X10837

Power Line Filter – EMI Filter

EN 2010 Series

AC/DC EMI Filters

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KEY FEATURES:

- ✓ Single-stage EMI/RFI filter for AC/DC systems
- ✓ Rated up to **30A (EN2010), 60A (EN2010-60-S)**
- ✓ Optional **low-leakage (A)** and **medical-grade (B)** variants
- ✓ **Wide input frequency:** DC to 400Hz
- ✓ **Voltage withstand:** up to 3500VDC
- ✓ **Chassis mount** with various terminal styles
- ✓ **Temperature range:** -25°C to +100°C
- ✓ Certified to **UL 1283, EN60939, and RoHS compliant**

APPLICATIONS:

Suitable for industrial, commercial, and medical use.

- ➢ Medical equipment (B-type version)
- ➢ Office automation and datacom
- ➢ Consumer and household appliances
- ➢ Electronic data processing
- ➢ Outdoor and embedded industrial systems

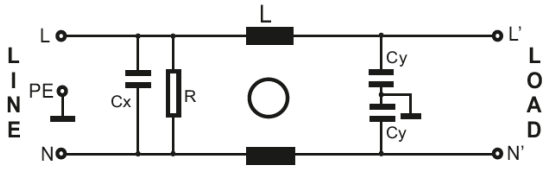
The **EN 2010 EMI Filter Series** delivers robust electromagnetic interference suppression for a broad range of **AC and DC applications**. Designed for easy chassis mounting, these **single-stage EMI filters** offer excellent size-to-current ratio and performance, with current ratings from 1A to 60A. Ideal for **consumer electronics, medical devices, household appliances, and data processing equipment**, they are certified to **UL 1283 and EN60939 standards**, with **UL94V-2 flame-retardant construction** for safety.

Available in three versions—**standard, low leakage (A-type)** and **medical (B-type)** without Y-capacitors—the EN 2010 filters meet stringent safety and performance criteria. They are also offered in **dual-stage configurations (EN 2060/EN 2070)** for demanding EMI environments. Each model supports operation from **DC to 400Hz**, with high voltage withstand ratings and **low leakage current designs** suited for sensitive electronics.

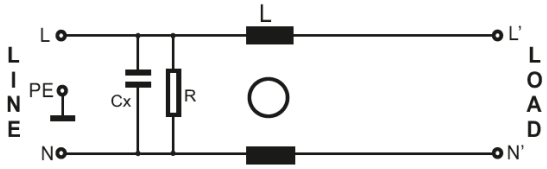
TECHNICAL SPECIFICATIONS

Maximum continuous operating voltage	250VAC, 50/60Hz
Operating Frequency	DC to 400Hz
Rated Currents	1 to 30A @40°C
High Potential Test voltage	L-GND 2550 VDC for 2 sec L-GND 3500 VDC for 2 sec (B types) L - N 1100 VDC for 2 sec
Temperature range (operation and storage)	-25°C to +100°C (25/100/21)
Certified to	UL 1283,EC/EN60939 (Applies to AC and DC Applications)
Flammability Corresponding to	UL 94V-2 better

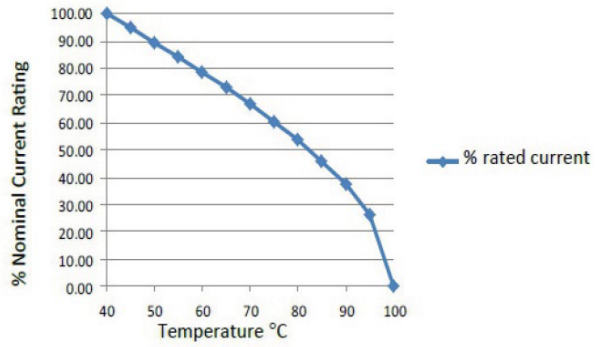
Electrical Shematic



Type B (Medical Version)



Temperature Derating Curve for EMC Filters Rated at 40°C Ambient and 100°C Maximum



YOU MUST READ THIS BEFORE INSTALLATION

ELECTRICAL SAFETY
WARNING: RISK OF ELECTRIC SHOCK
Always consult the Installation & Maintenance Instructions before connecting this product to the power supply.
WARNING: Disconnect Power Before Servicing
Ensure the electrical supply is safely disconnected before connecting to any supply, load, or control terminals.

