

ACCURACY CLASS 0.5S
IEC 62053-22 COMPLIANT
MEASURING CATEGORY II
UL FILE E236895
[View the PM130 PLUS product page on satec-global.com.au](#)

PM130 PLUS

High Performance Multi-function Power Meter

The PM130 PLUS is a compact multi-function, three-phase AC power meter designed to meet the requirements of users ranging from electrical panel builders to substation operators. Measurement inputs and power supply comply with Measuring Category II.

The series offers a bright multi-row LED display, a standard RS-485 port with an optional plug-in second communications module, and a selection of digital I/O and analogue output modules – with all models suited to both 4-inch round and 92×92 mm square panel cutouts.

PM130P

Base model – voltage, current, power & frequency measurement and control

PM130E

Adds energy measurement & data logging

PM130EH

Adds harmonic analysis to the PM130E feature set



Main Features

- 3 voltage inputs and 3 current-transformer-isolated AC inputs for direct connection to the power line or via potential and current transformers
- True RMS volts, amps, power, power factor, neutral current, voltage and current unbalance, frequency
- Ampere/Volt demand meter
- 25/50/60/400 Hz measurement capability
- Selection of I/O plug-in modules from 4DI/2DO up to 12DI/4RO, with communications
- Standard RS-485 port plus an optional plug-in RS-232/422/485, Ethernet or Profibus module
- Dual panel mounting – 92×92 mm square or 4-inch round cutout

Feature Capabilities

Billing / TOU Energy Meter

PM130E & PM130EH ONLY

- Class 0.5S IEC 62053-22 four-quadrant active and reactive energy polyphase static meter
- Three-phase total and per-phase energy measurement – active, reactive and apparent energy counters
- Time-of-Use: 4 totalisation and tariff energy/demand registers × 8 tariffs, 4 seasons × 4 day types, 8 tariff changes per day
- One-time programmable tariff calendar schedule
- Automatic daily energy and maximum demand profile log for total and tariff registers

Harmonic Analyser

PM130EH ONLY

- Voltage and current THD, current TDD and K-Factor, up to the 40th order harmonic
- Voltage and current harmonic spectrum and angles

Real-Time Waveform Capture

- Real-time "scope mode" waveform monitoring
- Simultaneous 6-channel, one-cycle waveform capture at 64 samples per cycle
- Accessed via [**Power Analysis Software \(PAS\)**](#), [**ExpertPower™**](#) or the [**eXpertConnect™ App**](#)

Programmable Logical Controller

- Embedded programmable controller
- 16 control setpoints – programmable thresholds and delays
- Relay output control
- 1-cycle response time

Event & Data Recording

PM130E & PM130EH ONLY

- Non-volatile memory for long-term event and data recording
- Event recorder for internal diagnostic events and setup changes
- Two data recorders – periodic data logs plus automatic daily energy and max-demand profile log

Display

- 3-row (2×4 characters + 1×5 characters) bright LED display, adjustable update time and brightness
- Auto-scroll with adjustable page exposition time; auto-return to a default page
- LED bar graph showing percent load against a user-definable nominal load current

Real-Time Clock

- Internal clock with 20-second retention time
- Optional battery backup via the TOU+4DI module

Feature Capabilities (continued)

I/O Options

- TOU+4DI – 4 digital inputs, 1 ms scan time, battery-backed real-time clock, records the last five input-change events with timestamps
- 4DIO – 4 digital inputs and 2 relay outputs, 1-cycle update; unlatched, latched, pulse and KYZ operation; solid-state or electromechanical relay option
- 12DIO – 12 digital inputs, 4 relay outputs, optional Ethernet or RS-485 port
- 4AO – 4 optically isolated analogue outputs, internal power supply; 0–20 mA / 4–20 mA / 0–1 mA / ± 1 mA, 1-cycle update

Measurement

- Direct voltage measurement up to 690 V
- 5A – up to 10A via conventional 5A CTs (see the [solid-core](#) and [split-core](#) current transformer ranges)
- 1A – up to 2A via conventional 1A CTs (see the [solid-core](#) and [split-core](#) current transformer ranges)
- [HACS](#) – remote sensors from 100 A up to 3000 A with built-in shorting circuit; Class 0.5S system accuracy (meter plus sensor); requires 3× HACS ordered separately
- [RS5](#) – a separate connection scheme underneath HACS: remote split-core sensor for straightforward retrofit onto a 5A conventional CT circuit; requires 3× RS5 HACS ordered separately

Meter Security

- Password security protecting meter setups and accumulated data from unauthorised changes

