

Discontinued Legacy Product
Datasheet for information purposes only

High-power



- Rated currents from 10 to 36 A
- Excellent differential and common-mode attenuation

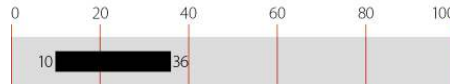


Performance indicators

Attenuation performance



Rated current [A]



Approvals



Features and benefits

- FN 685 filters are designed for easy and fast chassis mounting
- FN 685 two-stage filters provide an excellent high differential and common-mode attenuation performance, based on chokes with high saturation resistance and very good thermal behavior
- FN 685 two-stage filters are designed for very high noise suppression over a broad frequency range
- Faston terminal connection with additional spade solder possibility or screw mounting connection
- Custom-specific versions on request

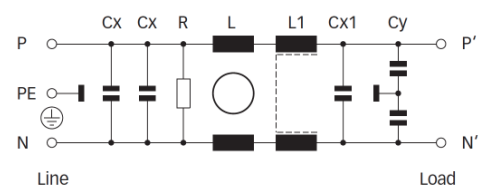
Technical specifications

| | |
|--|--|
| Maximum continuous operating voltage | 250 VAC, 50/60 Hz |
| Operating frequency | dc to 400 Hz |
| Rated currents | 10 to 36 A @ 40 °C max. |
| High potential test voltage | P → PE 2000 VAC for 2 sec P → N 760 VAC for 2 sec |
| 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 @ 40°C/230V (Mil-HB-217F) | 400,000 hours |




Typical applications

- Electrical and electronic equipment
- Consumer goods
- Power supplies
- Building automation
- Elevators and cranes
- Office automation equipment
- Datacom equipment

Typical electrical schematic



Filter selection table

| Filter* | Rated current @ 40 °C (25 °C) [A] | Leakage current** @ 230 VAC/50 Hz [μA] | Inductance | | Capacitance | | | Resistance R [kΩ] | Input/Output connections | | | Weight [kg] |
|---------------------|---|--|------------|------------|-------------|-------------|------------|-------------------------|---|---|---|----------------|
| | | | L [mH] | L1 [mH] | Cx [nF] | Cx1 [nF] | Cy [nF] | |  |  |  | |
| FN 685-10-.. | 10 (12) | 410 | 4.2 | 0.04 | 470 | 220 | 4.7 | 330 | -03 | -06 | | 1.2 |
| FN 685-16-.. | 16 (19.2) | 410 | 2.3 | 0.04 | 470 | 220 | 4.7 | 330 | -03 | -06 | | 1.35 |
| FN 686-25-23 | 25 (30) | 1900 | 1.35 | 0.04 | 470 | 220 | 22 | 330 | | | -23 | 2.35 |
| FN 686-36-23 | 36 (43.2) | 1900 | 0.8 | 0.03 | 470 | 220 | 22 | 330 | | | -23 | 2.85 |

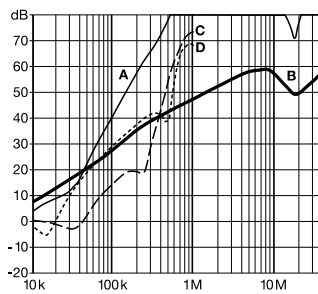
* To compile a complete part number, please replace the .. with the required I/O connection style (e.g. FN 685-10-03, FN 685-16-06).