INSTALLATION REQUIREMENTS
WARNING: Installation by Qualified Personnel Only
This product must only be installed or fitted by a competent, qualified installer familiar with the relevant electrical standards and installation practices.

USER RESTRICTIONS
WARNING: Not for Use by Vulnerable Individuals
This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised or instructed by a person responsible for their safety.

USAGE ENVIRONMENT
WARNING: Industrial Use Only
This is an industrial-grade product and is not intended for household use.

HOT SURFACE WARNING
WARNING: Hot Surfaces
On certain models, surfaces marked with this symbol become hot during use. Avoid direct contact and follow all thermal safety precautions.

EN 2010 Series

AC/DC EMI Filters

FILTER SELECTION TABLE

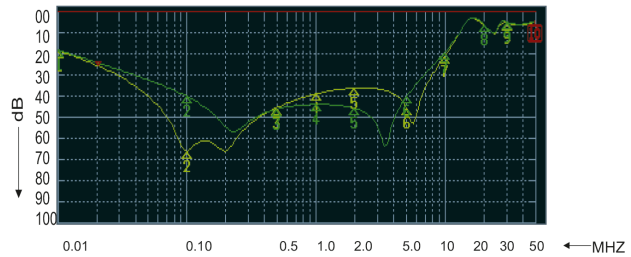
Filters	Rated current @40°C (25°C) A	Leakage current @250V 50Hz mA	Inductance (L-L) ΣL mH	Capacitance (L-N) ΣCx µF	Capacitance (L-G) ΣCy nF	Resistance (L-N) ΣR KΩ	Connection type		
									
EN2010-1-X	1(1.15)	0.74	12	0.1	9.4	1000	F	W	
EN2010-3-X	3(3.45)	0.74	2.5	0.1	9.4	1000	F	W	
EN2010-6-X	6(6.90)	0.74	1	0.1	9.4	1000	F	W	
EN2010-10-X	10(11.5)	0.74	0.8	0.1	9.4	1000	F	W	
EN2010-12-X	12(13.8)	0.74	0.7	0.1	9.4	1000	F	W	
EN2010-13-X	13(15.0)	0.74	0.7	0.1	9.4	1000	F	W	
EN2010-16-X	16(18.4)	0.74	0.6	0.1	9.4	1000	F	W	
EN2010-20-X	20(23.0)	1.45	0.7	0.47	20	1000	F	W	S
EN2010-30-S	30(34.5)	1.45	0.7	0.47	20	1000			S
EN2010-60-S	60(69.0)	1.45	1	1.5	20	1000			S
Low Leakage Version									
EN2010A-1-X	1(1.15)	0.074	12	0.1	0.94	1000	F	W	
EN2010A-3-X	3(3.45)	0.074	2.5	0.1	0.94	1000	F	W	
EN2010A-6-X	6(6.90)	0.074	1	0.1	0.94	1000	F	W	
EN2010A-10-X	10(11.5)	0.074	0.8	0.1	0.94	1000	F	W	
EN2010A-12-X	12(13.8)	0.074	0.7	0.1	0.94	1000	F	W	
EN2010A-13-X	13(00.0)	0.074	0.7	0.1	0.94	1000	F	W	
EN2010A-16-X	16(18.4)	0.074	0.6	0.1	0.94	1000	F	W	
EN2010A-20-X	20(23.0)	0.074	0.7	0.47	0.94	1000	F	W	S
EN2010A-30-S	30(34.5)	0.074	0.7	0.47	20	1000			S
EN2010A-60-S	60(69.0)	0.074	1	1.5	20	1000			S
Medical Version Without Y cap									
EN2010B-1-X	1(1.15)	0.002	12	0.1		1000	F	W	
EN2010B-3-X	3(3.45)	0.002	2.5	0.1		1000	F	W	
EN2010B-6-X	6(6.90)	0.002	1	0.1		1000	F	W	
EN2010B-10-X	10(11.5)	0.002	0.8	0.1		1000	F	W	
EN2010B-13-X	12(13.8)	0.002	0.7	0.1		1000	F	W	
EN2010B-12-X	13(00.0)	0.002	0.7	0.1		1000	F	W	
EN2010B-16-X	16(18.4)	0.002	0.6	0.1		1000	F	W	
EN2010B-20-X	20(23.0)	0.002	0.7	0.47		1000	F	W	S
EN2010B-30-S	30(34.5)	0.002	0.7	0.47		1000			S
EN2010B-60-S	60(69.0)	0.002	1	1.5		1000			S

