

# Versatile Medical Class II EMC/EMI Filter



- Medical filter suitable for compliance with Protection Class II (ME) according IEC 60601-1
- Fulfills the requirement for two MOPP (means of patient protection), compliant with IEC/EN 60601-1
- No leakage current to earth
- Rated currents up to 15 A
- Excellent performance/size ratio
- Front mount, rear mount and snap-in versions (B, MB and S1B type)
- Plastic enclosure for higher dielectric strength insulation
- Fast-on terminals or wire leads
- V-lock compatible



### Performance indicators

Attenuation performance



Rated current [A]



### Approvals & Compliances



The FN9274 IEC inlet filter is suitable for compliance with Class II ME equipment. It incorporates an EMC filter into a C18 IEC inlet that offers excellent filter attenuation in a compact housing.

The filter is available with two connection variants on the load side. The cable version is touch-safe by default. The pins of the fast-on version are recessed in the plastic housing. In combination with insulated crimp connectors Class II compliance can be achieved for Fast-on version.

The requirements for Two MOPP in IEC 60601-1:2005 + A1 regarding Leakage Currents, Insulation and Air Clearance and Creepage Distances and Ball Pressure test are fulfilled.

### Features and benefits

- Suitable for class II Medical Equipment (ME)
- Fulfills the requirements for Two MOPP in IEC 60601-1 - Medical electrical equipment
- Fulfills the requirements in IEC/EN 62368-1 - Audio/video, information and communication technology equipment
- Fulfills the requirements in IEC/EN 60950-1 - Information technology equipment
- Fulfills the requirements in IEC/EN 60335-1 - Household and similar electrical appliances
- Fulfills the requirements for Reinforced Insulation in IEC 61010-1 - Safety requirements
- All versions certified according UL/IEC 60939-3, C22.2 No. 8, CQC/CCC GB/T15287 and GB/T15288

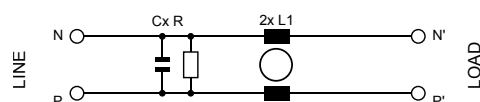
### Technical specifications

<b>Maximum continuous operating voltage</b>	250 VAC, 50/60 Hz
<b>Rated currents</b>	1 to 15 A @ 40°C max.
<b>Operating frequency</b>	DC to 400 Hz
<b>High potential test voltage</b>	P → N 760 VAC for 2 s P/N → Ext. insulation 4 kVAC for 60 s acc. IEC 60601-1
<b>Temperature range (operation and storage)</b>	-40°C to +100°C (40/100/21)
<b>Design corresponding to</b>	up to 15A: UL 60939-3, CSA Std C22.1 No. 8-13 up to 10A: IEC/EN 60939-3, GB/T15287, GB/T15288
<b>Protection category</b>	IP 40 according to IEC 60529 (front side, with inserted plug)
<b>Overvoltage category</b>	II acc. IEC 60664-1
<b>Pollution degree</b>	2 acc. IEC 60664-1
<b>Vibration and shock</b>	3M4 acc. IEC 60721-3-3
<b>MTBF @ Rated amb. Temp./Voltage (Mil-HB-217F)</b>	> 1,000,000 hours
<b>Flammability corresponding to</b>	Plastic Material: UL 94 V-0 Laces for -07 version: UL 94 VW-1



### Typical applications

- General medical devices (MDD)
- In-vitro diagnostic medical devices (IVDD)
- Test and measurement equipment
- Portable electrical and electronic equipment
- Single-phase power supplies, switch-mode power supplies (SMPS)
- Audio / video / communication equipment (IEC/UL 62368-1)

### Electrical schematic



### Filter selection table

Filter	Rated current	Leakage current	Inductance	Capacitance	Resistor	Input connections	Output connections		Weight
	@ 40°C							*	
	[A]	[mA]	[mH]	[μF]	[MΩ]				[g]
FN9274XXB-1-ZZ	1	0.0	41.1	0.22	1	C18	-05	-07	<40
FN9274XXB-2-ZZ	2	0.0	20.1	0.22	1	C18	-05	-07	<40
FN9274XXB-4-ZZ	4	0.0	7.2	0.22	1	C18	-05	-07	<40
FN9274XXB-6-ZZ	6	0.0	3.2	0.22	1	C18	-05	-07	<40
FN9274XXB-10-ZZ	10	0.0	1.3	0.22	1	C18	-05	-07	<40
FN9274XXB-15-ZZ	15	0.0	0.4	0.22	1	C18	-05	-07	<40

