

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)



Technical Specifications

Maximum continuous operating voltage	250 VAC, 50/60 Hz					
	,					
Nominal operating voltage	230 VAC					
Rated currents	1 to 20 A @ 50°C					
Operating frequency	DC to 400 Hz					
High potential test voltage	P -> N 250 VAC for 2 sec (all Z types) P -> PE 2000 VAC for 2 sec (standard types) P -> PE 2500 VAC for 2 sec (B types) P -> N 1000 VAC for 2 sec (1 to 10 A types, not Z types) P -> N 1100 VDC for 2 sec (16 and 20 A types, not Z types) P -> N 1100 VDC for 2 sec (16 and 20 A types, not Z types) P -> N 1100 VDC for 2 sec (16 and 20 A types, not Z types)					
Temperature range (operation and storage)	-25°C to +85°C (25/85/21)					
Protection category	IP 40 according to IEC 60529					
Flammability corresponding to	Plastic Material: UL 94 V-0 Laces for -07 version: UL 94 VW-1					
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)					
Design corresponding to	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939 (X to XX A, not Z types)					
MTBF (Mil-HB-217F)	≤15 A:>3,040,000 h @ 50°C/230 V ≥16 A:>2,256,000 h @ 50°C/230 V					

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.

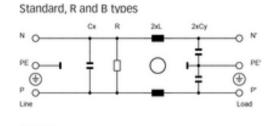
Features and Benefits

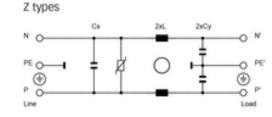
- Exceptional conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- Rear/front or snap-in mounting
- Wide mounting flanges available
- FN 9222 B versions comply with the requirements of 1MOP acc. to IEC/EN 60601-1 for creepage and clearance, 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

Typical electrical schematic





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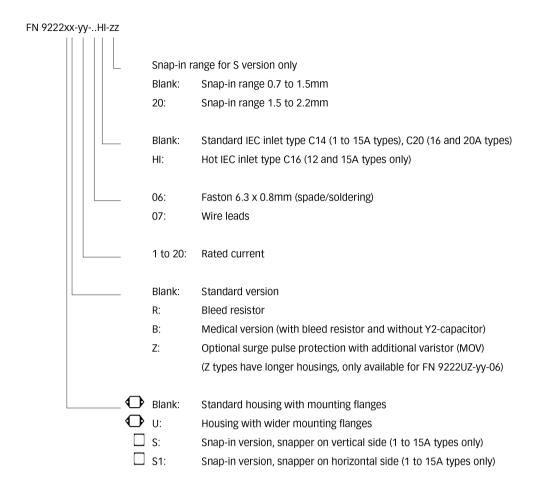
Filter Selection Table

Filter	Rated current @ 50°C (25°C)	Leakage current* @ 250 VAC/50 Hz (@ 120 VAC/60 Hz)	Inductance L	Cap Cx	acitance Cy	Resistance R	Output co	onnections	Weight
	[A]	[mA]	[mH]	[μ F]	[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-12HI	12 (12)	0.31 (0.18)	0.11	0.1	2.2		-06	-07	40
FN9222x-15HI	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-12HI	12 (12)	0.31 (0.18)	0.11	0.1	2.2	1000	-06	-07	40
FN9222xR-15HI	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-12HI	12 (12)	0.00	0.11	0.1		1000	-06	-07	40
FN9222xB-15HI	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

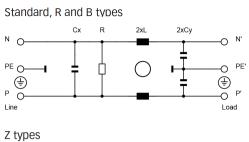
^{*} Maximum leakage under normal operating conditions. Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

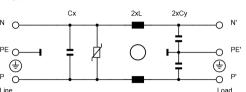
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Product selector



Typical electrical schematic





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

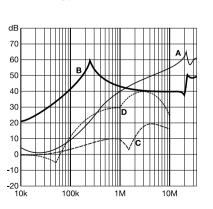
Check stock levels at global distributors at https://products.schaffner.com/stock (Also available via the QR code)

Stock level per types 1 - 15 A	Link
Standard housing types	¥
Housing with wider mounting flanges (U)	₩.
Snap-in housing types (S&SI)	¥
Medical versions (B)	₩.
Bleed resistor types (R)	₩
Surge protection types (UZ)	¥