To compile a complete part number, please replace the -.. with the required I/O connection style (e.g. EN 2010-30-S, EN 2010B-10-F). The different letters code the ** Maximum leakage under usual AC operating conditions (acc. IEC 60939-3). Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

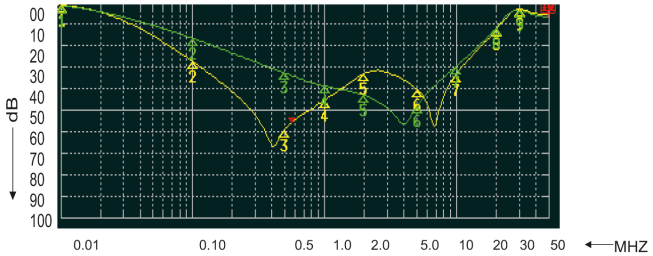
TYPICAL INSERTION LOSS, dB (50/50 Ohm)

Insertion Loss: Common mode -
Differential mode-

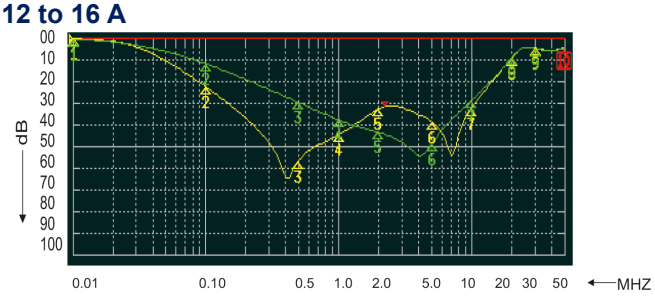
1 to 3 A



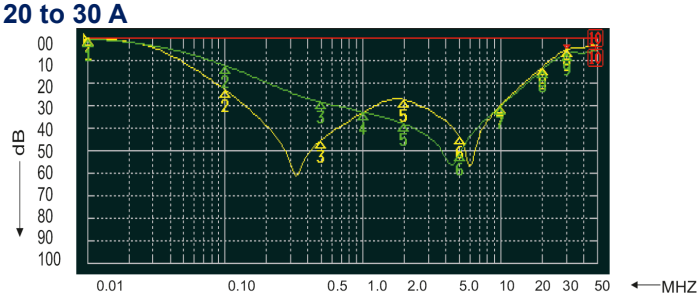
6 to 10 A



12 to 16 A



20 to 30 A



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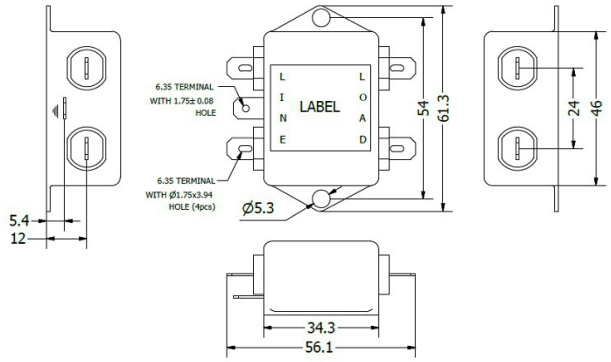
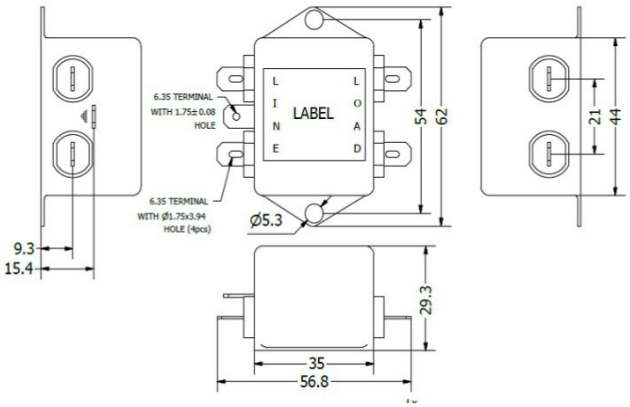
Mechanical Details

