Multifunction Meter

MFM386



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 Ethernet + RS485
- Modules available : 2DI + 4RO, 2AI + 2AO + 1DO
- Suppression current
- %THD up to 40th level

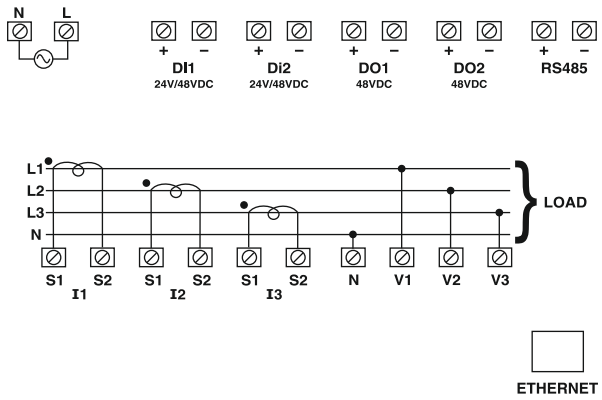
Certifications: CE

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): ±0.2% of full scale
	Current: ±0.2% of full scale
	Power factor: ±0.05
	Frequency: ±0.05% For L - N Voltage >20V, For L - L Voltage >35V
	Power (Active - ±0.2%, Reactive - ±1%, Apparent - ±0.5%)
	Energy (Active - Class 0.2S, Reactive - Class 1, Apparent - Class 0.5S)
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_h(kWh, kVAh, or kVARh)
Device ID & Parity	1 to 247 & None, Odd, Even
Protocol & Interface	RS485 and MODBUS RTU TCP (Server, Client), MODBUS TCP
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

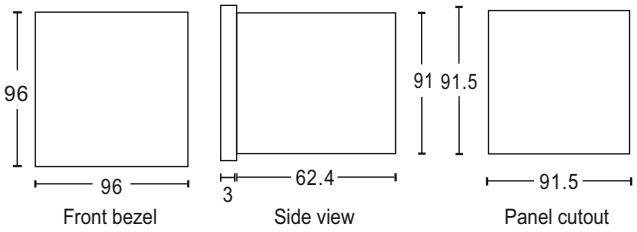


Cable Size (mm^2) : 0.75 to 2.5; Tightening Torque (Nm) : 0.4 to 0.6

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