Test conditions: Temperature: 25°C±2°C; measuring frequency for inductance: 1 kHz, 50 mV

Tolerances: Inductance: +50%, -30%; capacitance: ±20%; resistance: ±10%. For mechanical tolerances, please refer to the mechanical data section

\* Standard length is 160 mm

**Product selector**

FN 9274 xx B -yy-zz

- 05: Fast-on 6.3 x 0.8 mm
- 07: Wire leads
- 1 to 15: Rated current
- B: Standard Version for Medical Applications
- Blank: Standard housing with mounting flanges (front mount)
- M: Standard housing with mounting flanges (rear mount)
- S1: Snap-in version, snapper on vertical side

**For example FN 9274 MB-15-05:**

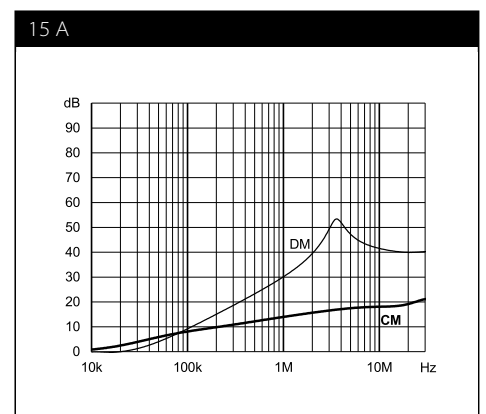
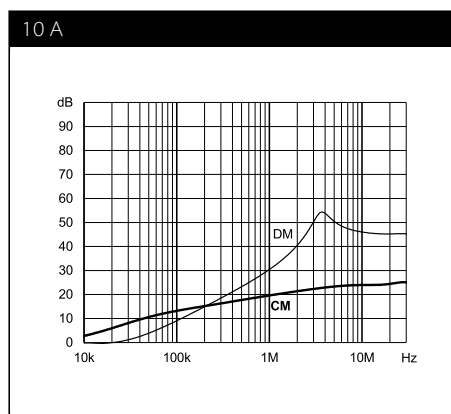
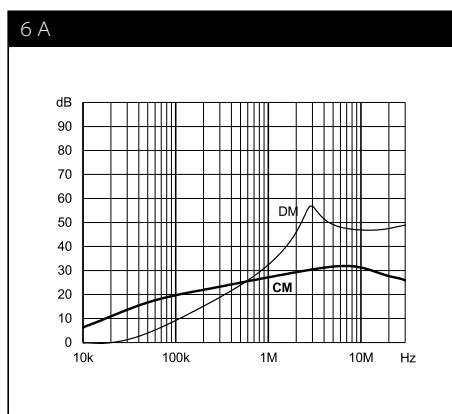
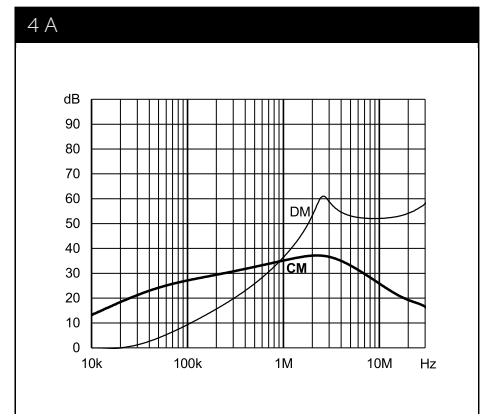
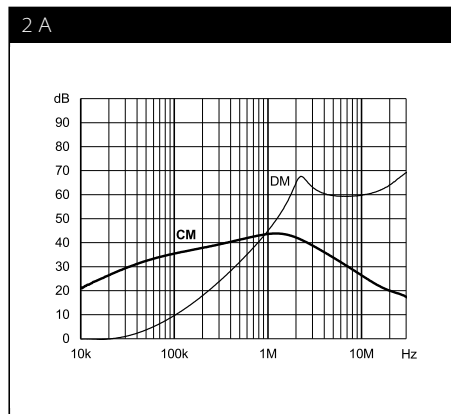
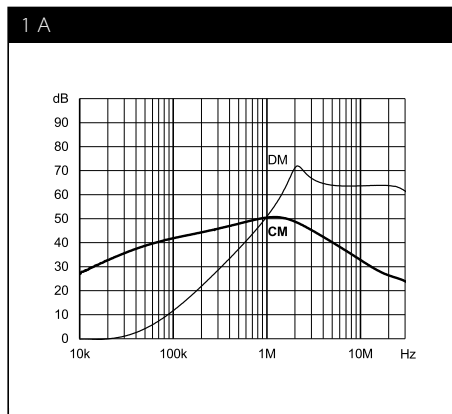
- FN 9274 IEC inlet with
- rear mount flanges (M),
- 15A rated current (15) and
- fast-on terminals (05).