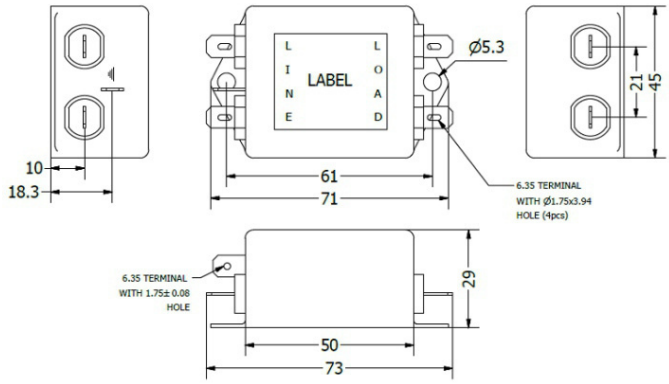
1 to 6 & 13 Amp Faston Terminal

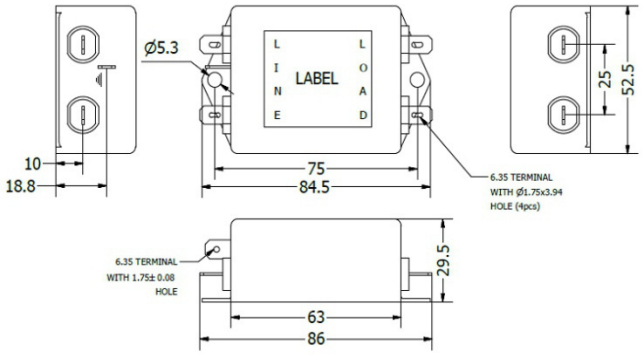


10 and 12 Amp Faston Terminal

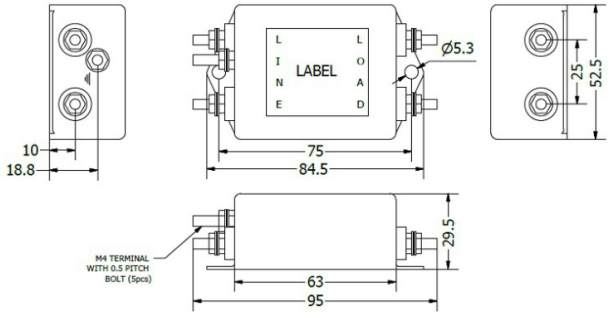


16Amp Faston Terminal

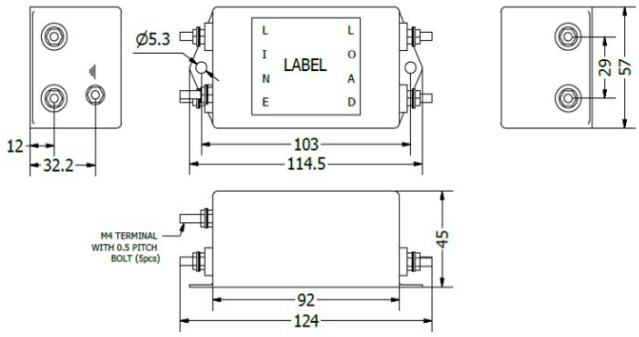




20Amp Screw Terminal



30 Amp Screw Terminal (M4)



**All Dimension are in mm

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AC/DC EMI Filters

RECOMMENDATIONS

FUSING

It is recommended to use semiconductor (fast acting) type fuses or circuit breakers (Semiconductor - MCB) for unit protection. On initial switch on some loads may need an increased Factor of Safety (F of S) for unit and/or device protection. See SRA datasheet for information.

DOCUMENTS

Other documents available on request, which may be appropriate for your application:

Code	Identity	Description
X10229	RFI	Filter recommendations: Addressing the EMC Directive
X10213	ITA	Interaction: Uses for phase angle and for burst fire control
X10255	SRA	Safety Requirements: Addressing the Low Voltage Directive (LVD) including, Thermal Data/Cooling, Live Parts Warning, Earthing Requirements and Fusing Recommendations

It is recommended that installation and maintenance of this equipment should be done with reference to the current edition of the I.E.T. regulations (BS7671) by suitably qualified/trained personnel. The regulations contain important requirements regarding the safety of electrical equipment. For International standards refer STANDARDS on D of C.

