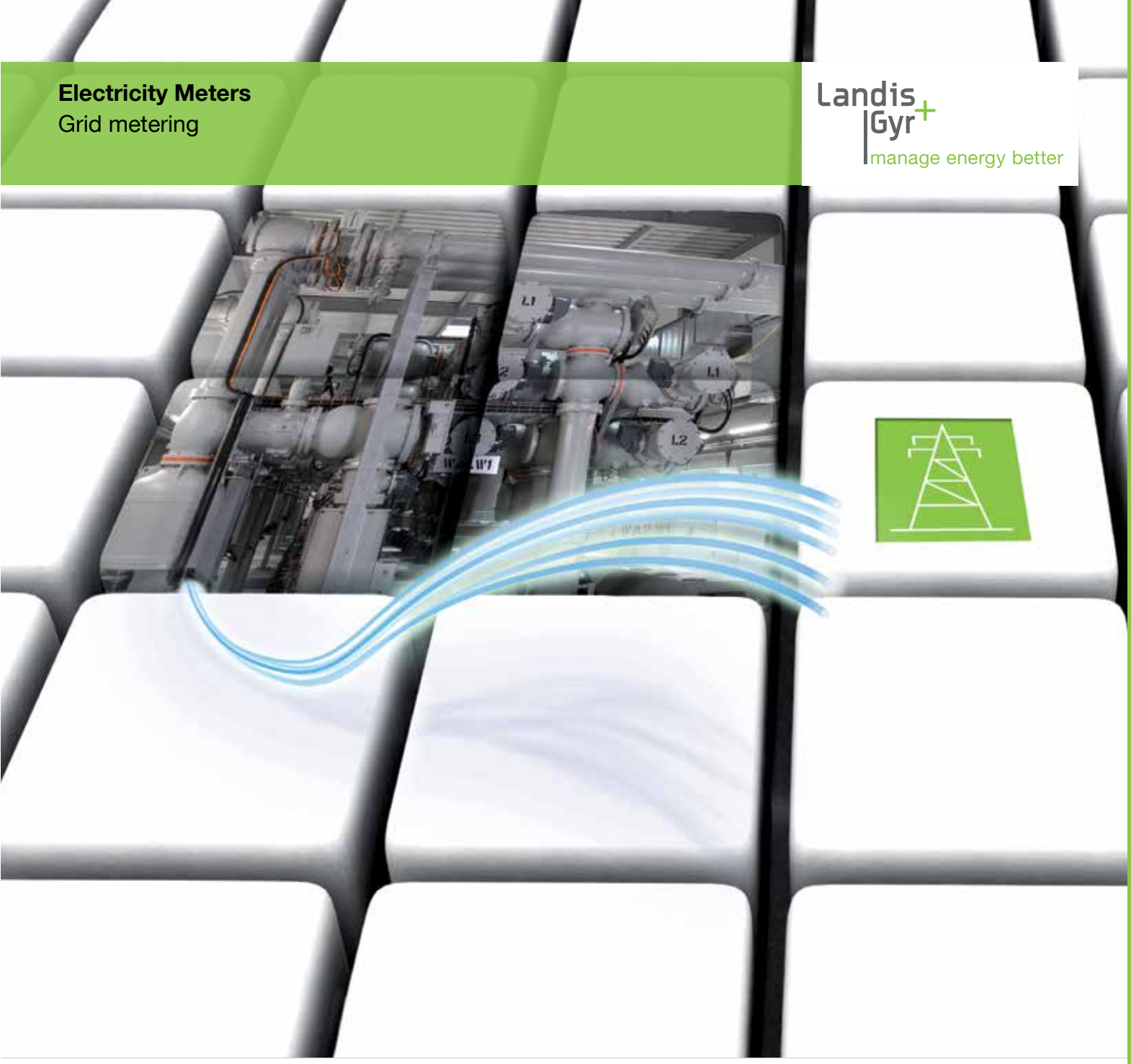
Electricity Meters
Grid metering

Landis+Gyr
manage energy better



Landis+Gyr E880

ZMQ802

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

E880

BENEFITS

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 independant 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 indicies
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 Essailec 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 independet 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.

E80

HIGHLIGHTS

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	■ Instantaneous values for voltage, current, phase angle, power factor (all phases), frequency ■ THD as a percentage or kWh of active energy
Network monitoring	■ 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	■ Status information if supply is present

Software Tools	
MAP 120	■ Database of parameterization files for an engineering department
MAP 110	MAP 110 configures all settings at the metering point ■ 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

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Landis+Gyr is the leading global provider of integrated energy management products tailored to energy company needs and unique in its ability to deliver true end-to-end advanced metering solutions. Today, the Company offers the broadest portfolio of products and services in the electricity metering industry, and is paving the way for the next generation of smart grid.

Landis+Gyr, an independent growth platform of the Toshiba Corporation (TKY:6502) and 40% owned by the Innovation Network Corporation of Japan, operates in 30 countries across five continents, and employs 5,000 people with the sole mission of helping the world manage energy better.

More information is available at www.landisgyr.com.

Landis+Gyr in short

- 5000 employees worldwide
- Operations on all five continents
- Broadest portfolio of products and services in the industry
- 25 years of meter reading experience
- More than 30 years experience with high precision metering
- 1000 AMM systems delivered
- 300 million energy meters produced
- Largest relevant engineering capacity in the industry
- ISO certified for quality and environmental processes
- World leader in integrated energy management solutions
- Committed to improved energy efficiency and environmental conservation
- Solid and established partner network

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