

## General Performance IEC Inlet Filter

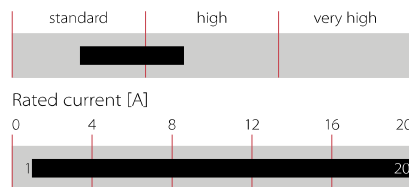


Rated currents up to 20 A
Excellent performance/size ratio
Optional medical versions (B type) according to IEC/EN 60601-1
Snap-in versions (S and S1 type)
Hot inlet versions (HI type)
Optional overvoltage protection (Z type)



### Performance indicators

#### Attenuation performance



### Approvals & Compliances



(CQC except HI-types)

The FN 9222 IEC inlet filter combines an IEC inlet and mains filter with excellent filter attenuation in a small form factor. Choosing the FN 9222 product line brings you the rapid availability of a standard filter associated with the necessary safety acceptances. Standard IEC connector filters are a practical solution helping you to pass EMI system approval in a short time. A wide selection on amperage ratings, output connections, mounting possibilities and filters for medical applications are designed to offer you the desired solution.

### Features and benefits

Exceptional conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior

Rear/front or snap-in mounting

Wide mounting flanges available

FN 9222 B versions comply with the requirements of 1MOP acc. to IEC/EN 60601-1 for creepage and clearance, leakage current and high potential testing

12 and 15 A types with hot inlet available

Optional surge pulse protection

Different output connections offering maximum flexibility for assembly

Custom-specific versions are available on request

### Typical applications

Portable 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

Rack mounting equipment

### Technical specifications

#### Maximum continuous operating voltage

#### Operating frequency

#### Rated currents

#### Approvals by rated current

#### High potential test voltage

#### Protection category

#### Temperature range (operation and storage)

#### Design corresponding to

#### Flammability corresponding to

#### Surge pulse protection (Z type)

#### MTBF @ 40°C/230 V (Mil-HB-217F)

250 VAC, 50/60 Hz

DC to 400 Hz

1 to 20 A @ 50°C

1 to 10 A (ENEC, CQC)

16 A (ENEC, CQC) for 16 and 20 A types

1 to 20 A (UL, CSA)

P → PE 2000 VAC for 2 sec (standard types)

P → N 250 VAC for 2 sec (all Z types)

P → N 1000 VAC for 2 sec (1 to 10 A types, not Z types)

P → PE 2500 VAC for 2 sec (B types)

P → N 1100 VDC for 2 sec (16 and 20 A types, not Z types)

IP 40 according to IEC 60529

-25°C to +85°C (25/85/21)

UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939 (X to XX A, not Z types)



UL 94 V-2 or better

Helps compliance to IEC61000-4-5 (Differential Mode only)

