

**ELECTRICAL SAFETY**  
**POWER QUALITY**  
**ENERGY MANAGEMENT**



## iBCPM - E810 Series

### intelligent Branch Circuit Power Monitoring (iBCPM)

- Measurement accuracy according to IEC62053-22 Class 0.5s
- Measures up to 30 sub circuits
- Designed to work with split-core current transformers for easy installation and retrofit applications

# iBCPM - E810 Series

## Power Quality & Energy Meter



## Product Description

The E810-Series (iBCPM) is an effective branch circuit power monitoring system and part of the Graphene-Meter-Series. The compact design allows an easy and fast commissioning. Combined with the split-core CTs of the ESCT-Series, the E810 is highly suitable for retrofit applications.

It measures and displays characteristics of electrical systems such as voltage, frequency, current, power, harmonics, power factor, maximum, minimum value, and imported or exported energy. The built-in interfaces provide standard RS485 Modbus RTU outputs with password protection to transfer the collected data to any other system.

It makes the E810-Series a perfect partner for various applications like accurate data collection and timely reporting of anomalies in the power distribution unit (PDUs).

## Device Features

- Measurement accuracy according to IEC62053-22 Cl 0.5S
- Measures up to 30 sub circuits (or up to 10 three phase sub-circuits)
- Up to 31<sup>st</sup> harmonics measurements
- Able to combine either three phase or single phase
- 4 relays output
- Optional with 2<sup>nd</sup> Modbus output
- Designed to work with split core current transformer with 333mV CT input (CT range from 100A to 3000A)
- **SmartSense Technology: New!**  
Intelligent detection of branch circuit abnormalities and zero current monitoring enhances safety and efficiency without requiring additional hardware or wiring

## Typical Applications

- Low voltage distribution networks
- Data Center (PDUs)
- Consumer billing
- Retail shop
- Commercial/residential building
- School Hostel
- University
- Government sector
- Sub-billing application

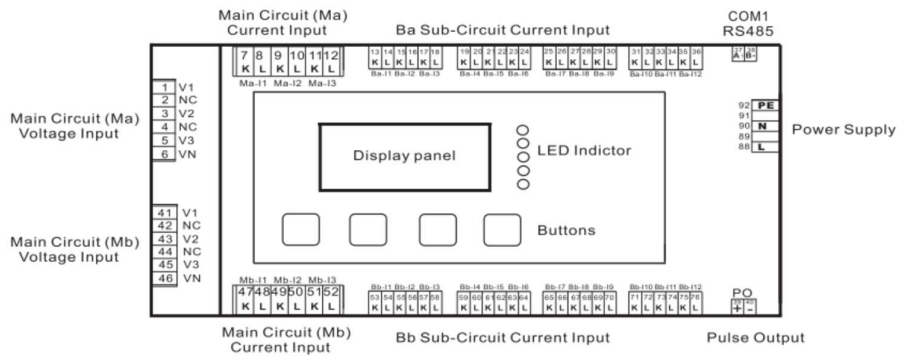
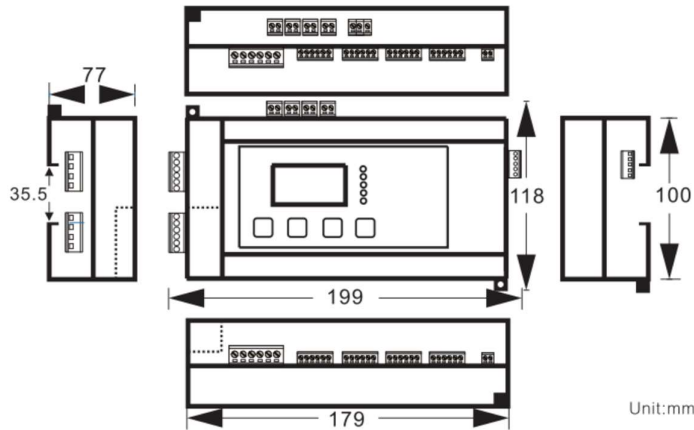
# Technical Specification