Software Support

- [PAS](#) – SATEC's bundled configuration and data-acquisition tool, including waveforms, phasors and harmonics
- ExpertPower™ – [SATEC's internet-based energy management software](#), with no client software installation required
- [eXpertConnect™ App](#) – mobile connection to the meter for configuration, readings and diagnostics

Communications

- Standard 2-wire RS-485 port
- Protocols: Modbus RTU, ASCII, DNP3.0; optional IEC 60870-5-101; with Ethernet: Modbus/TCP, DNP3/TCP; optional IEC 60870-5-104
- ExpertPower™ client for SATEC's [ExpertPower](#) internet services (via Ethernet)
- TCP notification client to a remote Modbus/TCP server, on event or on a time basis (via Ethernet)
- [eXpertConnect™ App](#) – connects directly to the meter for on-site setup and readings

Unique Design

- Pass-through CT connection for minimal burden
- Auxiliary CT connection terminal for simple installation
- Dual panel mounting – 92×92 mm square or 4-inch round cutout
- Add-on modular design for a second communications port, digital I/O or analogue outputs

Upgradeable Firmware

- Firmware upgrade via a serial or Ethernet port

Specifications

ENVIRONMENTAL CONDITIONS

Operating temperature	−30°C to 60°C (−22°F to 140°F)
Storage temperature	−40°C to 85°C (−40°F to 185°F)
Humidity	0–95% RH, non-condensing

CONSTRUCTION & MATERIALS

Weight	0.70 kg (1.54 lb)
Dimensions [H×W×D]	114×114×109 mm (4.5×4.5×4.3")
Case enclosure	PC/ABS blend plastic
Front panel	PC plastic
PCB	FR4 (UL94-V0)
Terminals	PBT (UL94-V0)
Plug-in connectors	Polyamide PA6.6 (UL94-V0)
Labels	Polyester film (UL94-V0)

POWER SUPPLY

120/230V AC-DC option	85–265V AC 50/60/400 Hz, 88–290VDC • 9VA burden • 2500V AC isolation (input to ground)
12VDC option	9.5–18V DC • 4VA burden • 1500V DC isolation
24/48VDC option	18.5–58VDC • 4VA burden • 1500VDC isolation • up to 12 AWG (3.5 mm ²) wire

VOLTAGE INPUTS

Operating range	690VAC line-to-line, 400VAC line-to-neutral
Direct / via PT	Up to 790VAC L-L, up to 460VAC L-N
Input impedance	1000 kΩ
Burden @ 400V / 120V	<0.4 VA / <0.04 VA
Over-voltage withstand	1000VAC continuous, 2000VAC for 1 s
Wire size	Up to 12 AWG (3.5 mm ²)

CURRENT INPUTS (VIA CT)

Wire size	12 AWG (3.5 mm ²)
Galvanic isolation	3500VAC
5A secondary / RS5	Continuous 10A RMS • <0.2VA burden @ I _n =5A • overload 15A RMS continuous, 300A RMS 1 s
1A secondary	Continuous 2A RMS • <0.02VA burden @ I _n =1A • overload 3A RMS continuous, 80A RMS 1 s
Standard CT range	Solid-core and split-core current transformers, 5A–3000A primary
HACS remote sensors	100–3000 A per sensor rating – see the HACS datasheet

SAMPLING & RESOLUTION

Sampling rate	128 samples/cycle
Display/measurement resolution	Low (1A, 1V) or high (0.01A, 0.1V) – field-programmable in the meter; no factory order code required

Specifications (continued)

OPTIONAL RELAY OUTPUTS

ELECTROMECHANICAL
(4DI/DO OR 12DI/DO
MODULE)

Rating	2 or 4 relays, 5A/250VAC or 5A/30VDC, 1 contact (SPST Form A)
Galvanic isolation	3000VAC (contacts-coil) • 750VAC (open contacts)
Operate / release time	10 ms max / 5 ms max
Wire size	14 AWG (1.5 mm ²)
SOLID-STATE (4DI/2DO MODULE)	
Rating	2 relays, 0.15A/250V AC/DC, 1 contact (SPST Form A)
Galvanic isolation	3750VAC 1 min
Operate / release time	1 ms max / 0.25 ms max

OPTIONAL DIGITAL INPUTS

Type	4 or 12 inputs (4DI/2DO or 12DI/4DO module); dry contact, internally wetted @ 24VDC, or wet contact @ 250VDC (12DI/4DO only)
Sensitivity	Open >100 k Ω • closed <100 Ω
Galvanic isolation	3750VAC 1 min
Scan time	1 ms

OPTIONAL ANALOGUE OUTPUTS

Ranges (on order)	± 1 mA • 0–20 mA • 4–20 mA • 0–1 mA
Isolation	2500VAC 1 min
Accuracy	0.5% FS
Update time	1 cycle

