

# 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

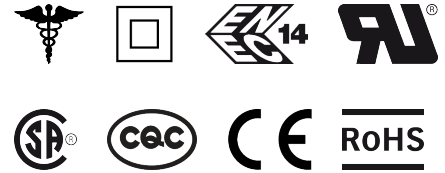
Attenuation performance



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

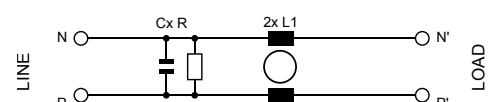
### Technical specifications

<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 @ 40°C  [A]	Leakage current  [mA]	Inductance L1  [mH]	Capacitance Cx  [μF]	Resistor R  [MΩ]	Input connections	Output connections		Weight  [g]
							-05	-07	
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:**

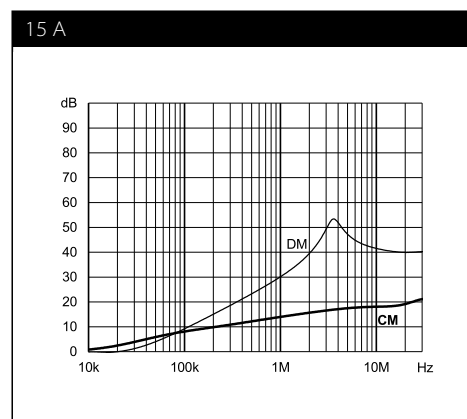
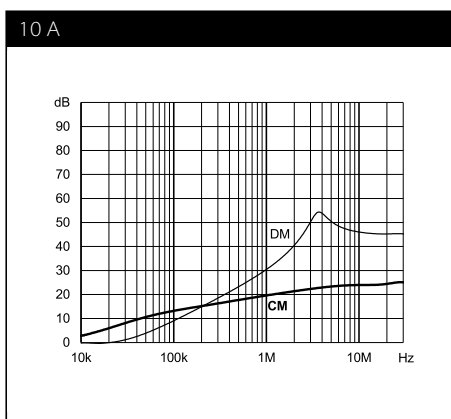
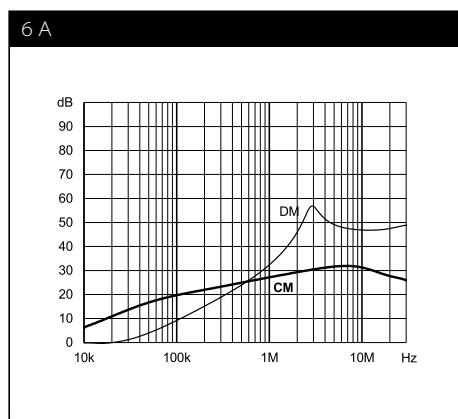
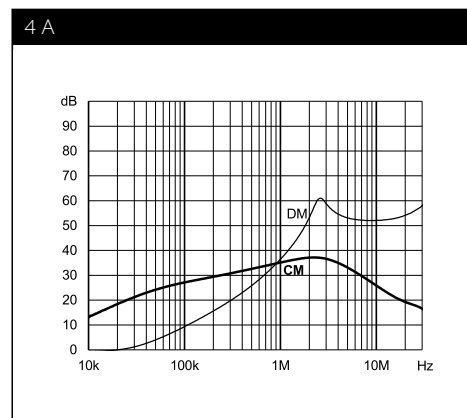
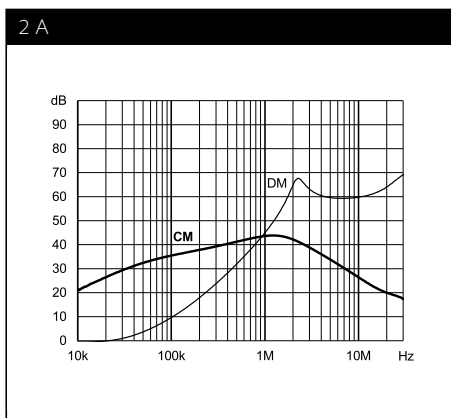
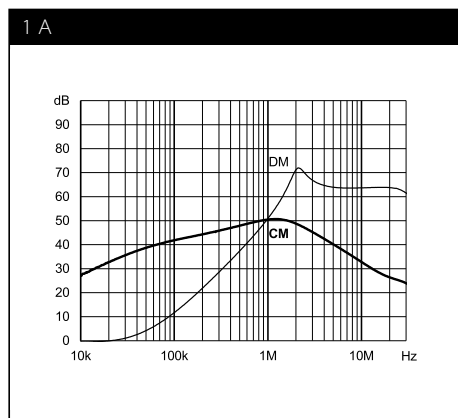
- FN 9274 IEC inlet with
- rear mount flanges (M),
- 15A rated current (15) and
- fast-on terminals (05).

