

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

Technical specifications

Maximum continuous operating voltage	250 VAC, 50/60 Hz
Operating frequency	DC to 400 Hz
Rated currents	1 to 20 A @ 50°C
Approvals by rated current	1 to 10 A (ENEC, CQC) 16 A (ENEC, CQC) for 16 and 20 A types 1 to 20 A (UL, CSA)
High potential test voltage	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)
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 1283, CSA 22.2 No. 8 1986, IEC/EN 60939 (X to XX A, not Z types)
Flammability corresponding to	UL 94 V-2 or better
Surge pulse protection (Z type)	Helps compliance to IEC61000-4-5 (Differential Mode only)
MTBF @ 40°C/230 V (Mil-HB-217F)	≤15 A: 3,040,000 hours ≥16 A: 2,256,000 hours

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

Filter selection table

Filter	Rated current	Leakage current*	Inductance L	Capacitance		Resistance R	Output connections		Weight
	@ 50°C (25°C)	@ 250 VAC/50 Hz (@ 120 VAC/60 Hz)		Cx	Cy				
	[A]	[mA]	[mH]	[μF]	[nF]	[kΩ]			[g]
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

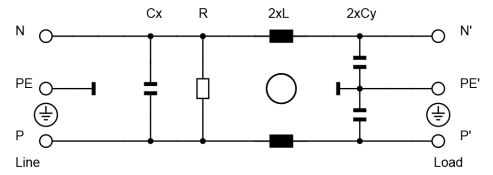
 U: Housing with wider mounting flanges

 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)

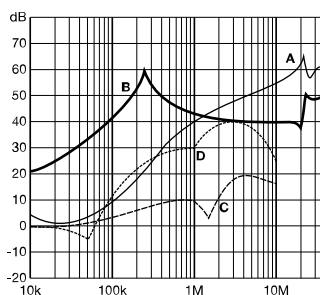
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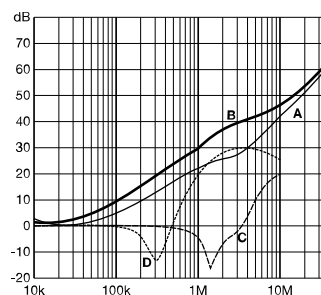
Typical filter attenuation