| Power Supply  |                                       |
|---|---------------------------------------|
| Rated Voltage   | AC85~264V or DC100~300V               |
| Power Consumption   | ≤15VA                                 |
| Withstand voltage   | AC2KV,50/60Hz for 1 min               |
| Communication / Interface                                 |                                       |
| <b>RS-485: Modbus-RTU (Default) / Optional Modbus TCP</b> |                                       |
| Physical interface  | RS-485 / Ethernet                     |
| Communication speed                                       | Up to 38.4 kbps                       |
| Communication protocol                                    | Modbus-RTU / Optional Modbus TCP      |
| Relay output  |                                       |
| Capacity  | 5A/250Vac ; 5A/30Vdc                  |
| Isolation voltage   | Isolation 2000 VAC                    |
| Alarm setpoints   | Up to 48 parameters for alarm setting |
| Pulse Output  |                                       |
| Pulse Output mode   | 4 x Output: 30Vdc, 30mA(max)          |
| Energy pulse output                                       | 3200 Pulse/kWh                        |
| Measuring circuit   |                                       |
| Measuring voltage inputs                                  |                                       |
| Rated range   | 50 - 600V (L-L)                       |
| Resolution  | 0.1 V                                 |
| Over voltage  | 1.2VIn continuous                     |
| Frequency   | 45-65 Hz                              |
| Main Circuits   | 1P2W/1P3W/3P3W/3P4W                   |
| Sub Circuits  | 1P2W/1P3W/3P3W/3P4W                   |
| Measuring current inputs                                  |                                       |
| Rated range   | 333mV                                 |
| Resolution  | 1 mA                                  |
| Impedance   | ≤ 20 mΩ/per phase                     |
| Power consumption   | ≤ 0.1 VA/per phase                    |
| Over current  | 1.2X rated current of CT              |
| Working Environment                                       |                                       |
| Working temperature                                       | 0°C to 60°C                           |
| Storage temperature                                       | -30°C to 80°C                         |
| Relative humidity   | 5 ~ 95%RH, no condensation            |

| Other   |                    |
|---|--------------------|
| Electrostatic discharge immunity                                      | IEC61000-4-2:2008  |
| Radiated, radio-frequency, electromagnetic field immunity             | IEC61000-4-3:2010  |
| Electrical fast transient/burst immunity                              | IEC61000-4-4:2012  |
| Surge immunity  | IEC61000-4-5:2014  |
| Immunity to conducted disturbances, induced by radio-frequency fields | IEC61000-4-6:2013  |
| Power frequency magnetic field immunity                               | IEC61000-4-8:2009  |
| Voltage dips, short interruptions and voltage variations immunity     | IEC61000-4-11:2004 |
| Low Voltage Directive   | EN61010-1 2010     |

| Measurement Parameters     |  |
|----------------------------|--|
| Power Quality Analysis     |  |
| Wave Sampling              | 256 samples/cycle  |
| Harmonic                   | 31st Harmonic (Main Circuits)  |
| Alarm setting              | Setpoint alarm and record  |
| Real-time Data             | Voltage, Current, Active power, Reactive Power, Apparent Power, Power Factor, Frequency, THD |
| Measurement Channel        | 30 channels sub circuits   |
| Energy                     |  |
| Energy                     | Reactive Energy, Apparent Energy, Active Energy  |
| History Energy             | Storage to build in memory   |
| Multi-tariff energy        | 8 Tariff setting   |
| Demand / Max & Min         |  |
| Real-time Demand           | fixed- and slide window record value   |
| Max. / Min Record          | Per phase and 3-phase of parameters values   |
| Memory Record              |  |
| Memory                     | 2MB  |
| Setting                    | Load setting from previous saved file or set according to needs.                             |
| Accuracy                   |  |
| Voltage/ Current           | ± 0.2%   |
| Re-,Active/Apparent power  | ± 0.2%   |
| Active Energy              | ± 0.5%   |
| Reactive Energy            | ± 0.5%   |
| Power Factor               | ± 0.5%   |
| Frequency                  | ± 0.1%   |
| THD                        | 1%   |
| Unbalance                  | ± 0.5%   |
| Mechanical Characteristics |  |
| Dimension                  | 199mm (L) x 118mm (W) x 77mm (H)   |
| Material                   | ABS, Black (with fire-retardant)   |
| Mounting                   | 35mm DIN RAIL  |
| Protection degree          | IP20   |

# Dimensions & Ordering Code



## Ordering Code

| Order Number     | Type       | Features  |
|------------------|------------|---|
| GABXXCB5X3XXXX0  | E810-RTU   | BCPM with 2MB memory and Modbus RTU               |
| GABXXEB5X3XXXX0  | E810-TCP   | BCPM with 2MB memory and Modbus TCP               |
| GABXXCB5X32XXXX0 | E810-RTU-2 | BCPM with 2 MB memory and 2 x Modbus RTU          |
| GABXXEB5X32XXXX0 | E810-TCP-2 | BCPM with 2 MB memory and Modbus TCP with 2 ports |



EEPL-CAT-E810-rev08

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