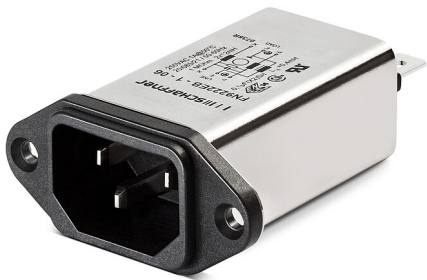
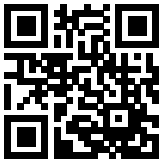


General Performance EMC/EMI Filter with Earth Line Choke



- Rated currents up to 15 A
- Excellent performance/size ratio
- Integrated earth line choke
- Complies with IEC/EN 60601-1
- Snap-in versions (S and S1 type)
- Optional wide mounting flanges



Approvals & Compliances



(CQC except HI-types)

The FN 9222 E IEC inlet filter combines an IEC inlet and mains filter with excellent filter attenuation in a small form factor and integrated earth line choke. Choosing the FN 9222 E 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.

Technical Specifications

Maximum continuous operating voltage	250 VAC, 50/60 Hz
Nominal operating voltage	230 VAC
Rated currents	1 to 15 A @ 50°C
Operating frequency	dc to 400 Hz DC to 400 Hz
High potential test voltage	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
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) 1 to 15 A (UL, CSA)
Design corresponding to	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
MTBF (Mil-HB-217F)	>1,610,000 h @ 50°C/230 V

Features and Benefits

- Exceptional conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior
- Rear/front or snap-in mounting
- 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
- Wide mounting flanges available
- Different output connections offering maximum flexibility for assembly
- Without earth line choke see FN 9222 data sheet
- Custom-specific versions are available on request

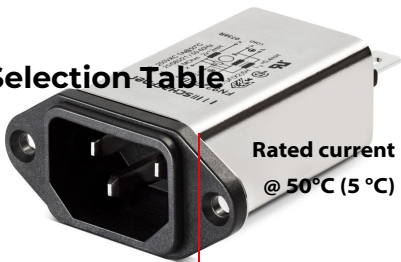
Typical Applications

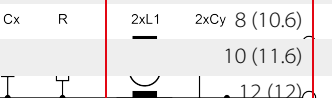
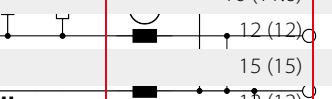
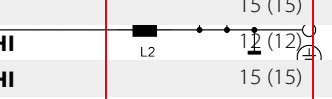
- Portable electrical and electronic equipment
- Small to medium-sized machines and household equipment
- Single-phase power supplies, switch-mode power supplies
- Test and measurement equipment
- Medical equipment
- Rack mounting equipment