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

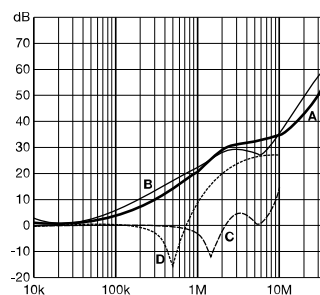
1 and 3 A types



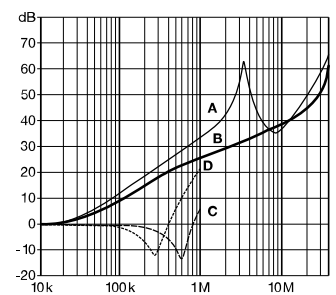
6 to 10 A types



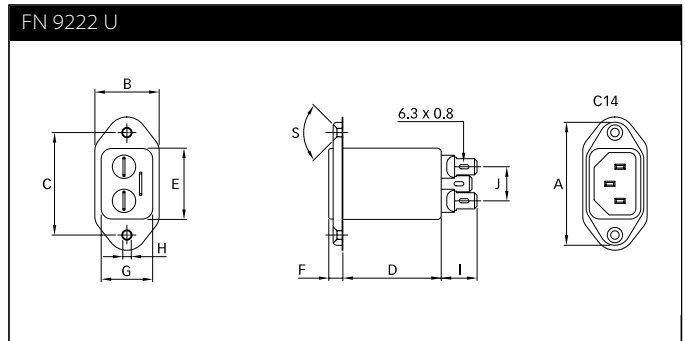
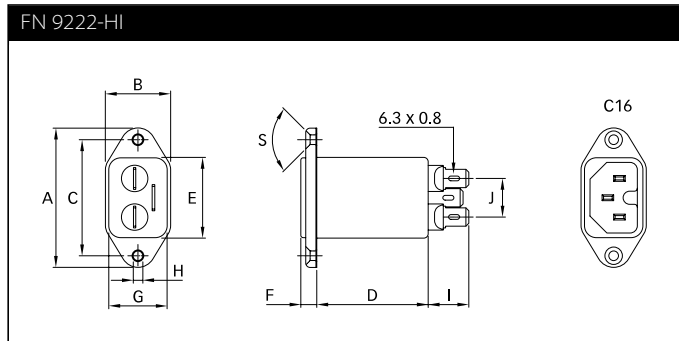
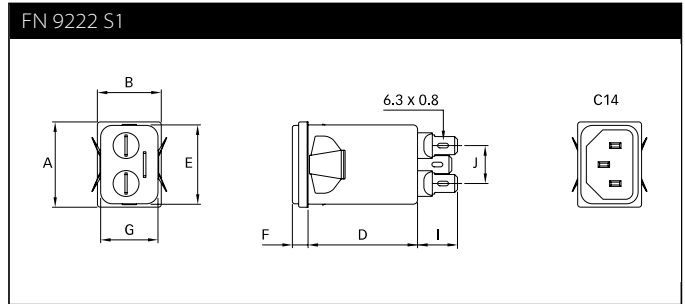
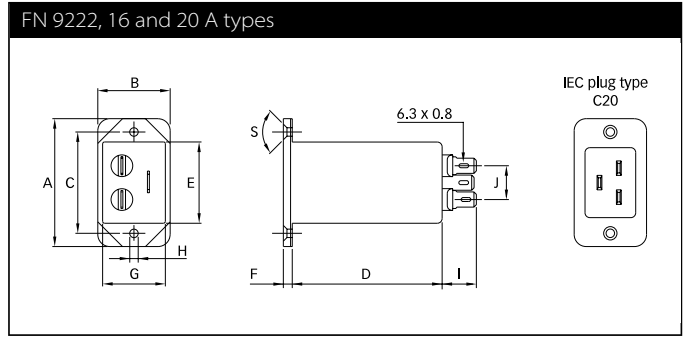
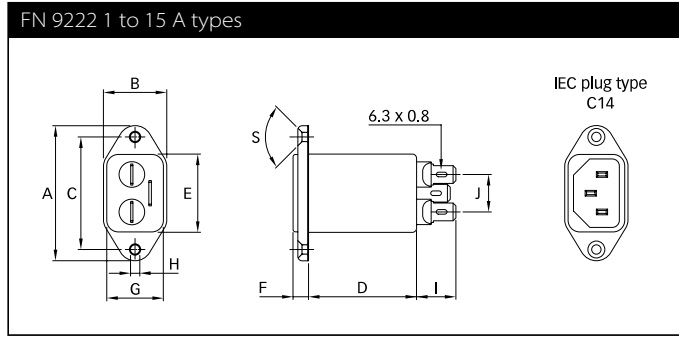
12 and 15 A types



16 and 20 A types



Mechanical data



Dimensions

	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	
A	48	48	53	51.85	51.85	29.9	29.9	29.9	29.9	48	
B	22.4	22.4	30	25	25	22.4	22.4	22.4	22.4	22.4	
C	40	40	42	40	40					40	±0.2
D	38.25	38.25	62	38.25	46.7	38.25	38.25	38.25	38.25	38.25	
E	27.8	27.8	34.5	27.7	27.7	27.8	27.8	27.8	27.8	27.8	+0.6/-0
F	5.7	5.7	3.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	
G	20.1	20.1	26.5	20.1	20.1	20.1	20.1	20.1	20.1	20.1	+0.6/-0
H	Ø3.3	Ø3.3	Ø3.5	Ø3.3	Ø3.3					Ø3.3	
I	14	14	14	14	14	14	14	14	14	14	
J	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	
M	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	
N	21.5	21.5	27	21.5	21.5	20.8	20.8	21.9	21.9	21.5	
P	28.5	28.5	34.7	28.5	28.5	29.4	29.4	28.5	28.5	28.5	
R*	M3	M3	M3	M3	M3					M3	
S	90°	90°	90°	90°	90°					90°	
T**						0.7-1.5	0.7-1.5	0.7-1.5	0.7-1.5		
T**						1.5-2.2	1.5-2.2	1.5-2.2	1.5-2.2		
X	AWG 18	AWG 16				AWG 18	AWG 16	AWG 18	AWG 16	AWG 16	
Y	160	160				160	160	160	160	160	
Z	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 to find more details on filter connectors.

Accessories

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 >](#)

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 >](#)

IL 13P IEC C13 Rewireable Connectors with Locking System



- | Guards against accidental disconnection
- | Requires no other equipment or special inlets to secure it
- | Rewireable - offering total flexibility when assembling cables
- | Fits any Schaffner IEC C14 inlet Filter
- | Can be retrofitted
- | Various power line plugs for international usage
- | LSZH - Low smoke zero halogen

[Datasheet PDF >](#)



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