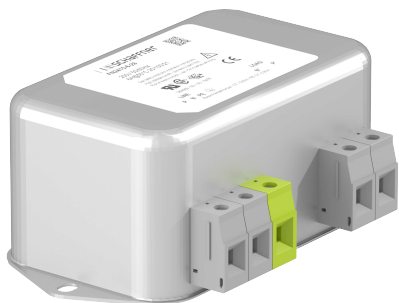


Single-phase EMC Filter for Control Equipment



- 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

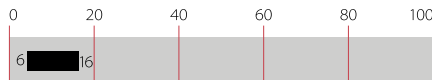


Performance indicators

Attenuation performance



Rated current [A]



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



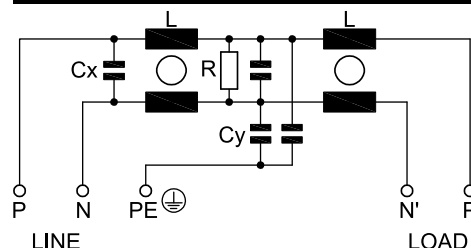
Features and benefits

- 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) [A]	Leakage current* 250VAC/50Hz (120VAC/60Hz)		Power loss [W]	Inductance** L [mH]***		Capacitance** Cx Cy [μF] [nF]		Resistance** R [kΩ]	Input/Output	Weight [kg]
			[mA]	[mA]		[mH]***	[μF]	[nF]				
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		

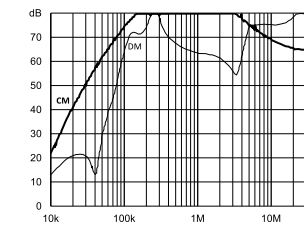
* Maximum leakage under normal operating conditions (acc. to IEC60939-3). Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

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

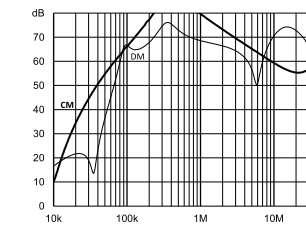
*** Value of both inductors in the same

Typical filter attenuation

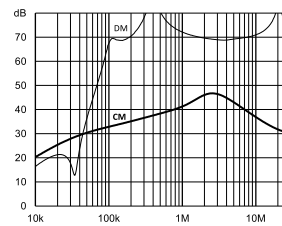
Per CISPR 17; DM (differential mode)=50 Ω/50 Ω sym; CM (common mode)=50 Ω/50 Ω asym