≤15 A: 3,040,000 hours

≥16 A: 2,256,000 hours

Filter selection table

Filter	Rated current @ 50°C (25°C)	Leakage current* @ 250 VAC/50 Hz (@ 120 VAC/60 Hz)	Inductance L	Capacitance		Resistance R	Output connections		Weight [g]
				Cx	Cy				
	[A]	[mA]	[mH]	[µF]	[nF]	[kΩ]			
FN9222x-1-..	1 (1.2)	0.31 (0.18)	12	0.1	2.2		-06	-07	40
FN9222x-3-..	3 (3.5)	0.31 (0.18)	2.5	0.1	2.2		-06	-07	40
FN9222x-6-..	6 (7.2)	0.31 (0.18)	0.78	0.1	2.2		-06	-07	40
FN9222x-8-..	8 (10.6)	0.31 (0.18)	0.5	0.1	2.2		-06	-07	40
FN9222x-10-..	10 (11.6)	0.31 (0.18)	0.225	0.1	2.2		-06	-07	40
FN9222x-12-..	12 (12)	0.31 (0.18)	0.11	0.1	2.2		-06	-07	40
FN9222x-15-..	15 (15)	0.31 (0.18)	0.075	0.1	2.2		-06	-07	40
FN9222x-12-..HI	12 (12)	0.31 (0.18)	0.11	0.1	2.2		-06	-07	40
FN9222x-15-..HI	15 (15)	0.31 (0.18)	0.075	0.1	2.2		-06	-07	40
FN9222xR-1-..	1 (1.2)	0.31 (0.18)	12	0.1	2.2	1000	-06	-07	40
FN9222xR-3-..	3 (3.5)	0.31 (0.18)	2.5	0.1	2.2	1000	-06	-07	40
FN9222xR-6-..	6 (7.2)	0.31 (0.18)	0.78	0.1	2.2	1000	-06	-07	40
FN9222xR-8-..	8 (10.6)	0.31 (0.18)	0.5	0.1	2.2	1000	-06	-07	40
FN9222xR-10-..	10 (11.6)	0.31 (0.18)	0.225	0.1	2.2	1000	-06	-07	40
FN9222xR-12-..	12 (12)	0.31 (0.18)	0.11	0.1	2.2	1000	-06	-07	40
FN9222xR-15-..	15 (15)	0.31 (0.18)	0.075	0.1	2.2	1000	-06	-07	40
FN9222R-16-06	16 (18.5)	0.31 (0.18)	0.54	0.33	2.2	1000	-06		100
FN9222R-20-06	20 (23)	0.31 (0.18)	0.4	0.33	2.2	1000	-06		100
FN9222xR-12-..HI	12 (12)	0.31 (0.18)	0.11	0.1	2.2	1000	-06	-07	40
FN9222xR-15-..HI	15 (15)	0.31 (0.18)	0.075	0.1	2.2	1000	-06	-07	40
FN9222xB-1-..	1 (1.2)	0.00	12	0.1		1000	-06	-07	40
FN9222xB-3-..	3 (3.5)	0.00	2.5	0.1		1000	-06	-07	40
FN9222xB-6-..	6 (7.2)	0.00	0.78	0.1		1000	-06	-07	40
FN9222xB-8-..	8 (10.6)	0.00	0.5	0.1		1000	-06	-07	40
FN9222xB-10-..	10 (11.6)	0.00	0.225	0.1		1000	-06	-07	40
FN9222xB-12-..	12 (12)	0.00	0.11	0.1		1000	-06	-07	40
FN9222xB-15-..	15 (15)	0.00	0.075	0.1		1000	-06	-07	40
FN9222RB-16-06	16 (18.5)	0.00	0.54	0.33		1000	-06		100
FN9222RB-20-06	20 (23)	0.00	0.4	0.33		1000	-06		100
FN9222xB-12-..HI	12 (12)	0.00	0.11	0.1		1000	-06	-07	40
FN9222xB-15-..HI	15 (15)	0.00	0.075	0.1		1000	-06	-07	40
FN9222UZ-1-06	1 (1.2)	0.31 (0.18)	12	0.1	2.2		-06		43
FN9222UZ-3-06	3 (3.5)	0.31 (0.18)	2.5	0.1	2.2		-06		43
FN9222UZ-6-06	6 (7.2)	0.31 (0.18)	0.78	0.1	2.2		-06		43
FN9222UZ-8-06	8 (10.6)	0.31 (0.18)	0.5	0.1	2.2		-06		43
FN9222UZ-10-06	10 (11.6)	0.31 (0.18)	0.225	0.1	2.2		-06		43
FN9222UZ-12-06	12 (12)	0.31 (0.18)	0.11	0.1	2.2		-06		43
FN9222UZ-15-06	15 (15)	0.31 (0.18)	0.075	0.1	2.2		-06		43

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

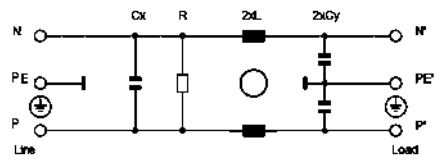
Product selector

FN 9222xx-yy-..HI-zz

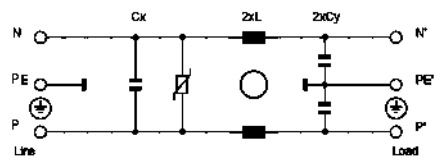
- Snap-in range for S version only
- Blank: Snap-in range 0.7 to 1.5mm
- 20: Snap-in range 1.5 to 2.2mm
  