**Design-in recommendation:**

- EMC and functional test with FN9274B-XX-05 (safety stock all currents - front mount, fast-on types)
- Mechanical integration with FN9274XXB-15-ZZ (safety stock for all variants - 15A-types)

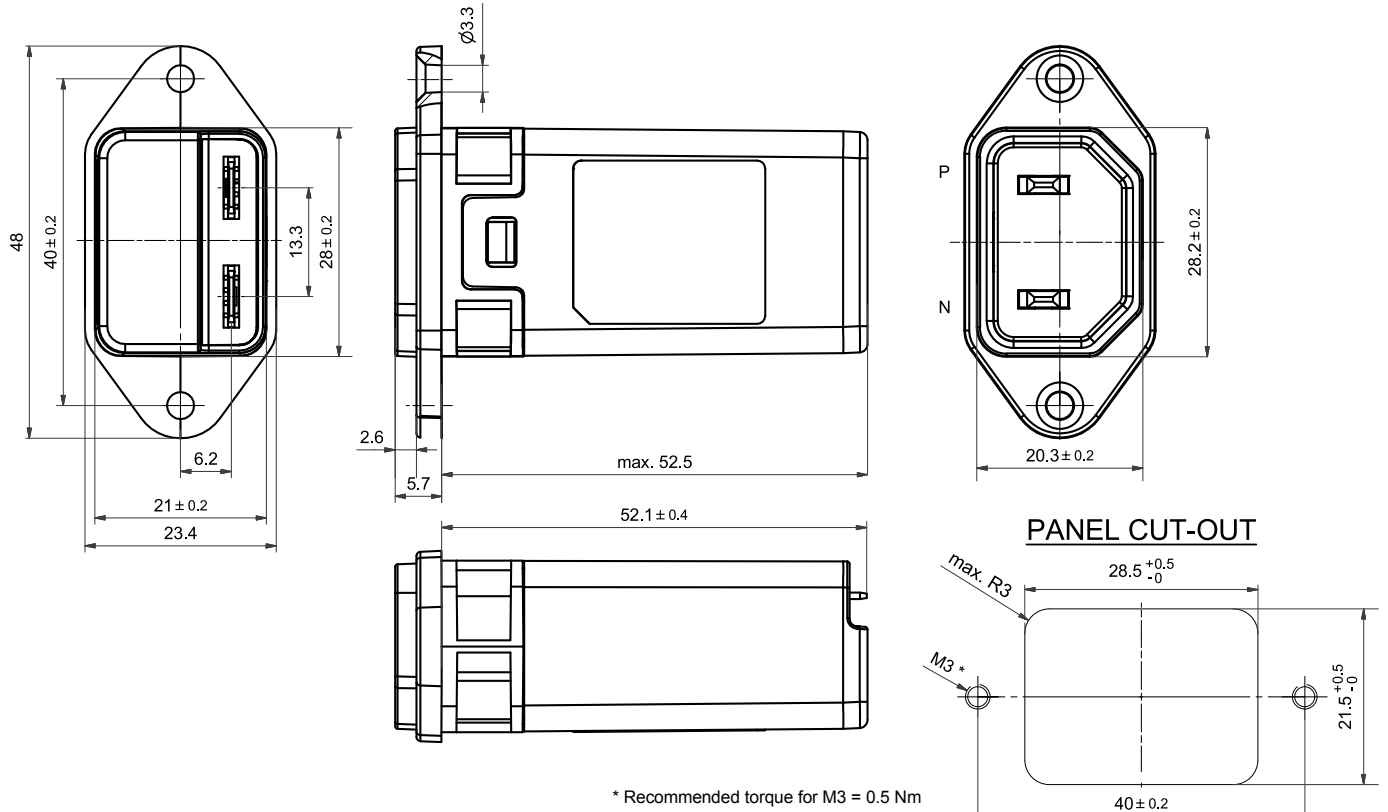
### Typical filter attenuation

Per CISPR 17 / symmetrical 50 Ω/50 Ω - Differential Mode (DM) / asymmetrical 50 Ω/50 Ω - Common Mode (CM)