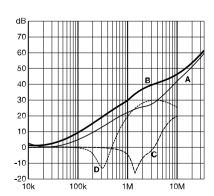
Typical Filter Attenuation

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

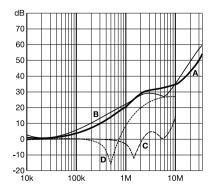
1 and 3 A types



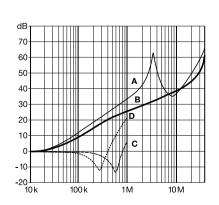




12 and 15 A types

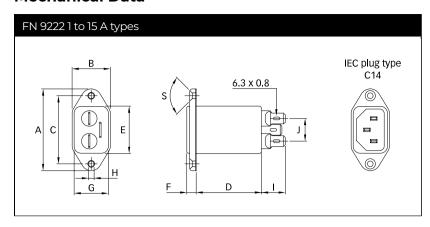


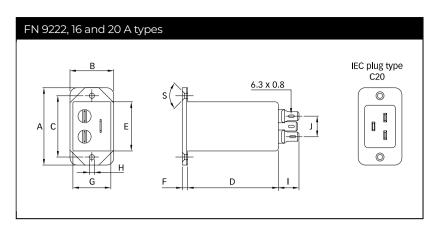
16 and 20 A types

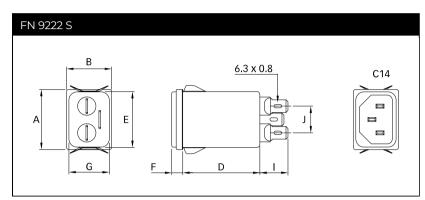


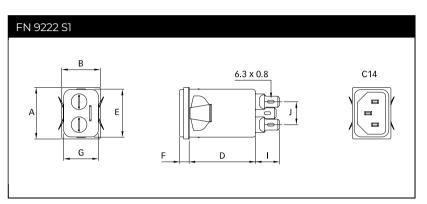
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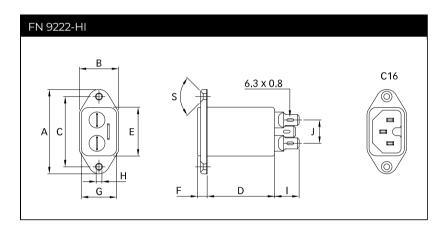
Mechanical Data

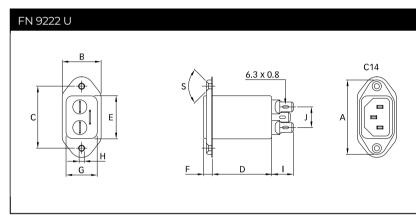








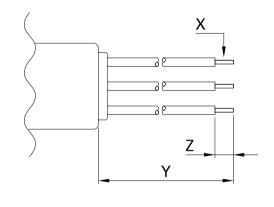


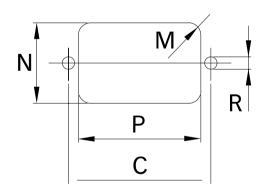


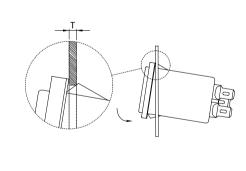


Panel cut out









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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	
Α	48	48	53	51.85	51.85	29.9	29.9	29.9	29.9	48	
В	22.4	22.4	30	25	25	22.4	22.4	22.4	22.4	22.4	
С	40	40	42	40	40					40	±0.2
D	38.25	38.25	62	38.25	47.1	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
н	Ø3.3	Ø3.3	Ø3.5	Ø3.3	Ø3.3					Ø3.3	
1	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	
М	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	
Р	28.5	28.5	34.7	28.5	28.5	29.4	29.4	28.5	28.5	28.5	
R*	M3	МЗ	M3	МЗ	M3					МЗ	
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	
Υ	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

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.

 $[\]ensuremath{^{**}}$ For selecting the panel thickness, please refer to the filter selector table.

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Accessories

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 and Filters"

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

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

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

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