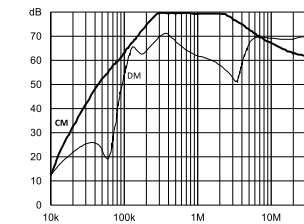
6 A: Standard type



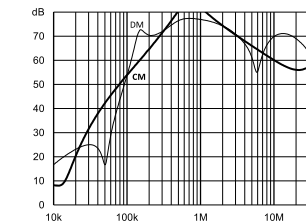
L type



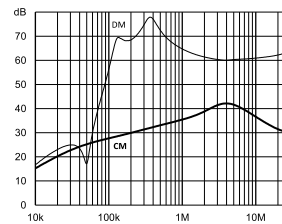
B type



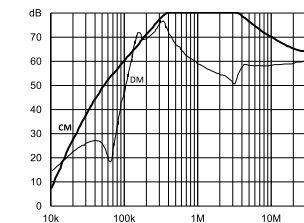
10 A: Standard type



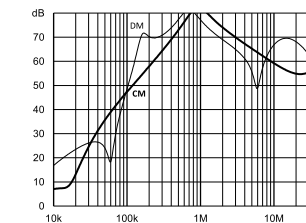
L type



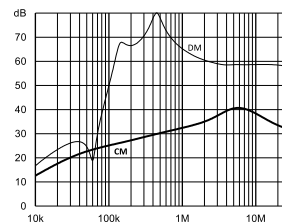
B type



16 A: Standard type

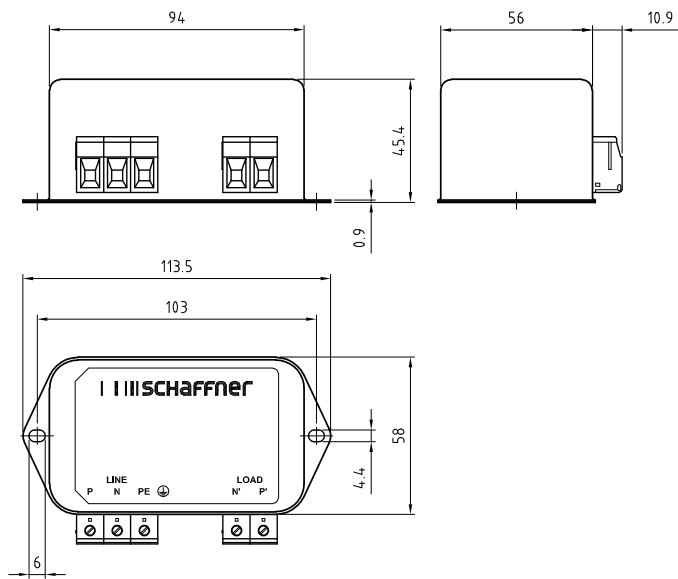


L type



B type

Mechanical Data



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

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

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

Please visit www.schaffner.com to find more details on filter connectors.





Headquarters, global innovation and development

Switzerland

Schaffner Group

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



Sales and application centers

China

Schaffner EMC Ltd. Shanghai

T20-3 C, No 565 Chuangye Road,
Pudong district
201201 Shanghai
T +86 21 3813 9500
cschina@schaffner.com
www.schaffner.com.cn

Finland

Schaffner Oy

Sauvonrinne 19 H
08500 Lohja
T +358 50 468 7284
finlandsales@schaffner.com

France

Schaffner EMC S.A.S.

16-20 Rue Louis Rameau
95875 Bezons
T +33 1 34 34 30 60
F +33 1 39 47 02 28
francesales@schaffner.com

Germany

Schaffner Deutschland GmbH

Schoemperlenstrasse 12B
76185 Karlsruhe
T +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
T +91 80 67935355
indiasales@schaffner.com

Italy

Schaffner EMC S.r.l.

Via Ticino, 30
20900 Monza (MB)
T +39 039 21 41 070
italysales@schaffner.com

Japan

Schaffner EMC K.K.

Taiju-Seimei Sangenjaya Bldg.
1-32-12, Kamiyuma, Setagaya-ku
154-0011 Tokyo
T +81 3 5712 3650
F +81 3 5712 3651
japansales@schaffner.com
www.schaffner.jp

Singapore

Schaffner EMC Pte Ltd.

#05-09, Kg Ubi Ind. Estate
408705 Singapore
T +65 6377 3283
F +65 6377 3281
singaporesales@schaffner.com

Spain

Schaffner EMC España

Calle Caléndula 93, Miniparc III, Edificio E
El Soto de Moraleja, Alcobendas
28109 Madrid
T +34 917 912 900
F +34 917 912 901
spainsales@schaffner.com

Sweden

Schaffner EMC AB

Östermalmstorg 1
114 42 Stockholm
T +46 8 5050 2425
swedensales@schaffner.com
www.schaffner.com

Switzerland

Schaffner EMV AG

Industrie Nord
Nordstrasse 11e
4542 Luterbach
T +41 32 681 66 88
T +41 32 681 66 26
switzerlandsales@schaffner.com

Taiwan

Schaffner EMV Ltd.

20 Floor-2, No 97, Section 1, XinTai 5th Road
22175 XiZhi District New Taipei City 22175
T +886 2 2697 5500
F +886 2 2697 5533
taiwansales@schaffner.com
www.schaffner.com.tw

Thailand

Schaffner EMC Co. Ltd.

Northern Region Industrial Estate
67 Moo 4 Tambon Ban Klang
Amphur Muangng P.O. Box 14
51000 Lamphun
T +66 53 58 11 04
F +66 53 58 10 19
thailandsales@schaffner.com

United Kingdom

Schaffner Ltd.

1, Oakmede Place
Binfield
RG42 4JF Berkshire
T +44 118 9770070
F +44 118 9792969
uksales@schaffner.com

USA

Schaffner EMC Inc.

52 Mayfield Avenue
Edison, New Jersey
T +1 732 225 9533
F +1 732 225 4789
usasales@schaffner.com
www.schaffnerusa.com

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