**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)

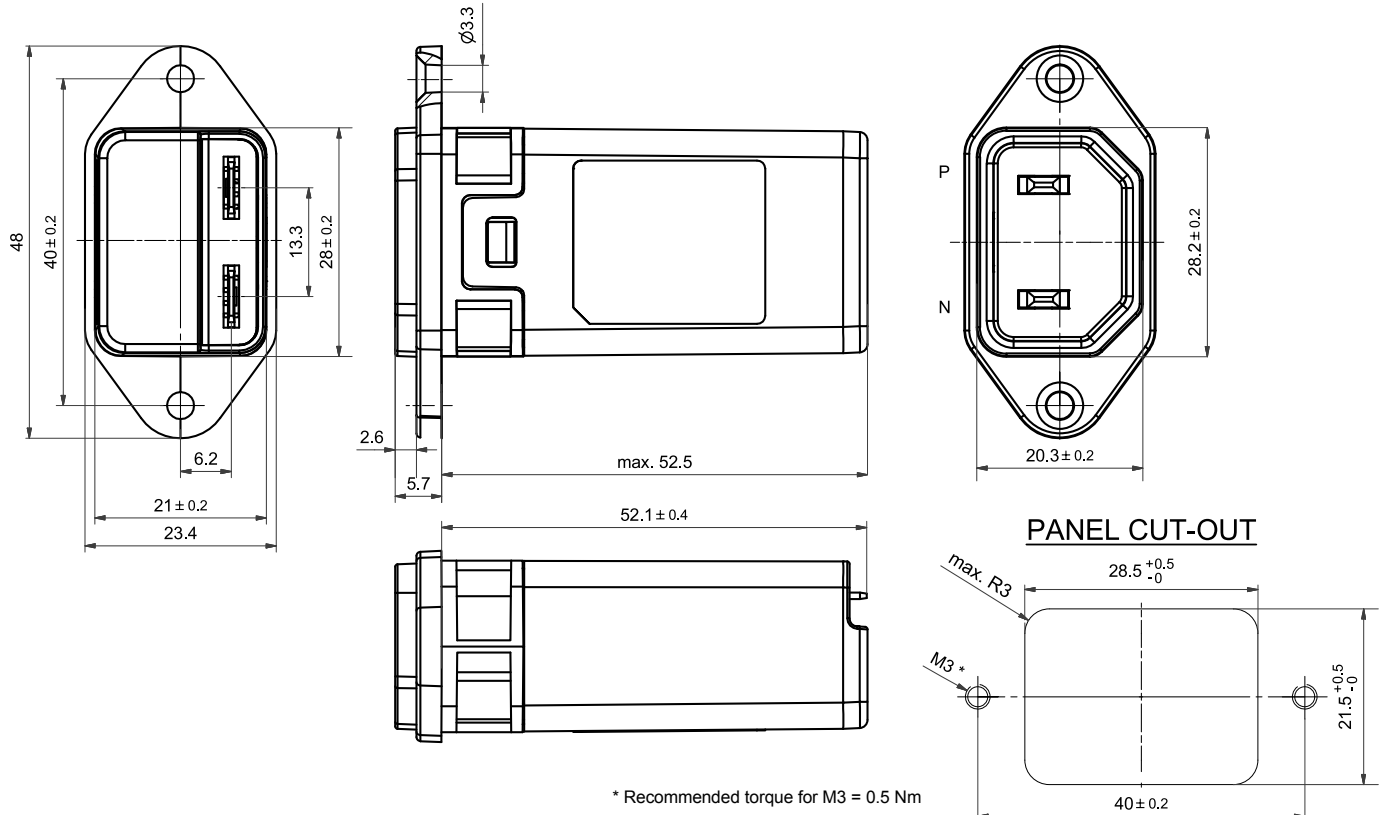
