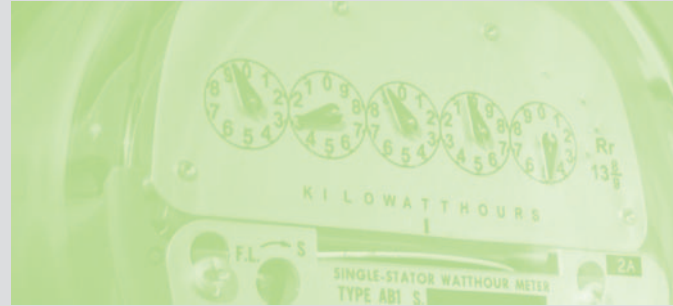




GRIDMAX Meters Specs



PERI ANSI 1S/2S METER with and without Disconnect Relay

ANSI 1S/2S secure, accurate, robust and reliable energy meters solution for advanced metering solutions. The solution enhances the smart metering standards and flexibility of communications solutions starting with ZigBee. PERI's highly secure wireless communication establishes a 2 way communication with the meter and the meters form a mesh topology. The meters can be accessed and controlled remotely.

FEATURES

Wireless communication

Every meters comes with PERI's built-in Zig Bee module which offers high security communication (PKI, digital certificate based). Each meter joins a network of meters by creating a Zig bee mesh topology and patches the data to concentrators through meters in network. The concentrator is interfaced to the utility server via any of the modern communication methods. PERI's Zigbee embedded RF modules provide cost-effective wireless connectivity to smart meters in ZigBee mesh networks. Utilizing the sophisticated feature Set, these modules are interoperable with other ZigBee devices, including devices from other vendors such as water and gas meters. Zigbee modules are available in a variety of protocols and frequencies with wireless software that is isolated, and offer interoperable applications that can be developed with no risk to RF performance or security.

Inbuilt disconnect switch

Inbuilt 200A switches with relay meters. Switch protection for overload scenarios Switch configurable for utility load management, prepaid tariffs etc...

Flexible configurations

- Local and remote configuring feature
- Up to 8 time-of-use metering
- Up to 4 tariffs
- Full scale calendar schedules
- Configurable block or rolling demand calculations, demand intervals and logging (load profile) to coincide with parameters.

Power quantity analysis

Power outages with time stamps for utility server to measure quality Voltage SAG and SWELL detection and logging

Energy measurement

Forward and reverse energy and total active measurement and total. Four quadrant reactive energy measurement or forward and reverse reactive energy measurement

Tamper detections

- Meter seal break detect
- Meter reprogram and reset events records
- Phase disconnect
- Reversal of phase or neutral.
- Reversal of line and load terminals.
- Load through local Earth or without earth.
- Neutral disconnected from load, supply or both sides.
- AC/DC magnetic field of 0.2T (Tesla) on all the sides of meter.
- Meter working without effects by permanent magnet of up to 0.5 T.
- Detection and restoration of the magnetic influence more than 0.2T with date & time stamping

Other features

ANSI C12.18 compliant optical port (Kh 10.0 kt1.0) Optical Pulse outputs to read and test energy without affecting normal operation

Display

- Big 7 digit display for all configured parameters
- 3 digit resolution
- Back light for dark environment reading
- Tariff type indicator
- Energy direction indicator
- Relay(switch) status indicator
- Low meter backup battery indicator

SPECIFICATIONS

Certifications

ANSI C12.1-2008

- Standard for Electric Meters—Code for Electricity Metering

ANSI C12.10-2004

- Standard for Physical Aspects of Watt-hour Meters—Safety Standard

ANSI C12.18-2006

- Standard for Protocol Specification for ANSI Type 2 Optical Port

ANSI C12.19-2008

- Standard for Utility Industry End Device Data Tables

ANSI C12.20-2002

- Standard for Electricity Meter—0.2 and 0.5 Accuracy Classes

ANSI C37.90-1989

• Standard for Relay Systems Associated with Electric Power Apparatus

Accuracy

ANSI C 12.20 Class 0.5

Temperature, Specified Operating Range

-40° to +85° C

Temperature, Limit Range for Storage and Transport

-40° to +85° C

Humidity

<=95% non-condensing.

RTC

Real-time clock accurate to +/- 0.5 seconds per day.

Nominal Voltage

Form 1S, 110 VAC, range is 90% to 110% of VAC.

Form 2S, 240 VAC, range is 100 to 265 VAC.

Frequency

60 Hz +/- 5%

Service Types

Form 1S: 1-phase, 2-wire.

Form 2S: 1-phase, 3-wire.

Current

CL200, TA 30A

Load Disconnect Switch

200A, Remote and local disconnect and enable, safe operation with load-side voltage sensing

Power Consumption

Voltage circuit: < 5VA

Current circuit: <1VA

Starting Current

100 mA

Units Measured

kWh forward, reverse, forward + reverse, forward - reverse;

kvar import, export; kvarh import, export;

RMS voltage; RMS current; power factor; frequency;

rolling and block demand for energy sources (optional);

kvarh per quadrant (with demand metering option).

Power Quality Analysis

- Sag; swell; number of over-current occurrences; number of power outages with time stamps
- max and min frequency; phase loss; total harmonic distortion.

Time of Use

4 tariffs with up to 8 time of use modes

Data Logging Intervals

User-selected at 5, 10, 15, 30, 60 minutes, 1 day or custom equal multiple value.

Verification Output

pulse-output LED representing active reactive energy (Kh - 10.0, Kt - 1.0).

Optical Port

complying to ANSI C12.18-2006

Display

7-digit liquid crystal display with telltale for various indications

Data Communications and data security

Zig Bee communication with 128bit AES encryption and authentication with PKI infrastructure with digital certificates.

Data Storage

Non-volatile memory.

Enclosure

Form 1S meter, ANSI C12.10-2004

Form 2S meter, ANSI C12.10-2004

Life Expectancy

20-year design.

Safety Rating

UL 61010-1 (2001)

Specifications subject to change without notice.

DOCUMENTATION

ANSI 2S Meter User's Guide078-0384-01A