

STATIC 3-PHASE LT TYPE CT OPERATED (TOD/TOU) ENERGY METER

R421-C4U



R421 is an advanced LT type, TOD / TOU, CT operated three-phase energy meter used for large commercial and small/medium industrial connections. It has super capacitor enabling it to display ON in-case of power outage/failure. To resolve energy theft prevalent in local market, R421 is carefully designed with stringent anti-tampering features. To offer highest level of flexibility, it can operate as a standalone product. State of the art digital sigma delta ADC integrated circuits are used to measure active, reactive and MDI. A two element standard optical interface in accordance with IEC 62056-21 has been provided for the purpose of parameterization and downloading the data to pc/laptop.

 **MicroTech**
Industries (Pvt) Ltd.

Redefining Technological Horizons

Features

- Reading Display in Case of Power Outage/Failure with the help of batteries and super capacitor.
- Long Life, Clear, Wide and High Contrast Display with Broad Viewing Angle.
- Phase Indication (A, B, C) and Indication of Load with Circle around the Respective Phase on LCD.
- Power Factor
 - Instantaneous (By Phase & Average)
 - Monthly Average (By Rate & Total)
- Active and Reactive Energy Measurement.
- Active and Reactive Power Measurement.
- Load profile data recording with programmable time interval.
- Impulse Output Displayed on LED for kWh and kvarh for field testing.
- IrDA / Optical Communication Port for Laptop / PC.
- Programming of Tariff and Seasons through EMS (Energy Management System)
- Display Scroll and MDI Reset Button
- MDI TOD (Time of Day).
- Frequency Measurement.
- Meter Data Management with Multi User Capabilities.
- Low Battery indication on LCD.
- Display Off in case of Power Outage to Increase Battery Life. Display can be On by pressing First Push Button.

Security Features

- The meter is protected against any loss of data and functional performance due to any external interference such as influence of CD drive, mobile phones and complies with all relevant IEC/ANSI standards.
- The meter is protected against the influence of strong magnetic field.
- Each meter has a unique serial number in its memory which can be displayed on the LCD.
- Meter keeps on operating with or without neutral wire.
- Over and under voltage indication with symbols (↑↓).
- Demand over load warning.
- Meter body opened Indication on LCD (*OPENED*) & storage of event with date and time stamp.
- Identification (with symbol ← on LCD) & storage of Reverse Energy Flow event with date & time stamp.

Electrical Specification

- | | |
|-----------------------|----------------------------------|
| • Operating Voltage | 3×230 /400V |
| • Basic/Max Current | 5/10 A |
| • Reference frequency | 50 Hz |
| • Accuracy Class | |
| ✓ For Active Energy | Class 1.0 |
| ✓ For Reactive Energy | Class 2.0 |
| • Meter Constant | |
| ✓ Active & Reactive | 10,000 imps/kWh |
| ✓ Starting Current | Less than 10mA |
| • Power Consumption | |
| ✓ Voltage Circuit | Less than 0.8W, 1VA |
| ✓ Current Circuit | Less than 1VA (at Basic Current) |

Billing Record

Monthly reading for last 24 months of 4 tariffs and totals (TL) of the following:

- kWh
- kvarh
- Cumulative MDI (kW)
- Current Month MDI (kW)
- Average Power Factor (PF)

Event Record

Events logging and storage of the last 32 events with date and time stamp for each of the following is available:

- Power fail
- Phase Fail
- Reverse Energy
- Reverse Polarity
- Over voltage
- Over load
- Under voltage
- MDI reset
- CT fail
- Door Open
- EMS Login
- Battery Low
- Time Change
- Register Reset
- Parameters Change

Load Profiling:

4 channel recording of load profile data with 30 min interval for 90 days, 60 min interval for 180 days and 24 hour interval for 12 years. Load profile data is stored in non-volatile memory (EEPROM).

Instantaneous Quantities Display

- Voltages U_1, U_2, U_3
- Current with Indication of Direction I_1, I_2, I_3 (↔)
- Phase Indication A, B, C
- Load Indication (A) (B) (C)
(Blinking circle around the present phase)
- Active Power (kW) with Indication of Direction kW_1, kW_2, kW_3 (↔)
- Reactive Power Phase Wise $kvarh_1, kvarh_2, kvarh_3$
- Apparent Power Phase Wise kVA_1, kVA_2, kVA_3
- Power Factor by Phase PF_1, PF_2, PF_3
- Meter Clock Date & Time
- Tariff Indication T_1, T_2, T_3, T_4
- Frequency F_r - Hz
- Battery Voltage btry-3.65V

Temperature Range

- Specified Operating Range -25°C to 60°C
- Limit Range of Operation (Extreme Condition) -25°C to 80°C
- Limit Range for Storage & Transportation -25°C to 80°C

Weight and Dimensions:

- Weight 1.5kg (±5%)
- Dimensions 23 x 22 x 7.6(cm)

MicroTech Industries (Pvt.) Ltd.

Plot # 2, Street # 2, Attari Industrial Estate, 18 Km. Ferozpur Road, Lahore, Pakistan.
 PABX : +92-42-35990015, Fax: +92-42-35924780, E-mail: marketing.info@mtlimited.com,
 Web: www.mtilimited.com



BUREAU
VERITAS

ISO 9001:2000 Standards