

Compact EMC/RFI Filter for Industrial Motor Drive Applications

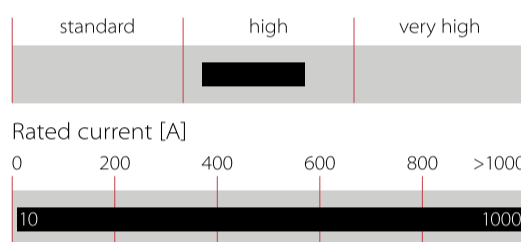


- Very compact and light weight design requiring minimum space
- Easy, time-saving installation and contacting
- Protective covers as optional accessory available
- Attenuation performance according to EN 61800-3/A11



Performance indicators

Attenuation performance



Approvals & Compliances



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 100 A, 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 1000 A, to protect the installer, operator or inspector from accidental touching of live conductors. They can easily be retrofitted 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 fullload operating conditions
- 15 different filter models allow the specific choice and deployment for most industrial applications

Technical Specifications

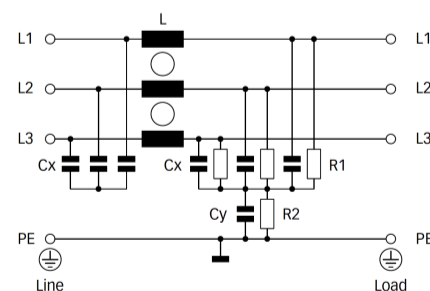
Maximum continuous operating voltage	3x520/300 VAC
Nominal operating voltage	480 VAC +10% possible
Rated currents	10 to 1000 A @ 50°C
Overload capability	4x rated current at switch on, 1.5x rated current for 1 minute, once per hour
Operating frequency	DC to 60 Hz
High potential test voltage	P → E 2750 VDC for 2 sec P → P 2250 VDC for 2 sec
Temperature range (operation and storage)	-25°C to +100°C (25/100/21)
Protection category	IP 20 (10 to 100 A) IP 00 (150 to 1000 A)
Flammability corresponding to	UL 94 V-0
Design corresponding to	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
MTBF (Mil-HB-217F)	>320,000 h @ 50°C/480 V

Typical Applications

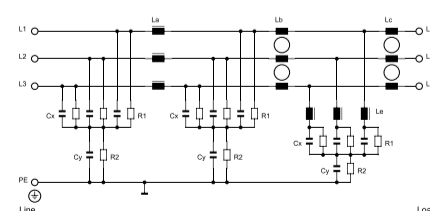
- Variable speed electrical power drive systems/ motor drives for mainly industrial purpose
- Various industrial applications comprising frequency inverters, motor drives and servo drives

Typical electrical schematic




FN3270H / FN3270HQ1 - Typical electrical schematic (up to 100 A)



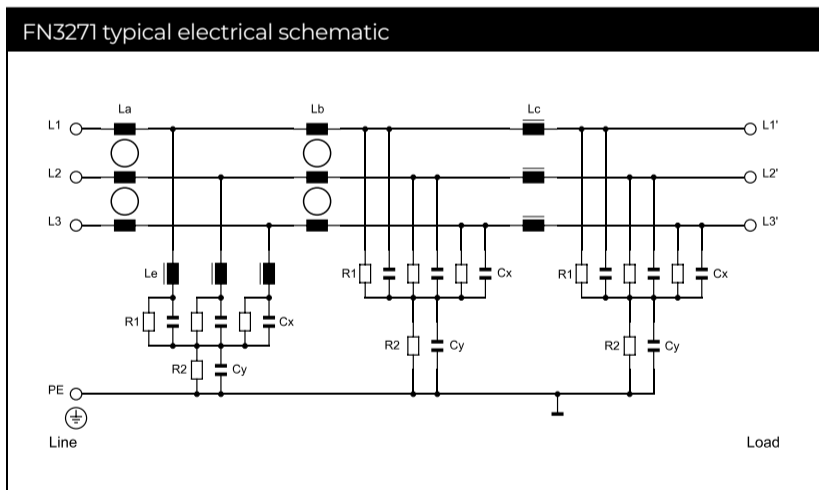
FN3270H / FN3270HQ1 - Typical electrical schematic (>100 A), for FN3271 refer to page 2