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

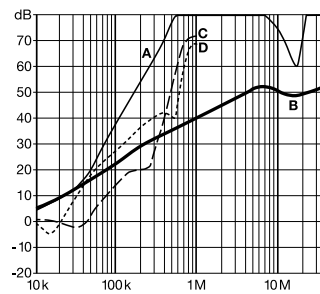
Typical filter attenuation

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

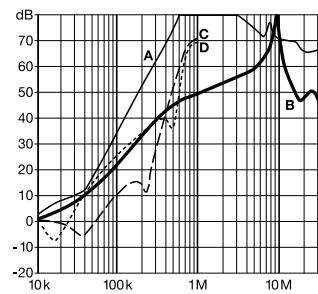
10 A types



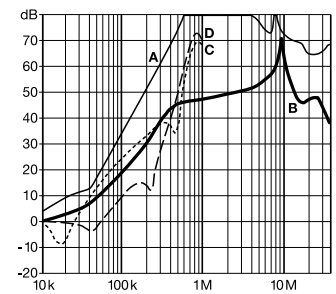
16 A types



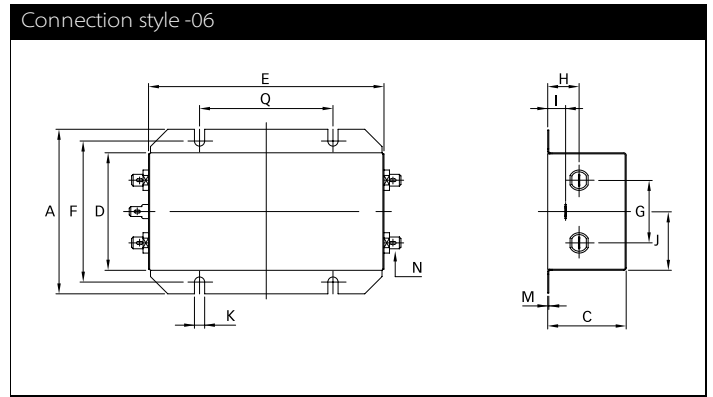
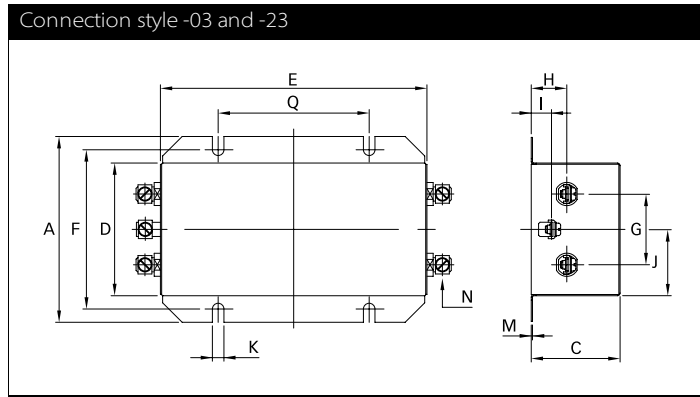
25 A types



36 A types



Mechanical data



Dimensions

| | 10 A | 16 A | 25 A | 36 A | Tolerances |
|-----------------------------|-----------|-----------|----------|----------|------------|
| A | 105 | 105 | 129 ±1 | 129 ±1 | ±0.5 |
| C | 50 | 50 | 60 | 60 | ±0.5 |
| D | 75 | 75 | 100 | 100 | ±0.5 |
| E | 150 | 150 | 170.6 | 170.6 | ±0.5 |
| F | 90 | 90 | 113 ±0.2 | 113 ±0.2 | ±0.5 |
| G | 40 | 40 | 50 | 50 | ±0.5 |
| H | 20 | 20 | 24 | 24 | ±0.5 |
| I | 11 | 11 | 15 | 15 | ±0.5 |
| J | 37.5 | 37.5 | 50 | 50 | ±0.5 |
| K | 6.5 | 6.5 | 6.5 | 6.5 | |
| M | 0.7 | 0.7 | 0.7 | 0.7 | |
| N | 6.3 x 0.8 | 6.3 x 0.8 | | | |
| Connection style -03 | | | | | |
| N | M4 | M4 | | | |
| Q | 85 | 85 | | | ±0.1 |
| Connection style -23 | | | | | |
| N | | | M5 | M5 | |
| Q | | | 115 | 115 | ±0.2 |

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



Headquarters, global innovation and development center

Switzerland

Schaffner Group

Nordstrasse 11
4542 Luterbach
T +41 32 6816 626
F +41 32 6816 630
info@schaffner.com
<http://www.schaffner.com>



Sales and application centers

China

Schaffner EMC Ltd. Shanghai

T20-3, No 565 Chuangye Road
Pudong New Area
201201 Shanghai
T +86 21 3813 9500
F +86 21 3813 9501 / 02
cschina@schaffner.com
<http://www.schaffner.com.cn/>

Finland

Schaffner Oy

Sauvonrinne 19 H
08500 Lohja
T +358 19 35 72 71
finlandsales@schaffner.com

France

Schaffner EMC S.A.S.

112, Quai de Bezons
Boîte postale 133
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.

1-32-12, Kamiyama, Setagaya-ku
7F Mitsui-seimei Sangenjaya Bldg.
154-0011 Tokyo
T +81 3 5712 3650
F +81 3 5712 3651
japansales@schaffner.com
<http://www.schaffner.jp>

Singapore

Schaffner EMC Pte Ltd.

Blk 3015A Ubi Road 1
05-09 Kampong Ubi Industrial Estate
408705 Singapore
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 6816 626
F +41 32 6816 641
sales@schaffner.ch

Taiwan R.O.C.

Schaffner EMV Ltd.

6 Floor, No. 413
Rui Guang Road
114 Neihu District Taipei City
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
51000 Lamphun
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
RG41 2PL Berkshire
T +44 118 9770070
F +44 118 9792969
uksales@schaffner.com
<http://www.schaffner.uk.com>

USA

Schaffner EMC Inc.

52 Mayfield Avenue
08837 Edison, New Jersey
T +1 800 367 5566
T +1 732 225 9533
F +1 732 225 4789
usasales@schaffner.com
<http://www.schaffner.com/us>

Schaffner MTC LLC

6722 Thirlane Road
24019 Roanoke, Virginia
T +1 276 228 7943
F +1 276 228 7953
<http://www.schaffner-mtc.com>

Schaffner Trencos LLC

2550 Brookpark Road
44134 Cleveland, Ohio
T +1 216 741 5282
F +1 216 741 4860
www.schaffner-trencos.com

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

© 2014 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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Schaffner:

[FN685-10-03](#) [FN685-10-06](#) [FN685-16-03](#) [FN685-16-06](#) [FN686-25-23](#) [FN686-36-23](#)