

E360: THE SMART RESIDENTIAL METER FOR THE IOT ERA



When investing in smart metering and smart grid infrastructure, the energy utility customers make a long-term commitment. At the same time, technology is changing at a rapid speed and it is important to stay competitive in this fast-evolving environment where more and more use cases beyond traditional AMI are required.

The new residential meter from Landis+Gyr is a Gridstream® Connect intelligent endpoint and an integral part of our IoT platform and end-to-end solution portfolio.

Benefits at a glance

- Dependable connectivity offering LTE M1/NB-IoT on a single IoT communication platform
- Powerful measurement capabilities for near real-time data availability
- New measurement system for enhanced power quality functions for network stability monitoring
- Security according to the highest industry standards
- Intelligent endpoint of our Gridstream® Connect platform
- Minimized Total Cost of Ownership

Dependable communication through LTE CAT M1 and NB-IoT on a single IoT communication platform

Communication technology is a core element in any smart metering solution. Not only has it a significant impact on the total solution performance, it also plays a crucial role in the Total Cost of Ownership.

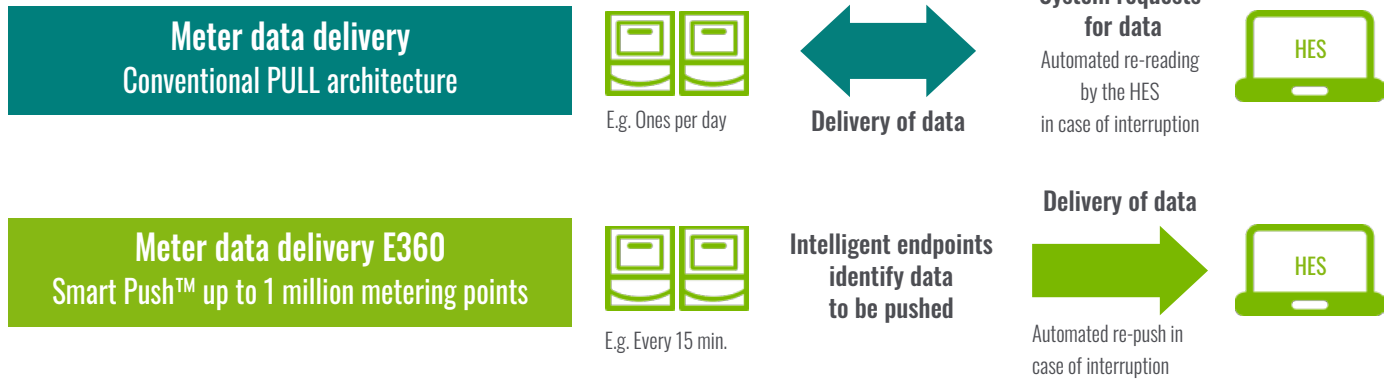
The new E360 family introduces a new integrated E360 LTE meter supporting CAT M1 and NB-IoT communication. The technology is designed to cope with today's IoT applications by allowing the connection of large numbers of different devices into a single network. It is capable of transferring data cost-efficiently and very reliably compared to previously available mobile technologies. The better signal penetration into buildings enables it to reach smart energy meters even in basements two levels below ground.

Powerful communication and measurement capabilities for near real-time data availability

The E360 offer a new and intelligent way of sending data from the meter to the system. This intelligent smart push functionality in combination with Landis+Gyr Head End System is scalable and improves the performance of the device on various levels: It enables the delivery of near real-time data for more accurate and granular power flow calculations - and with this, you improve the transparency and efficiency of your network.

Furthermore, advanced power quality functionality for enhanced network stability monitoring meets the stringent demands of today's operational environment.

Smart Push cellular P2P architecture



Security by design across the entire lifecycle of the meter

Today's security requirements call for a holistic approach that includes the technical security, but also embraces the planning of the entire smart infrastructure from design to production, installation and maintenance processes.

