

Smart Meter 8093902 (9057-00)

FESTO

LabVolt Series

Datasheet



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Festo Didactic
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General Description

The Smart Meter module is a compact power monitoring device designed for basic metering and energy monitoring. It is an entry-level solution for digital electrical metering, compared to the Data Acquisition and Control Interface which is the main measurement device used through our complete curriculum. It features a SENTRON PAC3200 from Siemens, a powerful compact power monitoring device widely used in industrial and commercial metering and monitoring applications.

The Smart Meter provides access to multiple values being monitored such as voltage, current, power, power factor, frequency, THD, and energy consumption. For each value, users can read the RMS as well as average, minimum, and maximum values. Users navigate the user-friendly interface using the pushbuttons below the LCD screen.

The SENTRON PAC3200 features one digital input and one digital output. It is also equipped with a communication port compatible with Ethernet and Modbus TCP via the RJ45 port on the front panel for integration with other devices.

Specifications

Parameter	Value
Measured Values	
Voltage	Phase-phase / phase-neutral
Currents	Per phase
Apparent, Active and Reactive Power	Per phase and total
Power Factor	Per phase and total
Frequency	45...64 Hz
THD for voltage and current	Per phase
Min. / max. values	Voltage (phase-phase, phase-neutral), Current, Power, Power factor, THD per phase, 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	
Active Energy	Import / Export (high / low tariff)
Reactive Energy	Positive / Negative (high / low tariff)
Apparent Energy	High / low tariff
Energy demand per measuring period	Three-phase average rating for active and reactive power
Min. / Max. rating values within the measuring period	
Meter Running Counter	Uptime in hours
Universal Counter	Pulse counting of external devices like water, gas, etc.
Measurement Accuracy	
Voltages	±0.3
Currents	±0.2
Power Factor and Power	±0.5%
Active Energy	Class 0.5S in acc. with IEC 62053-22 / ANSI 12.20 class 0.5
Reactive Energy	Class 2 in acc. with IEC 62053-23
Monitoring Functions	
Set Point Monitoring	V, I, power, VAR, VA, Freq. THD, PF
Simple Logic Functions	Alarm via digital
Phase Unbalance	Voltage and / or × current
Communication	
Ethernet	Via RJ 45 port - 10 Base-T (10 Mbit/sec)

Parameter	Value
Modbus TCP	Via RJ 45 port - 10 Base-T (10 Mbit/sec)
Inputs and Outputs	
Digital Input (1)	24 V DC - 7 mA
Digital Output (1)	30 V DC max / 10-27 mA
Technical Data	
Two-Quadrant (import) / Four-Quadrant (Import and Export) measuring	4Q
Measurement Types	1 phase, 2 phases or 3 phases
Applicable for Network Types	TN, TT, IT
Sampling Rate	64 samples / cycle at 60Hz
Measured Voltage	347 V (1 phase) / 600 V (3 phases) maximum
Current Inputs	Settable on device, 1 or 5 A nominal
Power Supply	95...240V AC ($\pm 10\%$) / 110...340V DC ($\pm 10\%$)
Display Type	Background-illuminated graphic LCD, Resolution of 128 x 96 pixels, Multilingual
Physical Characteristics	
Dimensions (H x W x D)	154 x 287 x 410 mm (6.1 x 11.3 x 16.1 in)

Reflecting the commitment of Festo Didactic to high quality standards in product, design, development, production, installation, and service, our manufacturing and distribution facility has received the ISO 9001 certification.

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