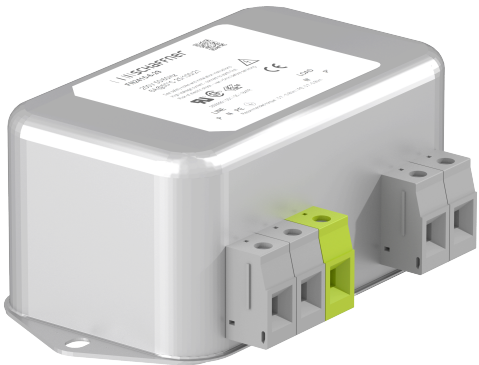
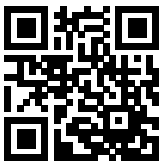


Single-phase EMC Filter for Control Equipment

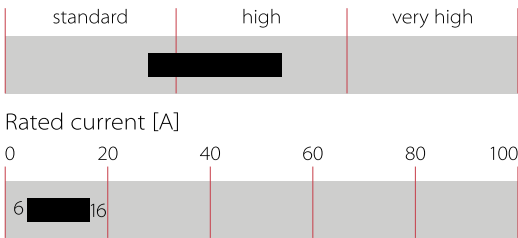


- Filter for the control line of complex equipment and machinery
- To ensure interference-free operation of control equipment (PLC, Motion-, Robot Control etc.)
- To improve operational reliability and system stability
- Compact EMC filter design with minimum space requirement



Performance indicators

Attenuation performance



Technical Specifications

Maximum continuous operating voltage	250 VAC
Operating frequency	DC to 400 Hz
Rated currents	6 to 16 A @ 50°C
High potential test voltage	P/N → E 2250VDC for 2 sec P → N 1100VDC for 2 sec
Protection category	IP 20
Overload capability	4x rated current at switch on, 1.5x rated current for 1 minute, once per hour
Temperature range (operation and storage)	-25°C to +100°C (25/100/21)
Flammability corresponding to	UL 94 V-2 or better
Design corresponding to	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
MTBF @ 50°C/250 V (Mil-HB-217F)	1,300,000 hours

Approvals & Compliances



Features and Benefits

- An additional filter for the supply cables of controls of rather large and complex systems, to ensure a reliable operation of the control unit.
- To achieve significant system stability improvement by reducing the risk of internal interference propagation and coupling.
- FN 2415 B version without leakage current (0 mA)
- FN 2415 L version with leakage current of less than 3.5 mA.
- Simple and time-saving installation with good accessibility for automatic and hand tools
- Solid, touch-safe terminal blocks offering sufficient contacting cross section according to the EN 60204-1 installation standard
- By providing a very decent attenuation performance, FN 2415 contributes significantly to the achievement of electromagnetic compliance, e.g. EN50370-1 standards for machine tools.

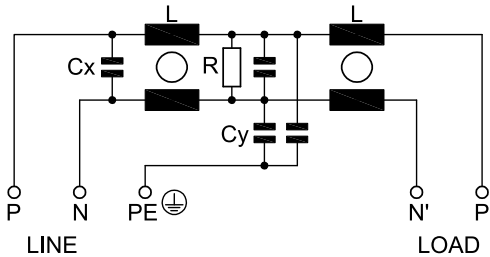
Typical Applications

Ideal for industrial equipment, machinery and diverse process automation systems, which involve any kind of control units (NC, CNC, Motion- and Robot Controls).

Large and complex machine tools with multiple driving axes and very long motor cables can be subjected to major reliability problems, provoked and by internal coupling of interferences from the drive system to the control wires.

This can cause drop outs and interrupts of the control unit and consequently lead to unnecessary downtimes of the entire machine. FN 2415 can also be used for most diverse single-phase applications, e.g. motor drives and power supplies.