The E360 features an parametrizable role-based access system. Data in transit and at rest are protected by encryption and authentication. A comprehensive set of logs shows e.g. events, meter point access, firmware updates and all the communication attempts to the meter.

Future proof design to keep your options open

The device is built on a modern, intelligent firmware platform that enables adding new functionalities and technologies during its operation. Upgrades can be made remotely, quickly and reliably without affecting normal meter operations. There is also headroom for future applications in the firmware as well as a spare FW module for future use. New applications can be easily introduced through standardized interfaces.

Available E360 LTE Variants

	Direct connected 1ph / 230 V I max. 80 A		Direct connected 3ph / 230 V I max. 100 A		CT connected 3ph / 230 V I reference 1&5 A
	Basic	Full Options	Basic	Full Options	
Supply Control Switch	In	In	In	In	Out
Wireless M-Bus	Out	In	Out	In	In
Wired M-Bus	Out	Out	Out	In	In
P1 Port	In	In	In	In	In
230 VAC relays	1x	2x	1x	2x	2x
Rate input	Out	Out	Out	In	Out
S0 digital input	Out	Out	Out	Out	In

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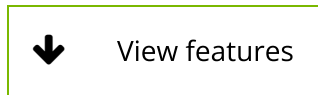
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PREPAYMENT METERS

Landis+Gyr E460

The E460 smart prepayment meter solution is designed for open standard prepayment and smart metering communication needs. The portfolio includes advanced, single phase (DIN Rail and BS) and three phase, multi-function, STS keypad based, G3 PLC smart prepayment meter solutions. Read more



Contact Us (<https://www.landisgyr.eu/contact/>)

Description:

The E460 smart prepayment meter solution is designed for open standard prepayment and smart metering communication needs. The portfolio includes advanced, single phase (DIN Rail and BS) and three phase, multi-function, STS keypad based, G3 PLC smart prepayment meter solutions.

The metering solution consists of the E460 smart prepayment meter and the P160 Customer Interface Unit.

The E460 meter's account can be configured as prepayment or post-payment and the meters can be configured to operate as a stand-alone split prepayment meter solution, or as part of an end-to-end smart prepayment AMI solution, comprising of meters, data concentrators, remote data acquisition and data evaluation systems at a central station; all based on field-proven Landis+Gyr technology.

In addition to G3-PLC communication between the meters and the DC450 Data Concentrator and Head end System, the E460 1ph BS and E460 3ph S2 meter also support an RS485 port and under cover modems for point-to-point communications. This extends the use of the E460 meters in high density urban installations where the Data Concentrator is typically employed, as well as low density urban or rural installations where the under-cover modem is used if the number of meters on the transformer does not yet justify the use of a Data Concentrator.

P160 Customer Interface Unit (CIU)

The split metering solution consists of two parts, the E460 meter and the P160 customer interface unit. Communication between the meter and the customer interface unit is by means of G3-PLC Power Line Carrier, using existing household wiring; no additional communication wires are required.

The P160 Customer Interface Unit is compact with a user-friendly keypad and display. It may be installed in any convenient location in the consumer's home where there is an electrical socket outlet. An easily replaceable battery is provided for communicating in the absence of AC mains power e.g., when the meter is out of credit.

Features

FEATURES

- The E460 portfolio consists of single-phase, DIN-Rail smart, single phase British Standard (BS), three-phase STS prepayment meters which works with a P160 PLC Customer Interface Unit
- Integrated OFDM G3-PLC for two-way communications between the E460 meter, the P160 Customer Interface Unit and the DC450
- Data Concentrator communications via WAN to the Head-end System (HES)
- The single-phase BS and three-phase meters offer optional point-to-point communications via their under-cover modems which support LTE/NB-IoT with 2G fallback – this is especially valuable to low density installations such as farms and small holdings. The meters have integrated G3-PLC communications so that they may also be used with the G3-PLC Data Concentrator where the density of meter installations justifies installation of the Data Concentrator.
- Open STS prepayment (IEC62055-41/51) dlms/COSEM
- Changeable meter account modes such as post-payment (credit) or prepayment with either STS consumption (kWh) or STS monetary currency unit options

