MRJ385

Multifunction Meter

96 x 96mm

Features :

- MID B+D Certified
- 3Ø True RMS (Voltage, Current)
- 3Ø Power (Active, Reactive, Apparent)
- Energy (Active, Reactive, Apparent)
- Max / Min Demand of Power
- Plug-n-Wire, RJ45 Connector Current Input
- Modbus RTU Communication (RS485)
- Single Pulse Output
- Self Powered

Certification : MID CE RoHS compliant

Display Specifications

Display type	High definition white Backlight LCD
Digit height	11.2mm (displayed parameter) 6.35mm (lowest 8 digits)
Page scrolling	Manual / Auto scroll mode by front key
Energy maximum display	99999999
Resolution	For Energy : 0.01K, 0.1K, 1K, 0.01M, 0.1M, 1M (depending upon CT rating) For Power, Voltage, Current : Auto Resolution For Power Factor : 0.001

Input Specification

Connection	Single phase (CT on L1 only), Three phase four wire
Certified voltage range	100 to 240V (L - N), 173 to 415V AC(L-L)
Voltage rated burden	<6VA (supplied from any Phase), <0.2VA (L2 and L3)
Nominal current input	RJ45 - 1A
Max current (Imax)	RJ45 - 1.2A (Nominal x 1.2)
Starting current	2mA (0.66mV)
Short time overcurrent	30 x Imax to IEC/EN62053-21 + 23
Impulse voltage withstand	6kV 1.2/50µS 0.5J
AC voltage withstand	4kV 50Hz for 1 min
CT primary current	1A to 6000A
PT primary voltage	100 to 600V
Frequency	50Hz
Current distortion factor	According to IEC/EN50470
Programming access	Password protected (user selectable)
Memory retention	Non volatile memory
Accuracy	
Voltage	0.5% of full scale
Current	0.5% of full scale
Frequency	Frequency : ±0.1% For L - N Voltage >20V For L - L Voltage >35V
Power factor	1% of unity
Active power	1%
Reactive power	1%
Apparent power	1%
Active energy	Class 1, Class B (IEC/EN62053-21, IEC/EN50470)
Reactive energy	Class 2 (IEC/EN62053-23)
Total harmonic distortion (THD - Upto 31st)	3%

Displayed parameters	Voltage – L-L, L-N and average Current – Phase, Total and Max. demand Power Factor – Per phase and average Total Harmonic Distortion – Current and Voltage. Neutral current. Frequency Hours Run – Hours & minutes Power – Active, Reactive and Apparent (per phase and total) Power Min./Max. demand – Active, reactive and apparent. Energy – Active, reactive and apparent (per phase and total) Import and export energy – Active, Reactive and Apparent (per phase and total)
Settable parameter	Network selection CT primary current PT primary voltage PT secondary voltage Communication address Communication speed (Baud) Communication Parity Communication number of stop bits Back-light time-out period Demand period (for integration) Pulse output (kWh) Pulse duration Reset to Factory Default Reset Energy and Maximum Demand Reset Active Energy Reset Reactive Energy Reset Apparent Energy Reset Maximum Current Reset Maximum Active Power Reset Minimum Active Power Reset Maximum Reactive Power Reset Minimum Reactive Power Reset Maximum Apparent Power

NOTE: Once Programming Mode Is entered The values in red will be locked out after 15 Mins. No further adjustment is possible without return to factory.

Auxiliary supply specifications

Voltage range	60 to 300V AC, 50 / 60Hz (±5%), Self Supplied (V1, N)
Operating frequency	47 to 65Hz
Power consumption	8 VA max

MID APPROVED FOR BILLING APPLICATIONS
Measuring Instruments Directive

Communication

Communication type	RS485
Communication protocol	Modbus
Address	1 to 255
Number of bits	8 bits
Parity	None, odd, even
Baud rate	300, 600, 1200, 2400, 4800, 9600, 19200
Required response time to request	≤100ms
Number of meters connected on the bus	32 (up to 255 with RS485 repeater)
Max distance from Master device	500M

Insulation

Installation category	III
Pollution degree	2
Insulation voltage rating	300V (L - N)

Environmental Specifications

Reference temperature	23°C ±2°C
Specified temperature operating range	–10°C to +55°C
Storage temperature	–20°C to +70°C
Relative humidity	0 to 85%, Non-condensing
Mechanical environment	M1
Electromagnetic environment	E2

