

3-phase Filters FN 3270

Compact Three-phase EMC/RFI Filter for Industrial Motor Drive Applications

SCHAFNER
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

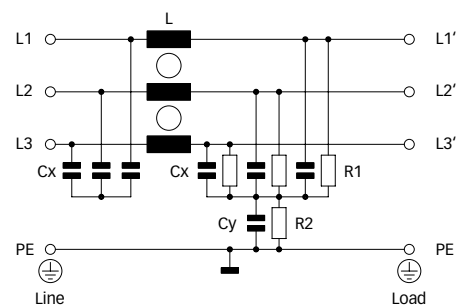


RoHS

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	Protective covers***
	[A]	[kW]	[mA]	[W]		[kg]	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	801916
FN 3270H-200-99	200 (-219)	110	59.5	13.2	-99	6.1	801916
FN 3270H-250-99	250 (-274)	132	59.5	20.6	-99	6.1	801916
FN 3270H-320-99	320 (-350)	160	59.5	12.2	-99	7.2	801916
FN 3270H-400-99	400 (-438)	220	59.5	19.2	-99	7.2	801916
FN 3270H-600-99	600 (-657)	315	59.5	35.6	-99	7.7	801916
FN 3270H-800-99	800 (-876)	400	59.5	51.8	-99	15.8	806275
FN 3270H-1000-99	1000 (-1095)	560	59.5	81.0	-99	15.8	806275

* 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.

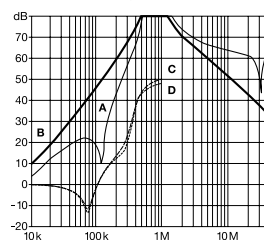
** Maximum leakage under normal operating conditions. Note: if two phases are interrupted, worst case leakage could reach 5.2 times higher levels.

*** Please contact your local Schaffner partner to order the optional protective covers with the order code in the table above.

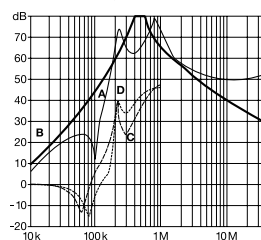
Typical filter attenuation

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

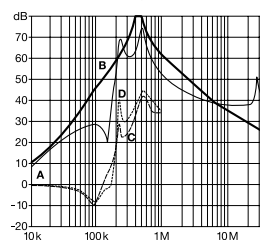
10 and 20A types



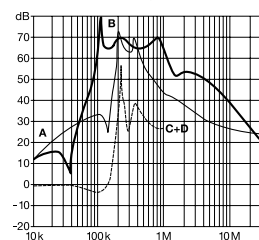
35 to 65A types



80 and 100A types

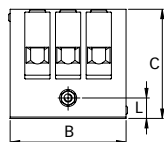
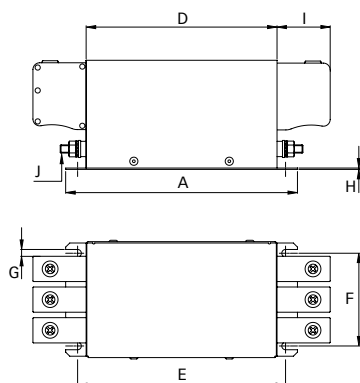


150 to 1000A types

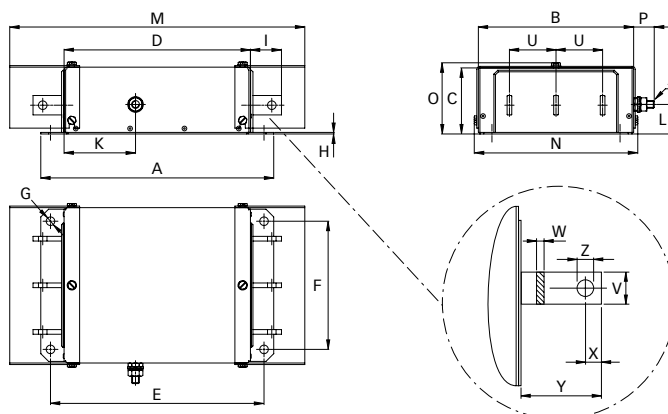


Mechanical data

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	21	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