FUNCTIONS

- Zero power tamper sensing when meter is not powered
- A wide range of events with date and time stamps in the on-line mode
- Power quality profiles instantaneous values of voltage, current, power and much more
- Voltage supervision with events logged when thresholds are exceeded
- Remote disconnect and reconnect in the on-line mode
- Load limiting control functions including demand and power-limiting
- Four quadrant measurements with separate import and export registers
- Configurable charge register capability, enabling flexible management of the meter's prepayment account for both import and export energy
- Real Time Clock – synchronized by the Data Concentrator in the on-line configuration mode
- Time of Use, with STS currency token transfer option in the prepayment mode

AVAILABILITY

Europe, the Middle East and Africa



Landis+Gyr E570

E570 is a smart-transformer-connected commercial electricity meter suitable for low and medium voltage applications. The meter provides extensive functionality in key areas of metering: power quality, anti-tampering, security, billing data protection and outage support. Read more



View features

Contact Us (<https://www.landisgyr.eu/contact/>)

Description:

Smart commercial electricity meter with powerful and future-looking AMI functionality

E570 is a smart-transformer-connected electricity meter for low and medium voltage applications in commercial, light industrial and residential use with high electricity demand.

Landis+Gyr has developed this meter series as the first generation of IDIS interoperable current transformer (CT) and current and voltage transformer (CT/VT) connected meters with powerful and future-proof AMI functionality.

The E570 is available either with PLC or P2P communication technology. For PLC communicating devices, Landis+Gyr offers PLAN+ and G3-PLC technologies and for P2P (also known as mobile or cellular group), 2G/GPRS, 2G/4G and a standalone option. Cellular meters support E57C form factor modularity and will also support other communication technologies in the future. Exchangeable communication modules help the customers stay flexible, in sync with latest technology trends and benefits they bring. Meters support plug-and-play principle and can be easily exchanged in the field.

Powerful functionality set for advanced energy management

E570 is tailored to specific utilities' needs, such as powerful automated meter reading, power quality measurement, low and medium voltage transformer monitoring as well as load and demand control. The extensive registration concept combined with large storage capacity produces a comprehensive collection of smart data that delivers actionable insights for energy companies. The multi-energy gateway functionality for gas, heat and water meter reading further enhances the outstanding capabilities of E570 for centralized smart energy management.

Secure investments thanks to IDIS Interoperability and high-level security (HLS)

Interoperability is crucial for utilities to flexibly extend and adapt their metering infrastructure in compliance with their evolving strategy, while maintaining freedom of choice for sustainable procurement. The E570 has been tested and certified according to [IDIS \(https://idis-association.com/\)](https://idis-association.com/) (Interoperable Device Interface Specifications) package II and conforms to open international interoperability standards, ensuring seamless integration into a utility business system.

In addition, E570 complies with the HLS specifications of IDIS package II for data communication, which makes it one of the first interoperable devices to support unauthorized access protection, data integrity and consumer data privacy according to the IEC 62056 standards. Furthermore, the meter adheres to the latest Environmental (RoHS) and Electrical Safety (IEC62052-31) policies.

BLOG ARTICLES

E570: Our New Smart Commercial Electricity Meter Explained in Two Minutes

(https://eu.landisgyr.com/blog/e570-our-new-smart-commercial-electricity-meter-explained-in-two-minutes?__hstc=133251601.318293a530154c2717803ea5636dfb93.1724495199030.1724932849477.172!)

The new E570 is designed for high-consumption residential and commercial use in low and medium voltage applications. And our answer to the new requirements for smart metering and communications.

