

Electricity Meters
Grid metering

Landis+Gyr+
manage energy better



Landis+Gyr E880

ZMQ802

How to measure energy
when voltage and current
are no longer analogue values

Following a tradition of providing leading-edge innovation in the field of energy management, Landis+Gyr introduces the world's first grid meter that uses sampled values according to the IEC 61850-9-2 standard and that enables accurate billing in new generation substations with non-conventional instrument transformers. The new E880 high precision meter supports a future-proof substation design that delivers optimized engineering and installation costs.

The E880's full compatibility with existing read-out systems and its modular multi-channel communication platform protects customers' long term investments.

Additionally, the E880 provides for operational efficiency due to a comprehensive functionality set and easy-to-handle rack mount design. The merging unit's current and voltage outputs enter the E880 grid meter as a single data stream.

- Use of sampled values according to the IEC 61850-9-2 standard
- Full compatibility with the customer's existing data acquisition system
- Full compatibility (housing and connections for outputs) with the existing E850 grid meter family for conventional instrument transformers

Application

- Generation, transmission, substation and grid connected industrial consumers
- Class 0.2S active, Class 0.5 / 1 reactive according IEC standards for conventional meters
- For all networks, voltages and currents

Interfaces/Communication

- Up to eight transmitting contacts
- Three independent communications channels
- Use of widely accepted DLMS communication protocol for billing data readout



Metering innovation for IEC 61850-based substations

E880 is a new high precision grid meter for transmission networks and substations using the IEC 61850 standard.

Its powerful multi-functional processing system exceeds industry requirements and sets the benchmark in high precision metering.

The meter is based on the proven design concept of the successful E880 grid meter family.



Basic Functionality

Measurement	Sampled values according to IEC 61 850-9-2 standard 80 samples per cycle Highly stable and immune measuring processing Use primary values only, provide transparent and safe measurement values
Recording	Two independent profiles 8 Mbyte memory for profiles and status 16/36 measurement channels with total registers 24 energy registers for tariffs 41 diagnostic registers Event log Monthly and daily profiles for indices
Feature	Real-time clock with power reserve Power quality values (dips and THD) Instantaneous voltage and current values Optical interface for local read-out according to IEC62056 Backlit display Transmitting contacts
Housing	Rack mount f9 with Essalec connector covers all mounting needs, e.g., cabinets and panels



Configuration

		C-4	C-8
Measuring accuracy	Active energy, class 0,2S	■	■
	Reactive energy, class 0,5 or 1	■	■
Local communication	Integrated RS485 interface with DMLS-protocol	■	■
Software configuration parameters	Energy profiles (Original meter values)	■	■
	Time-of-use (TOU)	■	■
	Operating events and alarms	■	■
	Voltage and current monitoring	■	■
	Voltage and current unbalance	■	■
	Line and transformer loss measurement	■	■
	Voltage dip table	■	■
	Total harmonic distortion THD	■	■
	Tariff control	■	■
	Bypass feeder operation	■	■
	Delta values (Energy advance)	■	■
	Average demand, Pmax	■	■
	Apparent energy measurement, power factor	■	■
	Single-phase energy measurement	■	■
	Status contacts (optional)	■	■
- Integration period	■	■	
- Power threshold	■	■	

Selectable Communication

	B4	E22	G32	M22	P32
RS232 Interface	■	■	■	■	■
RS485 Interface	■	■	■	■	■
PSTN-Modem	■	■	■	■	■
GSM-Modem	■	■	■	■	■
Ethernet TCP/IP	■	■	■	■	■
GSM / GPRS-Module	■	■	■	■	■

Communication

Only reliable, total availability of precisely measured data provides the prerequisites for an efficient data processing and billing process. In order to meet your communication needs both now and in the future, the meter features DLMS protocol. This protocol provides transmission of original meter values to the central station (according to STOM method). With the integrated RS485 interface a direct link to other meters is possible without the use of a communication unit. A module is only required for communication with the central station.

All necessary communication applications are covered by a small number of units. This modularity also offers you full freedom of choice for deploying new technologies.

Communication unit Q22

The combination of ZMQ and Q22 allows three completely independent communication channels with RS485. With Q22 you can serve a broad range of communication possibilities. The unit allows access to meter data from three independent central stations at the same time.

Communication unit for IEC 61850

Modular solution for communication in the IEC 61850 substation environment is in progress. The module can be added after the installation of the meter.

Additional registers allow you to provide a large selection of measured quantities adding value to your service. Diagnostic values with threshold registers allow for a comprehensive analysis of the supply. Operational irregularities are also detected, stored, and transmitted. Enhanced operating and installation support simplifies the installation and service.

Our meter provides important functions for measurement in high voltage transmission networks. These include alarms and operating messages for network monitoring.

Additional Functionality

Measured Quantities	<ul style="list-style-type: none"> ■ Instantaneous values for voltage, current, phase angle, power factor (all phases), frequency ■ THD as a percentage or kWh of active energy
Network monitoring	<ul style="list-style-type: none"> ■ Alarm indication with alarm contact ■ Operating indication with phase failure and current without voltage in individual phases ■ Self-test function ■ Regular testing of all memories ■ Voltage, current and power as 1s-Values ■ Frequency Demand supervision
Power supply	<ul style="list-style-type: none"> ■ Status information if supply is present

Software Tools

MAP 120	<ul style="list-style-type: none"> ■ Database of parameterization files for an engineering department
MAP 110	<p>MAP 110 configures all settings at the metering point</p> <ul style="list-style-type: none"> ■ Primary value adaption according to the network data ■ Installation support ■ Setting of MAC address ■ Analysis of sampled values from merging unit ■ Meter data read-out ■ Communication settings ■ Impulse value settings ■ DIP table visualization ■ Load profile analysis

Manage energy better

Landis+Gyr is the leading global provider of integrated energy management solutions for the utility sector. Offering one of the broadest portfolios, we deliver innovative and flexible solutions to help utilities solve their complex challenges in smart metering, grid edge intelligence and smart infrastructure. With sales of USD 1.8 billion, Landis+Gyr employs approximately 5,600 people in over 30 countries across five continents, with the sole mission of helping the world manage energy better. More information is available at www.landisgyr.eu.

Landis+Gyr in short

- Swiss HQ with 5'600 employees in 30+ countries worldwide
- Serving 3'500+ utilities worldwide
- Over USD 1b of self-funded R&D investment since 2011
- Over 90 million connected intelligent devices deployed
- More than 14 million meter points under managed services
- TWorld's largest smart grid IoT project with 300+ million devices globally
- Frost & Sullivan Global AMI Company of the Year 2017 - the 4th consecutive year

Landis+Gyr AG

Theilerstr. 1
6301 Zug
Switzerland

Tel. +41 41 935 6000
Fax +41 41 935 6601
info@landisgyr.com

www.landisgyr.eu

