X10840

Power Line Filter – EMI Filter

EN 358 Series

EMI/RFI Filters for Motor Drives

CONTACT US:

0044 (0) 1704-516 501

enquiries@united-automation.com

www.united-automation.com

KEY FEATURES:

- ✓ **Ultra-compact, slimline design** – easy to install in space-restricted panels
- ✓ **Rated for 3×480/277VAC**, 50/60Hz
- ✓ **Current ratings from 7A to 180A @ 50°C**
- ✓ **IP20 protection category**
- ✓ **Overload handling**: 1.5× rated current for 60 sec, once per hour
- ✓ **Class C1 & C2 compliance** (EN 61800-3) for motor drive EMC
- ✓ **High attenuation** in the 150kHz–30MHz frequency range
- ✓ **Excellent thermal stability and saturation resistance**
- ✓ **Solid safety connector blocks** for simplified wiring

APPLICATIONS:

- ➢ Three-phase variable speed motor drives
- ➢ Servo drives, inverters, converters
- ➢ HVAC systems, elevators, UPS
- ➢ Industrial automation & process control
- ➢ Power supplies & energy conversion systems

EN 358 EMI/RFI Filters for Motor Drives

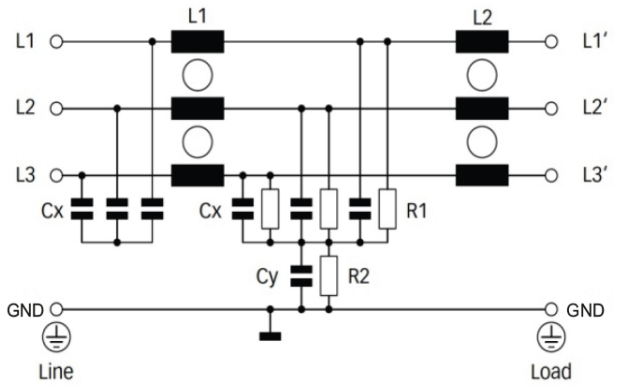
The **EN 358 series** offers compact and high-performance **EMI/RFI filters** specially designed for three-phase motor drives, servo drives, and energy conversion devices. These filters ensure full compliance with **EN 61800-3 Class C1 and C2** standards, even over cable lengths up to 50 metres. Their **ultra-slim profile**, high attenuation from **150kHz to 30MHz**, and **robust overload handling** make them ideal for installation in tight spaces while maintaining exceptional electromagnetic compatibility (EMC).

TECHNICAL SPECIFICATIONS

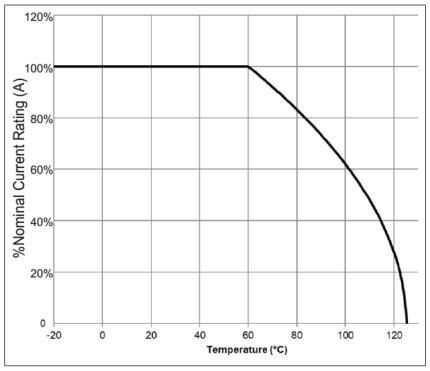
Maximum continuous operating voltage	3x480/277 VAC,50/60Hz
Operating Frequency	50/60Hz
Rated Currents	7 to 180A @50°C
High Potential Test voltage	L-GND 2650 VDC for 2 sec(EN358) L-GND 2750 VDC for 2 sec (EN358H) L - L 2250 VDC for 2 sec
Temperature range (operation and storage)	-25°C to +100°C (25/100/21)
Certified to	UL 1283, EC/EN60939 (Applies to AC and DC Applications)
Flammability Corresponding to	UL 94V-2 better
Protection Category	IP 20
Overload Capability	1.5x Rated Current for 60 sec, once/hour

- New solid safety connector blocks available for the whole range
- Exceptional attenuation performance from 150 kHz to 30 MHZ
- Excellent saturation resistance up to 50 m cable length
- Most compact and slim filter design in fit with class C1 &C2 limit

Electrical Shematic



Temperature Derating Curve for EMC Filters Rated at 50°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 358 Series