Read (<https://eu.landisgyr.com/blog/e570-our-new-smart-commercial-electricity-meter-exp>)

(https://eu.landisgyr.com/blog/e570-our-new-smart-commercial-electricity-meter-explained-in-two-minutes?__hstc=133251601.318293a530154c2717803ea5636dfb93.1724495199030.1724932849477.1725082381923.8&__hssc=133251601.15.1725082381923&__hsf)

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FEATURES

- Proven G3-PLC communication
- Fast and easy system integration
- High level security
- Low total cost of ownership
- No Power Read and replaceable battery
- Advanced power quality functionality
- Improved anti-tampering and impermeability (IP 54)
- Wide voltage power supply and 50/60 Hz frequency support
- Compliant to latest safety standards and practices
- Environmentally friendly

VARIATIONS

- P2P: 2G/GPRS, 2G/4G and standalone option
- PLC: G3-PLC (OFDM) and legacy PLAN+

- Available in 3-phase 3 and 4 wire configurations
- Multiple I/O possibilities included

AVAILABILITY

Europe, the Middle East and Africa

Today, the changing market landscape demands open solutions. That is why you need a safe metering investment for the future. The E650 meter family offers you maximum flexibility through unique communication modularity, high interoperability and a comprehensive functionality set, which includes:

- maintenance-free and robust long-life design in electronics and mechanics
- lowest failure rate in the market
- more than 30 different communication options
- extensive functionality covering a broad range of applications
- installation support and anti-tampering features
- built-in smart grid functionality

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
- World's largest smart grid IoT project with 300+ million devices globally
- Frost & Sullivan Global AMI Company of the Year 2017 - the 4th consecutive year

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Electricity Meter
Landis+Gyr E650
ZMD300/400
ZFD400

The ultimate building block for your
industrial and commercial metering
infrastructure

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Leading and most proven industrial & commercial meter

Over 2 million metering devices installed in 80 countries around the world

E650 is the most proven meter, which achieves maximum performance in all industrial and commercial application areas thanks to its unique modular architecture, exceptional feature set and high interoperability.



Basic Functionality

Quality and Safety: The extensive basic functionality already meets all major IEC standards applicable to the respective requirements.

Electronics	Wide-voltage power supply Large LCD display Up and down buttons for display Optical button for the display Utility sealed reset button Optical interface (IEC 62056) Optical test output Three control inputs Two output contacts
Recording	8 measurement channels with total register 24 energy registers Stored values register 9 operating time registers Event log
Functions	Installation support on display Set mode via buttons Real-time clock with power reserve Instantaneous voltage values Voltage monitoring Gregorian and Persian calendar Remote control of output contacts
Housing	Glass fiber reinforced, antistatic Crystal clear, unbreakable windows Wiring diagram on faceplate Utility sealed battery box

Basic Configuration

Landis+Gyr E650 (ZMD300/400 and ZFD400) is the answer to your specific needs: from the reliable commercial meter to the complex measuring device with comprehensive additional functionality for advanced data acquisition and flexible tariff control of large industrial customers..

Modular communication units provide the right choice for the best data channel at all times. «Plug and Play» modules also offer you full freedom of choice for deployment of new communication technologies.

		E650 (ZFD402C)	E650 (ZFD405C)	E650 (ZFD410C)	E650 (ZMD402C)	E650 (ZMD405C)	E650 (ZMD410C)	E650 (ZMD310C)	E650 (ZFD410A)	E650 (ZMD310A)
Application	High voltage	■	■	■	■	■	■	■	■	■
	Medium voltage	■	■	■	■	■	■	■	■	■
	Low voltage	■	■	■	■	■	■	■	■	■
Connection Type	Transformer conn.	■	■	■	■	■	■	■	■	■
	Direct connection	■	■	■	■	■	■	■	■	■
Metering accuracy (active/reactive energy)	Class 0.2/0.5	■	■	■	■	■	■	■	■	■
	Class 0.5/1.0 MID C	■	■	■	■	■	■	■	■	■
	Class 1.0/1.0 MID B	■	■	■	■	■	■	■	■	■
Energy Type	Active energy	■	■	■	■	■	■	■	■	■
	Reactive energy	■	■	■	■	■	■	■	■	■
	Apparent energy	■	■	■	■	■	■	■	■	■



