Reliable and precise monitoring of electrical power systems

The SENTRON PAC3100 is a powerful compact power monitoring device that is suitable for use in industrial, government and commercial applications, where basic metering and energy monitoring is required. The meter may be used as a stand alone device monitoring over twenty-five parameters or as part of an industrial control, building automation or global power monitoring system.

Metering and monitoring applications range from simple analog volt and amp meter replacements to stand-alone sub-billing or cost allocation installations.

The PAC3100 has many features not usually found in this price class of meters. A large graphical display supports multiple languages and easy to use menus that can be used to set up the meter as well as a PC based program, SENTRON powerconfig, that can be used to pre-configure one or multiple units. The meter also has built in Modbus RTU communications via a RS485 interface. The meter comes standard with two digital inputs and outputs. One output is suitable for pulse output for export/import real and reactive energy. The other output is controllable from an outside source by way of a Modbus register. The PAC3100 meets or exceeds ANSI C12.16 (1%) specification for revenue meters.

The SENTRON PAC3100 can also be used to support LEED certification and provide the needed energy metering data for federal or local government energy reduction programs.

The SENTRON PAC3100 provides open communications using Modbus RTU and digital I/O for easy integration into any local or remote monitoring system to indicate values and status. Simple configuration of the meter can be done from the front display or by using a PC with SENTRON powerconfig setup software, supplied with the meter.

SENTRON PAC3100

Answers for industry.

SIEMENS

Full Graphic LCD Display to indicate:
- Display title or designation of the displayed measurements
- Phase
- Measured value
- Unit
- Labeling of function keys

Example of operating menu
With an easy-to-read adjustable back lit LCD display, the PAC3100 can be commissioned in only two steps. After selecting the language and setting two parameters (voltage and current inputs), the meter is ready for use.

When, where and how much power is consumed?

SENTRON PAC3100 makes consumption apparent

To accomplish a sustainable reduction of power costs, you must first analyze the electrical system's current consumption and power flows. The SENTRON PAC3100 power meter precisely and reliably delivers the required information of power values to put you on the path to reduce your power cost.

Applications summary

- Replace multiple analog meters
  An ideal replacement for analog meters. Use it for stand-alone metering in custom panels, switchboards, switchgear, gensets, motor control center and UPS systems, PDU, RPPs, etc.

  Beside the ability to measure energy data, the device can also track the status of a breaker due to the two built-in digital inputs. This makes the meter a cost effective solution to monitor the energy consumption in a branch as well as the status of the protective device.

- Basic metering
  The PAC3100 offers high-accuracy power, energy and demand measurements. These revenue accurate values can be used for bill verification, monitoring backup power on critical systems and offering cost effective energy solutions.

- Cost allocation / energy monitoring
  Perfect for monitoring right down to the tool level, the meter can help monitor cost centers, identify opportunities for demand control and check energy consumption patterns.

- Automation integration
  Monitor critical equipment processes and tie directly to the Siemens family of power monitoring systems.

Sub-metering

- Low cost, high accuracy and simple retrofit installation enables economical measurement of commercial and residential tenant space. Integrate the PAC3100 with existing energy management systems. Reduce energy consumption by eliminating previously uncontrolled expenses.

Power management and SENTRON PAC3100

The SENTRON PAC3100 can easily be integrated into a power management system using Modbus RTU. With communication, the SENTRON PAC3100 transmits measured values to the supervisory systems, where the data can be further processed for display and control.

Siemens offers the WinPM.Net power management software which can provide easy integration to the SENTRON PAC3100 meter. WinPM.Net provides standard overview displays allowing detailed analysis of the electrical power, which allows for easy allocation of power consumption and cost. Additionally, unexpected operating conditions can be detected on a timely basis.

[1] Languages included as standard in the meter are English, German, French, Spanish, Italian, Portuguese, Turkish, Russian and Chinese.

Functional Features

Instantaneous Values		
Voltage	Phase-phase / phase-neutral	✓
Currents	Per phase and neutral current total	✓
Apparent, active and reactive power (kW, kVAR, kVA)	Per phase and total	✓
Power Factor	Total	✓
Frequency	45...64 Hz	✓
Min. / max. values	Voltage – phase-phase, phase-neutral Current / Power / Power factor Frequency Three phase average voltage and current	✓
Average values	Voltage – phase-phase, phase-neutral Voltage min. / max. for phase-phase, phase-neutral Current Current min. / max.	✓
Energy Measurement		
Real (Active) energy (kWH)	Import / export	✓ / ✓
Reactive energy (kVARh)	Positive / negative; high / low tariff	✓ / ✓
Energy demand per measuring period	Three phase average rating for active and reactive power	1 to 60 min.
Min. / max. rating values within the measuring period		✓
Measurement Accuracy		
Voltages		±1%
Currents		±1%
Power		±1%
Active energy		Class 1 S in acc. with IEC62053-22 / ANSI 12.16 Class 1
Reactive energy		Class 3 in acc. with IEC 62053-23
Communication		
Modbus RTU	Standard • Parameterization via device front or with SENTRON powerconfig software • Transition of data via MODBUS register based points	• Support of all baud rates of 4800, 9600, 19.2K and 38.4K BPS (4.8 / 9.6 / 19.2 and 38.4 kB/sec)
Standard Inputs / Outputs		
Digital input	24 Vdc / 10-27 mA	2
Digital Output	Self wetting contacts; 0...30 VDC external (optional)	2
General		
Password protection		✓

Functional Features (continued)

Technical Data		
Two-quadrant (import) / four-quadrant (import and export) measuring		4Q
Measurement types		1 ph, 2 ph or 3 ph
Applicable for network type		TN, TT, IT
Sampling rate	64 samples/cycle, all channels measured simultaneously	
Measured voltage	Direct connection up to max. delta/wye without transformer	480V/ 400V (Cat III)
Current inputs	Settable on device	1A or 5A nominal
Power supply	AC/DC	100...240V AC (±10%) / 110...250V DC (±10%)
Dimensions	L x W in mm Installation depth (mm)	96 x 96 55 mm / 2.0 in.
Degree of protection	Front Rear	IP65 - NEMA 12 IP20 - NEMA 1
Operating temperature	°C / °F	–5...+55 / +23...+131
Display	Type	Background-illuminated graphic LCD
	Resolution (pixels)	128 x 96
Text displays		Multilingual

Certifications

UL61010-1, 2nd Ed. Safety of Electrical Equipment for Measurement, Control and Laboratory Use Part 1: General Requirements

CAN/CSA-C22.2 NO. 61010-1-04, 2nd Ed. Safety for Electrical Equipment for Measurement, Control and Laboratory Use

CE IEC 61010-1 2nd Ed. Safety for Electrical Equipment for Measurement, Control and Laboratory Use Part 1: General Requirements

Order information

Product	Order No.
SENTRON PAC3100 compression terminals AC/DC	7KM3133-0BA00-3AA0

Siemens Energy & Automation, Inc.
Industry Sector
3333 Old Milton Parkway
Alpharetta, GA 30005
1-800-964-4114

info.sea@siemens.com

www.sea.siemens.com/access

Subject to change without prior notice
Order No: PMSS-P3100-0609
Printed in USA.