Typical electrical schematic



Filter Selection Table

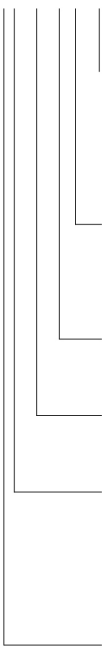


Filter		Rated current @ 50°C (5 °C)	Leakage current* @ 250 VAC/50 Hz (@ 120 VAC/60 Hz)	Inductance		Capacitance		Resistance R	Output connections	Weight
				L1	L2	Cx	Cy			
		[A]	[mA]	[mH]	[mH]	[µF]	[nF]	[kΩ]		[g]
FN9222Ex-1-06		1 (1.2)	0.31 (0.18)	12	0.4	0.1	2.2		-06	46
FN9222Ex-3-06		3 (3.5)	0.31 (0.18)	2.5	0.4	0.1	2.2		-06	46
FN9222Ex-6-06		6 (7.2)	0.31 (0.18)	0.78	0.4	0.1	2.2		-06	46
FN9222Ex-8-06		8 (10.6)	0.31 (0.18)	0.5	0.4	0.1	2.2		-06	46
FN9222Ex-10-06		10 (11.6)	0.31 (0.18)	0.225	0.1	0.1	2.2		-06	46
FN9222Ex-12-06		12 (12)	0.31 (0.18)	0.11	0.1	0.1	2.2		-06	46
FN9222Ex-15-06		15 (15)	0.31 (0.18)	0.075	0.1	0.1	2.2		-06	46
FN9222Ex-12-06HI		12 (12)	0.31 (0.18)	0.11	0.1	0.1	2.2		-06	46
FN9222Ex-15-06HI		15 (15)	0.31 (0.18)	0.075	0.1	0.1	2.2		-06	46
FN9222ExR-1-06		1 (1.2)	0.31 (0.18)	12	0.4	0.1	2.2	1000	-06	46
FN9222ExR-3-06		3 (3.5)	0.31 (0.18)	2.5	0.4	0.1	2.2	1000	-06	46
FN9222ExR-6-06		6 (7.2)	0.31 (0.18)	0.78	0.4	0.1	2.2	1000	-06	46
FN9222ExR-8-06		8 (10.6)	0.31 (0.18)	0.5	0.4	0.1	2.2	1000	-06	46
FN9222ExR-10-06		10 (11.6)	0.31 (0.18)	0.225	0.1	0.1	2.2	1000	-06	46
FN9222ExR-12-06		12 (12)	0.31 (0.18)	0.11	0.1	0.1	2.2	1000	-06	46
FN9222ExR-15-06		15 (15)	0.31 (0.18)	0.075	0.1	0.1	2.2	1000	-06	46
FN9222ExR-12-06HI		12 (12)	0.31 (0.18)	0.11	0.1	0.1	2.2	1000	-06	46
FN9222ExR-15-06HI		15 (15)	0.31 (0.18)	0.075	0.1	0.1	2.2	1000	-06	46
FN9222ExB-1-06		1 (1.2)	0.00	12	0.4	0.1		1000	-06	46
FN9222ExB-3-06		3 (3.5)	0.00	2.5	0.4	0.1		1000	-06	46
FN9222ExB-6-06		6 (7.2)	0.00	0.78	0.4	0.1		1000	-06	46
FN9222ExB-8-06		8 (10.6)	0.00	0.5	0.4	0.1		1000	-06	46
FN9222ExB-10-06		10 (11.6)	0.00	0.225	0.1	0.1		1000	-06	46
FN9222ExB-12-06		12 (12)	0.00	0.11	0.1	0.1		1000	-06	46
FN9222ExB-15-06		15 (15)	0.00	0.075	0.1	0.1		1000	-06	46
FN9222ExB-12-06HI		12 (12)	0.00	0.11	0.1	0.1		1000	-06	46
FN9222ExB-15-06HI		15 (15)	0.00	0.075	0.1	0.1		1000	-06	46

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

Product selector**

FN 9222Exx-yy-..Hl-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 |
| HI: | Hot IEC inlet type C16 (12 and 15A types only) |
| | |
| 06: | Faston 6.3 x 0.8mm (spade/soldering) |
| | |
| 1 to 15: | Rated current |
| | |
| Blank: | Standard version |
| R: | Bleed resistor |
| B: | Medical version (with bleed resistor and without Y2-capacitor) |
| | |
| Blank: | Standard housing with mounting flanges |
| U: | Housing with wider mounting flanges |
| S: | Snap-in version, snapper on vertical side |
| S1: | Snap-in version, snapper on horizontal side |

Distributor Inventory

Check stock levels at
global distributors via
the QR code



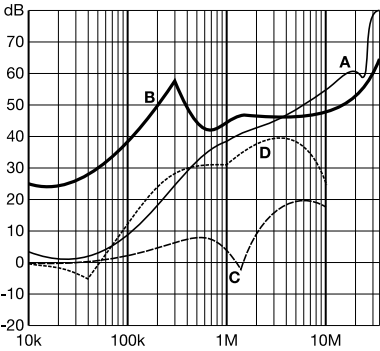
Stock level per types 1 - 15 A	Link
Standard housing types	
Housing with wider mounting flanges (U)	
Snap-in housing types (S&SI)	
Medical versions (B)	
Bleed resistor types (R)	
Surge protection types (UZ)	