Additional Functionality

Tariff functions	Average demand Time-of-use (TOU) tables Programmable matrix-based mixes control
Measured Values	Power factor Instantaneous values for current, phase angle, frequency, power factor
Recording	24 demand registers 2 power factor register 2 independent load profiles (billing and power quality monitoring) with integration period from 1' up to 60' minutes 26-channel profile memory
Special functions	Monitoring for power, current, power factor Backlit and LED Alert programmable display CT/VT error correction THD measurements and calculation of losses (Transformer and Line) Detection of strong magnetic fields Opening detection of terminal cover
Extension boards (only one possible)	6 outputs 2 control inputs, 4 outputs 4 control inputs, 2 outputs 4 active inputs, 2 relay outputs 8A 3 control inputs, 2 relay outputs, auxiliary power supply 4 outputs, various auxiliary power supply

Software Tools

MAP 120	Parameterisation
.MAP 110	Installation support Meter data readout Load profile analysis Security system visualisation Communications settings

Enhanced communication capability through combined IEC 1107 and DLMS™ protocols

Only complete availability of reliable metering data guarantees an efficient billing process. The range of Landis+Gyr E650 (ZMD300/400 and ZFD400) meters is «bilingual»: handling the legacy IEC1107 protocol and the well established DLMS™ both of which comply with the IEC62056 standard.

An optimal data flow is archived through the built-in communication interface or by readily interchangeable communication units.

Exceptional functionality for demanding I&C metering

Billing Data management:

- Large variety of registers to track and record the measured quantities you require
- High flexibility to link register values

Network monitoring:

- Monitor instantaneous values against threshold and record deviations in a snapshot event log
- Monitor and record disturbances for analysis and preventive network maintenance
- Protect your assets, e.g. transformers, against overload with real-time alarm information through SMS
- Detect tampering attempts and trigger real-time alarms (SMS)

Adaptation and Installation support:

- Smart installation support tools to avoid errors, simplify installation and service processes
- A set of powerful software tools (MAP Suite) to customise meter to your application needs, e.g. time-of-use tables, billing lists, profile memory, remote parameter modification, etc.

Smart Grid applications:

- Additional auxiliary power supply to assure data reading during power down phases
- Power quality monitoring functions with alarm and log features
- Real-time alarm system (SMS)
- Boolean I/O control functions to link and combine measured quantities

E660

A FRESH PERSPECTIVE ON HIGH-END INDUSTRIAL METERING AND ANALYSIS



The E660 is a completely newly developed device for high-end metering and analysis. It has been developed based on proven experience in multiple markets and is designed for forward-looking DSO's. The E660 is providing unprecedented state-of-the art metrology in terms of accuracy, precision and reliability. With extensive power quality measurement and a completely new set of advanced grid edge capabilities, this meter supports multiple utility processes from one single device. For efficiency, the key characteristics of the E660 contribute to a very competitive total cost of ownership.

Highlights at a glance

- High precision metering for energy and demand for multiple tariffs
- Simultaneous communication on several channels
- Exchangeable communication and local control functionality
- Security according to the highest industry standards
- Excellent firmware isolation of legally relevant metrology – allowing application changes without re-certification
- 15 years of life: high grade component selection
- Fulfils IEC62052-31 safety standard
- Continuous power quality measurement integrated (EN50160, IEC61000-4-30 Cl. S)

State of the art metering: High performance metrology, secure, and flexible

The measurement capabilities of the new E660 enable a wide range of applications, including the measurement of energy, demand, instantaneous network values, power quality and a comprehensive set of tariffs, log books and profiles for historical values.

Its hardened security architecture sets a new standard for safety and security in industrial metering: High Level DLMS security with encryption and authentication, role based access (RBAC), TLS and security updates have been developed for the system integrated devices of the IoT world.

The E660 supports new safety standards in full (IEC62052-31).

The **expansion module E66E** with digital inputs and outputs and electro-mechanical relay makes it possible to add new functionalities and extend the range of use cases flexibly, on demand and over the entire lifetime of the device.

