Prometer 100
precision metering series

Best in class accuracy

User friendly multilingual display

Field configurable for various installations

in-built IEC 61850 support

Prometer 100 is a series of next generation energy meters designed for power transfer points requiring precise measurements and revenue transactions. Multiple communication options ensure easy integration with AMR/AMI/SCADA systems and upgrade to future sub-station automation systems. Four-quadrant energy measurement allows monitoring of generation, transmission and bulk power transfer points.

Application

- Energy transfer measurement and reconciliation
- Power plants, feeder monitoring, grid substations, wind turbines
- On-line monitoring of energy exchange at various interface points
- Energy accounting, automation and system integration

Benefits

- Minimal integration cost through multiple communication interfaces
- Suitable for diverse applications through wide-range voltage, current and auxiliary supply inputs
- Support of industry standard DLMS, MODBUS and IEC 61850 reading protocols
- Meter reading and display viewing under power outage
- Multi-lingual support on display (English, Swedish, German, French, Spanish, Italian, Russian and Arabic)
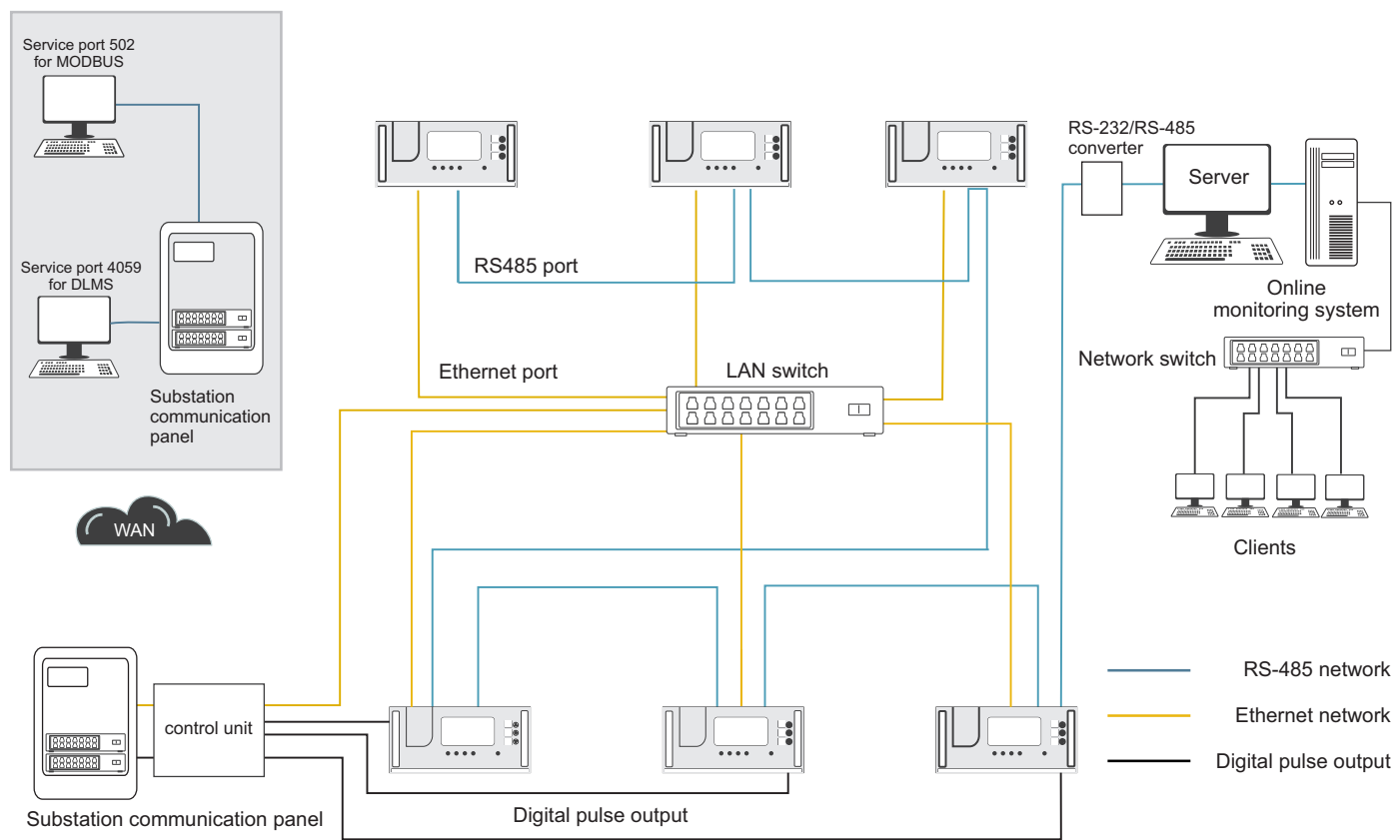
Features

- 0.2s / 0.5s accuracy for active and reactive measurement
- Wide-range dual auxiliary supply with options for AC/
- DC and self-power (VT powered)
- Power quality features including THD, sag, swell, voltage unbalance and interruption recording
- Dynamic error compensation for CT/VT
- Transformer/line loss adjustment (copper and iron losses)
- Intuitive graphical display including vector diagram, wave forms and bar chart for consumption
- Remote configuration of communication ports
- Simultaneous DLMS and MODBUS over Ethernet port
- Supports meter reading and display using field replaceable battery
- In built IEC61850/RS232 port along with RS485 and Ethernet ports in a single product, with simultaneous communication capability
- Dual loggers for energy and instantaneous parameters
- Flexible time-of-day tariff, maximum demand,
- DST (Daylight saving time) support, with automatic billing dates

CEWE
INSTRUMENT
a **Secure** brand

Prometer 100

System architecture

Prometer 100 offers various communication ports, such as RS-232, RS-485 for multi-drop connectivity and Ethernet for integrating into communication bus. The communication ports can be configured locally and remotely for ids and IP addresses. Dual-socket support on Ethernet allows for simultaneous communication over MODBUS and DLMS through different clients. All communication ports can simultaneously transfer data at high speeds.

