




DIN 70mm

### Features :

- True RMS measurement
- MID B+D Certified
- 3Ø Power (Active, Reactive, Apparent)
- Programmable voltage and current transformer ratio
- -1A or -5A current transformer input (MID certification only on 5A)
- Single phase or three phase network compatible
- Modbus RTU Communication (RS485)

Certification :  

### Display Specifications

Display Type	LCD, High definition with white back-light
Digit height	6.35mm (Displayed parameter)
Page scrolling	Manual by front key / or auto scroll mode
Energy maximum display	9999999
Resolution	0.01K, 0.1K, 1K, 0.01M, 0.1M, 1M (depending on CT ratio & PT ratio)

### Input specification

Connection	Single phase (CT on L1 only), Three phase four wire	
Certified voltage range	3 x 85 to 240V (L - N), 3 x 147 to 415 (L - L)	
Voltage rated burden	<0.2VA	
Nominal current input	0.05 to 5A	
Max current (Imax)	6A (1.2 x Nominal)	
Current Rated Burden	0.5VA	
Starting current	10mA	
Short time overcurrent	30 x Imax to IEC/EN62053-21 + 23	
Impulse voltage withstand	6kV 1.2/50µs 0.5J	
AC voltage withstand	4kV 50Hz for 1 min.	
CT primary current	5 to 6000A	
PT primary voltage	100 to 600V	
Frequency	50Hz	
Current distortion factor	According to IEC/EN50470	
Programming access	Password protected (user selectable)	
Memory retention	Non volatile memory	
Accuracy	Voltage	0.5% of full scale
	Current	0.5% of full scale
	Frequency	0.1% of full scale (L-N >20V)
	Power factor	1% of unity
	Active power	1%
	Reactive power	1%
	Apparent power	1%
	Active Energy	Class 1, Class B (IEC/EN62053-21, IEC/EN50470-3)
Reactive Energy	Class 2 (IEC/EN62053-23)	
Displayed Parameters	Voltage – L-L, L-N and average	
	Current – Per phase and average	
	Power Factor – per phase and average	
	Frequency, Power – Active, Reactive and Apparent (per phase and total)	
	Power Min./Max. demand – Active and Apparent power. Energy – Active, Reactive and Apparent (Total)	

Settable parameter	CT Primary current CT Secondary current PT primary voltage PT secondary voltage Communication address Communication speed (Baud) Communication Parity Communication number of stop bits Back-light time-out period Demand period (for integration) Reset to Factory Default Reset Energy and Maximum Demand Reset Active Energy Reset Reactive Energy Reset Apparent Energy Reset Maximum Current Reset Maximum Active Power Reset Minimum Active Power Reset Maximum Reactive Power Reset Minimum Reactive Power Reset Maximum Apparent Power
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**NOTE:** Once Programming Mode Is entered The values in red will be locked out after 15 mins. No further adjustment is possible without return to factory.

### Auxiliary Supply specification

Voltage range	100 to 240V (±15%)
Operating frequency	45 to 65Hz
Power consumption	<8VA



### Output Specification

Communication type	RS485
Communication protocol	Modbus RTU
Address	1 to 255
Number of bits	8bits
Parity	None, odd, even
Baud rate (bps)	300, 600, 1200, 2400, 4800, 9600, 19200
Required response time to request	≤100ms
Number of meters connected on the bus	32 (up to 255 with RS485 repeater)
Max distance from Master device	500M

### Insulation

Installation category	III
Pollution degree	2
Insulation voltage rating	300V (L-N)