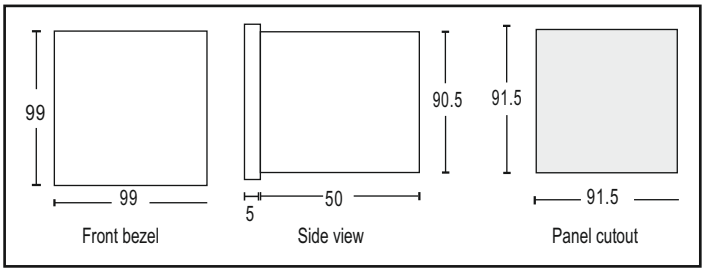
Mechanical

Housing	DIN96
Mounting	Panel mounted (Max panel thickness 6mm)
Tamper sealing	Meter housing (by means of a tamper evident seal) Sealable terminal covers
Housing material	Self-extinguishing polycarbonate (UL94 V-0)
Protection degree (IEC/EN60529)	IP20 (terminals), IP54 (front of housing)
Weight	<240g

Termination

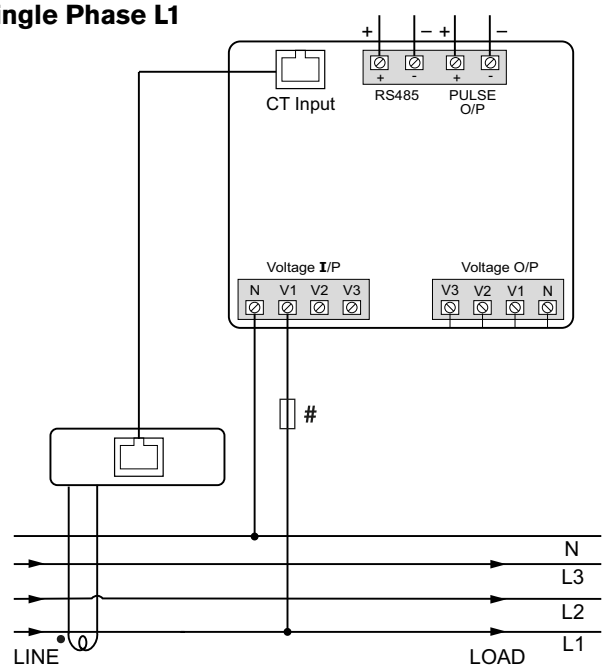
Current input terminal type	RJ45
Max. wire size	N/A
Voltage input terminal type	Pluggable terminal block - Rising clamp
Max. wire size	2.5mm^2
Voltage output terminal type	Pluggable terminal block - Rising clamp
Max. wire size	2.5mm^2
Communication output (RS485 and Pulse)	Pluggable terminal block - Rising clamp
Max. wire size	1.5mm^2

Dimensions (All are in mm)

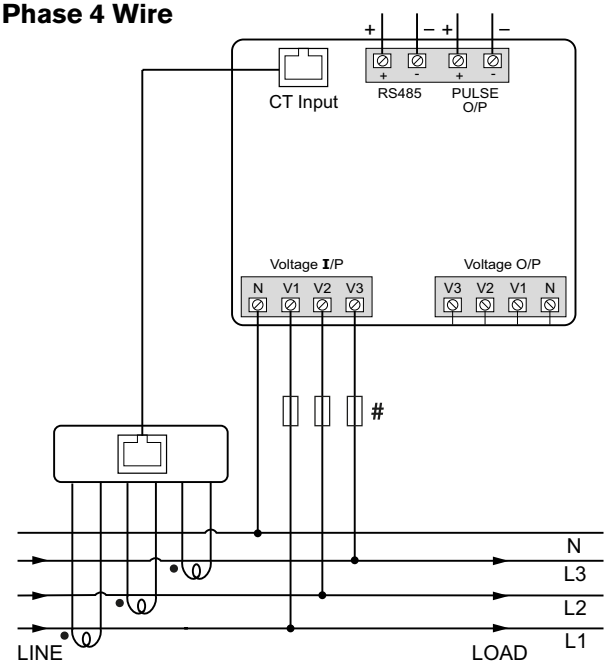


Terminal connection

Single Phase L1



3 Phase 4 Wire



Note: # All fuse types : Class CC UL type fast acting 600V
Max.3A (Actual rating is dependent on the number of meters connected to the voltage supply and must be determined during system design).

Conformity

Applicable EMI / EMC Standards
Product Standard : IEC 61326 - 1
Electromagnetic compatibility
IEC/EN61326-1, IEC/EN55011 Class A
IEC/EN61000-4-2, -3, -4, -5, -6, -8, -11
IEC/EN50470-1/3
Accuracy and functionality
IEC/EN50470-1/3
IEC/EN62053-21
IEC/EN62053-23
DIRECTIVE 2014/32/EU
IEC/EN62053-31
Safety
IEC/EN61010

Ordering information

Product code	Supply Voltage	Certification
MRJ385-G-PNW-MID	Self Supplied (V1, N) 60 to 300V AC	MID CE