### Typical filter attenuation

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

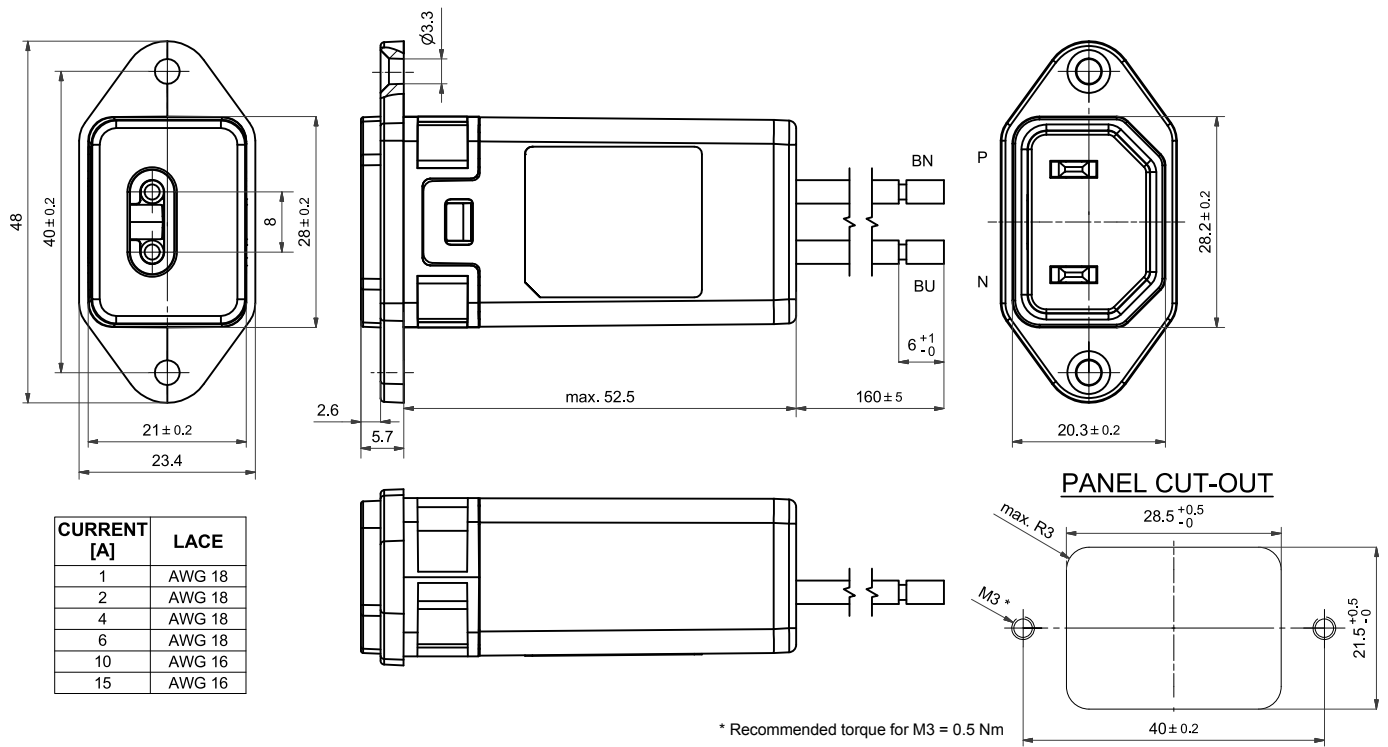


**Mechanical data - front mount**