EMI/RFI Filters for Motor Drives

FILTER SELECTION TABLE

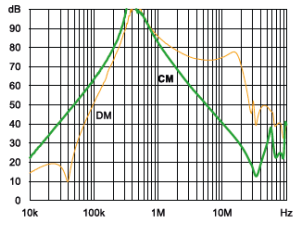
Filters**	Rated current @50°C (40°C) A	Leakage current @480VAC/50Hz mA	Typical drive Power Rating kW	Power Loss @25°C/50Hz W	Connection type Input/Output	Weight Kg
EN358-7-T	7(7.7)	4.3	4	3.8	T	0.5
EN358-16-T	16(17.5)	4.3	7.5	6.1	T	0.8
EN358-30-T	30(32.9)	4.3	15	11.8	T	1.2
EN358-42-T	42(46.0)	4.3	22	15.8	T	1.4
EN358-55-T	55(60.2)	4.3	30	26	T	2.2
EN358-75-T	75(82.2)	4.3	37	32	T	2.7
EN358-100-T	100(109.5)	4.3	55	34.5	T	4.3
EN358-130-T	130(142.4)	4.3	75	43	T	4.5
EN358-180-T	180(197.1)	4.3	90	58.3	T	6
High Voltage Version (520VAC)						
EN358H-7-T	7(7.7)	4.7	4	3.8	T	0.5
EN358H-16-T	16(17.5)	4.7	7.5	6.1	T	0.8
EN358H-30-T	30(32.9)	4.7	18.5	11.8	T	1.2
EN358H-42-T	42(46.0)	4.7	22	15.8	T	1.4
EN358H-55-T	55(60.2)	4.7	37	26	T	2.2
EN358H-75-T	75(82.2)	4.7	45	32	T	2.7
EN358H-100-T	100(109.5)	4.7	55	34.5	T	4.3
EN358H-130-T	130(142.4)	4.7	75	43	T	4.5
EN358H-180-T	180(197.1)	4.7	110	58.3	T	6

*** Calculated at rated current, 440 VAC (EN358)/480 VAC (EN358H) and cos phi=0.8. The exact value depends upon the efficiency of the drive, the motor and the entire application.**
**** Standardised calculated leakage current acc. IEC60939 under normal operating conditions (EN358 at 480 VAC and EN358H at 520 VAC).**

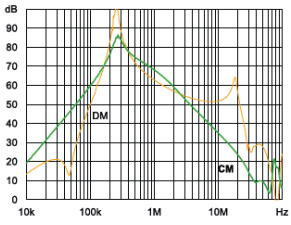
TYPICAL INSERTION LOSS, dB (50/50 Ohm)

Insertion Loss: Common mode - Differential mode-

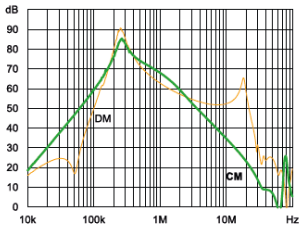
7 A type



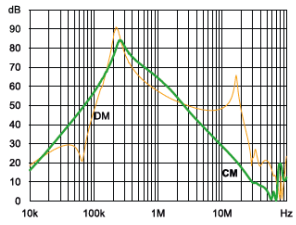
16 A type



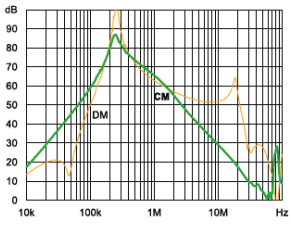
30 A type



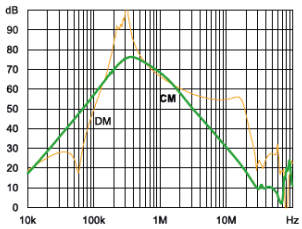
42 A type



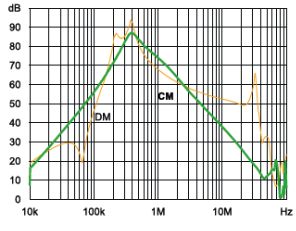
55 A type



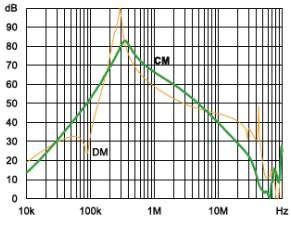
75 A type



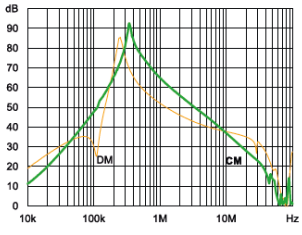
100 A type



130 A type



180 A type



united automation
BMF House - Wight Moss Way,
Southport Business Park
Southport PR8 4HQ
ENGLAND, UNITED KINGDOM

