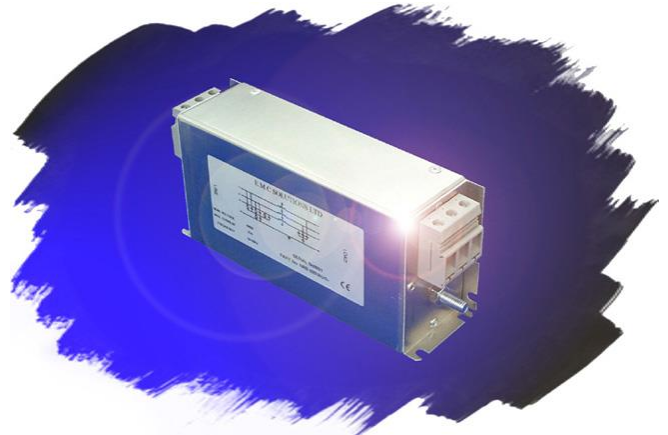


# Low Earth Leakage Range

Current Ratings: **3,6,10,16,25,32,50,63,80, 120** AMPS.

Operating Voltage: Single Phase – 230V up to Three Phase – 480V A.C.



The u200 filter Range has been specifically designed to overcome EMC problems inherently caused by switched mode power supplies, in applications especially where size constraints and low earth leakage are an issue.

This new range of micro size filters has high attenuation factors and high current capabilities without having a large profile. Switched mode power supplies electronically switch high voltages and currents to improve efficiency and reduce losses in power conversion. This switching generates high levels of Radio Frequency Interference (RFI) and high energy surges, which can disturb or damage other electronics circuits.

The u200 series is a two-stage design in 2, 3 or 4 line formats, with excellent suppression characteristics particularly at low frequency where switch mode power supplies tend not to perform and require effective attenuation. They also have very low earth leakage, which give the added benefit of being able to be used in medical devices and applications.

The filter components are housed in compact chassis mounted, aluminum enclosures that allows side or base mounting, it is then encapsulated in a polyurethane potting compound to give excellent protection against shock and vibration. These combinations give a total range of over 50 filter applications.

## TYPICAL APPLICATIONS

- Switched mode power supplies
- High current switch mode power supplies
- Thyristor driven equipment
- Air conditioners/Fan controllers
- Uninterruptible power supplies
- Pulse width modulation circuits
- Medical devices and applications

## TECHNICAL ADVANTAGES

- High current capability
- Micro size
- High common & differential mode insertion loss
- Improved mid frequency performance
- Insulated safety screw contacts
- Side or base mounting
- Optional input transient suppression to suit application

## COMMERCIAL ADVANTAGES

- Assists compliance with the EMC directive
- State of the art technology ensures superior performance
- Competitively priced
- Compact size - Reduced weight - Cost effective component

## STANDARDS

The u200 range of filters is built in accordance with the relevant BS, VDE, UL, CE & CSA safety standards.

All Total EMC Products Ltd filters & power supplies are designed to meet the latest requirements for Health and Safety, Particularly EN 60939-2-2005

The u200 range is specifically designed to assist AC input - DC Output industrial frequency converters to meet European Emission standards. E.g. EN55011, EN55014, EN55022, EN50081-2 and EN50081-1.

## REGULATIONS

From the 15th of December 2004 all electrical/electronic apparatus - with few exceptions - sold or taken into service within the European Community must comply with the essential requirements of the EMC directive 2014/30/EU.

Failure to do so is a criminal offence in the U.K.



## Technical Specifications

### Single Phase – Two Stage

Current (Amps)	No of Lines	Operating Voltage @ 50-60Hz	Max AC Volt Drop @ Full Load	Earth Leakage	Inductance Per Line (Typical) mH	Storage Temp Range	Temp Rise @ Full Load	Termination Type	Dimensions								
									A	B	C	D	E	F	G	H	I
3	2	230V	<1V/Line	470uA	9.8	-25 to +85°C	<40°C	Fast-On	120	60	40	109	30	5.2	24	5.2	M4 x 15mm
6					8.2												
10					2.76												
13					2.52												
20					1.84												
30				4.7mA	1.7			Phoenix Contact	170	80	50	160	10	30	36	5.2	M6 x 20mm
50					0.7												
80				10mA	0.92												
110					0.74												