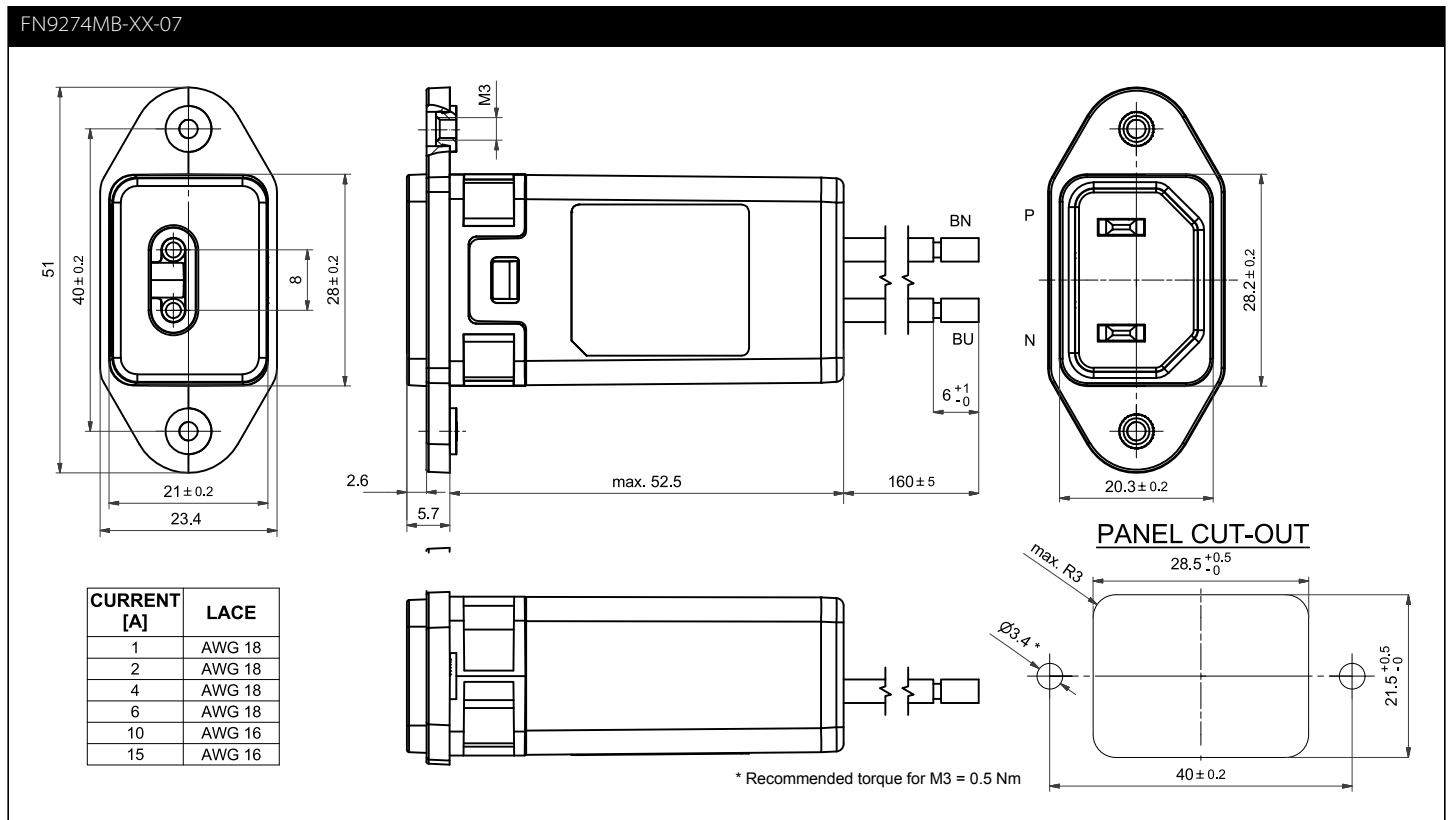
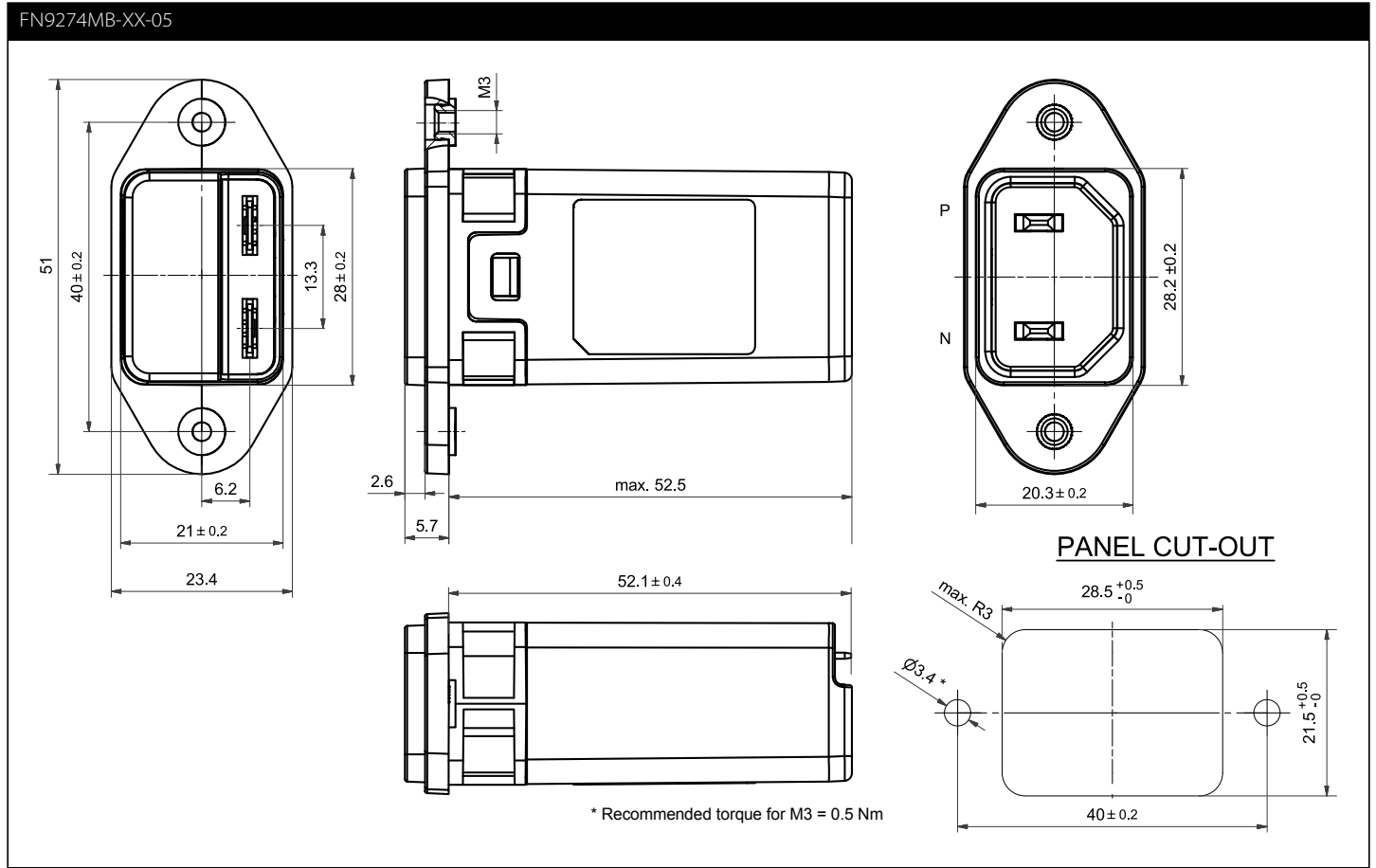
FN9274B-XX-05