PRODUCT CODE AND RELATED PRODUCT CODE

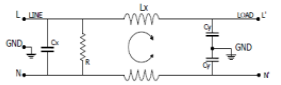
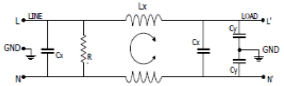
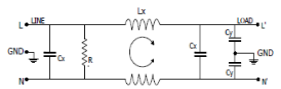
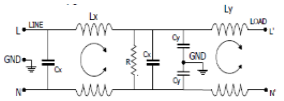
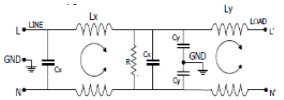
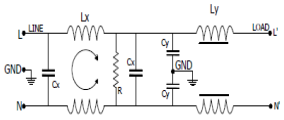
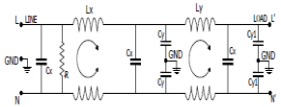
Product Code	Product Description
A-EN2010-6-F	Single-phase Chassis Mount EMI/RFI filter 10 series, 6A, Fast On
A-EN2010-10-F	Single-phase Chassis Mount EMI/RFI filter 10 series, 10A, Fast On
A-EN2010-13-F	Single-phase Chassis Mount EMI/RFI filter 10 series, 13A, Fast On
A-EN2010-16-F	Single-phase Chassis Mount EMI/RFI filter 10 series, 16A, Fast On
A-EN2010-20-F	Single-phase Chassis Mount EMI/RFI filter 10 series, 20A, Fast On
A-EN2010-30-S	Single-phase Chassis Mount EMI/RFI filter 10 series, 30A, Screw

FILTERS RECOMMENDATIONS

Contact Us: 0044 (0) 1704-516 501 enquiries@united-automation.com www.united-automation.com

EMC EMV FILTER

APPLICATION AND BASIC DIFFERENCE OF ALL EN20XX SERIES

Sn	Series	Type	Rated Current (A)	Stage	Performance	Circuit details	Application	Medical Version	Low Leakage	Surge Protection
1	EN2010	Single Phase	1, 3, 6, 10, 12, 13,16, 20, 30	Single	General Attenuation		General Purpose Application, Household equipment, medical equipment office automation & Electrical and Electronics equipment	Available	Available	
2	EN2020	Single Phase	1,3, 6, 10, 12,16, 20, 30	Single	High differential Mode Attenuation		General Purpose Application, Household equipment, medical Equipment office automation, datacom application & Electrical and Electronics equipment	Available	Available	
3	EN2030	Single Phase	1, 3, 4, 6, 8, 10, 12, 16, 20, 30	Single	High differential Mode Attenuation		General Purpose Applications, Household equipment, medical Equipment office automation & Electrical and Electronics equipment, high noise application	Available	Available	**Available, 2KV IEC 61000-4-5
4	EN2060	Single Phase	1, 3, 6, 10,12, 16, 20, 30	Dual	High differential & Common Mode attenuation		Industrial Applications, Building Automation, Household equipment, medical equipment office automation, Electronics data processing equipment & Various Noisy applications, Motor drives and applications.	Available	Available	
5	EN2070	Single Phase	1, 3, 6, 10, 12, 16, 25, 36	Dual	High differential & Common Mode attenuation		Industrial Applications, Building Automation, Household equipment, Medical Equipment office automation, Electronics data processing equipment & Various Noisy applications, Motor drives and applications.	Available	Available	
6	EN2080	Single Phase	1, 3, 6, 10, 12, 16	Dual	High differential & Common Mode attenuation		Industrial Applications, Building Automation, Household equipment, medical equipment, office automation, Electronics data processing equipment & Various Noisy applications, Motor drives and applications.	Available	Available	
7	EN2090	Single Phase	1, 3, 4, 6, 8, 10, 12, 16, 20, 30	Dual	Very high differential & Common Mode attenuation		Industrial applications, Building Automation, Household equipment, Medical Equipment, office automation, Electronics data processing equipment & Various Noisy applications, Motor drives and applications.	Available	Available	**Available, 2KV IEC 61000-4-5

Note: ** Surge protection Filter is only CE and ROHS Approved

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