Filter Selection Table

Filter	Buy	Rated current	Typical drive	Leakage current	Leakage current	Power loss	Input/Output		Weight	Protective
		@ 50°C (40°C)	power rating*	FN3270H / FN3271H	FN3270HQ1***		connections	covers****		
		[A]	[kW]	[mA]**	[mA]**	[W]			[kg]	Order code
FN3270H-10-44		10 (11)	5.5	3.1		2.4	-44		0.4	
FN3270H-20-44		20 (22)	11	3.1	0.4	4.1	-44		0.5	
FN3270H-35-33		35 (38)	22	3.4	0.4	6.8	-33		0.7	
FN3270H-50-34		50 (55)	30	3.4	0.4	12.8	-34		1.2	
FN3270H-65-34		65 (71)	37	3.4	0.4	13.5	-34		1.3	
FN3270H-80-35		80 (88)	45	3.4	0.4	13.5	-35		2.2	
FN3270H-100-35		100 (110)	55	3.4	0.4	17.1	-35		2.6	
FN3270H-150-99		150 (164)	75	6.9	0.9	7.5	-99		6.1	801916
FN3270H-200-99		200 (219)	110	6.9	0.9	13.2	-99		6.1	801916
FN3270H-250-99		250 (274)	132	6.9	0.9	20.6	-99		6.1	801916
FN3270H-320-99		320 (350)	160	6.9	0.9	12.2	-99		7.2	801916
FN3270H-400-99		400 (438)	220	6.9	0.9	19.2	-99		7.2	801916
FN3270H-600-99		600 (657)	315	6.9		35.6	-99		7.7	801916
FN3270H-800-99		800 (876)	400	6.9		51.8	-99		15.8	806275
FN3270H-1000-99		1000 (1095)	560	6.9		81.0	-99		15.8	806275
FN3271H-150-99		150 (164)	75	6.9		7.5	-99		6.1	801916
FN3271H-200-99		200 (219)	110	6.9		13.2	-99		6.1	801916
FN3271H-250-99		250 (274)	132	6.9		20.6	-99		6.1	801916
FN3271H-320-99		320 (350)	160	6.9		12.2	-99		7.2	801916
FN3271H-400-99		400 (438)	220	6.9		19.2	-99		7.2	801916
FN3271H-600-99		600 (657)	315	6.9		35.6	-99		7.7	801916
FN3271H-800-99		800 (876)	400	6.9		51.8	-99		15.8	806275
FN3271H-1000-99		1000 (1095)	560	6.9		81.0	-99		15.8	806275

* Calculated at rated current, 480 VAC and cos phi=0.8. The exact value depends upon the efficiency of the drive, the motor and the entire application.
 ** Standardized calculated leakage current acc. IEC60939 under normal operating conditions.
 *** A low leakage version is available for limited versions. e.g. FN3270HQ1-20-44
 **** Please contact your local Schaffner partner to order the optional protective covers with the order code in the table above.



- #### Versions
- FN3270H - standard EMI environments / standard leakage currents
 - FN3271H - high impedance load EMI environment (> 100 Ohm), standard leakage currents
 - FN3270HQ1 - standard EMI environments, low leakage current version