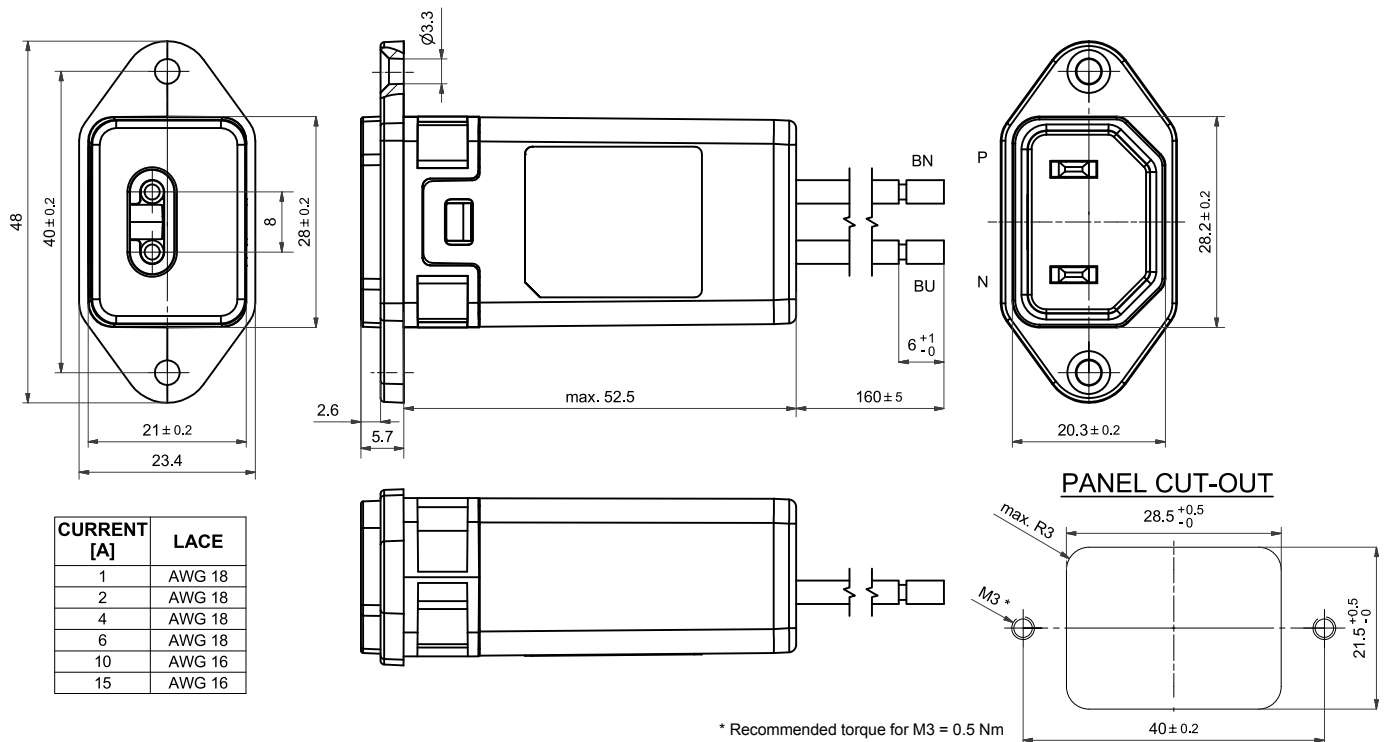


**Mechanical data - front mount**

