

# High Performance dual-stage IEC C14 inlet filter with earth line choke



- Rated currents up to 15 A
- Excellent performance/size ratio
- Earth line choke Version
- IEC C14 inlet acc. IEC 60320-1
- Medical versions (B type) acc. to IEC/EN
- Snap-in and rear mount versions (S and M type)



# Performance indicators Attenuation performance standard high very high Rated current [A] 0 4 8 12 16 2

#### **Technical Specifications**

Maximum continuous operating voltage	250 VAC, 50/60 Hz
Operating frequency	DC to 400 Hz
Approvals by rated current	ENEC and CQC: 2 to 10 A UL: 2 to 15A
High potential test voltage	P -> PE 2500 VAC for 2 sec P -> N 760 VAC for 2 sec
Protection category	IP 40 according to IEC 60529
Temperature range (operation and storage)	-25°C to +85°C (25/85/21)
Design corresponding to	UL 60939-3, CSA Std C22.2 No. 8, IEC/EN 60939-3, GB/T 15287, GB/T 15288
Rated currents	2 to 15 A
Flammability according to	UL 94 V-0
MTBF @ Rated amb. Temp./Voltage (Mil- HB-217F)	> 1,000,000 hours

#### Approvals & Compliances





The FN9255 E IEC inlet filter incorporates a dual stage filter with Earth line choke into an IEC inlet that offers excellent filter attenuation in a compact housing. Using an IEC inlet, at the point of entry offers an optimized position and practical solution for integrating an EMC filter into any system. A wide selection of current ratings, output connections and mounting possibilities are available. The E Version of this family complies to medical application and safety requirements, with enhanced performance without added leakage current.

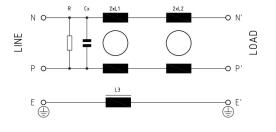
#### **Features and Benefits**

- Exceptional attenuation performance from 150kHz to 300MHz due to dual-stage design
- High saturation resistance and excellent thermal behavior
- FN 9255 B versions comply with the requirements of 1MOP acc. to IEC/EN 60601-1 for creepage and clearance, leakage current and high potential testing
- Suitable for IEC/EN 55014 tests up to 300MHz
- Rear and Front flange or snap-in mounting options
- Earth line choke Version, for standard version see FN 9255
- All versions according IEC/EN 62368-1

## **Typical Applications**

- Medical devices (MDD)
- Household and similar products as per IEC/EN 55014
- Test and measurement equipment
- In-vitro diagnostic medical devices (IVDD)
- Portable electrical and electronic equipment
- Small to medium-sized machines and household equipment
- Single-phase power supplies, switch-mode power supplies (SMPS)

#### Typical electrical schematic



#### **Filter Selection Table**

Filter	Rated current	Leakage current*	Inductance		Capacitance	Resistance	Output		l .	
	@ 40°C	@ 250 VAC/50 Hz	L1 L2 L3		Cx	R	connections			
		(@ 120 VAC/60 Hz)							**	
									Ł	
	[A]	[mA]	[mH]	[μH]	[mH]	[μ <b>F</b> ]	[kΩ]		4	[g]
FN 9255 ExB-2-06	2	-	4.8	18	0.4	0.1	1000	-06	-07	66
FN 9255 ExB-4-06	4	-	2.1	18	0.4	0.1	1000	-06	-07	66
FN 9255 ExB-6-06	6	-	0.9	18	0.4	0.1	1000	-06	-07	66
FN 9255 ExB-10-06	10	-	0.2	18	0.4	0.1	1000	-06	-07	68
FN 9255 ExB-15-06	15	-	0.13	8	0.1	0.1	1000	-06	-07	68

Test conditions: 25°C±2°C; Measuring frequency for Inductance: 1 kHz; 50 mV;

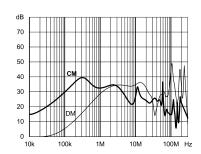
Tolerances: Inductance: +50%, -30%; Capacitance: ±25%; Resistor: ±15%; For mechanical tolerances refer to mechanical data section.

\*\* Maximum leakage under normal operating conditions (acc. to IEC60939-3). Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

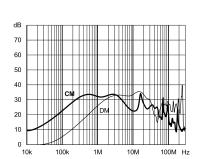
#### **Typical Filter Attenuation**

Per CISPR 17; symmetrical 50  $\Omega$ /50  $\Omega$  - Differential Mode (DM); asymmetrical 50  $\Omega$ /50  $\Omega$  - Common Mode (CM)

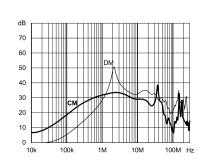
2 A type



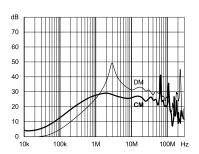
4 A type



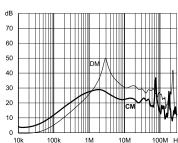
6 A type

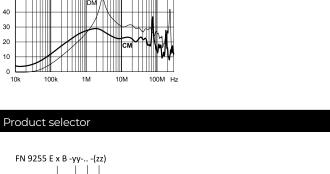


10 A type



15 A type



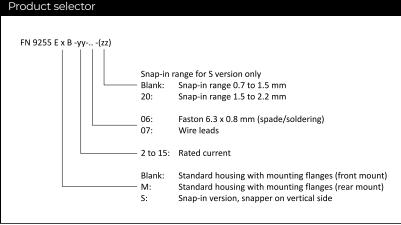


For example:

FN 9255 EB-15-06, 15A Version with fast-on terminals

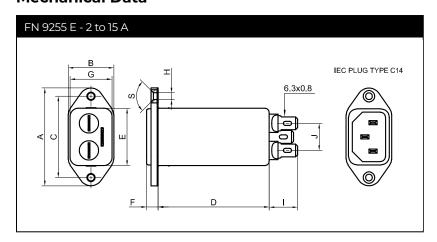
FN 9255 ESB-10-06, 10A Version with fast-on terminals, snap-in version

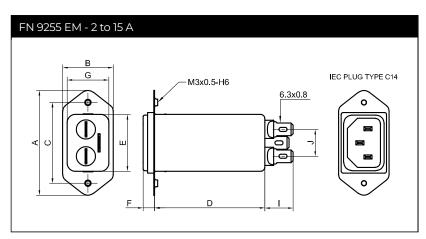
FN 9255 EMB-2-07, 2A Version with wire leads, rear mount version

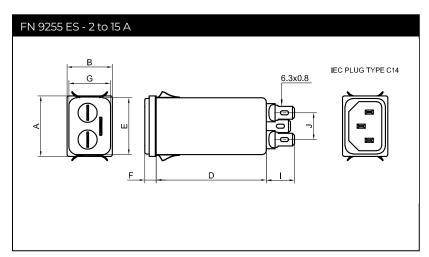


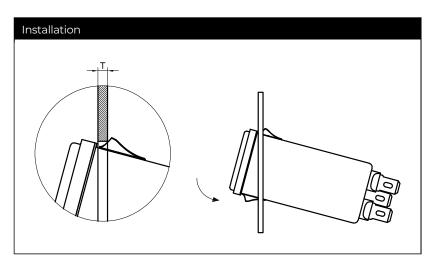
<sup>\*\*</sup> Standard length is 100 mm

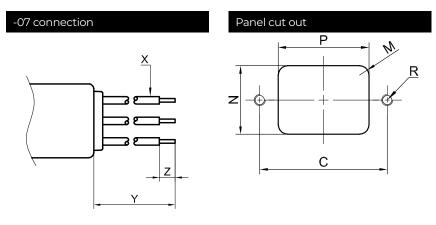
#### **Mechanical Data**











### **Dimensions**

	FN 9255 EB	FN9255 EMB	FN9255 ESB
Α	48	51.85	29.9
В	22.4	25	22.4
c	40 ±0.2	40 ±0.2	
D	76.2	76.2	76.2
E	28.1 ±0.3	28.1 ±0.3	28.1 ±0.3
F	5.8 ±0.2	5.8 ±0.2	5.8 ±0.2
G	20.6 ±0.3	20.6 ±0.3	20.6 ±0.3
н	Ø3.3	M3	
1	14	14	14
J	13.3	13.3	13.3
М	R ≤ 3	R ≤ 1	R ≤ 1.5
N	21.5 +0.5/-0	22.9 +0.2/-0	21.5 +0.5/-0
P	28.5 +0.5/-0	30.4 +0.2/-0	29.4
R*	M3	Ø3.4	
S/T	S: 90°		T: 0.7 to 1.5
X/Y	AWG 18 / 100 mm (>6A: AWG 16)	AWG 18 / 100 mm (>6A: AWG 16)	AWG 18 / 100 mm (>6A: AWG 16)
Z	6	6	

<sup>\*\*</sup>Recommended torque for M3 (90° countersunk flat head) is 0.5 Nm  $\,$ 

All dimensions in mm; 1 inch = 25.4 mm

For values without dedicated tolerances ISO 2768-m/EN 22768-m applies.

Please visit <u>www.schaffner.com</u> to find more details on connectors.

#### **Accessories**

#### Power Cord with angled Locking System C13



- Protects appliances that are vulnerable to vibration
- Connector cannot be accidentally pulled or vibrated out of the inlet
- Space availability/constraints
- Different angles for ease of access
- Space saving
- Release locking mechanism
- Prevents accidental disconnection

Technical Data Sheet >

#### IL 13P IEC C13 Rewireable Angled Connectors with Locking System



- Protects appliances that are vulnerable to vibration
- Connector cannot be accidentally pulled or vibrated out of the inlet
- Space availability/constraints
- Different angles for ease of access
- Space saving
- Release locking mechanism
- Prevents accidental disconnection

Technical Data Sheet >

#### IL 13P IEC C13 Rewireable Connectors with Locking System



The locking system has a tensile force of typical 300N. It is recommended to use it with flange mount filters. For details refer to our Application Note "Using IEC Lock Power Cords with IEC Inlets

Schaffner power connector with IEC lock guard against accidental disconnection of all electrical appliances with an IEC inlet. No exchange or modification of the IEC inlet or IEC inlet filter system is needed. Easy retrofit .for all electronic equipments and devices

Technical Data Sheet >

#### 5 IEC Inlet Filters

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