- Blank: Standard IEC inlet type C14 (1 to 15A types), C20 (16 and 20A types)
- HI: Hot IEC inlet type C16 (12 and 15A types only)
  
- 06: Faston 6.3 x 0.8mm (spade/soldering)
- 07: Wire leads
  
- 1 to 20: Rated current
  
- Blank: Standard version
- R: Bleed resistor
- B: Medical version (with bleed resistor and without Y2-capacitor)
- Z: Optional surge pulse protection with additional varistor (MOV)  
(Z types have longer housings, only available for FN 9222UZ-yy-06)
  
- Blank: Standard housing with mounting flanges
- U: Housing with wider mounting flanges
- S: Snap-in version, snapper on vertical side (1 to 15A types only)
- S1: Snap-in version, snapper on horizontal side (1 to 15A types only)

Typical electrical schematic

Standard, R and B types



Z types



For example: FN 9222 E-15-06, FN 9222 ES1B-10-06-20, FN 9222 ER-12-06HI, FN 9222 EUB-8-06-20

Distributor inventory

Check stock levels at global distributors at <https://products.schaffner.com/stock>  
(Also available via the QR code)



Stock level per types 1 - 15 A

- Standard housing types
- Housing with wider mounting flanges (U)
- Snap-in housing types (S&S1)
- Medical versions (B)
- Bleed resistor types (R)
- Surge protection types (UZ)

