design corresponding to:	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
MTBF @ 50°C/400V (Mil-HB-217F):	>320,000 hours

Typical electrical schematic




Features and benefits

- An extremely compact and light weight filter design requiring minimum mounting space in installations and cabinets.
- Simple and time-saving installation with good accessibility for automatic and hand tools.
- Solid, touch-safe terminal blocks, for all filters from 10 to 100A, offering sufficient contacting cross section according to the EN 60204-1 installation standard.
- Optionally available transparent protective covers for all filters with busbars from 150 to 1000A, to protect the installer, operator or inspector from undeliberate touching of live conductors. They can easily be retro-fitted even if the filter is already installed and connected.
- These EMC filters provide the attenuation performance needed to fulfill EN 61800-3/A11.
- Guaranteed filter performance under full-load operating conditions.
- 15 different filter models allow the specific choice and deployment for most industrial applications.

Typical applications

- Variable speed electrical power drive systems/motor drives for mainly industrial purpose
- Various industrial applications comprising frequency inverters, motor drives and servo drives

Filter selection table

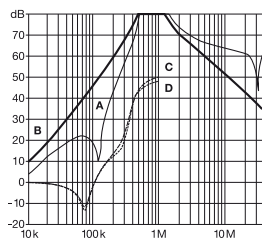
Filter	Rated current @ 50°C (40°C)	Typical drive power rating*	Leakage current** @ 480VAC/50Hz	Power loss @ 25°C/50Hz	Input/Output connections 	Weight [kg]	Protective covers***
	[A]	[kW]	[mA]	[W]			Order code
FN 3270H-10-44	10 (11)	5.5	26.4	2.4	-44	0.4	
FN 3270H-20-44	20 (22)	11	26.4	4.1	-44	0.5	
FN 3270H-35-33	35 (38)	22	29.4	6.8	-33	0.7	
FN 3270H-50-34	50 (55)	30	29.4	12.8	-34	1.2	
FN 3270H-65-34	65 (71)	37	29.4	13.5	-34	1.3	
FN 3270H-80-35	80 (88)	45	29.4	13.5	-35	2.2	
FN 3270H-100-35	100 (110)	55	29.4	17.1	-35	2.6	
FN 3270H-150-99	150 (164)	75	59.5	7.5	-99	6.1	1151-047
FN 3270H-200-99	200 (219)	110	59.5	13.2	-99	6.1	1151-047
FN 3270H-250-99	250 (274)	132	59.5	20.6	-99	6.1	1151-047
FN 3270H-320-99	320 (350)	160	59.5	12.2	-99	7.2	1151-047
FN 3270H-400-99	400 (438)	220	59.5	19.2	-99	7.2	1151-047
FN 3270H-600-99	600 (657)	315	59.5	35.6	-99	7.7	1151-047
FN 3270H-800-99	800 (876)	400	59.5	51.8	-99	15.8	1151-049
FN 3270H-1000-99	1000 (1095)	560	59.5	81.0	-99	15.8	1151-049

* Calculated at rated current, 480VAC and cos phi = 0.8. The exact value depends upon the efficiency of the drive, the motor and the entire application.
 ** Maximum leakage under normal operating conditions. Note: if two phases are interrupted, worst case leakage could reach 5.2 times higher levels.
 *** Please contact your local Schaffner partner to order the optional protective covers with the order code in the table above.