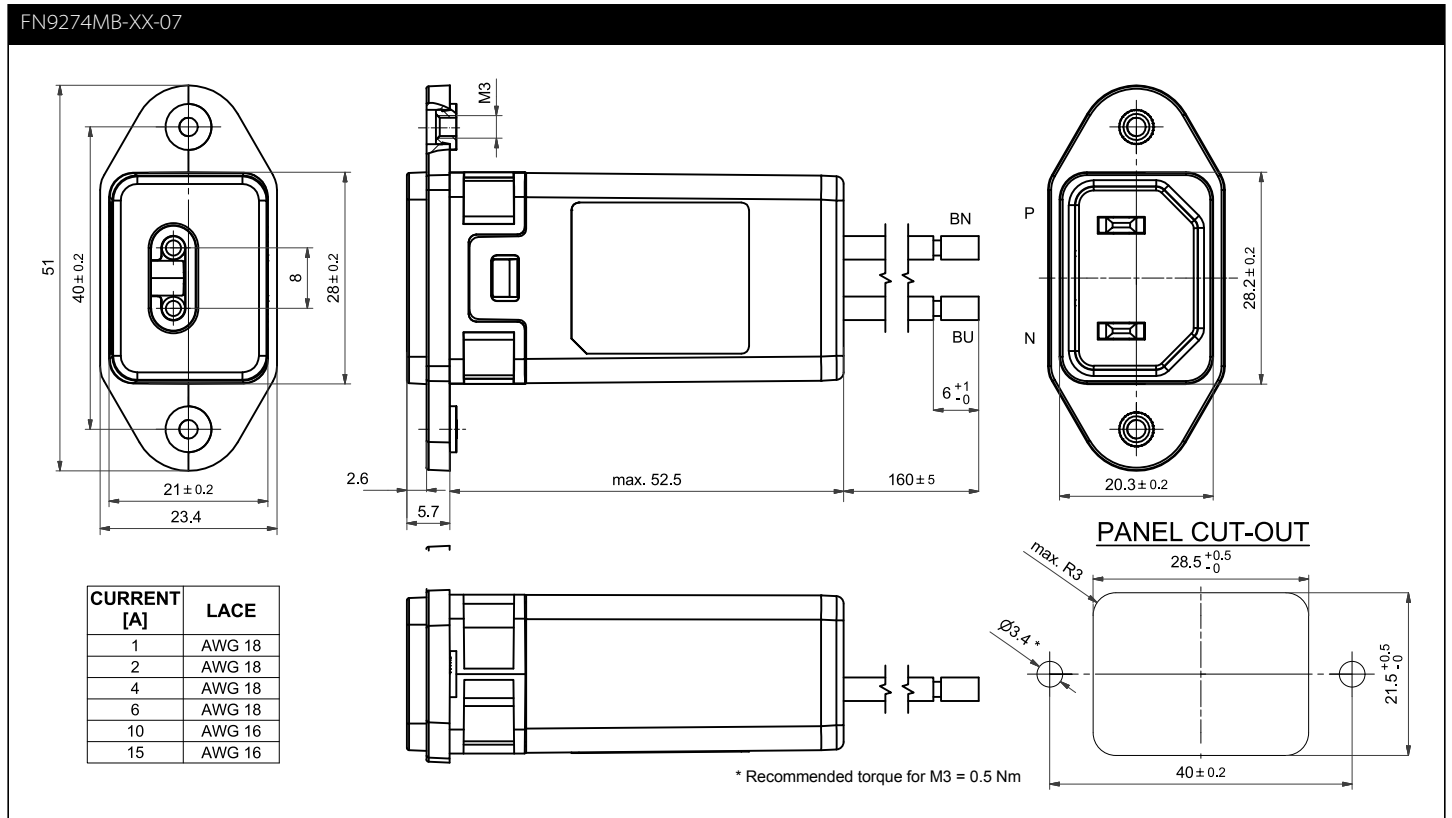
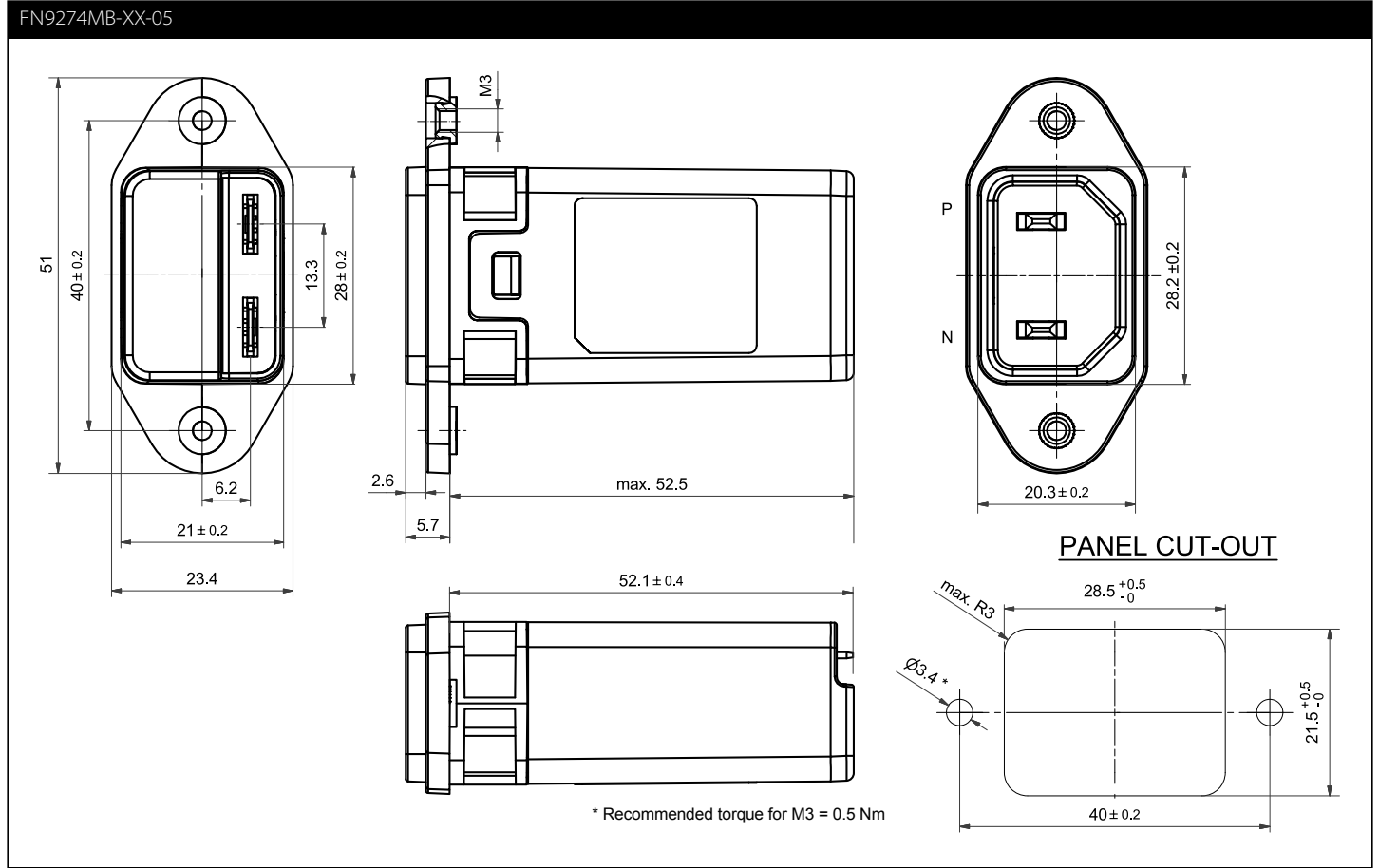
FN9274B-XX-05



