EETARP
Part of Bender

ELECTRICAL SAFETY
POWER QUALITY
ENERGY MANAGEMENT

EETARP
Graphene

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).

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 31st harmonics measurements
- Able to combine either three phase or single phase
- 4 relays output
- Optional with 2nd Modbus output
- Designed to work with split core current transformer with 333mV CT input (CT range from 100A to 3000A)
- SmartSense Technology:
  Intelligent detection of branch circuit abnormalities and no-load condition monitoring enhances safety and efficiency without requiring additional hardware or wiring

Typical Applications

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

Electrical Safety I Power Quality I Energy Management

Power Supply

Rated Voltage	AC85~264V or DC100~300V
Power Consumption	≤15VA
Withstand voltage	AC2KV,50/60Hz for 1 min

Communication / Interface

RS-485: Modbus-RTU (Default) / Optional Modbus TCP

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	1.2Vln 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

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

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

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Dimensions & Ordering Code

Unit:mm
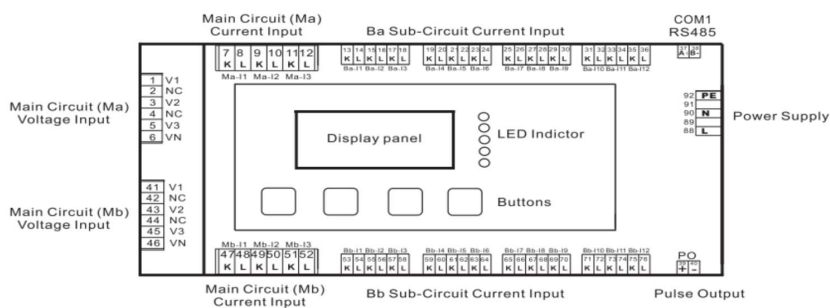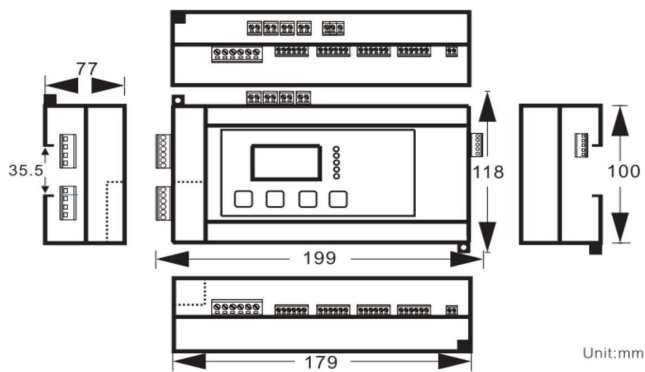
Common E810 Series Variants

Order Number	Type	Features
GABXXCB5X3XXXX0	E810-RTU	BCPM with 2MB memory and Modbus RTU
GABXXEB5X3XXXX0	E810-TCP	BCPM with 2MB memory and Modbus TCP
GABXXCB5X32XXX0	E810-RTU-2	BCPM with 2 MB memory and 2 x Modbus RTU
GABXXEB5X32XXX0	E810-TCP-2	BCPM with 2 MB memory and Modbus TCP with 2 ports

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