M = Earth Leakage up to 300uA

S = Earth Leakage below 100uA

### Three Phase – Two Stage

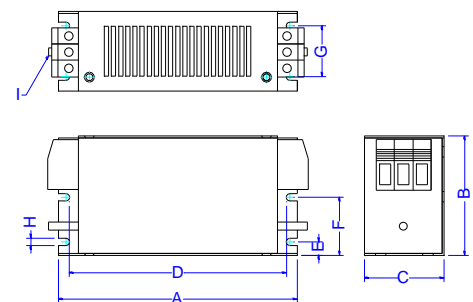
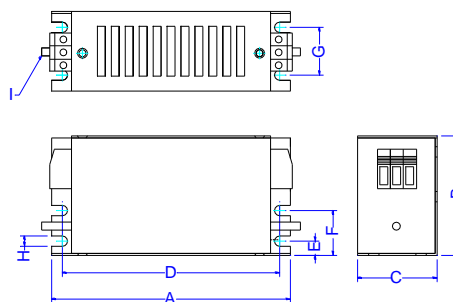
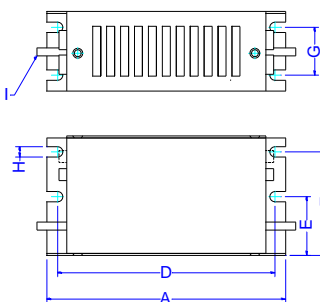
Current (Amps)	No of Lines	Operating Voltage @ 50-60Hz	Max AC Volt Drop @ Full Load	Earth Leakage	Inductance Per Line (Typical) mH	Storage Temp Range	Temp Rise @ Full Load	Termination Type	Dimensions								
									A	B	C	D	E	F	G	H	I
3		230V – 440V		470uA	4.4	-25 to +85°C	<40°C	Fast-On	120	60	40	109	30	5.2	24	5.2	M4 x 15mm
6					2.4												
10					1.4												
13		440V		5mA	1.2			Phoenix	230	130	70	223	20	65	50	M6 X 20	
32																	
Current (Amps)	No of Lines	Operating Voltage @ 50-60Hz	Max AC Volt Drop @ Full Load	Earth Leakage	Inductance Per Line (Typical) mH	Storage Temp Range	Temp Rise @ Full Load	Termination Type	Dimensions								
									A	B	C	D	E	F	G	H	I
3	4	230V – 440V	<1V/Line	470uA	4.4	-25 to +85°C	<40°C	Fast-On	120	60	40	109	30	5.2	24	5.2	M4 x 15mm
6					2.4												
10					1.4												
13		440V		5mA	1.2			Pheonix	230	130	70	223	20	65	50	M6 X 20	
32																	

## Dimensional Data

3,6,10,13,20 Amp 2 Line  
3,6,10,13 Amp 3/4 Line

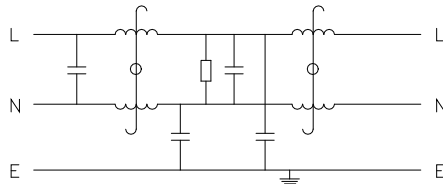
30,50 Amp 3 Line

80,110 Amp 3 Line

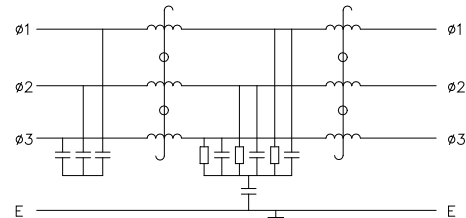


## Schematics

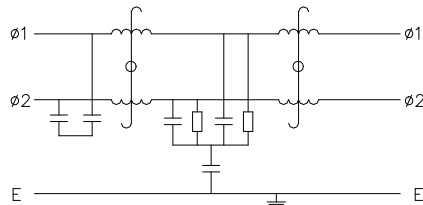
Single Phase



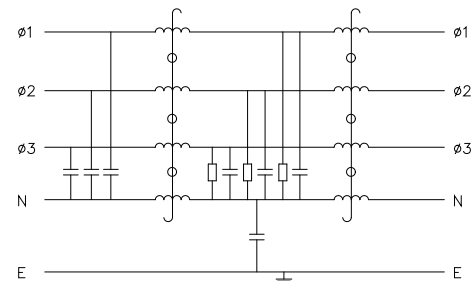
Three Phase



Two Phase

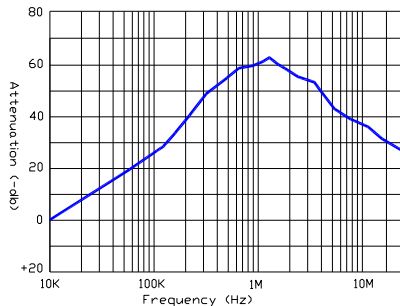


Three Phase & Neutral

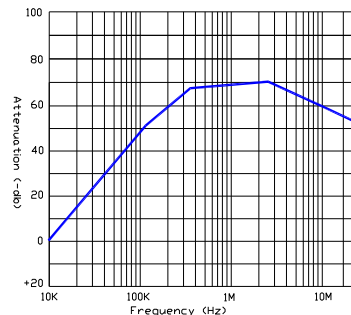


## Performance characteristics insertion loss curves

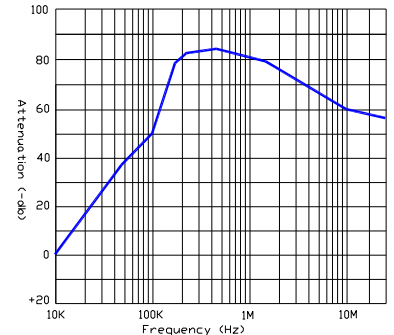
Type S



Type M



Type H



Performance will deteriorate with higher current ratings. Curves given are average readings.

## Part number / Ordering information

U200/\*\*\*/\*/2/\*

U200 = Range of filter

\* = No of Lines on filter (2,3,4)

\* = Options (listed below)

\*\*\* = Amp Rating of filter

2 = No of Stages on filter

Options:

T = Transient, E = Earth Line Choke, H = High Performance, M = Medical up to 300uA, S = Medical below 100uA, - = neither (no options)

In addition to the standard range of filters & power supplies, Total EMC Products specialize in the design and manufacture of filters to suit your specific requirements.

Due to continuous development Total EMC Products Ltd reserve the right to amend any information contained within this datasheet without prior notice.

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