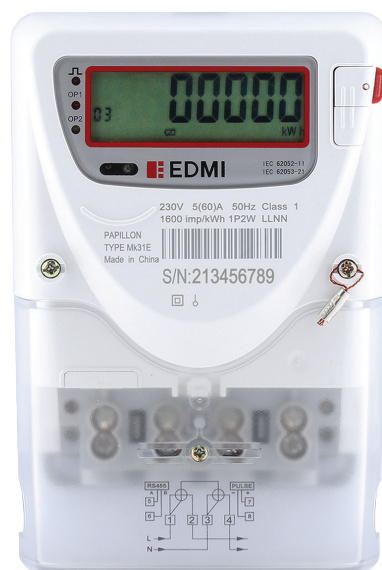


# Mk31E

**PAPILLON** - Class 1 and Class

Advanced Single Phase  
Electronic Revenue Meter

Mk31E is another addition to the Papillon series which enhanced the Mk31 with a disconnect relay, additional communication capabilities, advance tampering features and a larger memory storage capacity.



## Key Features

**AMI**

AMI READY



LARGE LCD  
DISPLAY



ANTI TAMPER



UPGRADEABLE



MULTIPLE COMMS  
OPTIONS



LARGE DATA  
STORAGE

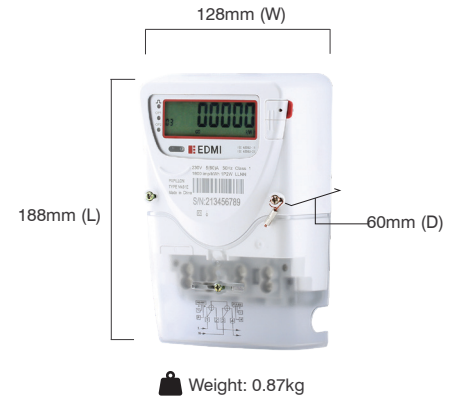


DISCONNECT  
RELAY

# Mk31 E

**PAPILLON** - Class 1 and Class 2

## Advanced Single Phase Electronic Revenue Meter



### Standards and Compliance

- Class 1 and Class 2
- IEC 62052-11, 62053-21, 62053-23

### Measurement

- 1 phase 2 wire
- 1 phase 3 wire
- Option for neutral current measurement
- Measurement sensor: CT/CT or CT/Shunt

### Voltage

- Nominal voltage: 110V – 120V/220V - 240V
- Operating range: 0.6Un - 1.3Un (Max: 300V)
- Power consumption: <10VA 2W

### Current

- WC range: 5/100A, 10/100A
- Power consumption: <2.5VA

### Frequency

- 50Hz or 60Hz

### Meter Constant

- 1600imp/kWh or 3200imp/kWh

### Inputs/Outputs Configuration

- Pulsing LED for energy indication, LED for communication indication
- Energy pulsing output port, real-time clock (second) pulsing output port
- 3 spare LED indicators

### Disconnect Relay

- 100A
- Magnetic latch type relay

### Battery

- Internal battery

### Real-time Clock

- Accuracy (internal) within 0.5 seconds per day at 23°C
- Built-in calendar, timing and leap year auto-adjustment functions
- Backup time: 5 years without power (Lithium Battery)

### Data Memory

- Basic 2 MB storage and expandable to 8 MB

### Display

- Display digit size: 16mm x 7.1mm
- Display available without main power
- Option for backlight

### Measured Values

- Import/Export/ Absolute Wh, varh
- Voltage, current, line frequency, PF

### Load Survey/Profile

- Up to 8 channels can be defined
- Each channel contains 9600 records

### Time of Use

- Up to 8 rates plus unified, 14 intervals
- Weekdays, weekends, holidays and special days
- Tariff switch over through dry contact
- Auto/manual billing reset
- Billing reset through communication
- Storage of last 12 monthly billing data (energy)
- Max demand: kW, kVar
- Accumulated max demand
- Block or rolling maximum demand
- Customise interval from 5 - 255 minutes

### Tamper Detection and Alarms

- Provision for sealing with conventional wire or plastic seals
- Reverse current detection
- Line and neutral current un-balance detection
- Meter cover and terminal cover detection
- Overload detection
- Magnetic tamper detection
- Measure energy in condition of absence neutral input
- Missing neutral detection
- Alarms LED, enunciator, tamper event logs

### Communications

- Optical interface (IEC 62056-21) or modulated infrared interface port (DL/T 645)
- RS-485 for multi-drop communications
- Built-in low power RF module: (optional)
  - Open air communication distance >100m
  - Frequency 300MHz - 950MHz (configurable)
  - 17dB (50mW)
- Built-in PLC module (optional)
- Protocol: DL/T 645-2007
- Support remote firmware upgrade

### Environmental

- Specified operating range:
  - 25°C to +60°C
- Operating range limit:
  - 40°C to +70°C
- Storage range limit:
  - 40°C to +70°C
- Relative humidity:
  - Up to 95% non- condensing for 30 days

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