MFM376-C-CE

Multifunction Meter

96 x 96mm

Features :

- 3Ø True RMS (Voltage, Current)
- 3Ø Power (Active, Reactive, Apparent)
- Energy (Active, Reactive, Apparent)
- Import / Export Energy
- Programmable CT / PT Primary / Secondary
- Single pulse output
- Phase angle detection
- Max / Min demand power
- Run hour
- Auxiliary supply of 40 to 300V AC / DC

Certifications : CE

Display specifications

Display	7 segments LED , 3 rows 2 rows of 8 digits for energy display
Digits	4 digits
Digit height	0.49"
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
Protection features	Password protected for set-up & clearing energy and Min / Max data

Input specifications

Type of measurement	TRUE RMS
Sampling rate	100 Samples / Cycle
Electrical connections	3Ø - 3 wire (Delta), 3Ø - 4 wire (Wye) 2Ø - 3 wire, 1Ø - 2 wire (L-N)
Data update rate	
Instantaneous	1 sec
Demand	15 sec
Harmonics	5 sec
Input-voltage	
PT primary	100V to 500kV (Programmable for any value)
PT secondary	100V to 500V (Programmable for any value)
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
Permanent overload	750V 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 10kA (Programmable for any value)
CT ratings secondary	1/5A
Current nominal	5A
Measured amps with over range & crest factor	20mA to 6A
Withstand	120A for 1 sec
Frequency range	45 - 65Hz
VA burden	0.5VA at 5A / Phase

Measurement accuracy

Current	±0.5% of F.S.
Voltage	±0.5% of F.S.
Power factor	±0.01
Power	±1%
Frequency	±0.1% For L-N Voltage >20V, For L-L Voltage >35V
Active energy	Class 1 as per IEC62053-21
Reactive energy	Class 1 as per IEC62053-21
THD & Individual Harmonic, V& A	Up to 31st Level

Output specification

Pulse output	Voltage range : External 24V DC max Current capacity : 100mA max Pulse width : 100 ms ±5 ms Configurable pulse weight from 1 to 9999000 pulses/kWh
Device ID & Parity	1 to 255 & None, Odd, Even
Protocol & Interface	RS485 and MODBUS RTU
Baud rate	300, 600, 1200, 2400, 4800, 9600, 19200 baud
Transmission mode	Half duplex
Transmission distance	500 meter maximum
Transmission speed	300, 600, 1200, 2400, 4800, 9600, 19200 baud
Stop bits	1 or 2
Response time	100 ms (Max and independent of baud rate)
Isolation	2kV RMS

Mechanical specifications

Weight	200 gms
Material	MAKROLON 6557 SMOKE BLACK
IP degree of protection	(IEC 60529) IP51 Front only
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

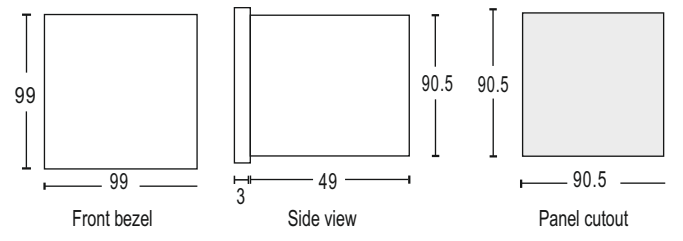
Auxiliary supply specifications

Supply voltage	40 to 300V AC / DC
Burden	< 6 VA at 277 V L-N
Frequency	50 / 60 Hz nominal
Ride-through time	100 ms typical at 120V AC and maximum burden 100 ms typical at 277V AC and maximum burden

Environmental specifications

Operating temperature	Meter -10°C to +55°C (14°F to 131°F)
Storage temperature	Meter -20°C to +75°C (-4°F to +167°F)
Humidity	Up to 85% RH (Non-Condensing)
Altitude	Up to 2000 meters (6561 ft.)
Measurement category	CAT III
Pollution degree	2
Product life	> 5 years

Dimensions (All are in mm)



Terminal connection

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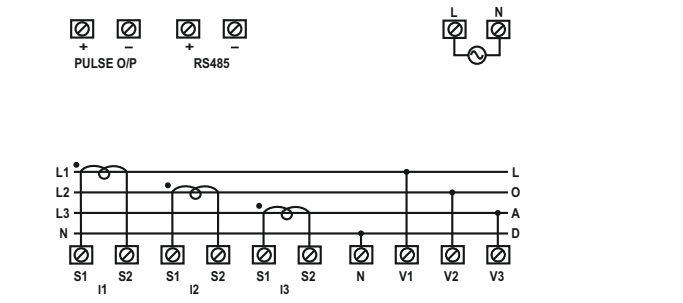

Cable Size (mm²) : 0.5 to 2.5; Tightening Torque (N - m) : 0.68 to 0.79

Compliance

Applicable EMI / EMC Standards	
Product Standard : IEC 61326 - 1	
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-22 / CISPR-11
Safety and Standards	
IEC61010 Edition 3.0 CAT III, Protection class II	
IEC 61326 - 1	
CAT III up to 480 V L-L CAT II up to 600 V L-L	
CAT III up to 300 V L-N	
As per IEC/UL 61010-1 Ed-3	

Ordering information

Product code	Supply voltage	Output		Certification
		Pulse output	Comm. (RS485)	
MFM376-C-CE	40 to 300V AC / DC	YES	YES	CE