A new licensing approach makes it possible to extend meter functionality on demand in the field.

Two in one: The E660 as a Power Quality Instrument

The growing integration of renewables is only one factor that causes more and more disturbances in the grid. At the same time, technical equipment becomes increasingly sensitive and their industrial production needs to rely on undisturbed and high quality energy supply. The E660 can therefore also be used as a certified Power Quality instrument for better and faster power quality data that solve this conflict while making sure that utilities can adhere to regulatory requirements. Last, but not least, the E660 makes continuous measurement a cost-efficient option.

Automated data distribution: Communication and grid edge functionalities

The **communication module E66C** supports state of the art IP-communication LTE CAT-M1 and NB-IoT. As a hub for securely routing differentiated data connections to multiple discrete clients and systems simultaneously (e.g. MDM, SCADA), it also provides access to local functionalities at the grid edge. Intelligent data delivery (SmartPush), RTU functionalities and modular software open the door for further customer specific use cases and local autonomy.

Competitive Total Cost of Ownership: Multiple drivers

The design and the range of functionalities are geared towards a very efficient Total Cost of Ownership. Not only its modularity and the flexibility to acquire additional features when needed are crucial, also the optimized design to ease installation, integration and operation is a strong driver for low TCO.

Ease of integration	Ease of operations	Ease of installations and usability
<ul style="list-style-type: none"> State of the art IP-communication DLMS with logical names Simultaneous communication Pre-integrated in Landis+Gyr systems <ul style="list-style-type: none"> Gridstream® Connect Gridstream® Converge Gridstream® AIM/HES Ready for integration in 3rd party systems with fully standardised interfaces [DMLS/IDIS aligned] SCADA integration 	<ul style="list-style-type: none"> Powerful measurement capabilities for near real-time data available Ongoing monitoring of meter operation Network and renewables generation controls Power quality monitoring Gateway for local sensors Connectivity for permanent network monitoring Robust device, reliable, maintenance free One single data source for multiple purposes 	<ul style="list-style-type: none"> Screwless terminals to reduce installation time and increase safety Monitoring of connection status Separate installation and test lists Installation support though grid values (e.g. current and voltage) on a dedicated screen Standalone and multi-meter room installations possible <ul style="list-style-type: none"> Including mixed installations with e.g. E650 Hot swap of E66C and E66E modules Configurable HW at point of sale and post-sale [E66E]

Available variants

Release 2020	Basic	Options
Accuracy active energy	Cl. C (MID) / Cl. 0,5 (IEC)	Cl. B (MID) / Cl. 1 (IEC) / Cl. 0,2S (IEC)
Accuracy reactive energy	Cl. 0,5 (IEC)	Cl. 1 (IEC)
Network Connection	Transformer connection (CT; CT/VT)	-
Wide voltage range	-	X
Energy	Reactive and apparent energy (4-quadrant)	Active energy (bi-directional)
Power Quality	PQ acc. IDIS	PQ acc. IEC61000-4-30 U, f, THD, Voltage unbalance, profile
Diagnostic and fraud events	Standard Security	DLMS High Level Security (HLS)
Communication	ETH, RS485	ETH, RS485, LTE CAT M1, NB-IoT
Monitoring and control interface	2 digital outputs, 3 digital inputs	E66E: digital outputs and relay

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Electricity Meters
Grid metering

Landis+Gyr+
manage energy better



Electricity Meter

Landis+Gyr E850
ZMQ200

Increased revenue through
high accuracy and tailored
grid functions

E850

Landis+Gyr E850 (*ZMQ200*) is our latest high precision meter for all grid metering applications and provides increased cost-effectiveness and process efficiency in the metering of large energy quantities.

With its excellent measuring capabilities, exceptional precision, and reliability, you are equipped for both simple and complex metering applications. Additionally, this meter also provides a future oriented communication protocol, while offering complete compatibility with pre-installed metering equipment.