Typical electrical schematic



Filter Selection Table

Filter	Buy	Rated current @40°C (25°C)	Leakage current* 250VAC/50Hz (120VAC/60Hz)	Power loss	Inductance** L	Capacitance**		Resistance** R	Input/Output	Weight
						Cx	Cy			
		[A]	[mA]	[W]	[mH]***	[μF]	[nF]	[kΩ]		[kg]
FN2415-6-29		6 (6.6)	7.85 (4.52)	2.2	8	3.3	100	220	-29	0.4
FN2415-10-29		10 (11)	7.85 (4.52)	2.4	4.2	3.3	100	220	-29	0.4
FN2415-16-29		16 (17.5)	7.85 (4.52)	4.3	3	3.3	100	220	-29	0.4
FN2415B-6-29		6 (6.6)	0.00 (0.00)	2.2	8	3.3		220	-29	0.4
FN2415B-10-29		10 (11)	0.00 (0.00)	2.4	4.2	3.3		220	-29	0.4
FN2415B-16-29		16 (17.5)	0.00 (0.00)	4.3	3	3.3		220	-29	0.4
FN2415L-6-29		6 (6.6)	2.59 (1.49)	2.2	8	3.3	33	220	-29	0.4
FN2415L-10-29		10 (11)	2.59 (1.49)	2.4	4.2	3.3	33	220	-29	0.4
FN2415L-16-29		16 (17.5)	2.59 (1.49)	4.3	3	3.3	33	220	-29	0.4

* 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.

** Tolerances apply: Inductance: -30/+50%, Capacitance: ±20%, Resistance: ±10%

*** Value of both inductors in the same

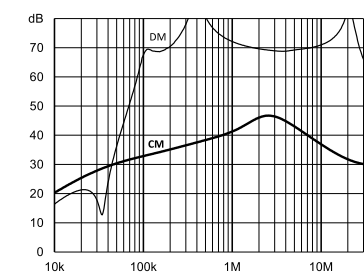
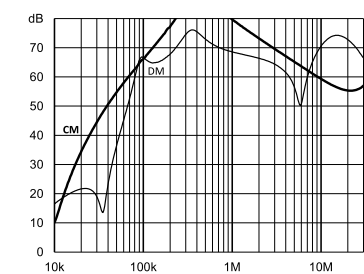
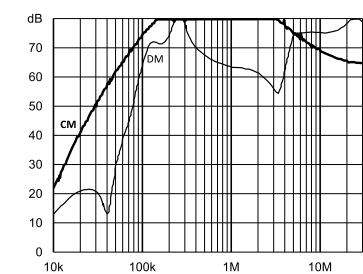
Typical Filter Attenuation

Per CISPR 17; DM (differential mode) =50 Ω/50 Ω sym; CM (common mode)=50 Ω/50 Ω asym

6 A: Standard type

L type

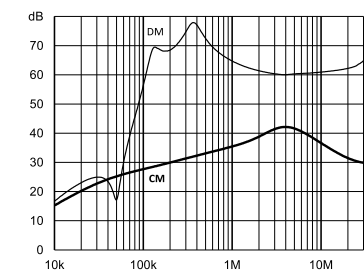
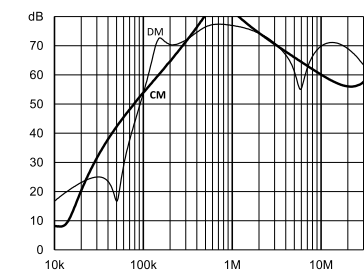
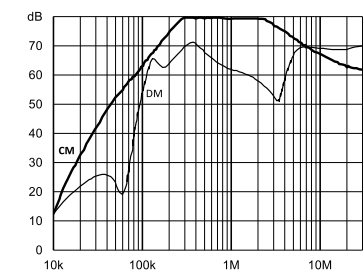
B type



10 A: Standard type

L type

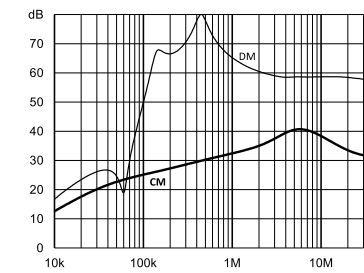
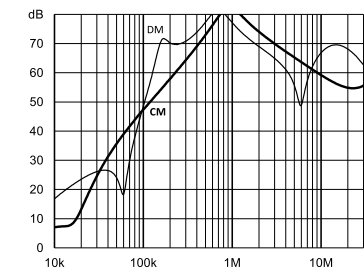
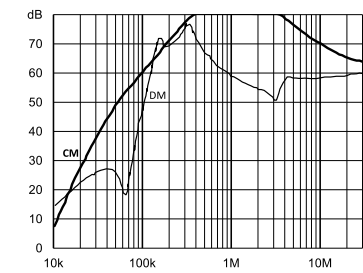
B type