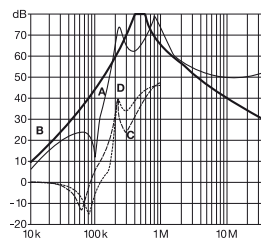
Typical filter attenuation

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

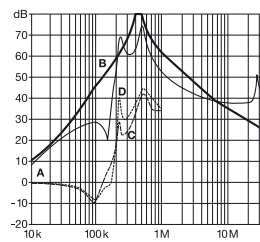
10 and 20A types



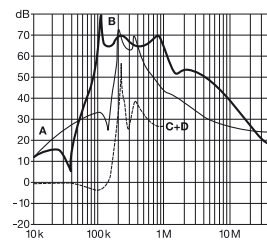
35 to 65A types



80 and 100A types

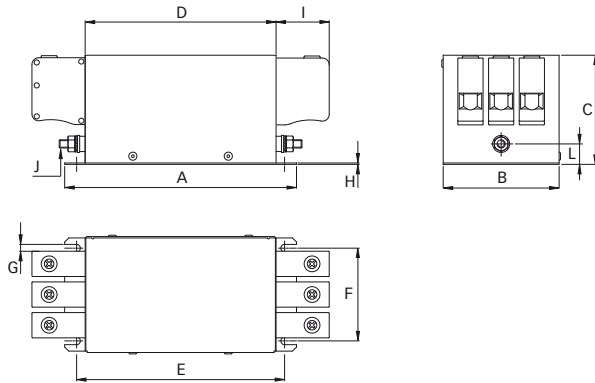


150 to 1000A types

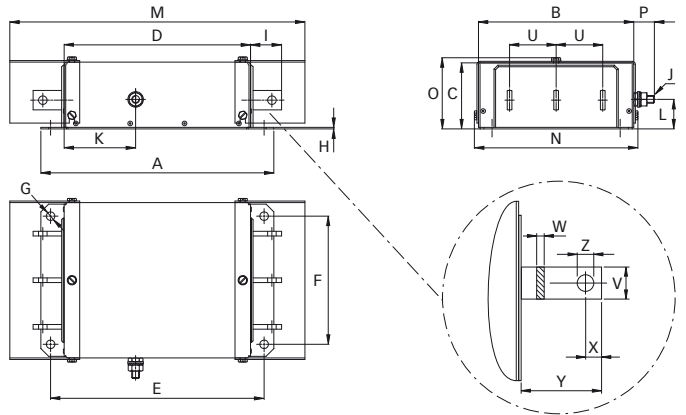


Mechanical data

10 to 100A types



150 to 1000A types



Dimensions

	10A	20A	35A	50A	65A	80A	100A	150A	200A	250A	320A	400A	600A	800A	1000A
A	150	150	160	170	170	200	230	300	300	300	300	300	300	370	370
B	58	58	70	85	85	95	95	200	200	200	200	200	200	190	190
C	58	58	68	80	80	90	90	86	86	86	86	86	86	125	125
D	120	120	130	140	140	170	200	240	240	240	240	240	240	310	310
E	132.5	132.5	142.5	152.5	152.5	182.5	212.5	275	275	275	275	275	275	345	345
F	42	42	50	65	65	75	75	165	165	165	165	165	165	155	155
G	4.5	4.5	5.5	5.5	5.5	5.5	5.5	Ø11	Ø11	Ø11	Ø11	Ø11	Ø11	Ø11	Ø11
H	1	1	1	1	1	1.5	1.5	2	2	2	2	2	2	3	3
I	21.9	21.9	25	39	39	45	45	40	40	40	40	40	40	50	50
J	M4	M4	M5	M6	M6	M8	M8	M10	M10	M10	M10	M10	M10	M12	M12
K								92	92	92	92	92	92	138	138
L	20.5	20.5	20	15	15	16	16	37	37	37	37	37	37	67	67
M								380	380	380	380	380	380	610	610
N								211	211	211	211	211	211	201	201
O								93	93	93	93	93	93	132	132
P								26.5	26.5	26.5	26.5	26.5	26.5	29	29
U								60	60	60	60	60	60	60	60
V								20	20	20	25	25	25	40	40
W								3	3	3	6	6	8	8	8
X								10	10	10	12.5	12.5	12.5	20	20
Y								37	37	37	37	37	37	47	47
Z								Ø9	Ø9	Ø9	Ø11	Ø11	Ø11	Ø13.5	Ø13.5

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

Filter input/output connector cross sections

	-33	-34	-35	-44
Solid wire	16mm ²	35mm ²	50mm ²	10mm ²
Flex wire	10mm ²	25mm ²	50mm ²	6mm ²
AWG type wire	AWG 6	AWG 2	AWG 1/0	AWG 8
Recommended torque	1.5 - 1.8Nm	4.0 - 4.5Nm	7 - 8Nm	1.5 - 1.8Nm