



Features:

- 3 \emptyset (True rms) Voltage
- 3 \emptyset (True rms) Current
- 3 \emptyset Power Factor
- 3 \emptyset Power (Active, Reactive, Apparent)
- Energy (Active, Reactive, Apparent)
- Frequency
- Password Protection
- CT, PT Primary/Secondary Programmable
- Modbus RTU Communication (RS485)
- Max / Min Demand (Power)

Certifications: CE RoHS

Technical Specifications

Display

Display	3 row, Liquid Crystal Display with backlight
Digit	Row 1 of 4 digits Row 2 and 3 of 7 digits
LED Indication	Integration of energy

Input Specifications

Electrical Connection	1 \emptyset - 2 wire, 3 \emptyset - 3wire, 3 \emptyset - 4 wire
Input Voltage Range	19 to 519V AC, (Phase to Phase) 11 to 300V AC, (Phase to Neutral)
Frequency	45Hz - 65Hz
Measuring Parameters	Voltage (L-L / L-N) (Individual / Average) Current (I1, I2, I3) (Individual / Average) Frequency, Power Factor (Individual /Average) Active, Reactive & Apparent power (Individual/ Total), Active, Reactive (Import / Export) & Apparent Energy, Demand (Min / Max Active Power, Min / Max Reactive Power, Max Apparent Power)
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: 0.01 Frequency: 0.1Hz
Accuracy	Voltage (L-N / L-L), Current: $\pm 0.5\%$ of full range Power factor: ± 0.01 of full range Frequency: $\pm 0.1\%$ of full range (For $V > 20$ L-N, $V > 35$ L-L) Power (kW, kVA, kVAr): 1% of full range Energy (Active, Reactive, Apparent): 1% of full range
Memory Retention	10 years (for energy)
Overload Rating	20% continuous over load and able to withstanding 20 times the normal current rating for a period one second. Accept input voltages upto 120% of the nominal voltage.
Power Consumption	8VA Max

Output Specifications

Communication	RS485 MODBUS RTU Communication in Multi-drop mode
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Supply Specifications

Auxiliary	85 to 270V AC (50/60Hz)
Isolation	I/P, O/P and Aux. circuits isolated from each other and earth ground.

Resettable Parameters

C.T Primary	1/5A to 10,000A (Programmable for any value)
C.T Secondary	1A / 5A
P.T Primary	100V to 500kV (Programmable for any value)
P.T Secondary	100V to 500V (L-L) (Programmable for any value)

Environmental Specifications

Temperature	Operating Temperature: -5 to +60 $^{\circ}$ C Storage Temperature: -20 to +75 $^{\circ}$ C
Humidity (non-condensing)	Upto 85% RH

Mechanical Specifications

Mounting	Din Rail
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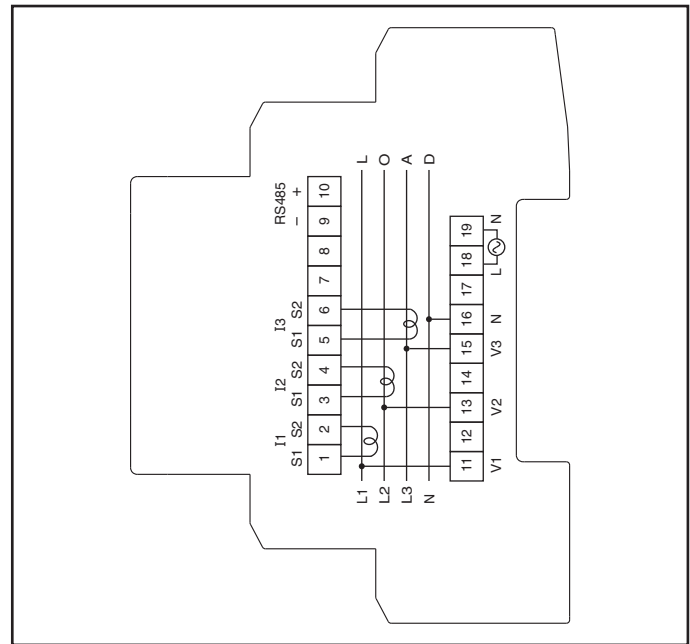
Terminal Specifications

PT	Two 2.5 sq mm / 4.0 sq mm
CT	Two 2.5 sq mm / 4.0 sq mm

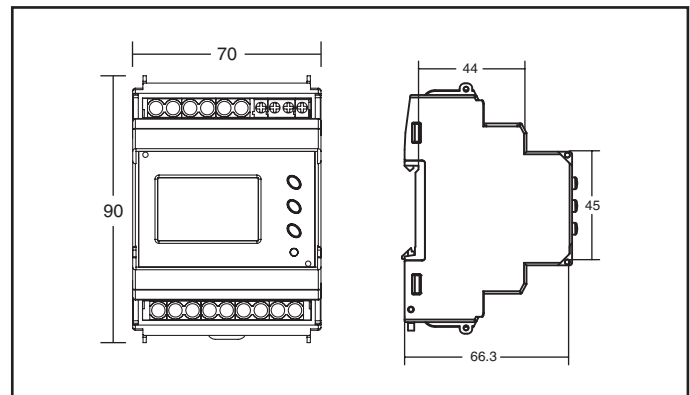
EMC

Electromagnetic compatibility	IEC 61326-1
ESD Immunity: IEC 61000-4-2	Level III
Surge Immunity: IEC 61000-4-5	+/- 2 kV common mode, +/- 1 kV differential mode
Radiated Susceptibility: IEC 61000-4-3	Level III, 80 to 1000MHz Level II, 1GHz to 2GHz Level I, 2GHz to 2.7GHz
Conducted Susceptibility: IEC 61000-4-6	Level II
Voltage Dips and Interruption: IEC 61000-4-11	Dips: 0% residual voltage/1 cycle (Crit B.), 40% residual voltage/10 cycles 50 Hz / 12 cycles 60 Hz (Crit C) 70% residual voltage / 25 cycles 50 Hz / 30 cycles 60 Hz (Crit C) Interruptions: 0% residual voltage / 250 cycles 50 Hz / 300 cycles 60 Hz (Crit C)
Conducted Emissions	CISPR-11 & IEC 61000-6-3
Radiated Emissions	CISPR-11
Electrical Fast Transient: IEC 61000-4-4	Level 3.

Terminal Connections



Dimensions (All dimensions are in mm)



Ordering Information

Product	Supply Voltage	Output	Certification
	85 to 270V AC	Commn (RS485)	CE RoHS
MFM384-R-C	■	■	---
MFM384-R-C-CE	■	■	■