

Apex 100

High-end Precision Meter



Bulk energy measurement, draw out type, long range site configurable with multi comms options

Apex 100 is an advanced high-end precision meter, specifically designed for generation, transmission and consumer bulk power transfer points. It supports the ICS DLMS open data exchange protocol for ease of reading and for integration with other systems. Comprehensive connectivity to back-end systems for monitoring and billing is provided via various communication technologies.



Application

- Bulk energy transfer measurement and reconciliation
- Captive power plants (CPP), feeder monitoring, grid substations and wind turbines
- On-line monitoring of energy exchange at various interface points
- Metering for availability based tariffs (ABT) and open access systems
- Energy accounting systems

Benefits

- Elimination of data gaps and revenue losses through use of hot-swappable meter modules, with automatic shorting of external current transformers
- Minimal integration costs through multiple communications interfaces
- Complies with the DLMS open data exchange protocol
- Maximum revenue integrity through highest possible level of metering system accuracy
- Efficient network management through accurate and detailed energy flow data
- Suitable for diverse applications through wide-range voltage, current and auxiliary supply inputs

Features

- Full four-quadrant import/export metering with active, reactive and apparent measurement
- Total harmonic distortion (THD) measurement for currents and voltages
- Draw-out type meter module with automatic CT shorting
- Wide-range dual auxiliary power supply (AC and DC), with option for self-powering
- Dynamic error compensation for external current and voltage transformers
- Intuitive graphical display for parameters and data
- Two metrology LEDs for simultaneous accuracy testing of different parameters
- Four LEDs for energy redirection and status indication
- Comprehensive data storage for current and historical readings and load survey data
- Flexible time-of-day tariff and maximum demand support, with automatic billing
- Multiple communication ports for local and remote data transfer and for interfacing with external systems
- Interoperable DLMS and Modbus protocols for meter reading



Technical specifications

Electrical

Connection type	CT/PT-operated
Wiring configuration	3-phase 3-wire, 3-phase 4-wire
Voltage range (L-N/L-L)	57.7/100 V to 69.3/120 V (configurable)*
Current range	Ib: 1-5 A (configurable)* Imax: up to 10A (configurable)*
Accuracy	Class 0.2s
Mains frequency	50 Hz ± 5%
Burden	As per compliance standards

Compliance

Standards	IEC 62053-22, IS 14697
Certification	IS 15959

Mechanical

Dimensions (W x H x D)	19" rack (up to two meters) 428 × 133 × 260 mm approx 11" rack (single meter) 299 × 133 × 260 mm approx
Enclosure	Translucent polycarbonate cover (with clear transparent window for display) and overall mild steel body
Sealing	Sealable screws on the front and back fascia of meter Sealing provision for optical port & MD reset button
Weight	6 kg approx. (with rack)

Environmental

Temperature	-10°C to +55°C (operating) -20°C to +65°C (storage)
Humidity	95% non-condensing

Features

Auxiliary supply	- Dual aux. supply provision for 48-276 V AC/DC - Option for aux. supply 24-48 V DC - Option for self-powered supply with one aux. supply
Display	Large backlit graphical LCD, with three buttons for parameter selection
Inputs and outputs	
Pulse outputs	Four volt-free outputs, rated for 100 mA, 110-230 V AC/DC, pulse width 80 ms. LEDs indicate status of pulse outputs.
Pulse input	One input for time synchronization, rated for 100 mA, 24-40 V DC
Communication	
Local reading	Optical port (1107) Optional USB (Type A) port
Remote reading	Optional RS-232/RS-485 port for connecting to GSM/GPRS modem Optional Ethernet (Modbus and DLMS over TCP/IP) for on line monitoring and SCADA integration

★Electrical, mechanical and software features options depend on product variant.

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