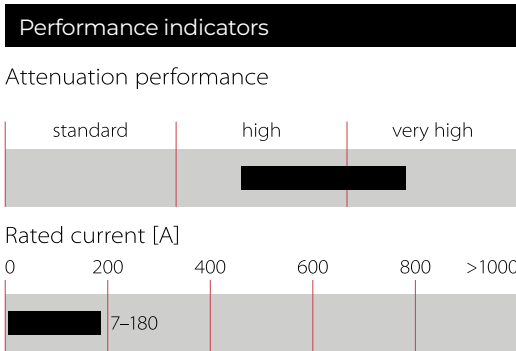
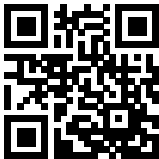


EMC/EMI Filter for Installations with Residual Current Device (RCD)



- Full functionality with RCDs according to IEC 61008 and new VDE 0664-110*
- Compatible with 30 mA RCDs up to 30 m motor cable for electric shock protection according to IEC 61008
- Compatible with 300 mA RCDs up to 100 m motor cable for fire protection according to IEC 60364-4-42 (VDE 0100-482)



Technical Specifications

Maximum continuous operating voltage	3x 520/300 VAC
Operating frequency	DC to 60 Hz
Rated currents	7 to 180 A
High potential test voltage	P → E 2750 VDC for 2 sec P → P 2250 VDC for 2 sec
Protection category	IP 20
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 94 V-2 or better
Design corresponding to	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
MTBF @ 50°C/400 V (Mil-HB-217F)	>300,000 hours

* If supply voltage is contaminated with harmonics according to IEC 61000-2-4, class 2, where odd-numbered multiplies of three are limited to 30%.

** Filter types 7 A up to 42 A: C1, 30 m, 30 mA; 55 A: C2, 30 m, 30 mA; 75 A up to 180 A: C2, 100 m, 300 mA

Approvals & Compliances



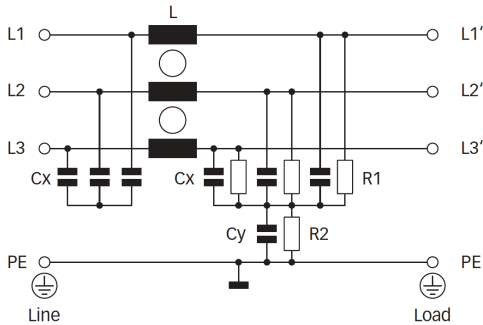
Features and Benefits

- Innovative low-leakage current filter with same smallest dimensions as FN 3258
- Significant reduction of leakage and ground currents caused by long motor cables
- Prevents unwanted fault shut-downs from RCDs in machines and process automation equipment
- Patented filter design avoiding early saturation and ringing effects
- Excellent attenuation compliant with: C1 limits EN 61800-3 with 30 meter motor cable and 30 mA RCD (electric shock protection)**
- C2 limits EN 61800-3 with 100 meter motor cable and 300 mA RCD (fire protection)


Typical Applications

- Three-phase variable speed drives (VSD), servo drives, and inverters
- Machinery and process automation equipment
- Building automation, HVAC equipment, pumps, ventilation, and elevators
- Conveyors, handling and storage systems, and cranes
- Machine tools, wood working machines, and printing machines

Typical electrical schematic



Filter Selection Table

Filter	Rated current @ 50°C (40°C)	Typical drive power rating*	Leakage current @ 520 VAC/50 Hz	Power loss @ 25°C/50 Hz	Input/Output connections	Weight
	[A]	[kW]	[mA]**	[W]		[kg]
FN 3268-7-44	7 (7.7)	4	2.5	4.5	-44	0.5
FN 3268-16-44	16 (17.5)	7.5	2.6	6.1	-44	0.8
FN 3268-30-33	30 (32.9)	18.5	2.6	13.5	-33	1.2
FN 3268-42-33	42 (46.0)	22	2.6	17.4	-33	1.4
FN 3268-55-34	55 (60.2)	37	2.6	18.1	-34	2.2
FN 3268-75-34	75 (82.2)	45	10.8	25.3	-34	2.9
FN 3268-100-35	100 (109.5)	55	9.6	30.0	-35	4.1
FN 3268-130-35	130 (142.4)	75	14.2	38.0	-35	4.6
FN 3268-180-40	180 (197.1)	110	17.4	48.6	-40	6.0