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

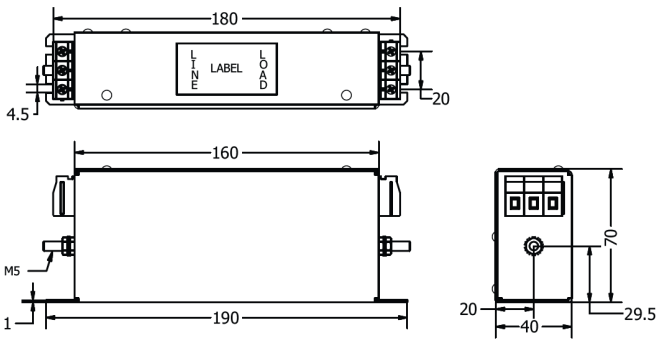
unitedautomationltd UA_Limited

EN 358 Series

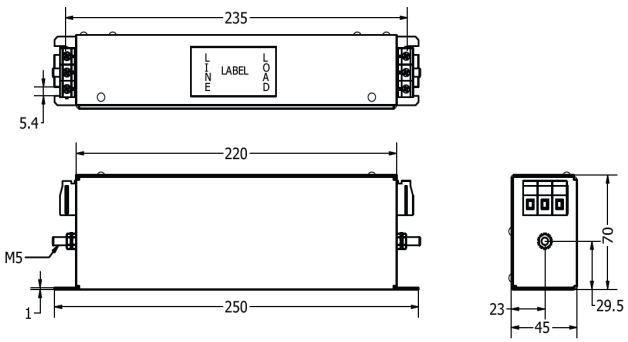
EMI/RFI Filters for Motor Drives

Mechanical Details

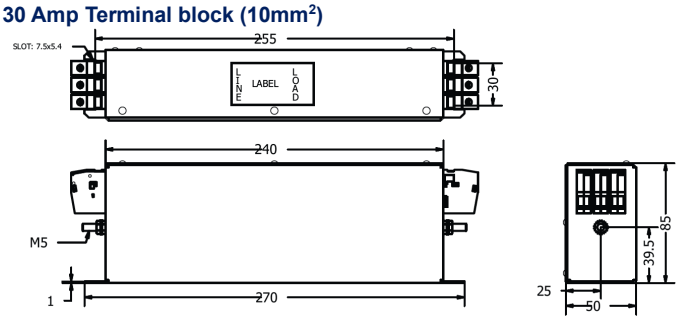
7 Amp Terminal block (10mm²)



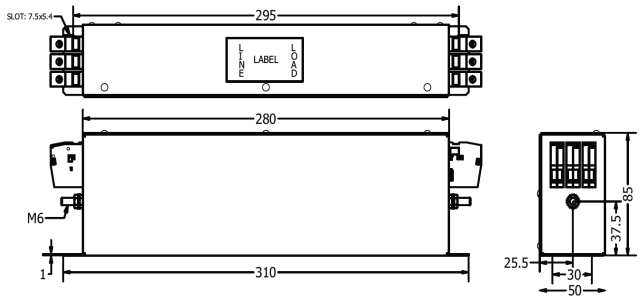
16 Amp Terminal block (10mm²)



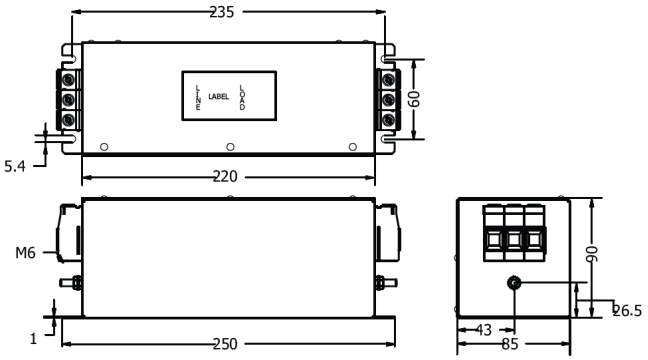
30 Amp Terminal block (10mm²)



