OP421-V01

selec

MRJ385-G-PNW
Operating Instructions

96x96

SPECIFICATIONS

DISPLAY
Liquid crystal display with backlight
4 lines, 4 digits per line to show electrical Parameters
5th line, 8 digits to show energy
Bar graph for current indication as percentage of CT rating

LCD INDICATIONS
- **-** Integration of energy
- **PRG -** Unit is in configuration menu
- **-** Communication in progress
- **MAX DMD -** Maximum & Minimum Demand of Power

WIRING INPUT
3 Ø - 4 wire, 1 Ø - 2 wire

RATED INPUT VOLTAGE
100 to 240V AC (L-N) ; 173 to 415V AC (L-L)

FREQUENCY RANGE
45-65 Hz

CT PRIMARY
5A to 10,000A (Programmable for any Value)

CT SECONDARY
330mV

PT PRIMARY
100V to 500kV (Programmable for any value)

PT SECONDARY
173 to 415V AC (L-L)(Programmable for any value)

Display update time
1 sec for all parameters

Display Scrolling
Automatic / Manual

AUXILIARY
Self supplied

INSTALLATION CATEGORY : III

TEMPERATURE
Operating : 0 to 50°C
Storage : -20 to 75°C

HUMIDITY
85% non-condensing

MOUNTING
Panel mounting

WEIGHT
230gms

OUTPUT
Pulse Output : Voltage range : External 24VDC max.
Current capacity : 100 mA max
Pulse Width : Selectable between 0.1s to 2.0s

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Interface standard & protocol	RS485 & MODBUS RTU
Communication address	1 to 255
Transmission mode	Half duplex
Data types	Float and Integer
Transmission distance	500 Metre maximum
Transmission speed	300, 600,1200, 2400, 4800, 9600,19200 (in bps)
Parity	None, Odd, Even
Stop bits	1 or 2
Response time	100 ms (max and independent of baud rate)

ACCURACY

Measurement	Accuracy
Voltage V_{L-N}	±0.5% of Full scale
Voltage V_{L-L}	±0.5% of Full scale
Current	±0.5% of Full scale
Frequency	±0.1% For L-N Voltage >20V , For L-L Voltage >35V
Active Power	1%
Apparent power	1%
Reactive Power	1%
Power factor	±0.01
Active energy	1%
Reactive energy	1%
Apparent energy	1%
MAX / MIN Active Power	1%
MAX / MIN Reactive Power	1%
MAX Apparent Power	1%

RESOLUTION :

PT Ratio x CT Ratio	kWh / kVAh / kVArh	Pulse
<15	0.01K	0.01K
<150	0.1K	0.1K
<1500	1K	1K
<15000	0.01M	0.01M
<150000	0.1M	0.1M
≥1500000	1M	1M

NOTE : 1) For Voltage, Current, Power, Resolution is automatically adjusted.
2) For power factor, resolution is 0.001
3) blinks after every 5 seconds, if load is connected on at least any one of 3 phases.

RESOLUTION FOR CT RATING :

CT Rating	kWh
160A	0.1K
250A	0.1K
400A	0.1K
800A	1K

SAFETY PRECAUTIONS

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If the equipment is not used in a manner specified by the manufacturer it might impair the protection provided by the equipment.

⚠ CAUTION
Read complete instructions prior to installation and operation of the unit.

⚠ CAUTION : Risk of electric shock.

WIRING GUIDELINES

⚠ WARNING:
1. To prevent the risk of electric shock, power supply to the equipment must be kept OFF while installing the wiring.
2. Wiring shall be done strictly according to the terminal layout. Confirm that all connections are correct.
3. Cable used for connection to power source, must have a cross section of 1.5mm^2. These wires shall have current carrying capacity of 6A.
4. Before attempting work on device, ensure absence of voltages using appropriate voltage detection device.

MAINTENANCE

1. The equipment should be cleaned regularly to avoid blockage of ventilating parts.
2. Clean the equipment with a clean soft cloth. Do not use Isopropyl alcohol or any other cleaning agent.

INSTALLATION GUIDELINES

⚠ CAUTION :
1. This equipment, being of a built-in-type, normally becomes a part of a main control panel and in such case the terminals do not remain accessible to the end user after installation and internal wiring.
2. Conductors must not come in contact with the internal circuitry of the equipment or it may lead to a safety hazard that may in turn endanger life or cause electrical shock to the operator.
3. Protection & disconnection means must be installed between power source and supply terminals to facilitate power 'ON' or 'OFF' function & must be installed in a convenient position normally accessible to the operator.

⚠ CAUTION :
The equipment shall not be installed in environmental conditions other than those mentioned in this manual.

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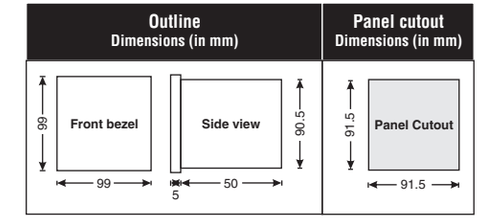
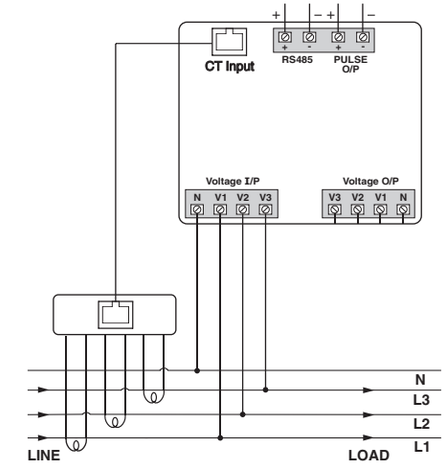
For installing the meter
1. Prepare the panel cutout with dimensions as shown below :



2. Push the meter into the panel cutout. Secure the meter in its place by fitting the clamp from the rear side. Fit clamps on both sides in diagonally opposite location for optimum fitting.
3. For proper sealing, tighten the screws evenly with required torque.
4. Recommended conductor cross section = 1.5mm^2
Screw clamp tightening torque = 0.1N-m

⚠ CAUTION:
The equipment in its installed state must not come in close proximity to any heating sources, caustic vapors, oil, steam, or other unwanted process by-products.

EMC Guidelines:
1. Use input power cables with shortest connections.
2. Layout of connecting cables shall be away from any internal EMI source.

TERMINAL CONNECTIONS