

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.



STS
COMPLIANT



RF WIRELESS
TRANSCIVER



DISCONNECT
RELAY



NEUTRAL CURRENT
MEASUREMENT



Mk32

Main Functionalities:

Standards & Compliance	<ul style="list-style-type: none">▪ Class 1 and Class 2▪ IEC 62052-11, 62053-21, 62053-23, 62055-31, 62055-41, 62055-51
Measurement	<ul style="list-style-type: none">▪ 1 phase 2 wire (optional neutral current measurement)▪ 1 phase 3 wire*
Voltage	<ul style="list-style-type: none">▪ Nominal voltage: 220V - 240V▪ Operating range: 0.5Un to 1.2Un▪ Withstand range: 0V to 456V▪ Impulse voltage: 4kV
Current	<ul style="list-style-type: none">▪ 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	<ul style="list-style-type: none">▪ Up to 5 x LED indicators▪ Up to 2 x outputs
Power Consumption	<ul style="list-style-type: none">▪ Voltage circuit: <10VA/phase, 2W @ V_n▪ Current circuit: <2.5VA/phase @ I_n
Communication Ports	<ul style="list-style-type: none">▪ Up to 3 independently working communication ports:<ul style="list-style-type: none">▪ Optical port: FLAG (IEC 62056-21)▪ Built in Communication<ul style="list-style-type: none">▪ 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	<ul style="list-style-type: none">▪ Up to two internal disconnect relays (80A or 120A)
Security	<ul style="list-style-type: none">▪ Multi-level security (username and password including encrypted log-in)<ul style="list-style-type: none">• Up to 10 independent security levels• Up to 8 individual users
Operation Mode	<ul style="list-style-type: none">▪ Postpaid▪ Prepaid
Battery	<ul style="list-style-type: none">▪ 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	<ul style="list-style-type: none">▪ EDML command line▪ DLMS

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Additional Functionalities:

Keypad

- Option of silicone keypad or capacitive touch keypad

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

Time 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

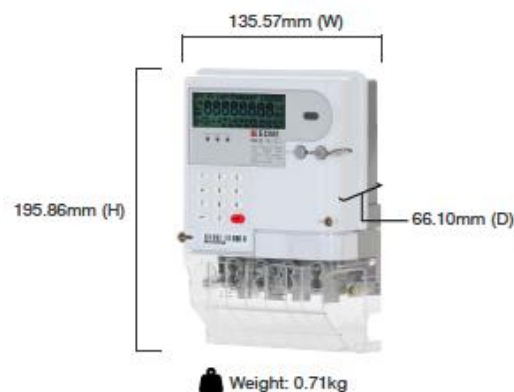
- Specified operating range: -25 ° C to +55 ° C
 - Operating range limit: -40 ° C to +70 ° C
 - Storage range limit: -40 ° C to +85 ° C
 - Relative humidity: Up to 75% mean, 95% non-condensing for 30 days
 - Ingress protection: IP54 (without suction)
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Technical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



EDMPTrading LLC
P3-08, 32 Marasi Drive,
Business Bay, Dubai, UAE

info@edmpco.com
www.edmpco.com



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