FN9274B-XX-07

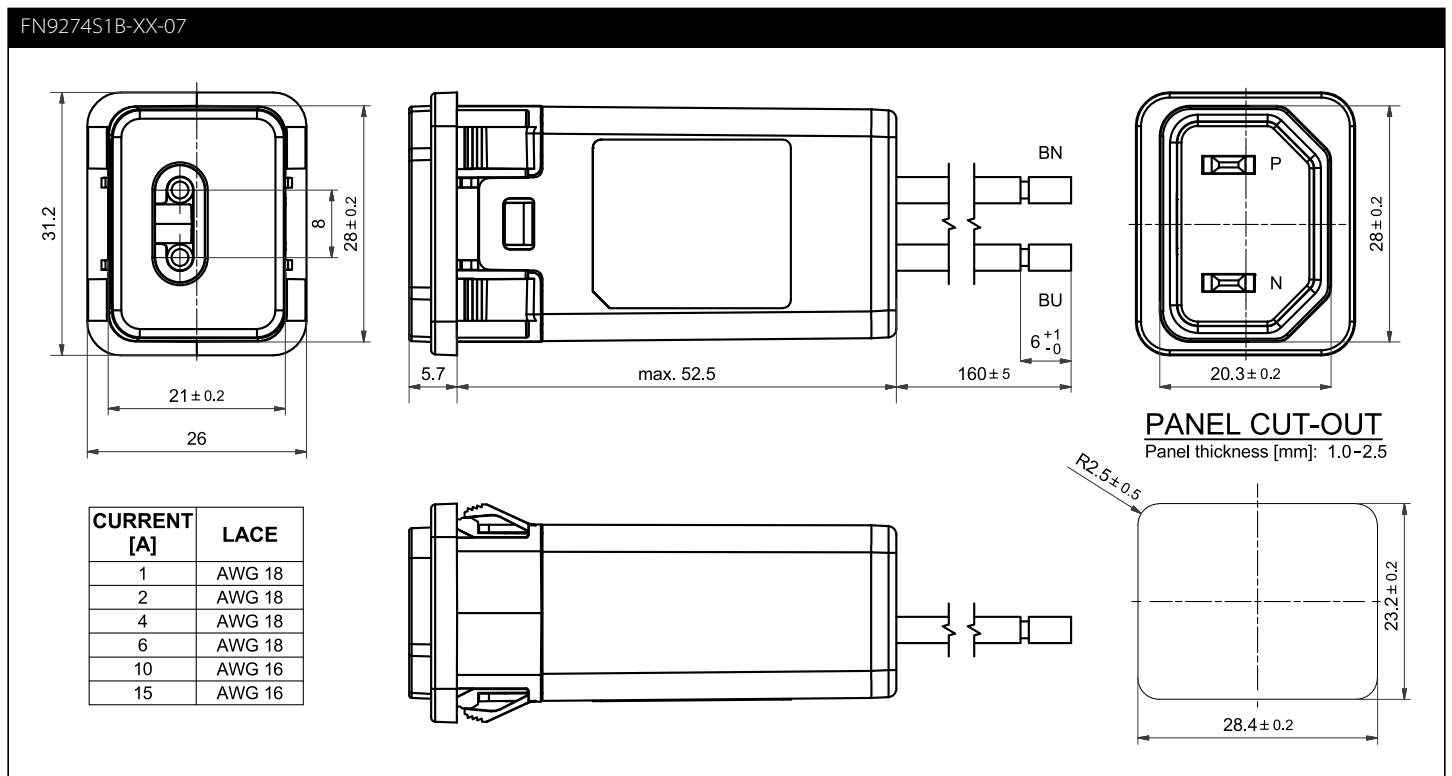
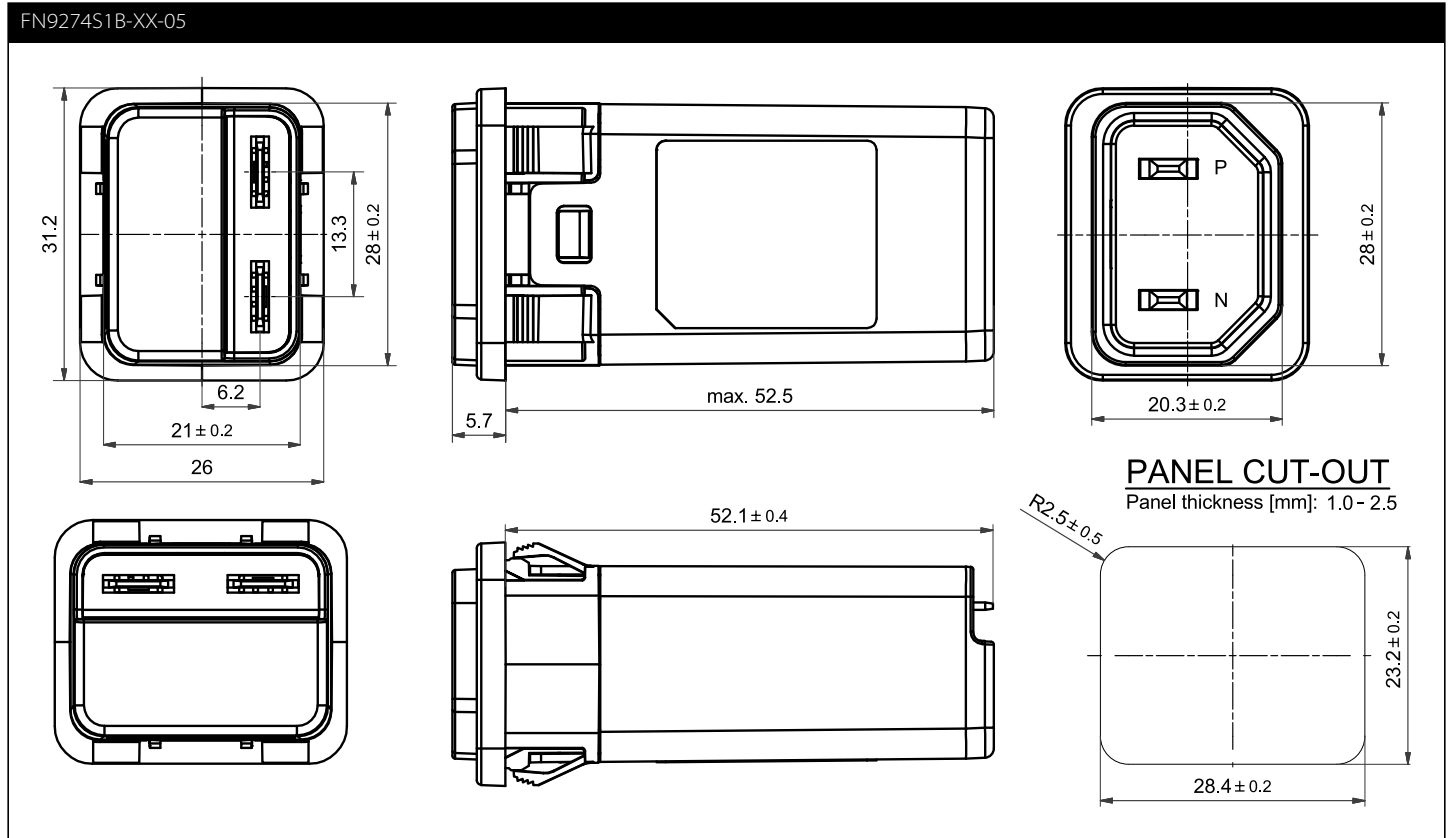


**Mechanical data - rear mount**



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



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