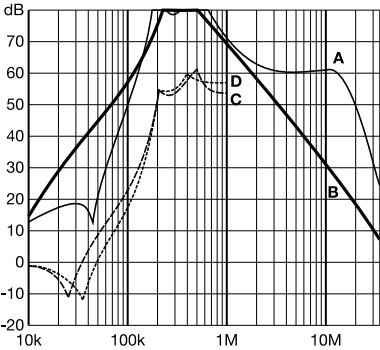
* Calculated at rated current, 440 VAC and cos phi=0.8. The exact value depends upon the efficiency of the drive, the motor and the entire application.

** Standardized calculated leakage current acc. IEC60939 under normal operating conditions.

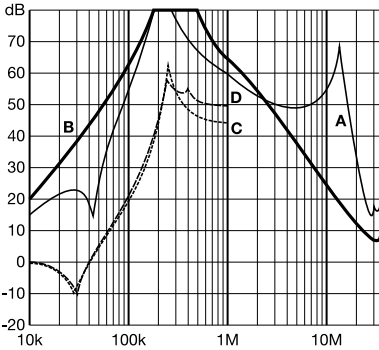
Typical Filter Attenuation

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

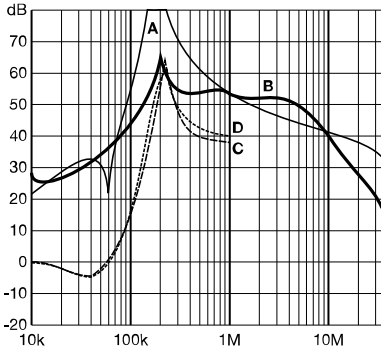
7 to 42 A types



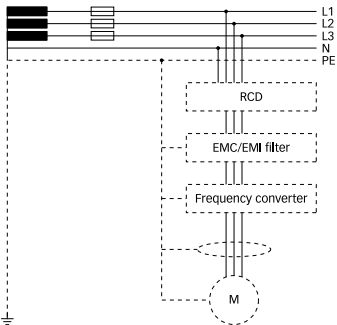
55 to 100 A types



130 and 180 A types



Installation



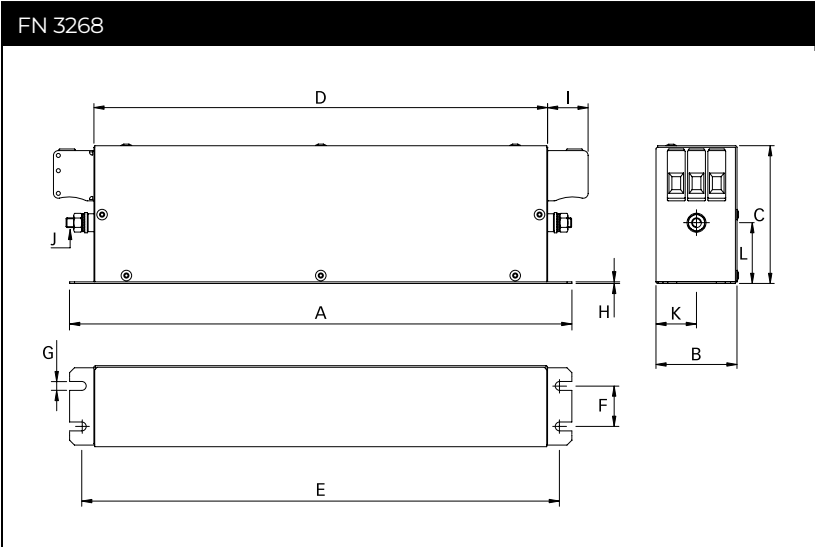
Typical installation with RCD, EMC/EMI filter and motor drive system

- RCD
- Please note that for electrical devices with 6-pulse rectifiers at line input, like three-phase motor drives, a RCD type B or B+ is required. RCD with time delay are needed to prevent unwanted fault trip at switch on or voltage spikes. These RCD types B with time delay have often an added letter “S” or “K”, please ask the supplier for correct type. Caution: Please validate system with chosen RCD to guarantee functionality.

