Power Squad 24

Multi-Circuit Power Meter

Features

- Rogowski coil and split core CT compatible
- Broadband power supply (80-600V)
- Field selectable BACnet/Modbus (4-in-1)
- Data updates occur every 1 second
- Bi-directional

Applications

- Measurement & verification
- Energy cost allocation
- Equipment efficiency tracking
- Preventive maintenance
- Data center monitoring

The Power Squad 24 is a versatile, multi-channel (CT) instrument. The modular design allows it to be configured for monitoring multiple electrical circuits (sharing a common voltage source) or for current-only monitoring of branch circuits. It can be supplied with virtually any combination and is capable of monitoring up to 8 three-phase or 24 single-phase electrical devices.

Versatility

The Power Squad 24 works with either Rogowski Coil "flex" CTs or conventional split-core CTs. The ability to have interchangeable CTs gives added flexibility for last minute changes at the job site. All Setra CTs are internally shunted and carry either UL or ETL certification as well as the CE Mark. Every Power Squad 24 is embedded with the necessary amplifier/ integrator circuitry for Rogowski coil CTs—eliminating the need to provide external power to these flexible CTs.

Easy installation

The Power Squad 24 series instruments are line-powered and do not require external power. Its power supply can accommodate service voltages ranging from 80-600V (phase-to-phase). The Power Squad 24's flexibility, and ease-of-use make it the ideal solution for commercial, industrial, government, and retail applications.

Field selectable communications

Each Power Squad 24 comes with a field selectable Modbus or BACnet communication. Communications interface to the Power Squad 24 is through either an RS-485 serial connection (BACnet MS/TP/ Modbus) or over Ethernet (BACnet IP/Modbus TCP).

5 YEAR WARRANTY

USA Made

RoHS

CE

Specifications

Technical

Service type	Single phase, three phase-four wire (WYE), three phase-three wire (Delta)
Power	From L1 phase to L2 phase. 80-600VAC CAT III 50/60Hz, 70 mA max. non-user replaceable .5 Amp internal fuse protection
Power out	Unregulated 5VDC output, 500 mA max
Voltage channels	80-346 volts AC line-to-neutral, 600V phase, CAT III
Current channels	3 or 24 channels, 0.67 VAC max, 333 mA CTs, 0-5,000 Amps depending on CT
Maximum current input	200% of current transducer rating (mV CTs) measured up to 5000A with Patrol Flex
Measurement type	True RMS using high-speed digital signal processing (DSP)
Line frequency	50/60 or 400Hz
Waveform sampling	12 kHz
Parameter update rate	1 second
Measurements	Volts, Amps, kW, kWh, kVAR, kVARh, kVA, aPF, dPF
Accuracy	1% (<0.5% typical) for V, A, kW, kVAR, kVA, PF
Resolution	0.01 Amp, 0.1 Volt, 0.01 watt, 0.01 VAR, 0.01 VA, 0.01 power factor depending on scalar setting
Pulse output	Open collector, 75mA max current, 40V max open voltage

Communication

Direct	BACnet IP, BACnet MS/TP, Modbus TCP, Modbus RTU
Max distance	1200 meters with data rate of 100k bits second of less
Baud rate	9600 (Modbus default) 19200, 38400, 57600, 76800 (BACnet default), 11200
Data bits	8
Parity	None, even, odd
Stop bit	2,1
Data formats	Modbus or BACnet

Mechanical

Operating temperature	-7° to 60°C (-20° to 140°F)
Humidity	5% to 95% non-condensing
Enclosure	(Optional) PC UL 95 5V
Weight	Without enclosure: 454g (16oz) with enclosure: 1361g (48oz)
Dimensions	Without enclosure: 25.5 x 16.5 x 3.2 cm (10.0" x 6.5" x 1.3") With enclosure: 27.8 x 18.8 x 13.0 cm (10.9" x 7.4" x 5.1")

Safety

Power Squad serial and Ethernet	UL listed and CE mark, conforms to UL Std 61010-1, certified to CSA Std C22.2 No. 6101-1

Modbus register/BACnet object descriptions (partial list)

System true energy (kWh)	Individual phase to phase voltages
Instantaneous total true power (kW)	Line frequency (Hz)
Peak demand (adjustable window) (kW)	Individual phases true energy (kWh)
Maximum instantaneous power (kW)	Individual phases true power (kW)
System reactive energy (kVARh)	Individual phases reactive energy (kVARh)
System apparent energy (kVAh)	Individual phases reactive power (kVAR)
System apparent power (kVA)	Individual phases apparent energy (kVAh)
System displacement power factor (dPF)	Individual phases apparent power (kVA)
System apparent power factor (aPF)	Individual phases apparent power factor (aPF)
Average current (Amps)	Individual phases displacement power factor (dPF)
Average line to line voltage (Volts)	Individual phases current (Amps)
Average line to neutral voltage (Volts)	Individual phases line to neutral voltages (volts)
Multiple meters external data synchronization	Individual phases line to line voltages (volts)

Ordering information

Example part number: SPS24EE
Setra Power Squad 24, Ethernet communication port, and Enclosure.

[1]

Model	
SPS24	Setra Power Squad 24

[2]

Enclosure	
D	Enclosure
N	No enclosure

[3]

Communication port	
E	Ethernet
S	Serial

Communication accessories

(Cable and software required for meter setup)

Setra P/N	
900900-G	USB communication cable, type A to B
900901-G	USB flash drive, HeadStart software

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Setra Systems, Inc.
159 Swanson Road
Boxborough, MA 01719

800.257.3872
www.setra.com