FN9274B-XX-07

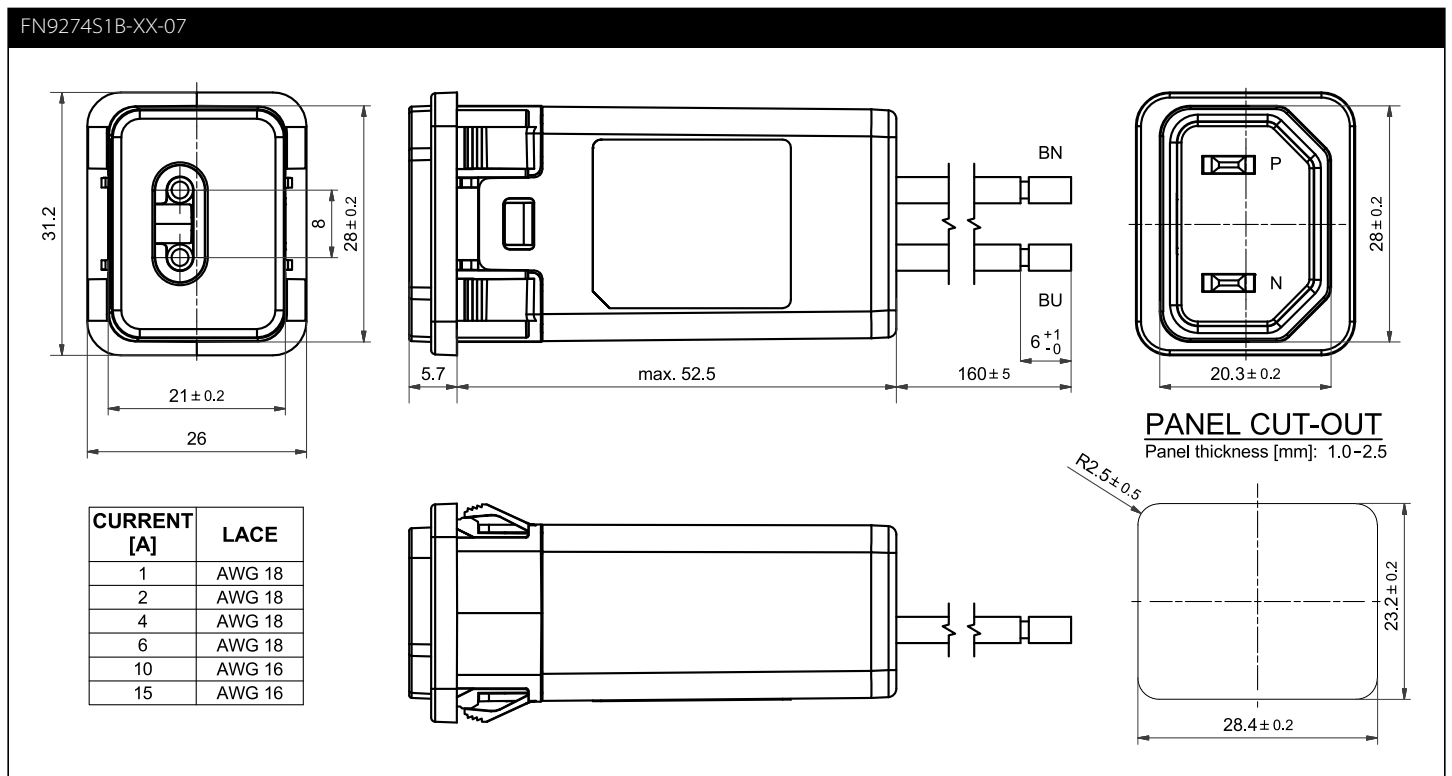