Typical Filter Attenuation FN3270H / FN3271H

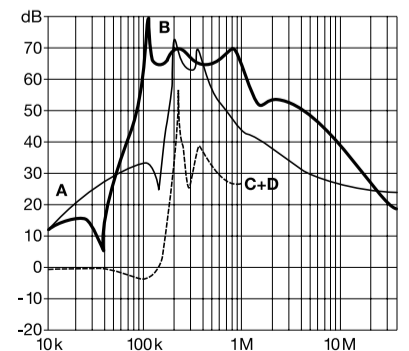
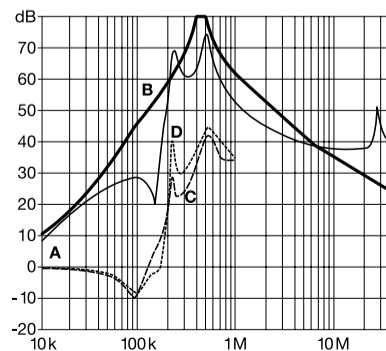
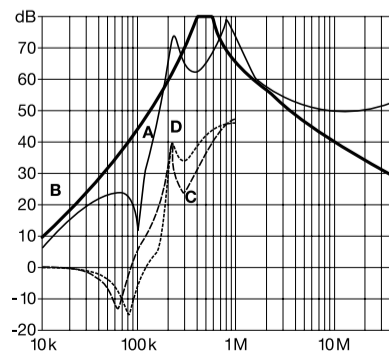
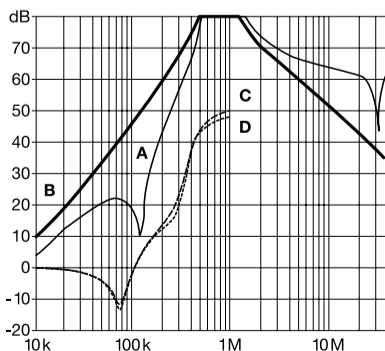
Per CISPR 17; A=50 Ω/50 Ω sym; B=50 Ω/50 Ω asym; C=0.1 Ω/100 Ω sym; D=100 Ω/0.1 Ω sym

10 and 20 A types

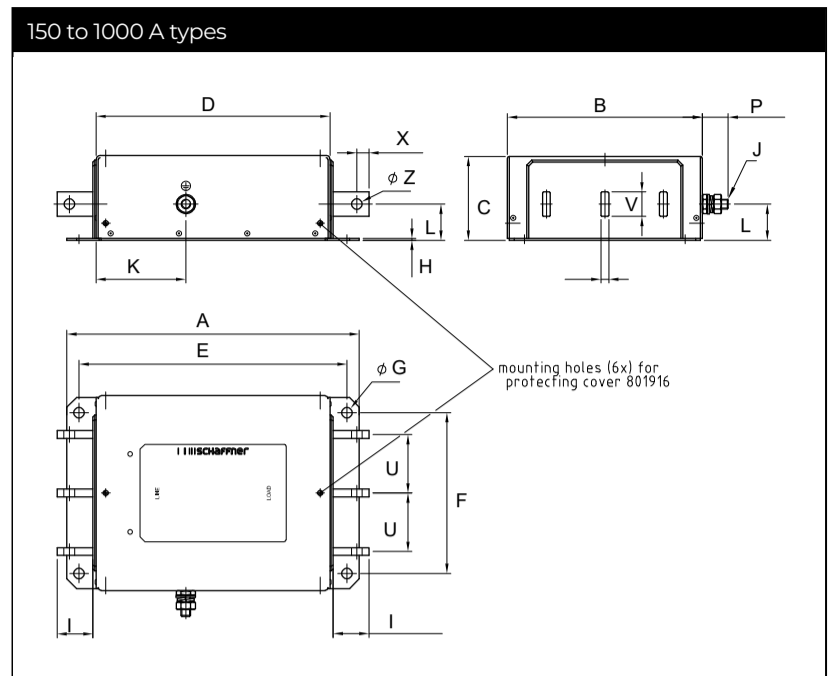
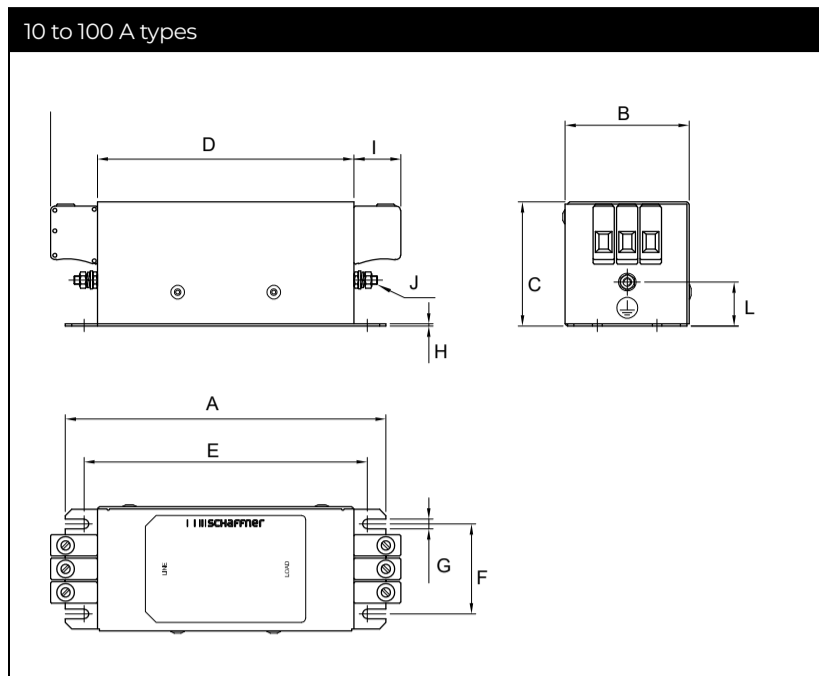
35 to 65 A types

