

# Mk32H

## ABACUS – Advanced Single Phase DIN-Rail Meter

Designed for residential use, Mk32H is a DIN Rail single phase meter with integrated 100A UC3 compliant relay. It is able to operate in either STS compliant prepaid mode or post-paid mode. Mk32H can operate with the CIU (Customer Interface Unit) – HD18 wirelessly as a split meter as well as operate with gateway – GW30 and the Head End System – MultiDrive as a complete AMI system.



# Main Functionalities

## Standards & Compliance

- IEC 62052-11
- IEC 62053-21
- IEC 62053-23
- IEC 62054-41

## Measurement

- 1 Phase 2 Wire
- Neutral Current Measurement (Optional)
- 1 element 4 quadrants
- Import/Export/Absolute Wh, varh and VAh
- Per quadrant: varh
- W, var, VA, Vrms, Irms
- Power factor, frequency

## Multi TOU Tariff

- Up to 8 separate import and export registers
- Daily, weekly, monthly, yearly and special days
- Up to 48 previous billing periods plus billing totals
- Block maximum demand
- Time of maximum demand

## Prepayment

- Configurable prepayment and post-payment mode
- Three levels for remaining credit alarm
- Emergency credit, friendly time and friendly days support
- STS Compliant

## Load control

- Over current control support
- Power & current limit support
- Internal disconnect relays (80A or 100A)
- Re-connect/Dis-connect by locally or remotely

## Load Profile

- Up to 8 channels and 2 independent surveys
- Interval programmable from 1 to 60 minutes
- Energy, instantaneous readings channel sources
- Average/minimum/maximum values for interval duration

## Communication Ports

- RF (260MHz – 930MHz) – Communicate with Gateway (GW30)
- RS485(2-wire)
- RF 433 MHz – Communicate with CIU (User Interface Unit)
- Optical Port: Comply with IEC62056-21standard

## Security

- Multi-level security (username and password including encrypted log-in)
- Up to 10 independent security levels
- Up to 8 individual users

## Additional Functionalities

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<b>Event</b>	<ul style="list-style-type: none"><li>• Fraud detection log (Meter cover &amp; terminal cover open detect with and without power, module cover open detect, current reverse, magnetic detect, neutral current mismatch etc.)</li><li>• Failure detection log (Memory error, relay error, battery low voltage, clock invalid etc.)</li><li>• Power quality event log (Under voltage / Over voltage(Sag/Swell), Over current/current imbalance, Power up/down, etc.)</li><li>• Security event log (Parameters change, clock adjust, etc.)</li><li>• Standard event log (Power up/on, time synchronization, etc.)</li></ul>
<b>Anti Tamper</b>	<ul style="list-style-type: none"><li>• Terminal cover, meter cover and module cover sealing</li><li>• Self-protection under Overload control, Abnormal voltage control, Arrearage control, Tamper control, Malfunction control, Fire disaster control etc.</li></ul>
<b>Alarm</b>	<ul style="list-style-type: none"><li>• Alarms with LED/Buzzer and LCD on CIU</li><li>• Alarm can be configurable</li></ul>
<b>Tariff Expense (Optional)</b>	<ul style="list-style-type: none"><li>• Up to 10 steps tariff</li><li>• Up to 5 steps Monthly service charge</li><li>• Up to 5 kinds subsidy</li><li>• Up to 3 kinds fixed charge</li><li>• Up to 5 kinds levies charge</li><li>• Up to 3 kinds VAT charge</li></ul>
<b>Communication Protocol</b>	<ul style="list-style-type: none"><li>• International open protocol</li><li>• IEC62056-21 E mode DLMS</li><li>• HDLC DLMS and TCPIP DLMS, Support suite 0 and suite 1</li><li>• STS/CTS Token and SMS</li><li>• LLS support 3 level passwords for local and remote communication</li><li>• HLS support auth and encryption for local and remote communication</li></ul>
<b>Billing Record</b>	<ul style="list-style-type: none"><li>• Up to 12-month billing data</li><li>• Calculate monthly net consumption of energy</li><li>• Up to 31 days daily data</li><li>• Calculate daily net consumption of energy</li></ul>
<b>Firmware Upgrade</b>	<ul style="list-style-type: none"><li>• The firmware can be upgraded via local interface and WAN interface.</li><li>• Schedule activity image support</li></ul>
<b>CIU unit</b>	<ul style="list-style-type: none"><li>• The meter can communicate with the CIU via RF or PLC</li><li>• Parameters transfer</li><li>• Credit token, Key change token, clear balance token, clear tamper token, set power limit token, test token etc.</li><li>• Fully complies with STS standard</li></ul>

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# Technical Specification

<b>Rated Nominal Voltage</b>	220V - 240V
<b>Operating Voltage Range</b>	0.5Un to 1.2Un
<b>Rated Current &amp; Starting Current</b>	5(100)A, 5(60)A
<b>Rated Frequency</b>	50Hz, 60Hz ±5%
<b>Pulse Constant (Configurable)</b>	1000imp/kWh 1000imp/kvarh (Default)
<b>Accuracy Class</b>	Cl.1 for Active Cl.2 for Reactive
<b>Power Consumption</b>	Voltage circuit ≤ 2 W or 10VA, Current circuit ≤ 2.5VA
<b>Battery and Life</b>	Internal Lithium Battery (3.6V) Backup Time: 5 years without battery (lithium Battery)
<b>Specified Operation Range</b>	-25°C to +55°C, Humidity is up to 95%
<b>Operating Range Limit</b>	-40°C to +70°C Humidity is up to 95%
<b>EMC Performance</b>	Impulse voltage > 6kV
<b>Protection Class</b>	IP54 comply with IEC60529 Insulation grade II
<b>Housing Material</b>	Polycarbonate with non-conductive, high impact, smooth finish, durable, non-flammable, UV stabilized, UV resistant and high resistance to weathering

## Diagram



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