MFM384

Multifunction Meter

96 x 96mm

Features :

- 3Ø True RMS (Voltage, Current)
- 3Ø Power (Active, Reactive, Apparent), Energy (Active, Reactive, Apparent)
- Programmable CT / PT Primary / Secondary
- CT Polarity Error Detection
- Variable Pulse Width Selection
- Single Phase Network with Phase Selection
- Modbus RTU Communication (RS485)
- Baragraph Representation for Current
- % THD Upto 31st Level
- Max Demand for Power
- Single Pulse Output / Demand
- Phase Sequence Detection

Certification : CE

Display Specifications

Display	4 rows, LCD with Backlight
Digits	4 (Lowest 8 digits for energy display)
Bargraph	For Current Representation

Input Specifications

Electrical Connection	3Ø - 3 wire, 3Ø - 4 wire, 2Ø - 3 wire, 1Ø - 2 wire
Input Voltage Range	11 to 300V AC (L - N) 19 to 519V AC (L - L)
Input Current Range	Nominal 5A AC (Min - 11mA, Max - 6A)
Frequency	45 to 65Hz
Display Scrolling	Automatic / Manual (Programmable)
Power Consumption	8VA max
Display Reset	Programmable (For energy)
Resolution	For energy : 0.01k, 0.1k, 1k, 0.01M, 0.1M, 1M (depending upon CT ratio x PT ratio) For Power, Voltage, Current : Auto Resolution For Power Factor : 0.001
Accuracy	Voltage (L - N / L - L) : ±0.5% of F.S. Current : ±0.5% of F.S. Power Factor : ±0.01 Frequency : ±0.1% For L - N Voltage >20V For L - L Voltage >35V Power (Active, Reactive, Apparent) : 1% Energy (Active, Reactive, Apparent) : Class 1
Memory Retention	10 years (For energy)
Measuring Parameters	Voltage (L - L / L - N) (Individual / Average), Current (Individual / Average), Frequency, Power Factor (Individual / Total), Active, Reactive & Apparent Power (Individual / Total), Active, Reactive & Apparent Energy (Individual), Demand (Min / Max Active Power, Min / Max Reactive Power, Max Apparent Power), %THD upto 31st Level Max Demand Current, Neutral Current, Phase Sequence Detection

Output Specifications

Pulse Output	Voltage Range : External 24V DC max Current Capacity : 100mA max Pulse Width : 100ms ±5ms
Communication Interface and Protocol	RS485 and MODBUS RTU
Communication Address	1 to 255
Transmission Mode	Half duplex
Transmission Distance	500 meter maximum
Transmission Speed	300, 600, 1200, 2400, 4800, 9600, 19200 (in bps)
Parity	None, Odd, Even
Stop Bits	1 or 2
Response Time	100ms (max and independent of baud rate)

Auxiliary Supply Specifications

Supply Voltage	100 to 240V AC, -15% to +12%, 50 / 60 Hz, (±5%)

Settable Parameters

CT Primary	1 / 5A to 10kA (Programmable for any value)
CT Secondary	1 / 5A (Programmable)
PT Primary	100V to 500kV (Programmable for any value)
PT Secondary	100V to 500V (Programmable for any value)

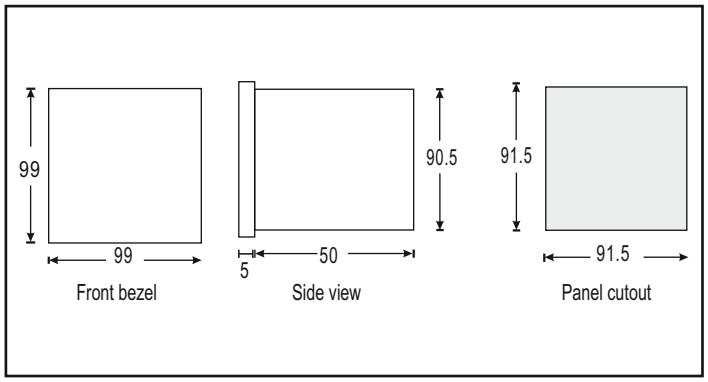
Environmental Specifications

Temperature	Operating Temperature : -10° to 55°C Storage Temperature : -20° to 75°C
Humidity (non - condensing)	Upto 85% RH

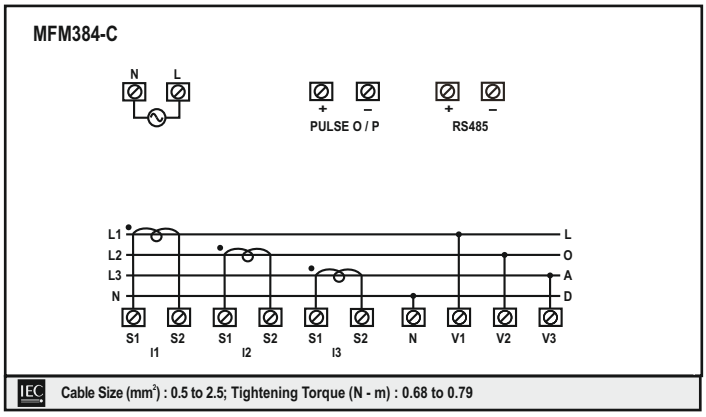
Mechanical Specifications

Mounting	Panel
Weight	318gms

Dimensions



Terminal Connection



Compliance

Applicable EMI / EMC Standards		
Product Standard : IEC 61326 - 1		
Category		**Standards Compliance**
ESD Immunity	IEC 61000 - 4 - 2	Level IV (Air Discharge : 15kV), (Contact Discharge : -8kV)
Surge Immunity	IEC 61000 - 4 - 5	+ / - 2kV Common Mode, (Line to Ground) + / - 1kV Differential Mode, (Line to Line)
Radiated Susceptibility	IEC 61000 - 4 - 3	Level III, 80 to 1000MHz (10V / m) Level II, 1.4GHz to 2GHz (3V / m) Level I, 2GHz to 2.7GHz (1V / m)
Conducted Susceptibility	IEC 61000 - 4 - 6	Level II (3V / m)
Voltage Dips and Interruptions	IEC 61000 - 4 - 11	**Dips** : 0% residual voltage / 1 cycle (Criteria B), 40% residual voltage / 10 cycles 50Hz / 12 cycles 60Hz (Criteria C) 70% residual voltage / 25 cycles 50Hz / 30 cycles 60Hz (Criteria C) **Interruptions** : 0% residual voltage / 250 cycles 50Hz / 300 cycles 60Hz (Criteria C)
Conducted Emission	CISPR - 11	
Radiated Emission	CISPR - 11	
Electrical Fast Transient	IEC 61000 - 4 - 4	Level III (2kV)

Ordering Information

Product Code	Supply Voltage	Output		Certification	
	100 to 240V AC (-15% to +12%)	Pulse Output	Comm. (RS485)		
MFM384-C-CU-G	Yes	Yes	Yes	CE	c UL us LISTED
MFM384-C-CE	Yes	Yes	Yes	CE	- -