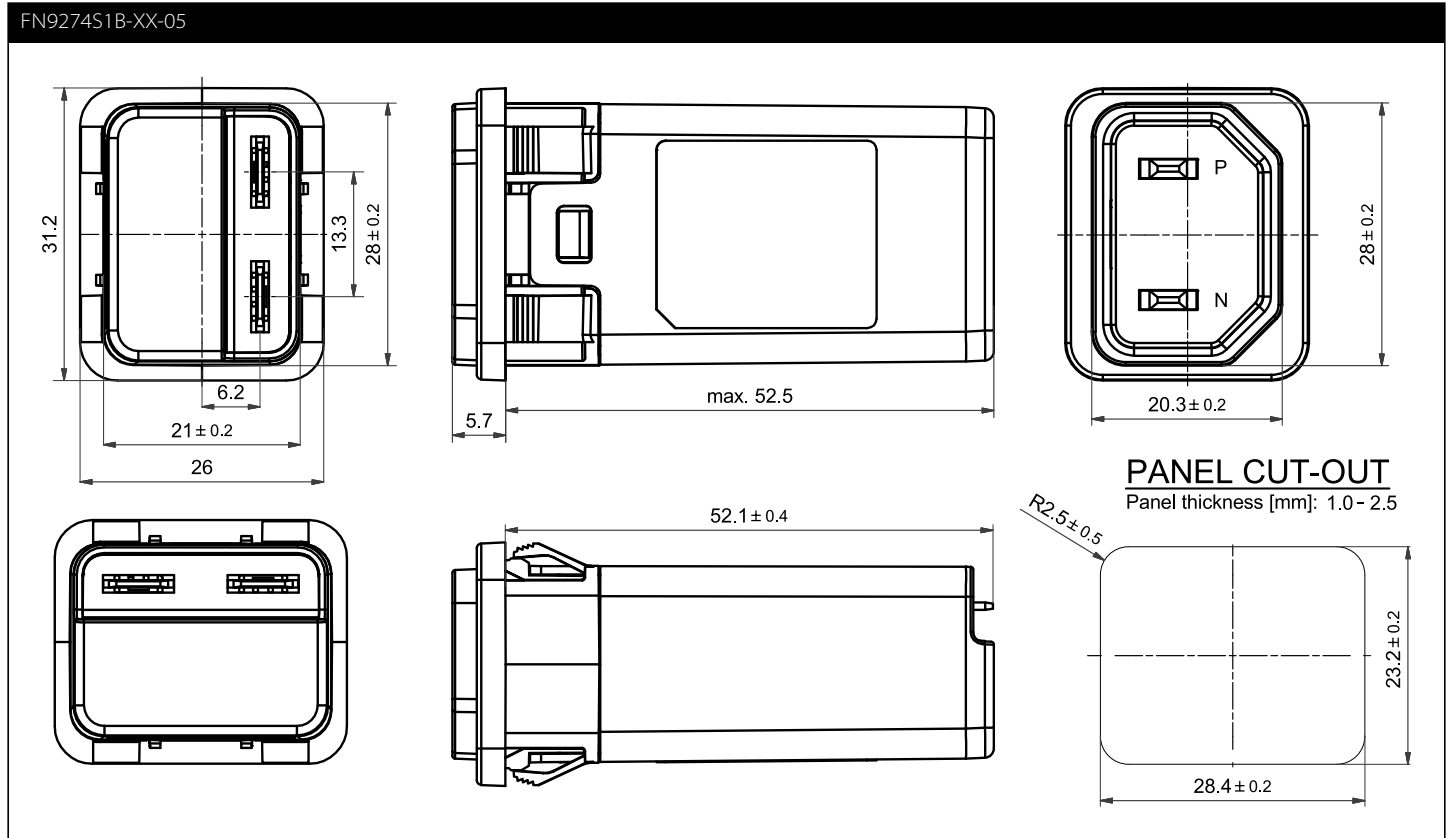