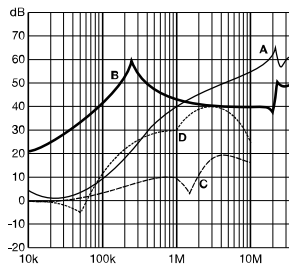
Link



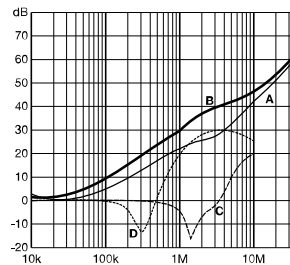
Typical filter attenuation

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

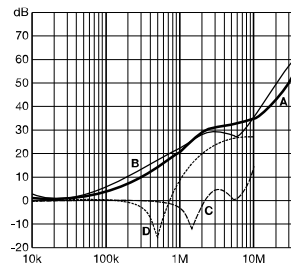
1 and 3 A types



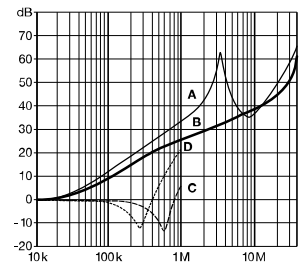
6 to 10 A types



12 and 15 A types



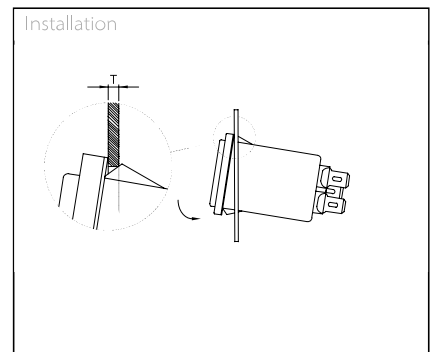
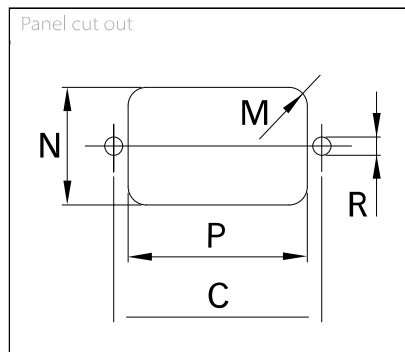
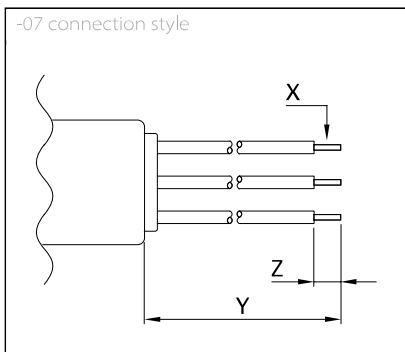
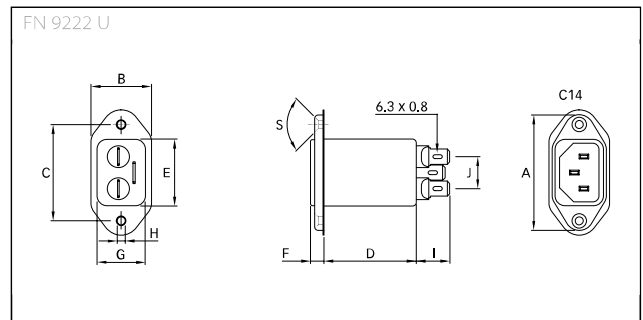
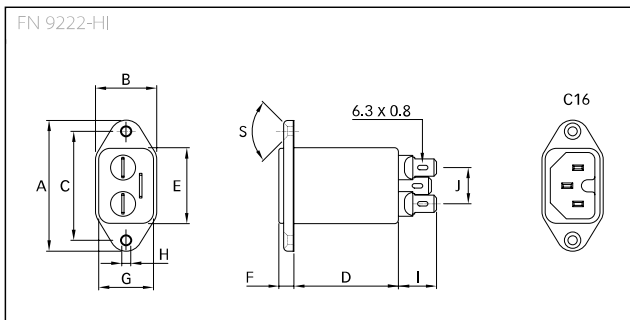
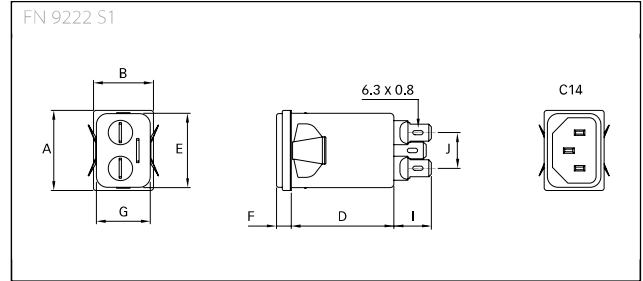
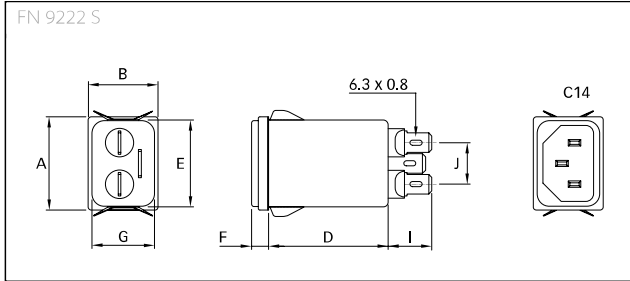
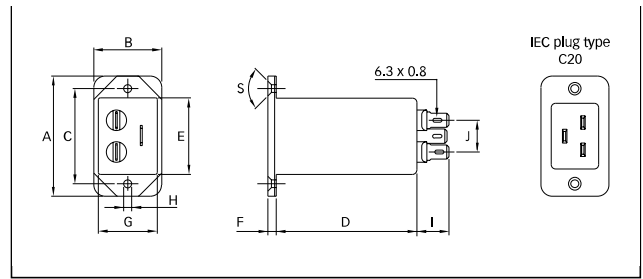
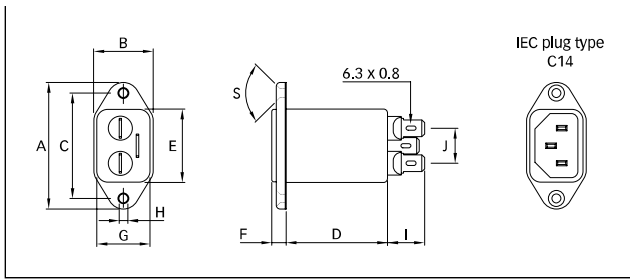
16 and 20 A types



