

2.12 AI627 3 Phase Power Meter Module

AI627 is 3 phase power metering module for measuring electrical parameters such as Voltage, Current, Power Factor, Active/Reactive/Apparent Power and Frequency of electrical lines. Device communicates with MRT RTUs such as RTU451/450B via backplane bus and multiple devices are supported via single RTU.

2.12.1

- Line and Phase Voltages
- Phase and Neutral Currents
- Phase and Total of the Active, Reactive and Apparent Powers
- Active and Reactive Energy
- Phase Power Factor
- Frequency

2.12.2 Diagnostics

- f. Internal Bus Warning
- g. Missing Field Power
- h. Wire Break Alarm per Channel
- i. Board Over Temperature Warning
- j. Board Over Temperature Alarm (Fatal)
- d. Internal Hardware Error (Fatal)
- e. Analog Power Error (Fatal)
- f. ADC Error (Fatal)

2.12.3 LED List

- h. Power (Green).
- i. Run (Green),
- j. Standby (Green)
- k. Fault (Red)
- l. Status1 (Blink On Activity) BACKPLANE Bus 1 activity
- m. Status2 (Blink On Activity)BACKPLANE Bus 2 activity

2.12.4 Description

AI627 wiring diagram is shown in the next page. This module accepts 3 phase



Figure 2-36: AI627 Front View

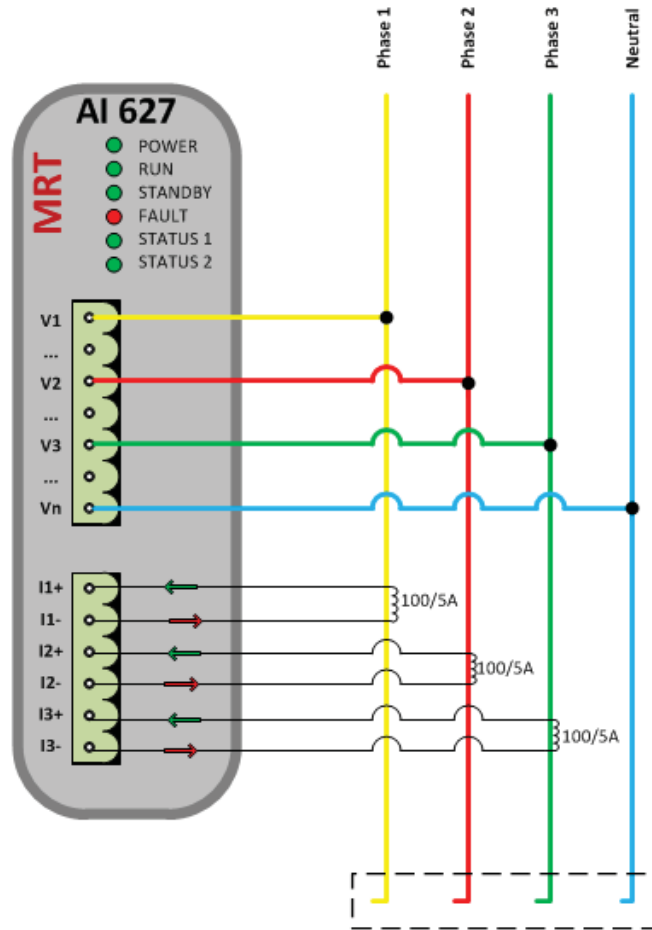


Figure 2-37: Schematic of AI627 Module

1	V1
2	NC
3	V2
4	NC
5	V3
6	NC
7	Vn
1	I1+
2	I1-
3	I2+
4	I2-
5	I3+
6	I3-

Figure 2-38: AI627 Wiring Connector

Table 2-19: AI627 Specifications

Label	AI627
Measuring Parameters	<ul style="list-style-type: none"> - Line and Phase Voltages - Phase and Neutral Currents (calculated from another phase Currents) - Phase and Total of the Active, Reactive and Apparent Powers (reverse and forward) - Active and Reactive Energy - Phase Power Factor - Frequency - Energy
Diagnostics	Internal Hardware Error, Board Temperature
Measurement	True RMS
Resolution	16 bits
Number of channels	3 Voltage, 3 Current
Refresh Time	10 ms
Sample Rate	78.1 kSPS
Input Voltage Range	50 to 400 VAC L-L (RMS)
Input Current Range	50 mA to 5A
Accuracy	0.5% of the FSR (Class 0.5)
Frequency	45 to 65 Hz
Rated power supply (from backplane)	12V DC \pm 20%
Communication	Connection with RTU via Backplane
Environmental	Operating temperature: -20°C to +60°C Storage temperature: -40 °C to +85 °C Humidity 5% to 55% non-condensing
Standards	IEC 62053-22 (In progress) IEC 62053-23 (In progress)
Over load & over voltage value	NO
CT & PT range	CT: 1A - 5A - 110 V/ 220 V
Power consumption (from backplane bus)	Max: 2W, Typical : 1.4W
Dimensions (H x W x D)	140mm x 116.5mm x 45mm