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

**Headquarters, global innovation
and development center**

Schaffner Group
Nordstrasse 11
4542 Luterbach
Switzerland
T +41 32 681 66 26
F +41 32 681 66 30
info@schaffner.com
www.schaffner.com

Sales and application centers

China
Schaffner EMC Ltd. Shanghai
T20-3, No 565 Chuangye Road
Pudong New Area
Shanghai 201201
T +86 21 3813 9500
F +86 21 3813 9501 / 02
cschina@schaffner.com
www.schaffner.com

Finland
Schaffner Oy
Sauvonrinne 19 H
08500 Lohja
T +358 19 35 72 71
F +358 19 32 66 10
finlandsales@schaffner.com

France
Schaffner EMC S.A.S.
112, Quai de Bezons
95103 Argenteuil
T +33 1 34 34 30 60
F +33 1 39 47 02 28
francesales@schaffner.com

Germany
Schaffner Deutschland GmbH
Schoemperlenstrasse 12B
76185 Karlsruhe
T +49 721 56910
F +49 721 569110
germanysales@schaffner.com

Italy
Schaffner EMC S.r.l.
Via Galileo Galilei, 47
20092 Cinisello Balsamo (MI)
T +39 02 66 04 30 45/47
F +39 02 61 23 943
italysales@schaffner.com

Japan
Schaffner EMC K.K.
Mitsui-Seimei Sangenjaya Bldg. 7F
1-32-12, Kamiuma, Setagaya-ku
Tokyo 154-0011
T +81 3 5712 3650
F +81 3 5712 3651
japansales@schaffner.com
www.schaffner.jp

Singapore
Schaffner EMC Pte Ltd.
Blk 3015A Ubi Road 1
05-09 Kampong Ubi Industrial Estate
T +65 6377 3283
F +65 6377 3281
singaporesales@schaffner.com

Spain
Schaffner EMC España
Calle Caléndula 93
Miniparc III, Edificio E
El Soto de la Moraleja
Alcobendas
28109 Madrid
T +34 618 176 133
spainsales@schaffner.com

Sweden
Schaffner EMC AB
Turebergstorg 1, 6
19147 Sollentuna
T +46 8 5792 1121 / 22
F +46 8 92 96 90
swedensales@schaffner.com

Switzerland
Schaffner EMV AG
Nordstrasse 11
4542 Luterbach
T +41 32 681 66 26
F +41 32 681 66 41
sales@schaffner.ch

Taiwan
Schaffner EMV Ltd.
6th Floor, No 413
Rui Guang Road
Neihu District
Taipei City 114
T +886 2 87525050
F +886 2 87518086
taiwansales@schaffner.com

Thailand
Schaffner EMC Co. Ltd.
Northern Region Industrial Estate
67 Moo 4 Tambon Ban Klang
Amphur Muang P.O. Box 14
Lamphun 51000
T +66 53 58 11 04
F +66 53 58 10 19
thailandsales@schaffner.com

UK
Schaffner Ltd.
5 Ashville Way
Molly Millars Lane
Wokingham
Berkshire RG41 2PL
T +44 118 9770070
F +44 118 9792969
uksales@schaffner.com
www.schaffner.uk.com

USA
Schaffner EMC Inc.
52 Mayfield Avenue
Edison, New Jersey 08837
T +1 732 225 9533
F +1 732 225 4789
usasales@schaffner.com
www.schaffner.com/us

To find your local partner within
Schaffner's global network, please go to
www.schaffner.com

© 2013 Schaffner Group
Specifications are subject to change
within notice. The latest version of the
data sheets can be obtained from the
website. All trademarks recognized.

Schaffner is an ISO-registered company.
Its products are designed and
manufactured under the strict quality
and environmental requirements of
the ISO 9001 and ISO 14001 standards.

This document has been carefully
checked. However, Schaffner does not
assume any liability for errors or
inaccuracies.