No-one can tell what the market will require tomorrow. A precision meter with tailored functionalities and independent communication channels for future demands helps to increase your revenue.

- Highest accuracy under all operational conditions
- Flexible software configuration for every application
- Three independent communication channels for different users
- Power quality values for grid application needs

Application

- Generation, transmission, substation grid connected I&C consumers
Class 0.2S / 0.5S active, 0.5 / 1 reactive
- For all networks, voltages and currents

Interfaces/Communication

- Up to eight transmitting contacts and three independent communication channels, DLMS protocol

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Innovation for greater competitiveness

A high-precision meter for production and transmission applications, as well as the facilities of major consumers. These meters should deliver precision, long-term stability and reliability. We deliver a metering system with the highest resolution and measuring dynamics, and a profile memory with short capture periods. Our meter sets new standards delivering functionality that meets the highest demands for high-precision metering.



Basic Functionality

Measurement	Nominal current 1A or 5A set by parameterization for CI.0.2S
	Highly stable immune measuring processing
	Transmitting contacts
Power Supply	3-phase from measuring-circuit voltage and additional power supply
Recording	Two independent profiles
	8 Mbyte memory for profiles and status
	8/16/36 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
	Easy adaption to primary values
	Power quality values (dips und THD)
	Instantaneous voltage and current values
	Optical interface according to IEC62056
Housing	Backlit display
	Wall mount f6
	Rack mount f9 with Essalec connector covers all mounting needs e.g. Cabinets and panels



Configuration

		C-4	C-6	C-8
Application	Transformer-operated meter for voltage and current transformer connection	■	■	■
	Special version for direct voltage connection			
Measuring accuracy	Active energy, class 0,2S	■	■	■
	Active energy, class 0,5S	■	■	■
	Reactive energy, class 0,5, 1	■	■	■
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	■	■	■
	Unsymmetrie for current and voltage	■	■	■
	Line and transformer loss measurement	■	■	■
	Voltage dip table	■	■	■
	Total harmonic distortion THD	■	■	■
	Tariff control	■	■	■
	CT/VT error correction	■	■	■
	Bypass feeder operation	■	■	■
	Delta values	■	■	■
	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-Modul	■	■	■	■	■

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 the 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 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 station at the same time.

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 networks. These include alarms and operating messages for network monitoring and additional power supply for remote meter reading when the measuring circuit voltage is off.

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
Additional power supply	<ul style="list-style-type: none"> ■ Special operating mode for low loading of instrument transformer lines ■ Status information if additional supply is present

Software Tools

MAP 120	<ul style="list-style-type: none"> ■ Database for parameterization files for an engineering department
MAP 110	<ul style="list-style-type: none"> ■ Installation support ■ Primary data adaptation ■ Meter data readout ■ Load profile analysis ■ DIP table visualisation ■ Communication settings ■ MAP 110 configures all settings at the metering point

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
- World's largest smart grid IoT project with 300+ million devices globally
- Frost & Sullivan Global AMI Company of the Year 2017 - the 4th consecutive year

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ELECTRICITY METERS

Landis+Gyr E860

The latest addition to our Landis+Gyr grid metering family is our flagship E860 electricity meter. The product provides high-precision electricity metering capabilities designed for power plants, photovoltaics, on-shore and off-shore wind farms, transmission networks, substations, railway infrastructure and grid-connected commercial and industrial consumers. Read more



[View features](#)

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Description:

Product packs significant number of value-added features for traditional metering and billing applications, such as unparalleled accuracy for active and reactive energy measurement, extensive memory capacity and computing power for data collection and processing at the edge, robust auxiliary power supply, as well as ease of use diagnostics and installation via modern connectivity solutions and high-resolution dot-matrix display. The stability and reliability of the product platform ensures low total cost of ownership, whilst putting customers' minds at ease.