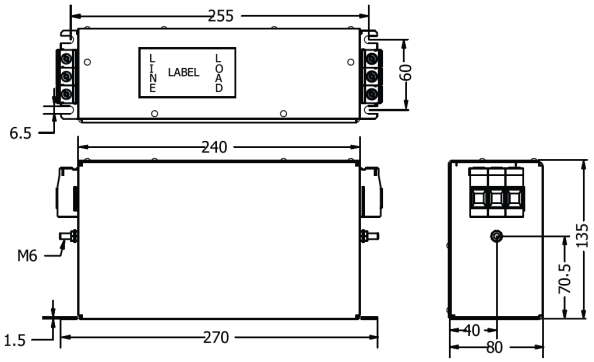
42 Amp Terminal block (10mm²)



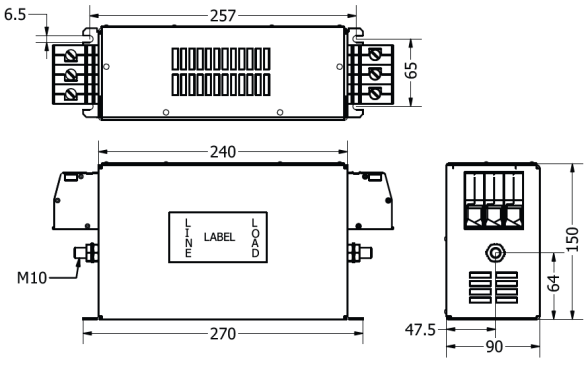
55 Amp Terminal block (25mm²)



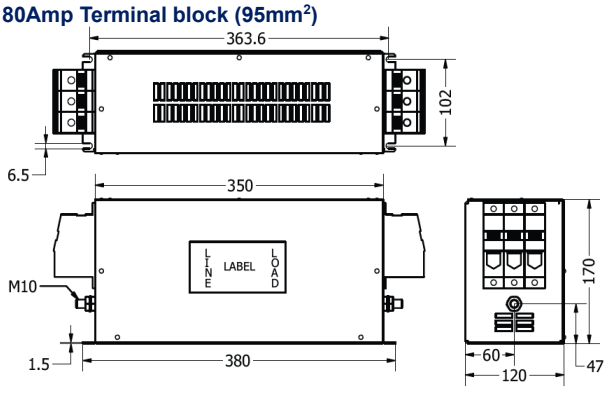
75 Amp Terminal block (25mm²)



100 & 130Amp Terminal block (50mm²)



180Amp Terminal block (95mm²)



**All Dimension are in mm

BMF House - Wight Moss Way,
Southport Business Park
Southport PR8 4HQ
ENGLAND, UNITED KINGDOM

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

unitedautomationltd UA_Limited

EN 358 Series

EMI/RFI Filters for Motor Drives

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

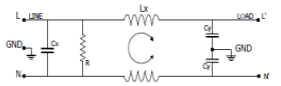
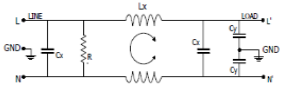
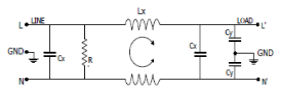
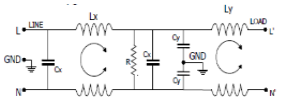
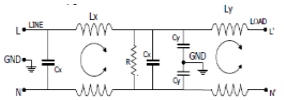
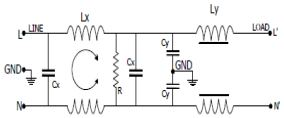
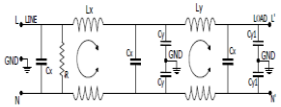
Product Code	Product Description
A-EN358-16-T	Three phase Chassis Mount EMC/RFI filter, 358 series, 16A, Terminal Block
A-EN358-30-T	Three phase Chassis Mount EMC/RFI filter, 358 series, 30A, Terminal Block
A-EN358-100-T	Three phase Chassis Mount EMC/RFI filter, 358 series, 100A, Terminal Block

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

united automation

BMF House - Wight Moss Way,
Southport Business Park
Southport PR8 4HQ
ENGLAND

unitedautomationltd UA_Limited