COMMUNICATION PORTS

COM1 – RS-485

Isolation / baud	3000VAC 1 min • up to 115.2 kbps
Protocols	Modbus RTU, DNP3, SATEC ASCII

COM2 (OPTIONAL
MODULE)

Ethernet	Transformer-isolated 10/100BaseT • Modbus/TCP (502), DNP3/TCP (20000) • 4 simultaneous connections
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App connection	eXpertConnect™ App – direct meter connection for setup and readings
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Profibus DP (IEC 61158)	RS-485 isolated • 9600 bit/s–12 Mbit/s auto-detect • 32 bytes in/out
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RS-232/422/485	Isolated • up to 115.2 kbps • Modbus RTU, DNP3, SATEC ASCII
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REAL-TIME CLOCK

Standard meter clock	Non-backed • ~1 min/month error @ 25°C • 30 s retention
TOU module clock	Battery-backed • ~7 s/month error @ 25°C (± 2.5 ppm) • 36-month retention

DISPLAY MODULE

Type	High-brightness 7-segment LED, two 4-digit + one 5-digit window
Bar graph	3-colour LED, 40–110% load
Keypad	6 push buttons

Standards Compliance

Accuracy

- Complies with IEC 62053-22, Class 0.5S (PM130E / PM130EH)
- Meets ANSI C12.20-1998, Class 10, 0.5%

Electromagnetic Immunity

- Complies with IEC 61000-6-2
- IEC 61000-4-2 level 3 – electrostatic discharge
- IEC 61000-4-3 level 3 – radiated electromagnetic RF fields
- IEC 61000-4-4 level 3 – electrical fast transient
- IEC 61000-4-5 level 3 – surge
- IEC 61000-4-6 level 3 – conducted radio frequency
- IEC 61000-4-8 – power-frequency magnetic field
- Meets ANSI/IEEE C37.90.1 – fast transient SWC

Electromagnetic Emission

- Complies with IEC 61000-6-4 – radiated/conducted Class A
- Complies with IEC CISPR 22 – radiated/conducted Class A

Safety & Construction

- UL File No. E236895
- Meets IEC 61010-1:2006

AC & Impulse Insulation

- Complies with IEC 62052-11 – 2500VAC for 1 minute
- 6kV/500Ω @ 1.2/50 μs impulse

Ordering Information

MODEL – CURRENT – CALIBRATION – POWER – PROTOCOL – MOUNTING – MODULE

MODEL

Power version	PM130P-PLUS
Energy & harmonic version	PM130EH-PLUS
Energy only	PM130E-PLUS

CURRENT INPUTS

5 Ampere	5
1 Ampere	1

High Accuracy Current Sensors (HACS) – 100–3000A, requires 3× HACS ordered separately HACS

RS5 – remote split-core sensor, retrofit scheme underneath HACS, requires 3× RS5 HACS ordered separately RS5

CALIBRATION FREQUENCY

25 Hz / 50 Hz / 60 Hz / 400 Hz	25HZ / 50HZ / 60HZ / 400HZ
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POWER SUPPLY

85–265V AC / 85–290V DC	ACDC
9.5–18V DC	1DC
18.5–58V DC (24VDC, 48VDC)	23DC

COMMUNICATION PROTOCOL

Modbus and DNP 3.0	–
Modbus and IEC 60870-101/104	870

MOUNTING

Panel mount (standard)	–
DIN rail mounting	DIN

EXPANSION MODULE – MAX. 1 PER INSTRUMENT, ORDER SEPARATELY

4 Analogue Outputs: ±1mA / 0–20mA / 0–1mA / 4–20mA / 0–3mA / ±3mA / 0–5mA / ±5mA	A01–A08
Ethernet (TCP/IP)	ETH
PROFIBUS	PRO
RS232/422/485	RS232
4 Digital Inputs / 2 Relay Outputs, 250V/5A AC	DIOR
4 Digital Inputs / 2 SSR Outputs, 250V/0.1A AC	DIOS
TOU + 4 Digital Inputs	TOD
12 Digital Inputs (dry contact) / 4 Relay Outputs 250V/5A AC	12DIOR-DRC
12 Digital Inputs (250VDC) / 4 Relay Outputs 250V/5A AC	12DIOR-250V
12DIOR variants with Ethernet or RS-485 - optional	...-ETH / ...-485

PLACE AN ORDER



To place an order or request a quotation for the PM130 PLUS, contact the SATEC Australia sales team, or scan the QR code.

PHONE **+61 2 4774 2959**
 EMAIL **sales@satec-global.com.au**
 ONLINE **satec-global.com.au/contact**

DOCUMENT REVISION HISTORY

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TBV1.0	2 September 2026