**Mechanical data - rear mount**



For dimensions [mm] without tolerances: ISO 2768-m / EN22768-m applies

**Mechanical data - snap-in**



For dimensions [mm] without tolerances: ISO 2768-m / EN22768-m applies



## Headquarters, global innovation and development

### Switzerland

#### Schaffner Group

Industrie Nord  
Nordstrasse 11e  
4542 Luterbach  
T +41 32 681 66 26  
[info@schaffner.com](mailto: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  
[cschina@schaffner.com](mailto:cschina@schaffner.com)  
[www.schaffner.com.cn](http://www.schaffner.com.cn)

### Finland

#### Schaffner Oy

Sauvonrinne 19 H  
08500 Lohja  
T +358 10 567 2855  
[finlandsales@schaffner.com](mailto: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](mailto:francesales@schaffner.com)

### Germany

#### Schaffner Deutschland GmbH

Schoemperlenstrasse 12B  
76185 Karlsruhe  
T +49 721 56910  
F +49 721 569110  
[germanysales@schaffner.com](mailto: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  
T +91 80 67935355  
[indiasales@schaffner.com](mailto:indiasales@schaffner.com)

### Italy

#### Schaffner EMC S.r.l.

Via Ticino, 30  
20900 Monza (MB)  
T +39 039 21 41 070  
[italysales@schaffner.com](mailto:italysales@schaffner.com)

### Japan

#### Schaffner EMC K.K.

Taiju-Seimei Sangenjaya Bldg.  
1-32-12, Kamiyama, Setagaya-ku  
154-0011 Tokyo  
T +81 3 5712 3650  
F +81 3 5712 3651  
[japansales@schaffner.com](mailto:japansales@schaffner.com)  
[www.schaffner.jp](http://www.schaffner.jp)

### Singapore

#### Schaffner EMC Pte Ltd.

#05-09, Kg Ubi Ind. Estate  
408705 Singapore  
T +65 6377 3283  
F +65 6377 3281  
[singaporesales@schaffner.com](mailto:singaporesales@schaffner.com)

### Spain

#### Schaffner EMC España

Calle Caléndula 93, Miniparc III, Edificio E  
El Soto de Moraleja, Alcobendas  
28109 Madrid  
T +34 917 912 900  
F +34 917 912 901  
[spainsales@schaffner.com](mailto:spainsales@schaffner.com)

### Sweden

#### Schaffner EMC AB

Östermalmstorg 1  
114 42 Stockholm  
T +46 8 5050 2425  
[swedensales@schaffner.com](mailto:swedensales@schaffner.com)  
[www.schaffner.com](http://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](mailto:switzerlandsales@schaffner.com)

### Taiwan R.O.C.

#### 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](mailto:taiwansales@schaffner.com)  
[www.schaffner.com.tw](http://www.schaffner.com.tw)

### Thailand

#### Schaffner EMC Co. Ltd.

Northern Region Industrial Estate  
67 Moo 4 Tambon Ban Klang  
Amphur Muangng P.O. Box 14  
51000 Lamphun  
T +66 53 58 11 04  
F +66 53 58 10 19  
[thailandsales@schaffner.com](mailto: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](mailto: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](mailto:usasales@schaffner.com)  
[www.schaffnerusa.com](http://www.schaffnerusa.com)

#### Schaffner North America

6722 Thirlane Road  
24019 Roanoke, Virginia  
T +1 276 228 7943  
F +1 276 228 7953

#### Schaffner North America

823 Fairview Road  
24382 Wytheville, Virginia  
T +1 276 228 7943  
F +1 276 228 7258

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