- EMC/EMI filter FN 3268
- Filter types from 7 to 55 A are designed to be compatible with 30 mA RCDs according to IEC 61008 and new VDE 0664-110 standards. Filters from 75 up to 180 A are designed to be compatible with 300 mA RCDs. Install the filter as close as possible at line side of the motor drive. Regarding correct EMC installation, please refer to the EMC installation guide in the manual from motor drive supplier.
- Motor drive
- Please set the PWM pulse pattern of the variable speed motor drive fixed to 4 kHz. Other pulse patterns cause higher leakage currents. Filter designs with other pulse pattern than 4 kHz are possible upon request.

- Motor cable length
- Motor cable length should not exceed 30 meters for 7 up to 55 A filter types to fulfill class C1 of recommended standard EN 61800-3. For 75 up to 180 A filters, cable length should not exceed 100 meters to fulfill class C2.
- Internal EMC/EMI components
- Please disconnect all internal Y-capacitors (internal EMC/EMI filters) in the motor drive, because these capacitors cause additional leakage currents.
- Harmonics on line voltage
- High voltage harmonics can create additional system leakage currents. FN 3268 filters are tested under following conditions: Supply voltage is contaminated with harmonics according to IEC 61000-2-4, class 2, where odd-numbered multiplies of three are limited to 30%.

Mechanical Data



Note: in favour of a better readability, connectors and earth studs are not shown in the horizontal projection.

Dimensions

	7 A	16 A	30 A	42 A	55 A	75 A	100 A	130 A	180 A
A	190	250	270	310	250	270	270	270	380
B	40	45	50	50	85	80	90	90	120
C	70	70	85	85	90	135	150	150	170
D	160	220	240	280	220	240	240	240	350
E	180	235	255	295	235	255	255	255	365
F	20	25	30	30	60	60	65	65	102
G	4.5	5.4	5.4	5.4	5.4	6.5	6.5	6.5	6.5
H	1	1	1	1	1	1.5	1.5	1.5	1.5
I	22	22	25	25	39	39	45	45	51
J	M5	M5	M5	M6	M6	M6	M10	M10	M10
K	20	22.5	25	25	42.5	40	45	45	60
L2	29.5	29.5	39.5	37.5	26.5	70.5	64	64	47

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	-40	-44
Solid wire	16 mm ²	35 mm ²	50 mm ²	95 mm ²	10 mm ²
Flex wire	10 mm ²	25 mm ²	50 mm ²	95 mm ²	6 mm ²
AWG type wire	AWG 6	AWG 2	AWG 1/0	AWG 4/0	AWG 8
Recommended torque	1.5-1.8 Nm	4.0-4.5 Nm	7-8 Nm	17-20 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 Holding AG
Industrie Nord
Nordstrasse 11e
4542
Luterbach
+41 32 681 66 26
info@schaffner.com

To find your local partner within Schaffner's global network [schaffner.com](https://www.schaffner.com)

© 2022 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.

Sales and Application Centers

China
Schaffner EMC Ltd. Shanghai
T20-3 C, No 565 Chuangye Road, Pudong district
201201
Shanghai
+86 2138139500
cschina@schaffner.com

Finland
Schaffner Oy
Sauvonrinne 19 H
8500
Lohja
+358 50 468 7284
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
Schoemperlenstrasse 12B
76185
Karlsruhe
+49 721 56910
germanysales@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

Italy
Schaffner EMC S.r.l.
Via Ticino, 30
20900
Monza (MB)
+39 039 21 41 070
italysales@schaffner.com

Japan
Schaffner EMC K.K.
ISM Sangenjaya 7F
1-32-12 Kamiuma, 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

Spain
Schaffner EMC España
Calle Caléndula 93, Miniparc III, Edificio E El Soto de Moraleja, Alcobendas
28109
Madrid
+34 917 912 900
spainsales@schaffner.com

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

Switzerland
Schaffner EMV AG
Industrie Nord
Nordstrasse 11e
4542
Luterbach
+41 32 681 66 26
switzerlandsales@schaffner.com

Taiwan
Schaffner EMV Ltd.
U-Town
20 Floor-2, No 97, Section 1, XinTai 5th Road, XiZhi District
22175
New Taipei City
+886 226975500
taiwansales@schaffner.com

Thailand
Schaffner EMC Co. Ltd.
Sathorn Square Tower
Room 3780, 37FL, 98 North-Sathorn Rd, Silom, Bangrak
10500
Bangkok
+66 621056397
thailandsales@schaffner.com

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

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