RS-485 and Ethernet port scheme station

Product options*

Power supply 1		Power supply 2		Pulse input / output
60-240 V AC/DC (±20%)		60-240 V AC/DC (±20%)		4 configurable I/O
Self-powered		24-48 V DC (±20%)		4 configurable I/O and 8 fixed pulse O/P

Technical specifications

Electrical

Connection type	HV3/HV4/LV4
Measurement voltage range	100 V to 415 V (L-L) ±30% 3P 4W, 100 V to 240 V (L-L) ±30% 3P 3W
Measurement current range	1-10 A (configurable)
Frequency	50/60 Hz
Burden with auxiliary / self-powered (VT)	As per compliance standards
Accuracy	Class 0.2s or class 0.5s
Maximum withstand voltage	1.5 times of nominal voltage continuously
	2 times of nominal voltage for 0.5 second
Maximum withstand current	1.5 times of Imax continuously
	10 times Imax for 1 second
	20 times Imax for 0.5 second

Compliance

Standards	IEC 62052-11, IEC 62052-31, IEC 62053-22, IEC 62053-23, IEC 62053-24, IEC 62056-52, IEC 61010-1, IEC 61010-2-030, CE, IEC 61850-6, 7-1, 7-2, 7-3, 7-4, 8-1 (as per edition 1 and 2)

Environmental

	IP51, IP53 over front facia
Operating temperature	-25°C to +60°C
Limit range of operation	-25°C to +70°C
Storage temperature	-40°C to +80°C
Temperature coefficient	<0.3%/100C (UPF) for class 0.5
Temperature coefficient	<0.1%/100C (UPF) for class 0.2

Mechanical

Dimension	428 x 133 x 260 mm approx. (meter with 19" rack)
	299 x 133 x 260 mm approx. (meter with 11" rack)
Weight	Meter – 3.8 kg approx. (± 0.1 kg)
	11" rack – 2.1 kg (± 0.1 kg), 19" rack – 3.3 kg (± 0.1 kg)

Software

Two data loggers:
- Maximum 50 parameters configurable in each logger
- Logging of up to 34 energy channels and 80+ instantaneous values, with integration period 1 to 60 minutes
- ~4800 Parameter-days capacity at 30 minute interval in each logger

Configurable parameters:
- 16 time-of-use tariffs, 16 seasons, 16 days types and 16 time zones, 53 billing dates, DST dates for 25 years
- Logging of up to 100 day for daily energy snapshots
- 7 configurable display sequences along with fixed, auto and sealed button sequences
- 50+ alarms and 10+compartments for event logging
- Logging of up to 15 sets of historical data logging
- Up to 31st individual harmonic component measurement
- Power quality features, including voltage sag, swell, unbalance recording
- Code of Practice (UK BSCP) security protection

Prometer 100

Technical specifications

Features

Power supply	Dual/single auxiliary supply
	Range: 60-240 V AC/DC (±20%), burden: <10 VA*
	Optional range: 24-48 V DC (±20%), burden: <10 VA*
Display	Graphical, with green backlight
	Extended temperature range -20 °C to +70 °C
	Size: 69 x 39 mm (W x H), 128 x 80 pixels, pixel size: 0.5 mm²
	Max display character size 10 x 5 mm (H x W)
Battery	Field-replaceable battery for RTC backup and meter reading/display viewing during power outage

Inputs and Outputs

	8 fixed pulse outputs
	4 configurable as pulse inputs/outputs
Pulse outputs	Type: volt-free, 100 mA
	Voltage: 48-240 V AC/DC, option for 24-40 V DC,
	Pulse width: 20 - 1000 ms (for 50Hz); 16 - 1000 ms (for 60Hz)
Configurable as pulse input/output	Pulse output type: volt-free, 100mA
	Pulse input type: optical isolator
	Voltage: 24-240 V AC/DC
Indicator	Six LEDs: 2 for metrology, 2 for pulse outputs, 2 for alarms/events

Communication

Optical 1107 port	Protocol: DLMS, Baud rate: 1200 – 19200 bps, Half duplex
RS232 port	Protocol: DLMS, Baud rate: 1200 –57600 bps, Half duplex
RS485 port	Protocol: Configurable DLMS/MODBUS RTU,
	Baud rate: 1200 – 57600 bps, Half duplex
Ethernet port	10/100 Mbps, Protocol: DLMS and MODBUS TCP simultaneous client
	Full duplex
Inbuilt IEC61850	Logical nodes: LLNO, LPHD, MMXU, MMTR, MHAI, MABT
	Reports (RCB)
	Up to 5 clients
	Time synchronization – SNTP
Connector type	Standard RJ45 for all the ports except optical

Accessories (optional)

	11" rack, 19" rack, software

* Electrical, compliance, mechanical, software and features options depend on variant selected.

Specifications are subject to change without prior notice