




96 x 96mm

## Features:

- ▶ 3Ø True RMS (Voltage, Current)
- ▶ 3Ø Power (Active, Reactive, Apparent)
- ▶ Energy (Active, Reactive, Apparent) (Import / Export)
- ▶ Max / Min Demand Current & Power
- ▶ MFM in class 0.2S Accuracy
- ▶ In-Built RTC
- ▶ In-Built 2DI, 2DO
- ▶ Data logging (8MB)
- ▶ Variant with RS485
- ▶ Modules available : 2DI + 4RO, 2DI + 2DO + 1AI + 1AO
- ▶ Suppression current
- ▶ %THD up to 40<sup>th</sup> level

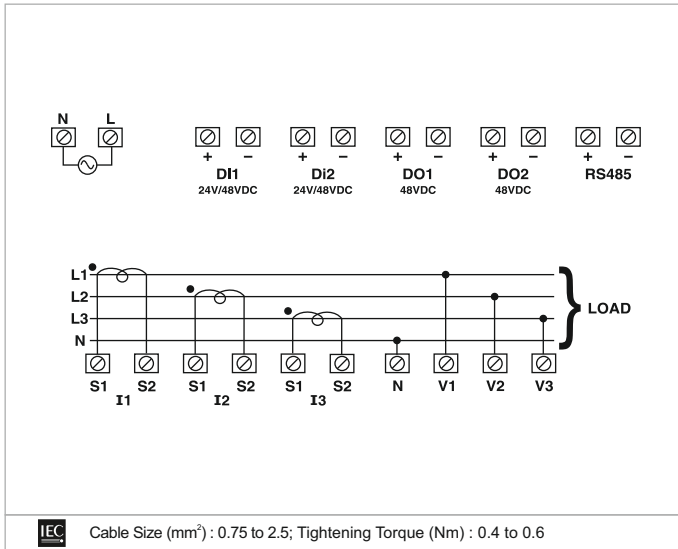
Certifications: 

## Technical specifications

Display specifications	
Display	Negative (Blue) LCD
Digits	4 rows of 4 digits, Lowest 9 digits for energy display
Digit height	0.49"
Bargraph	For current representation
Resolution	For Energy: 0.001k (auto resolution)
	For Power, Voltage, Current: Auto resolution
	For Power factor: 0.001
	For Frequency: 0.05 Hz
Input specifications	
Type of measurement	True RMS
Sampling rate	156 Samples / Cycle
Electrical connections	3Ø - 3 wire (Delta), 3Ø - 4 wire (Wye), 1Ø - 2 wire (L - L), 1Ø - 2 wire (L - N)
Data update rate	1 sec
Input - Voltage	
PT primary	100V to 999kV (programmable for any value)
PT secondary	100, 110, 115, 120V AC (programmable)
Voltage nominal	240V AC [L-N] / 415V AC [L-L]
Measured V with full range	11 to 300V AC [L-N], 19 to 519V AC [L-L]
Impedance	≥0.8MΩ
Frequency range	45-65Hz
VA burden	<0.2VA at 300V AC [L-N] / Phase
Input current	
CT ratings primary	1/5A to 32.76kA (programmable for any value)
CT ratings secondary	1/5A (programmable for any value)
Current nominal	5A
Measured current with over range	5mA to 6A
Short circuit withstand capacity	120A for 1 sec
Frequency range	45-65Hz
VA burden	0.5VA at 5A / Phase

Measurement accuracy	
Accuracy	Voltage (L-N / L-L): $\pm 0.2\%$ of full scale
	Current: $\pm 0.2\%$ of full scale
	Power factor: $\pm 0.05$
	Frequency: $\pm 0.05\%$ For L - N Voltage >20V, For L - L Voltage >35V
	Power (Active - $\pm 0.2\%$ , Reactive - $\pm 1\%$ , Apparent - $\pm 0.5\%$ )
	Energy (Active - Class 0.2, Reactive - Class 1, Apparent - Class 0.5)
Output specifications	
Pulse output	Voltage range: External 24V DC max
	Current capacity: 100mA max
	Pulse width: 50ms
	Configurable pulse weight from 1 to 9999000 pulses / k <sub>h</sub> (kWh, kVAh, or kVARh)
Device ID & Parity	1 to 247 & None, Odd, Even
Protocol & Interface	RS485 and MODBUS RTU
Transmission mode	Half duplex
Data types	Float and Integer
Transmission distance	500m maximum
Transmission speed	9600, 19200, 38400, 57600, 115200 (in bps)
Stop bits	1 or 2
Isolation	2kV RMS
Mechanical specifications	
Weight	350 gm approx.
Material	PC RAL 7035 GREY
IP degree of protection	Front IP65, Back IP20
Torque at terminals	0.68 N-m to 0.79 N-m
Wire gauge at terminals	20 to 14 AWG; 75 °C
Mounting position	Vertical
Auxiliary supply specifications	
Supply voltage	40 to 300V AC/DC, 45-65Hz
Power consumption	<6VA / 2W
Environmental specifications	
Operating temperature	-10 °C to 55 °C (14 °F to 140 °F)
Storage temperature	-20 °C to 75 °C (-4 °F to 167 °F)
Humidity	Up to 85% RH (non - condensing)
Altitude	Up to 2000m (6561 ft.)
Measurement category	CAT III
Pollution degree	2

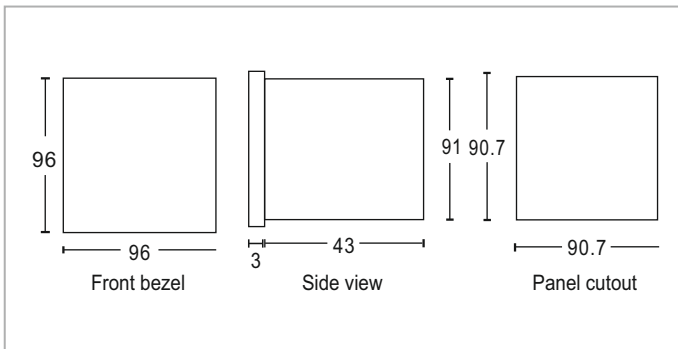
## Terminal connections



## Compliance

Applicable EMI / EMC Standards	
Product standard : IEC 61326-1 Edition 3.0	
Category	Standards compliance
Electrostatic discharge	IEC 61000 - 4 - 2
Immunity to electromagnetic RF fields	IEC 61000 - 4 - 3
Conducted immunity	IEC 61000 - 4 - 6
Immunity to magnetic fields	IEC 61000 - 4 - 8
Immunity to voltage dips and interruptions	IEC 61000 - 4 - 11
Fast transient	IEC 61000 - 4 - 4
Immunity to surge waves	IEC 61000 - 4 - 5
Conducted and radiated emissions	CISPR-11
Safety standards	
IEC61010 Edition 3.0 CAT III, Protection class II	

## Dimensions (All are in mm)



## Ordering information

Product code	Supply voltage	Output		Certification
		Pulse output	Comm.	
MFM386-E-CE-CL02	40 to 300V AC/DC	---	ETHERNET + RS485	CE
MFM386-C-CE-CL02	40 to 300V AC/DC	---	RS485	CE