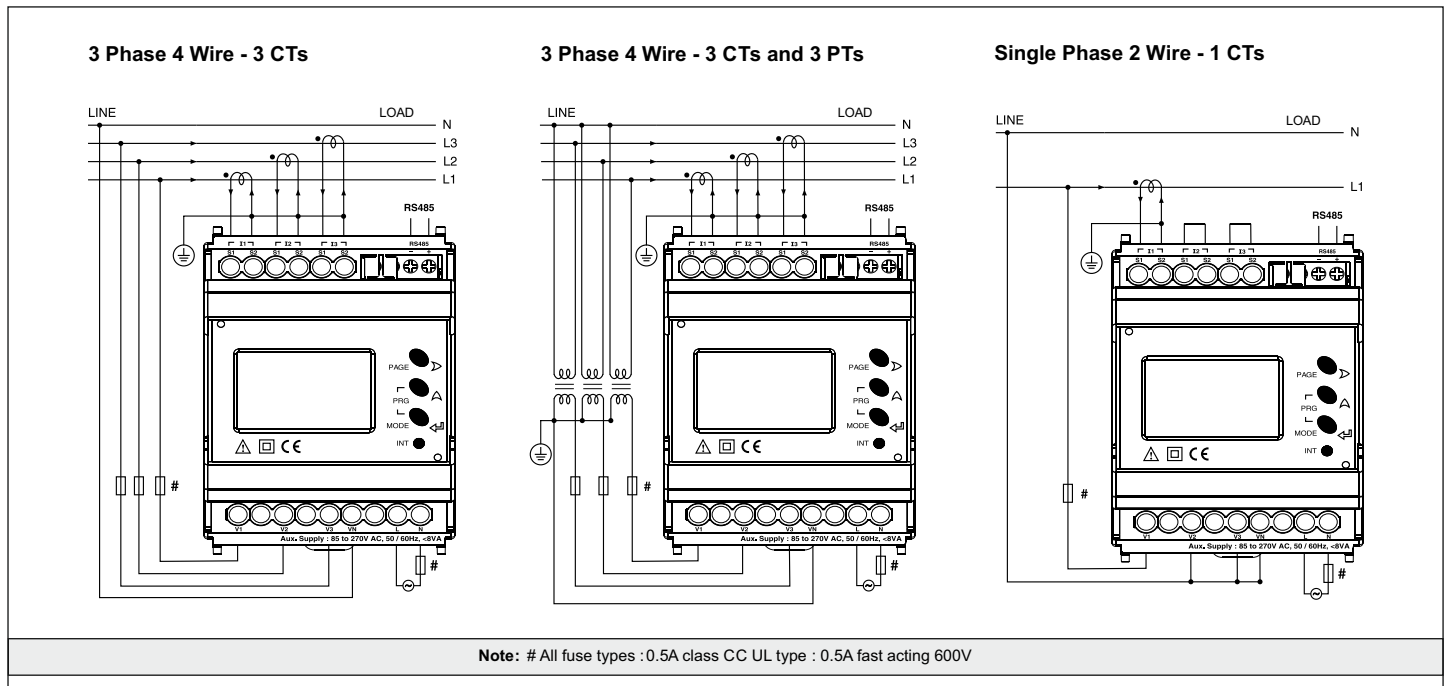
### Environmental Conditions

Reference temperature	23°C ±2°C
Specified temperature operating range	-10°C to +55°C
Storage temperature	-20°C to +75°C
Relative humidity	0 to 85%, non condensing
Mechanical environment	M1
Electromagnetic environment	E2

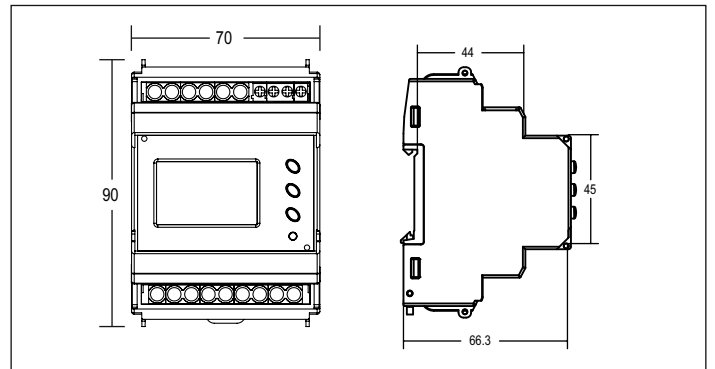
### Termination

Current input	Terminal type Screw clamp type
Max wire size	2.5mm <sup>2</sup>
Voltage input terminal type	Screw clamp type
Max wire size	2.5mm <sup>2</sup>
Communication output (RS485)	Screw clamp type
Max wire size	1.5mm <sup>2</sup>

### Terminal connection



### Dimensions (All are in mm)



### Compliance

#### Applicable EMI / EMC Standards

Product Standard : IEC 61326 - 1

#### Electromagnetic compatibility

IEC61326-1, IEC/EN55011 Class A

IEC/EN61000-4-2, -3, -4, -5, -6, -8, -11

IEC/EN50470-1/3

#### Accuracy and functionality

IEC/EN50470-1/3, IEC/EN62053-21

IEC/EN62053-23, DIRECTIVE 2014/32/EU IEC/EN50470-1/3

IEC/EN62053-21, IEC/EN62053-23, DIRECTIVE 2014/32/EU

#### Safety and Standards

IEC/EN61010, IEC/EN62053-31

### Ordering information

Product code	Communication	Certification
MFM384-R-C-MID	RS485 Modbus output	MID CE