

# PM180

## UNIVERSAL IED AND CONTROLLER



SATEC eXpertMeter PM180 is a high performance analyzer that allows versatile uses. The high performance of the eXpertMeter, together with the unique flexible design of the expansion cards, enables its use in large variety of applications, in which it can substitute several other devices which saves costs, space and complexity.

### Examples of Applications

- IED with IEC 61850 protocol
- Substation and industrial automation controller
- High accuracy power quality analyzer (PQA)
- Check meter
- Fault recorder
- Protection relay
- Sequence of Events (SoE)

### Features

Each function of the PM180 uses cutting edge technologies to provide maximum performance and flexibility while keeping it cost-effective:

#### Various Measurement and Protection Channels

- 4 voltages (4<sup>th</sup> voltage AC/DC), 4 currents
- Optional additional 4 or 8 current channels for fault analysis
- Transient recording (option) of 2kV at 1024 samples per cycle (16/20μS at 60/50Hz)
- Digital fault recorder option – up to 50/100A current

#### Measurement to the Highest Available Standards

- Power measurements– IEC 61000-4-30 Class A
- Energy measurements – IEC 62052-22 Class 0.2S / 0.05%
- Power Quality Analysis – EN 50160, IEEE 1159, GOST R 54149-2010

## Fault Protection and Data Recording

- 256 MB on board memory
- 4 Simultaneous waveform loggers
- Pre- and post-fault waveform logging
- Standard and programmable thresholds

## Multiple Communication Ports and Protocols

- Standard communication: Ethernet, USB, RS-232/422/485
- Optional communication: IR, front USB, 2G/3G Modem, Fiber Optic Ethernet, Dialup Modem, Profibus and WiFi
- Standard protocols: Modbus RTU, ASCII, Modbus/TCP, DNP 3.0, DNP3/TCP
- Optional protocols: IEC 61850, MMS and GOOSE Messaging, Profibus

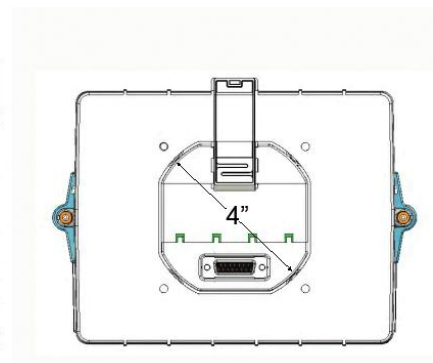
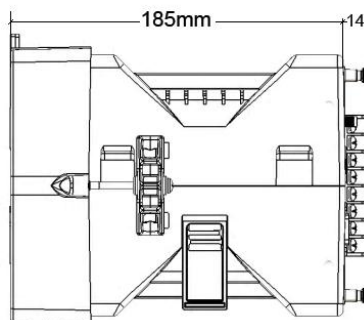
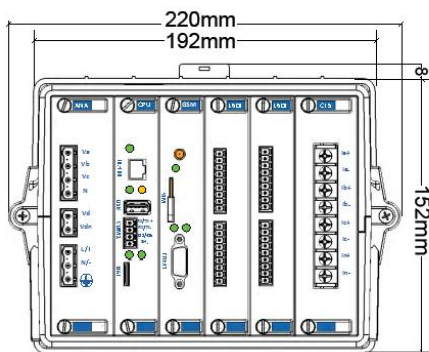
## Advanced Automation and Control Capabilities

- Up to 48 digital inputs
- Up to 24 relay outputs
- Up to 12 analog I/O
- 1ms sampling rate
- Comprehensive programming logic
- Accurate time synchronization (SNTP, DI, IRIG-B)

## Robust Construction and Design

- 3 hot-swap expansion cards
- Optional redundant power supply and Ethernet port
- Compact half 19" 3U high