80 and 100 A types

150 to 1000 A types



Mechanical Data



Dimensions

	10 A	20 A	35 A	50 A	65 A	80 A	100 A	150 A	200 A	250 A	320 A	400 A	600 A	800 A	1000 A
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	22	22	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 = 25.4 mm
Tolerances according: ISO 2768-m/EN 22768-m

Filter Input/Output Connector Cross Sections

	-33	-34	-35	-44
Solid wire	16 mm ²	35 mm ²	50 mm ²	10 mm ²
Flex wire	10 mm ²	25 mm ²	50 mm ²	6 mm ²
AWG type wire	AWG 6	AWG 2	AWG 1/0	AWG 8
Recommended torque	1.5-1.8 Nm	4.0-4.5 Nm	7-8 Nm	1.0-1.2 Nm

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

Headquarters, Global Innovation and Development

Switzerland

Schaffner Group
Industrie Nord
Nordstrasse 5
4542
Luterbach
+41 32 681 66 26
info@schaffner.com

Sales and Application Centers

Finland

Schaffner Oy
Lohjanharjuntie 1109
08500
Lohja
+ 358 50 468 72 84
finlandsales@schaffner.com

France

Schaffner EMC S.A.S.
16-20 Rue Louis Rameau
95875
Bezons
+33 1 34 34 30 60
francesales@schaffner.com

Germany

Schaffner Deutschland GmbH
Ohiostr. 8
76149
Karlsruhe
+49 721 56910
germanysales@schaffner.com

Italy

Schaffner EMC S.r.l.
Via Ticino, 30
20900
Monza (MB)
+39 335 120 44 32
italysales@schaffner.com

Japan

Schaffner EMC K.K.
ISM Sangenjaya 7F
1-32-12 Kamiyama Setagaya-ku
154-0011
Tokyo
+81 3 5712 3650
japansales@schaffner.com

Singapore

Schaffner EMC Pte Ltd.
Blk 3015A Ubi Road 1 #05-09 Kampong Ubi
Industrial Estate
408705
Singapore
+65 63773283
singaporesales@schaffner.com

Sweden

Schaffner EMC AB
Östermalmströgr 1
114 42
Stockholm
+46 8 5050 2425
swedensales@schaffner.com

Switzerland

Schaffner EMV AG
Industrie Nord
Nordstrasse 5
4542
Luterbach
+41 32 681 66 26
switzerlandsales@schaffner.com

India

Schaffner India Pvt. Ltd
Regus World Trade Centre
WTC 22nd Floor Unit No 2238 Brigade
Gateway Campus 26/1 Dr. Rajkumar Road
Malleshwaram (W)
560055
Bangalore
+91 8067935355
indiasales@schaffner.com

United Kingdom

Schaffner Ltd.
Suite 1 Oakmede Place
Terrace Road
RG42 4JF
Binfield
+44 118 9770070
schaffner.uksales@te.com

United States

Schaffner EMC Inc.
52 Mayfield Avenue
Edison, New Jersey
+1 732 225 9533
usasales@schaffner.com

To find your local partner within Schaffner's global network schaffner.com

© 2025 Schaffner Group

The content of this document has been carefully checked and understood. However, neither Schaffner nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Schaffner does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Swiss law and resulting disputes shall be settled by the courts at the place of business of Schaffner Holding AG. Latest publications and a complete disclaimer can be downloaded from the Schaffner website. All trademarks recognized.