**For example: FN 9222 E-15-06, FN 9222
ES1B-10-06-20, FN 9222 EUB-8-06-20

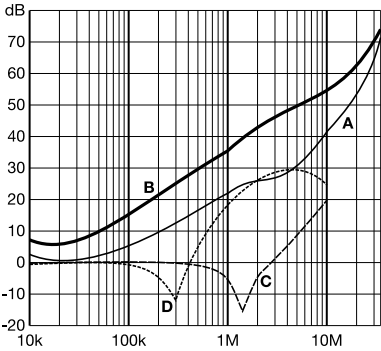
Typical Filter Attenuation

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

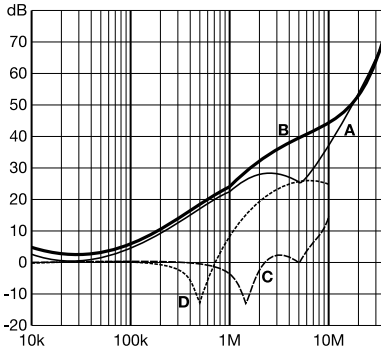
1 and 3 A types



6 to 10 A types



12 and 15 A types



Mechanical Data

FN 9222 E

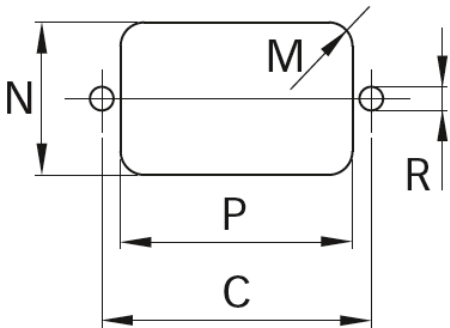
FN 9222 E-HI

FN 9222 ES

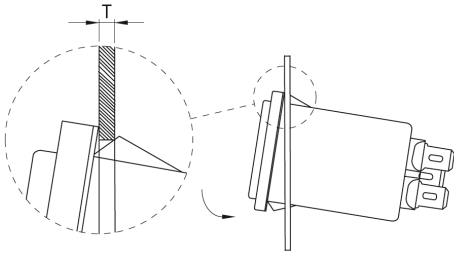
FN 9222 ES1

FN 9222 EU

Panel cut out



Installation



Dimensions

	FN 9222 E	FN 9222 EU	FN 9222 ES	FN 9222 ES1	FN 9222 E-HI	Tol.
A	48	48	29.9	29.9	48	
B	22.4	25	22.4	22.4	22.4	
C	40	40			40	±0.2
D	47.1	47.1	47.1	47.1	47.1	
E	27.8	27.7	27.8	27.8	27.8	+0.6/-0
F	5.7	5.7	5.7	5.7	5.7	
G	20.1	20.1	20.1	20.1	20.1	+0.6/-0
H	Ø3.3	Ø3.3			Ø3.3	
I	14	14	14	14	14	
J	13.3	13.3	13.3	13.3	13.3	
M	R ≤3	R ≤3	R ≤1.5	R ≤1.5	R ≤3	
N	21.5	21.5	20.8	21.9	21.5	
P	28.5	28.5	29.4	28.5	28.5	
R*	M3	M3			M3	
S	90°	90°			90°	
T**			0.7 - 1.5	0.7 - 1.5		
T**			1.5 - 2.2	1.5 - 2.2		

* 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

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

[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 >](#)

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 >](#)

Headquarters, Global
Innovation and
Development

Switzerland
Schaffner Group
Industrie Nord
Nordstrasse 11e
4542
Luterbach
+41 32 681 66 26
info@schaffner.com

Sales and Application
Centers

Finland
Schaffner Oy
Lohjanharjuntie 1109
08500
Lohja
+ 358 50 468 72 84
finlandsales@schaffner.com

France
Schaffner EMC S.A.S.
16-20 Rue Louis Rameau
95875
Bezons
+33 1 34 34 30 60
francesales@schaffner.com

Germany
Schaffner Deutschland GmbH
Ohiostr. 8
76149
Karlsruhe
+49 721 56910
germanysales@schaffner.com

Italy
Schaffner EMC S.r.l.
Via Ticino, 30
20900
Monza (MB)
+39 039 21 41 070
italysales@schaffner.com

Japan
Schaffner EMC K.K.
ISM Sangenjaya 7F
1-32-12 Kamiuma Setagaya-ku
154-0011
Tokyo
+81 3 5712 3650
japansales@schaffner.com

Singapore
Schaffner EMC Pte Ltd.
Blk 3015A Ubi Road 1 #05-09 Kampong Ubi
Industrial Estate
408705
Singapore
+65 63773283
singaporesales@schaffner.com

Sweden
Schaffner EMC AB
Östermalmstrorg 1
114 42
Stockholm
+46 8 5050 2425
swedensales@schaffner.com

