Low Cost PCB Filter

- Rated currents from 0.5 to 6.5 A
- Compact PCB-mountable design
- Very low profile
- Optional medical versions (B type)

Performance indicators

<table>
<thead>
<tr>
<th>Attenuation performance</th>
<th>Standard</th>
<th>High</th>
<th>Very High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated current [A]</td>
<td>0</td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

Technical specifications

- **Maximum continuous operating voltage**: 250 VAC, 50/60 Hz
- **Operating frequency**: DC to 400 Hz
- **Rated currents**: 0.5 to 6.5 A @ 40°C max
- **High potential test voltage**
  - P → PE: 2000 VAC for 2 sec (standard types)
  - P → N: 760 VAC for 2 sec
  - P → PE: 2500 VAC for 2 sec (B types)
- **Temperature range (operation and storage)**: -25°C to +100°C (25/100/21)
- **Design corresponding to**: UL 1283, CSA 22.2 No. 8 1996, IEC/EN 60939
- **Flammability corresponding to**: UL 94 V-0 or better
- **MTBF @ 40°C/230 V (Mil-HB-217F)**: 1,900,000 hours

Features and benefits

- Good conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- PCB through hole mounting
- Low cost low profile
- Custom specific versions on request

Approvals & Compliances

- UL®, CSA®, IEC, ROHS

The FN 402 PCB filter is a single-phase filter designed for easy and fast PCB-mounting. Choosing the FN 402 product line brings you the rapid availability of a standard filter associated with the necessary safety acceptance. Standard PCB single-phase filters are a practical solution helping you to pass EMI system approval in a short time. A selection on amperage ratings and medical types are designed to offer you the desired standard product.

Typical applications

- Electrical and electronic equipment
- Small to medium-sized machines and household equipment
- Single-phase power supplies, switch-mode power supplies
- Test and measurement equipment
- Medical equipment

Typical electrical schematic

```
Cx  2xL  R  2xCy
P   PE
N   N'
Line  Load
```
## Filter selection table

<table>
<thead>
<tr>
<th>Filter</th>
<th>Rated current @ 40°C (25°C)</th>
<th>Leakage current* @ 230 VAC/50 Hz</th>
<th>Inductance**</th>
<th>Capacitance**</th>
<th>Resistance**</th>
<th>Input/Output connections</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[A]</td>
<td>[µA]</td>
<td>[mH]</td>
<td>[nF]</td>
<td>[nF]</td>
<td>[kΩ]</td>
<td>[g]</td>
</tr>
<tr>
<td>FN 402-0.5-02</td>
<td>0.5 (0.6)</td>
<td>373</td>
<td>40</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
</tr>
<tr>
<td>FN 402-1-02</td>
<td>1 (1.2)</td>
<td>373</td>
<td>10</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
</tr>
<tr>
<td>FN 402-1.6-02</td>
<td>1.6 (1.9)</td>
<td>373</td>
<td>6</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
</tr>
<tr>
<td>FN 402-2.5-02</td>
<td>2.5 (3)</td>
<td>373</td>
<td>2</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
</tr>
<tr>
<td>FN 402-4-02</td>
<td>4 (4.7)</td>
<td>373</td>
<td>1</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
</tr>
<tr>
<td>FN 402-6.5-02</td>
<td>6.5 (7.5)</td>
<td>373</td>
<td>1</td>
<td>100</td>
<td>2.2</td>
<td>1000</td>
<td>-02</td>
</tr>
<tr>
<td>FN 402 B-0.5-02</td>
<td>0.5 (0.6)</td>
<td>2</td>
<td>40</td>
<td>100</td>
<td>1000</td>
<td>-02</td>
<td>40</td>
</tr>
<tr>
<td>FN 402 B-1-02</td>
<td>1 (1.2)</td>
<td>2</td>
<td>100</td>
<td>1000</td>
<td>-02</td>
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<td>40</td>
</tr>
<tr>
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<td>2.5 (3)</td>
<td>2</td>
<td>2</td>
<td>100</td>
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<td>100</td>
<td>1000</td>
<td>-02</td>
<td>40</td>
</tr>
</tbody>
</table>

* Maximum leakage under normal operating conditions. Note: if the neutral line is interrupted, worst case leakage could reach twice this level.
** Tolerances apply: Inductance: -30/+50%, Capacitance: ±20%, Resistance: ±10%

### Product selector

**FN 402x-yy...**

- **02**: PCB through hole mounting
- **Blank**: Standard version
- **B**: Medical version (without Y2-capacitor)

For example: FN 402-0.5-02, FN 402 B-6.5-02
0.5 to 1.6 A types

2.5 to 6.5 A types

Mechanical data

**FN 402**

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

**FN 402 B**

All dimensions in mm; 1 inch = 25.4 mm
Tolerances according: ISO 2768-m/EN 22768-m
Headquarters, global innovation and development

Switzerland
Schaffner Group
Industrie Nord
Nordstrasse 11e
4542 Luterbach
T +41 32 681 66 26
info@schaffner.com

Sales and application centers

China
Schaffner EMC Ltd. Shanghai
T20-3 C, No 565 Chuangye Road, Pudong district
201201 Shanghai
T +86 21 3813 9500
csschina@schaffner.com
www.schaffner.com.cn

Finland
Schaffner Oy
Sauvonrinne 19 H
08500 Lohja
T +358 50 468 7284
finlandsales@schaffner.com

France
Schaffner EMC S.A.S.
16-20 Rue Louis Rameau
95875 Bezons
T +33 1 34 34 30 60
f +33 1 39 47 02 28
francesales@schaffner.com

Germany
Schaffner Deutschland GmbH
Schoemperlenstrasse 128
76185 Karlsruhe
T +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/F, Dr. Rajkumar Road Malledwaram (W)
560055 Bangalore
T +91 80 67935355
indiasales@schaffner.com

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

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

Singapore
Schaffner EMC Pte Ltd.
#05-09, Kq Ubi Ind. Estate
408705 Singapore
T +65 6377 3283
F +65 6377 3281
singaporesales@schaffner.com

Spain
Schaffner EMC España
Calle Calendula 93, Miniparc III, Edificio E
El Soto de Moraleja, Alcobendas
28109 Madrid
T +34 917 912 900
F +34 917 912 901
spanisales@schaffner.com

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

Switzerland
Schaffner EMV AG
Industrie Nord
Nordstrasse 11e
4542 Luterbach
T +41 32 681 66 88
T +41 32 681 66 26
switzerlandsales@schaffner.com

Taiwan
Schaffner EMV Ltd.
20 Floor-2, No 97, Section 1, XinTai 5th Road
22175 Xizhi District New Taipei City 22175
T +886 2 2697 5500
F +886 2 2697 5533
taiwansales@schaffner.com
www.schaffner.com.tw

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

United Kingdom
Schaffner Ltd.
1, Oakmede Place
Binfield
RG42 4JF Berkshire
T +44 118 9770070
F +44 118 9792969
uksales@schaffner.com

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

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