

Mk32

ABACUS – Advanced Single Phase Meter

Designed for residential use, **Mk32** is a single phase meter with integrated 100A UC3 compliant relays. It is able to operate in either **STS compliant** prepaid mode or post-paid mode. **Mk32** can operate with A CIU (Customer Interface Unit) – **HD18** or **HD21** wirelessly as a split meter.



Main Functionalities

Standards & Compliance	• Class 1 and Class 2 • IEC 62052-11, 62053-21, 62053-23, 62055-31, 62055-41, 62055-51
Measurement	• 1 phase 2 wire (optional neutral current measurement) • 1 phase 3 wire*
Voltage	• Nominal voltage: 220V – 240V • Operating range: 0.5Un to 1.2Un • Withstand range: 0V to 456V • Impulse voltage: 4kV
Current	• WC range: 5/60A, 10/60A, 5/100A,10/100A • WC limit: 30 times I_{max} for 0.5 cycles • Phase current measurement sensor: Shunt • Neutral current measurement sensor: CT
Inputs/Outputs Configuration	• Up to 5 x LED indicators • Up to 2 x outputs
Power Consumption	• Voltage circuit: <10VA/phase, 2W @ V_n • Current circuit: <2.5VA/phase @ I_n
Communication Ports	Up to 3 independently working communication ports: • Optical port: FLAG (IEC 62056-21) Built in Communication • RF: 300MHz to 950MHz (configurable) • DBPSK PLC Module: 187.5kHz • RS-485 screw terminal (2-wire) • Pluggable communication module – GPRS/GSM (850/900/1800/1900MHz)
Relay	Up to two internal disconnect relays (80A or 120A)
Security	Multi-level security (username and password including encrypted log-in) • Up to 10 independent security levels • Up to 8 individual users
Operation Mode	• Postpaid • Prepaid
Battery	• Internal lithium battery (3.6V) • Internal super capacitor • Backup time: 5 years without power (lithium battery) • Backup time: 48 hours without power (super capacitor)
Protocol	• EDML command line • DLMS

Additional Functionalities

Keypad

Option of silicone keypad or capacitive touch keypad
Measured

Measured Values

- 1 element 4 quadrants
- Import/Export/Absolute Wh, varh and VAh
- Per quadrant Wh, varh and VAh
- W, var, VA, Vrms, Irms
- Power factor, frequency

Load Profile

- Up to 8 channels and 2 independent surveys
- Intervals programmable from 1 to 60 minutes
- Energy, instantaneous readings, pulsing inputs as channel sources
- Ability to store average/minimum/maximum values for interval duration

Tine of Use

- Up to 8 rates plus unified rate
- Up to 8 separate import and export registers
- Daily, weekly, monthly, yearly and special days
- Up to 48 previous periods plus period totals
- Block or rolling maximum demand
- Time of maximum demand

Tamper Detection and Alarms

- Provision for sealing with conventional wire or plastic seals
- Reverse current detection
- Line and neutral current unbalance detection
- Meter cover and terminal cover detection
- Faulty load relay detection
- Overload detection
- Magnetic tamper detection (optional)
- Alarms are stored in event logs

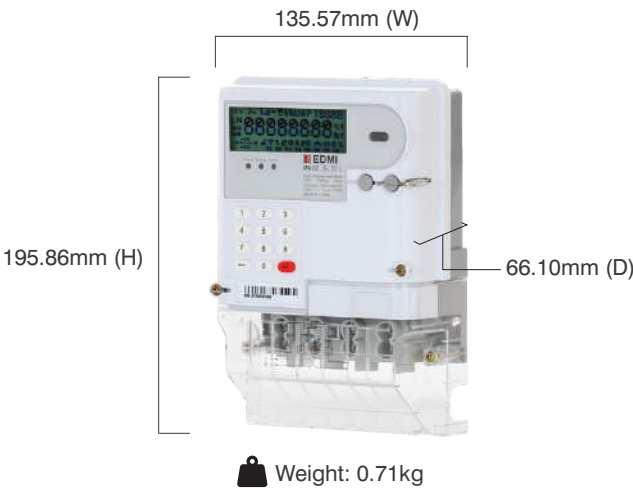
Software

- Specified operating range: -25°C to +55°C
- Operating range limit: -40°C to +70°C
- Storage range limit: -40°C to +85°C
- Relative humidity: Up to %75 mean, %95 non-condensing for 30 days
- Ingress protection: IP54 (without suction)

Technical Specification

Rated Nominal Voltage	220V – 240V
Operating Voltage Range	0.5Un to 1.2Un
Rated Current & Starting Current	5/60A, 10/60A, 5/100A,10/100A
Rated Frequency	50Hz– 65Hz
Pulse Constant (Configurable)	1000imp/kWh 1000imp/kvarh (Default)
Accuracy Class	Cl.1for Active Cl.2 for Reactive
Battery and Life	Internal Lithium Battery (3.6V) Backup Time: 5 years without battery (lithium Battery)
Data Memory	2 MB of non-volatile memory
Real Time Clock	Precision clock accuracy: <5ppm (15 seconds per month) at 23°C
Specified Operation Range Operating Range Limit	-25°C to +55°C, Humidity is up to 95% -40°C to +70°C Humidity is up to 95%
Terminal	Terminal cross-section: 58.24mm ²
Protection Class	IP54 comply with IEC60529 Insulation grade II

Diagram



Design and Product of EDM1 Limited

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