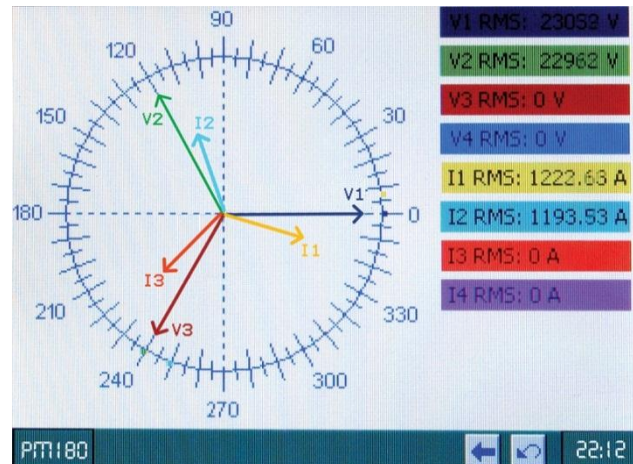
## Mechanical size



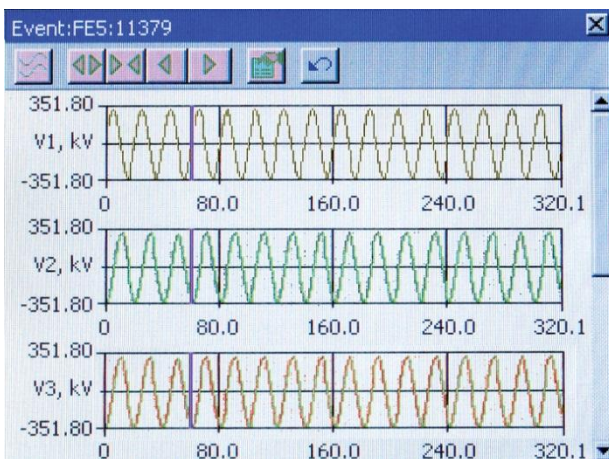
### PM180 Screen Shots



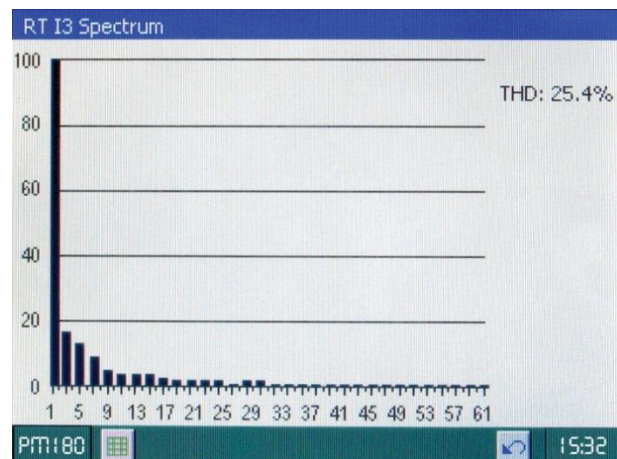
3-Phase



Phasor



Event



Spectrum

## Order String

### MODELS

6 in 1 device for Substation and industrial automation:

- 1- Precise Energy/Revenue meter (IEC 62053 Class 0.2S)
- 2- Advanced Power Quality Analyzer (IEC 61000-4-30)
- 3- Fault recorder PM180
- 4- Sequence Of Event
- 5- Bay Controller capabilities
- 6- Transient Recorder (optional)

PM180 with 5.7" touchscreen graphic color display PM180-TFT

PM180 with 3 line LED display PM180-LED

PM180 with 12 window LED display PM180-LD12

### OPTIONS

#### Voltage Inputs

690V AC Nominal Voltage Input -

120V AC Nominal Voltage Input U

#### Current Inputs

5 Ampere 5

1 Ampere 1

100A Split Core HACS (Calibrated to 5A) CS1S

#### Frequency

50 HZ 50Hz

60 HZ 60Hz

#### Accuracy and Power Quality standard

ANSI C12.20 - USA Standard IEEE1159 Full Power Quality A

IEC 62053-22 - European Standard EN50160 Full Power Quality E

GOST13109 - Russian Standard G

#### Power Supply - MAIN

85-265V AC and 88-290V DC (Default) ACDC

#### Communication Standard

IEC61850 (SISCO) 850

### OPTIONAL PLUG-IN MODULES

PLUG-IN MODULES - Add Plug-In Modules

Maximum 3 modules

#### Digital Inputs (Max. 48 Digital Inputs)

DI 16 Dry Contacts DI-DRC

DI 16 24V DC DI-24V

DI 16 125V DC DI-125V

DI 16 250V DC DI-250V

#### Relay Outputs (Max. 24 Relay Outputs)

8 Relays RLY-R8

#### Auxiliary POWER SUPPLY (Max. 1 modules per Instrument)

AUX. P.S. AC/DC ACDC