Mechanical data

FN 9222 1 to 15 A types

FN 9222, 16 and 20 A types



**Dimensions**

<b>FN 9222</b> 1 to 8 A	10 to 15 A	16 and 20 A	<b>FN 9222 U</b>	<b>FN 9222 UZ</b>	<b>FN 9222 S</b> 1 to 8 A	10 to 15 A	<b>FN 9222 S1</b> 1 to 8 A	10 to 15 A	<b>FN 9222-HI</b> 12 and 15 A	<b>Tol.</b>
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	FN 9222			FN 9222 U	FN 9222 UZ	FN 9222 S		FN 9222 S1		FN 9222-HI	Tol.
	1 to 8 A	10 to 15 A	16 and 20 A			1 to 8 A	10 to 15 A	1 to 8 A	10 to 15 A	12 and 15 A	
<b>A</b>	48	48	53	51.85	51.85	29.9	29.9	29.9	29.9	48	
<b>B</b>	22.4	22.4	30	25	25	22.4	22.4	22.4	22.4	22.4	
<b>C</b>	40	40	42	40	40					40	±0.2
<b>D</b>	38.25	38.25	62	38.25	47.1	38.25	38.25	38.25	38.25	38.25	
<b>E</b>	27.8	27.8	34.5	27.7	27.7	27.8	27.8	27.8	27.8	27.8	+0.6/-0
<b>F</b>	5.7	5.7	3.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	
<b>G</b>	20.1	20.1	26.5	20.1	20.1	20.1	20.1	20.1	20.1	20.1	+0.6/-0
<b>H</b>	Ø3.3	Ø3.3	Ø3.5	Ø3.3	Ø3.3					Ø3.3	
<b>I</b>	14	14	14	14	14	14	14	14	14	14	
<b>J</b>	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	
<b>M</b>	R 3	R ≤3	R ≤1.5	R ≤3	R ≤3	R ≤1.5	R ≤1.5	R ≤1.5	R ≤1.5	R ≤3	
<b>N</b>	21.5	21.5	27	21.5	21.5	20.8	20.8	21.9	21.9	21.5	
<b>P</b>	28.5	28.5	34.7	28.5	28.5	29.4	29.4	28.5	28.5	28.5	
<b>R*</b>	M3	M3	M3	M3	M3					M3	
<b>S</b>	90°	90°	90°	90°	90°					90°	
<b>T**</b>						0.7-1.5	0.7-1.5	0.7-1.5	0.7-1.5		
<b>T**</b>						1.5-2.2	1.5-2.2	1.5-2.2	1.5-2.2		
<b>X</b>	AWG 18	AWG 16				AWG 18	AWG 16	AWG 18	AWG 16	AWG 16	
<b>Y</b>	160	160				160	160	160	160	160	
<b>Z</b>	6	6				6	6	6	6	6	

\*\*Recommended torque for M3 (90° countersunk flat head) is 0.5 Nm

\*\* For selecting the panel thickness, please refer to the filter selector table.

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

Please visit [www.schaffner.com](http://www.schaffner.com) to find more details on filter connectors.

## Accessories

### Power Cord with Locking System



Locking system for standardized IEC C14/C20 inlet filter

No accidental disconnection

Rated current up to 10 A (C13 plug), up to 15 A (C13P plug), and up to 16 A (C19 plug)

Fits any Schaffner IEC C14/C20 inlet filter

Retrofit for any IEC C14/C20 inlet

Various power line plugs for international usage

[Datasheet PDF >](#)

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



Locking system for standardized IEC C14 inlet filter

No accidental disconnection

Rated current up to 15 A

Fits any Schaffner IEC C14 inlet filter

Retrofit for any IEC C14 inlet

Various power line plugs for international usage

[Datasheet PDF >](#)

## Power Cord with angled Locking System C13



Locking system for standardized IEC C14 inlet filter

No accidental disconnection

Rated current up to 15 A

Fits any Schaffner IEC C14 inlet filter

Retrofit for any IEC C14 inlet

Various power line plugs for international usage

[Datasheet PDF >](#)



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