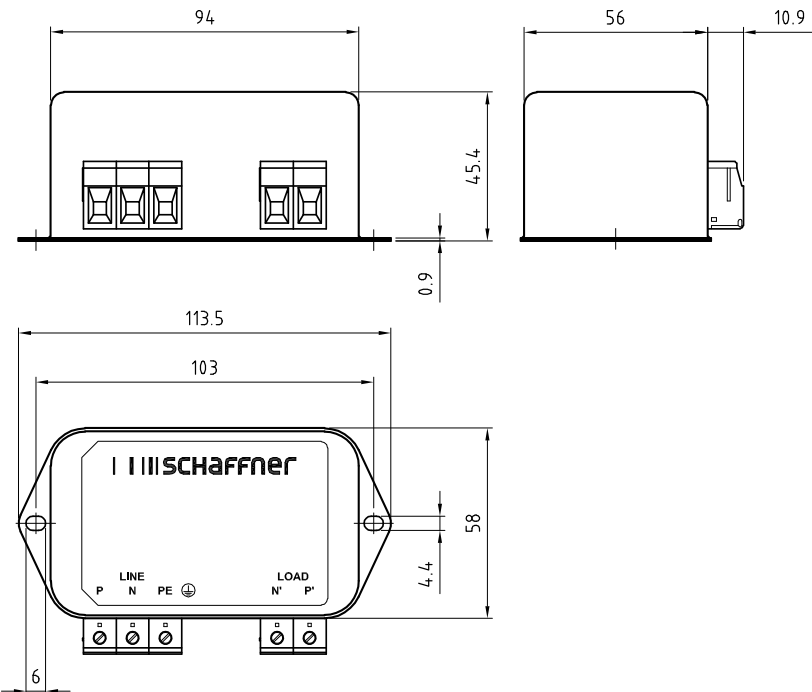
16 A: Standard type

L type

B type



Mechanical Data



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

Filter Input/Output Connector Cross Sections

	-29
Solid wire	6 mm ²
Flex wire	4 mm ²
AWG type wire	AWG 10
Recommended torque	0.6-0.8 Nm

Distribution inventory

Up-to-date inventory levels for global distributors is available at <https://products.schaffner.com/stock> or via the QR code printed on the right side



Headquarters, Global
Innovation and
Development

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

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

© 2022 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.

Sales and Application
Centers

China
Schaffner EMC Ltd. Shanghai
T20-3 C, No 565 Chuangye Road,Pudong district
201201
Shanghai
+86 2138139500
cschina@schaffner.com

Finland
Schaffner Oy
Sauvonrinne 19 H
8500
Lohja
+358 50 468 7284
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
Schoemperlenstrasse 12B
76185
Karlsruhe
+49 721 56910
germanysales@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

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 Sangerjaya 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

Spain
Schaffner EMC España
Calle Caléndula 93, Miniparc III, Edificio E El Soto de Moraleja, Alcobendas
28109
Madrid
+34 917 912 900
spainsales@schaffner.com

Sweden
Schaffner EMC AB
Östermalmströg 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

Taiwan
Schaffner EMV Ltd.
U-Town
20 Floor-2, No 97, Section 1, XinTai 5th Road, XiZhi District
22175
New Taipei City
+886 226975500
taiwansales@schaffner.com

Thailand
Schaffner EMC Co. Ltd.
Sathorn Square Tower
Room 3780, 37FL, 98 North-Sathorn Rd, Silom, Bangrak
10500
Bangkok
+66 621056397
thailandsales@schaffner.com

United Kingdom
Schaffner Ltd.
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

Mouser Electronics

Authorized Distributor

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

Schaffner:

[FN2415-10-29](#) [FN2415-16-29](#) [FN2415-6-29](#) [FN2415B-6-29](#) [FN2415B-10-29](#) [FN2415B-16-29](#) [FN2415L-16-29](#)
[FN2415L-6-29](#) [FN2415L-10-29](#)