

Compact EMC/RFI Filter for Motor Drives



- Compact filter solution for single-phase motor drive applications
- Industrial grade safety terminal blocks
- Designed to meet EN 55011/14/22
- Compliant with IEC 60950



Performance indicators

Attenuation performance



Rated current [A]



Technical Specifications

Maximum continuous operating voltage	1x 250 VAC
Nominal operating voltage	230 VAC
Rated currents	8 to 55 A @ 40°C
Overload capability	4x rated current at switch on, 1.5x rated current for 1 minute, once per hour
Operating frequency	DC to 400 Hz
High potential test voltage	P → E 2000 VAC for 2 sec P → N 1100 VDC for 2 sec
Temperature range (operation and storage)	-25°C to +100°C (25/100/21)
Protection category	IP 20
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)	>420,000 h @ 40°C/230 V

Approvals & Compliances



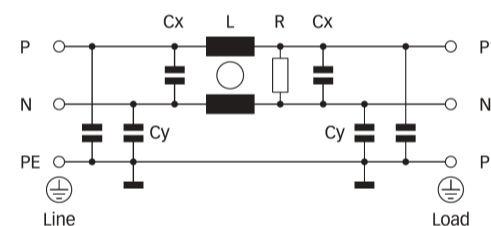
Features and Benefits

- High component values optimized for common and differential-mode attenuation in the lower frequency range makes this filter ideal for a large variety of single-phase motor drive applications
- Supplied in a relatively small housing design with safety terminal blocks for fast and easy installation in primarily industrial environments
- FN 350 also meets IEC 60950 requirements, thus providing additional application flexibility



Typical Applications

- Single-phase motor drives
- Automation equipment
- Power supplies, SMPS
- Office equipment
- Testing and measurements equipment

Typical electrical schematic



Filter Selection Table

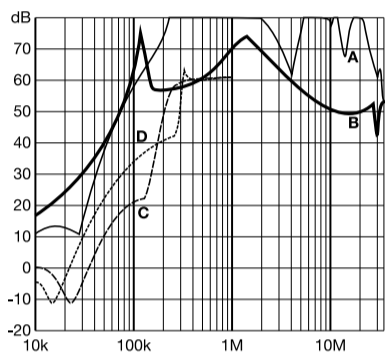
Filter	Rated current	Leakage current*	Power loss	Input/Output connections		Weight
	@ 40°C (25°C)	@ 230 VAC/50 Hz	@ 25°C/50 Hz			[kg]
	[A]	[mA]	[W]			
FN 350-8-29	8 (9.0)	4.9	5.2	-29		0.7
FN 350-12-29	12 (13.5)	4.9	5.7	-29		0.7
FN 350-20-29	20 (22.4)	4.9	6.1	-29		0.7
FN 350-30-33	30 (33.6)	5.4	6.1	-33		0.7
FN 350-55-..	55 (61.5)	11.0	9.9	-33	-24	1.2

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

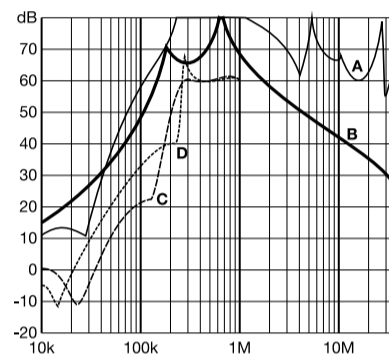
Typical Filter Attenuation

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

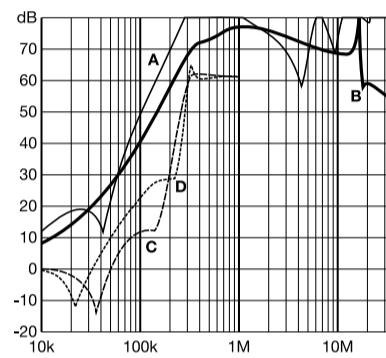
8 A types



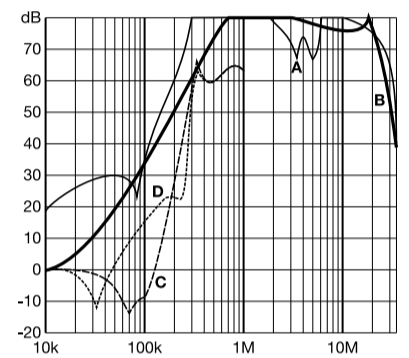
12 A types



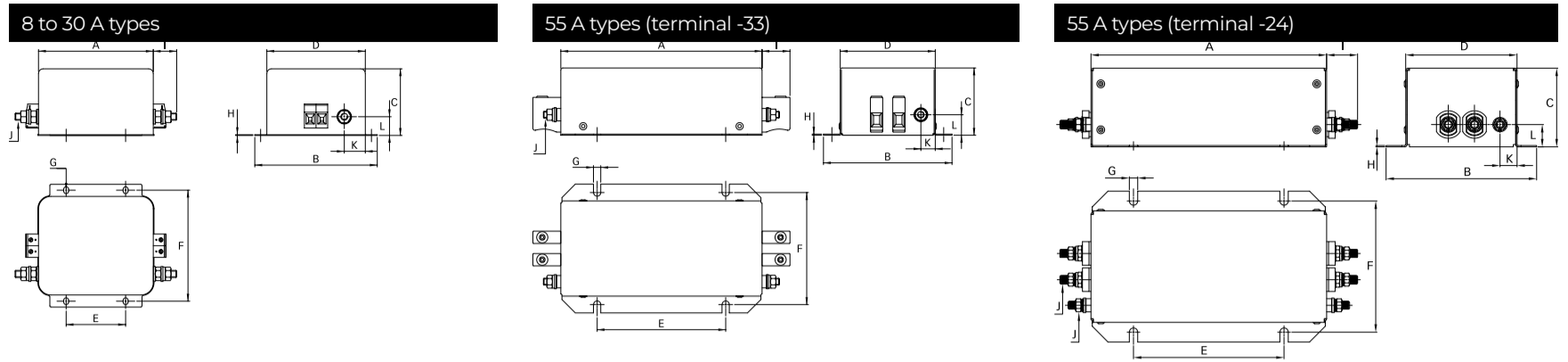
20 and 30 A types



55 A types



Mechanical Data






Dimensions

	8 A	12 A	20 A	30 A	55 A (-33)	55 A (-24)
A	99.5	99.5	99.5	99.5	180	180
B	105	105	105	105	115	115
C	57	57	57	57.6	60	60
D	84.4	84.4	84.4	84.4	85	85
E	51	51	51	51	115	115
F	95	95	95	95	100	100
G	6 x 4.4	6 x 4.4	6 x 4.4	6 x 4.4	6.5	6.5
H	0.6	0.6	0.6	1.2	1	1
I	19.5	19.5	19.5	25	25	23.7
J	M6	M6	M6	M6	M6	M6
K	18	18	18	16	12.9	12.9
L	16	16	16	19	18.3	17

All dimensions in mm; 1 inch = 25.4 mm

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

Filter Input/Output Connector Cross Sections

	-29	-33	-24 (M6)
Solid wire	 6 mm ²	 16 mm ²	 3.5-4.0 Nm
Flex wire	4 mm ²	10 mm ²	
AWG type wire	AWG 10	AWG 6	
Recommended torque	0.6-0.8 Nm	1.5-1.8 Nm	3.5-4.0 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

Östermalmströgrg 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

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