Switzerland
Schaffner EMV AG
Industrie Nord
Nordstrasse 11e
4542
Luterbach
+41 32 681 66 26
switzerlandsales@schaffner.com

India
Schaffner India Pvt. Ltd
Regus World Trade Centre
WTC 22nd Floor Unit No 2238 Brigade
Gateway Campus 26/1 Dr. Rajkumar Road
Malleshwaram (W)
560055
Bangalore
+91 8067935355
indiasales@schaffner.com

United Kingdom
Schaffner Ltd.
Suite 1 Oakmede Place
Terrace Road
RG42 4JF
Binfield
+44 118 9770070
uksales@schaffner.com

United States
Schaffner EMC Inc.
52 Mayfield Avenue
Edison, New Jersey
+1 732 225 9533
usasales@schaffner.com

To find your local partner within
Schaffner's global network [schaffner.com](https://www.schaffner.com)

© 2024 Schaffner Group

The content of this document has been carefully checked and understood. However, neither Schaffner nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Schaffner does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Swiss law and resulting disputes shall be settled by the courts at the place of business of Schaffner Holding AG. Latest publications and a complete disclaimer can be downloaded from the Schaffner website. All trademarks recognized.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Schaffner:](#)

[FN9222E-15-06](#) [FN9222ES1-12-06](#) [FN9222ESR-3-06](#) [FN9222ESR-12-06](#) [FN9222ES1-8-06](#) [FN9222ES-8-06](#)
[FN9222ES1B-1-06](#) [FN9222ER-3-06](#) [FN9222EU-6-06](#) [FN9222ES1R-1-06](#) [FN9222ES1-1-06](#) [FN9222ES1R-10-06](#)
[FN9222ES1-3-06](#) [FN9222ES1B-15-06](#) [FN9222E-12-06HI](#) [FN9222ES1R-15-06](#) [FN9222ESR-8-06](#) [FN9222ES-3-06](#)
[FN9222ES1R-8-06](#) [FN9222ER-6-06](#) [FN9222EU-12-06HI](#) [FN9222EB-10-06](#) [FN9222ES1B-8-06](#) [FN9222ESB-6-06](#)
[FN9222ES1R-12-06](#) [FN9222ER-12-06](#) [FN9222EU-15-06](#) [FN9222ES1-15-06](#) [FN9222ES-15-06](#) [FN9222ES-12-06](#)
[FN9222EB-6-06](#) [FN9222ER-15-06](#) [FN9222ESR-6-06](#) [FN9222EU-12-06](#) [FN9222EB-15-06HI](#) [FN9222E-8-06](#)
[FN9222EB-12-06](#) [FN9222ESB-10-06](#) [FN9222E-1-06](#) [FN9222ESR-1-06](#) [FN9222ES1R-6-06](#) [FN9222ER-10-06](#)
[FN9222ESR-10-06](#) [FN9222ESB-12-06](#) [FN9222ES1B-12-06](#) [FN9222ES1B-10-06](#) [FN9222ER-15-06HI](#) [FN9222EB-15-](#)
[06](#) [FN9222ES-1-06](#) [FN9222EU-10-06](#) [FN9222ES-10-06](#) [FN9222E-3-06](#) [FN9222EB-12-06HI](#) [FN9222ESB-3-06](#)
[FN9222E-6-06](#) [FN9222E-15-06HI](#) [FN9222EU-15-06HI](#) [FN9222EU-3-06](#) [FN9222EB-1-06](#) [FN9222ER-8-06](#)
[FN9222ESR-15-06](#) [FN9222EU-8-06](#) [FN9222E-10-06](#) [FN9222ES1-10-06](#) [FN9222ES1R-3-06](#) [FN9222EU-1-06](#)
[FN9222ES1-6-06](#) [FN9222EB-3-06](#) [FN9222ESB-1-06](#) [FN9222ER-12-06HI](#) [FN9222E-12-06](#) [FN9222ESB-8-06](#)
[FN9222ES-6-06](#) [FN9222ES1B-3-06](#) [FN9222ESB-15-06](#) [FN9222ES1B-6-06](#) [FN9222ER-1-06](#) [FN9222EB-8-06](#)
[FN9222EUB-3-06](#) [FN9222EUB-6-06](#) [FN9222EUB-10-06](#) [FN9222ES1-15-06-20](#)