In addition to the above-mentioned, device encapsulates advanced AMI features such as HLS, which ensures security and authenticity of the data, and RBAC for easy and logical controls over the user access and operational permissions. Meter enables future functional expansion via remote firmware upgradeability and includes advanced power quality measurements enabling grid diagnostics, fault prevention and better investment planning insight.

Meter comes with additional extension modules (E86E) for local connectivity expansion, as well as communication modules (E66C) supporting different remote communication interfaces (e.g.: Serial, Cellular and Ethernet), whilst providing multi-protocol support, conversion and synthesising capabilities.

The E860 grid meter is available in two main variants:

- E860 f6 – wall mounted
- E860 f9 – rack mounted

Features

Related products

FEATURES

- Highest precision measurement of active 0.1S and reactive 0.5S energy

- Integrated period of measurement 100ms, with subintervals of 20ms
- High measurement stability even in difficult installation environments
- Very large memory capacity for data collection and processing at the edge
- Improved local readability and installation via dot-matrix display
- Packs advanced AMI features, such as HLS, RBAC, remote firmware upgrade and others
- Contains advanced power quality features, including waveform capture
- Includes new time synchronization capabilities (IRIG-B, PTP, SNTP, NTP)
- Supports IEC 62056 DLMS-COSEM, IEC 61158 Modbus, IEC 60780-5-104 SCADA, IEC 61850 and other grid protocols
- Comes with E86E extension modules for additional local connectivity options (pulse outputs, control inputs/outputs, relays)
- Comes with E66C communication modules enabling RS-485, Cellular as well as Ethernet connectivity

VARIATIONS

- E860 f6 – wall mounted
- E860 f9 – rack mounted
- Available with easy-to-use E86E extension modules
- Available with easy-to-use and highly configurable E66C portfolio of communication modules

AVAILABILITY

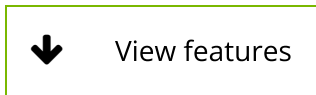
Europe, the Middle East and Africa



COMMUNICATION UNITS

DC450

The ultimate solution for efficient metering data collection and control. The Landis+Gyr DC450 is a new generation intelligent data concentrator for large scale meter reading and controlling applications. The DC450 supports a wide variety of communication interfaces between local meter parks and backend support systems to meet the needs of the environment. Read more



Contact Us (<https://www.landisgyr.eu/contact/>)

Description:

The ultimate solution for efficient metering data collection and control

The Landis+Gyr DC450 is a new generation intelligent data concentrator for large scale meter reading and controlling applications. The DC450 supports a wide variety of communication interfaces between local meter parks and backend support systems to meet the needs of the environment. Data exchange is secured through IDIS (Interoperable Device Interface Specifications) compliance over G3 PLC or PLAN+ (Power Line Automation Network) networks and TLS (Transport Layer Security) protocol for all other types of communication. Modular hardware and software design allows flexible adaptation of functions for future requirements.

Simple “plug & play” installation of preconfigured devices results in considerable time and cost savings. Thanks to new topology view, utility engineers can significantly improve their field “clean-up” operations during the rollout and troubleshooting phase.

Features

FEATURES

- Pluggable modem for WAN communications
- Supports G3-PLC Cenelec A band (5-95 kHz) and G3-500 band (150-500 kHz) or PLAN+ Cenelec A band
- Integrated WEB server for local and remote access to the DC450 data concentrator

- Data push concept with individual reading and push profiles
- Enables meter firmware update on the field
- DLMS/COSEM and IDIS interoperability
- IPv6 compliant
- 2 Ethernet ports
- RS-485 interface

VARIATIONS

- G3-PLC, Cenelec A BAND (5-95KHz) and G3-500 (150-500kHz)
- PLAN+ PLC, Cenelec A band
- Ethernet
- WAN communication over 2G/3G/4G
- Java

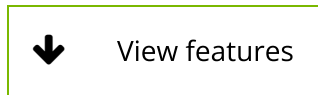
AVAILABILITY

Europe, the Middle East and Africa



Landis+Gyr E66C

The E66C is the communication module exclusively designed for the E660. It supports state of the art IP-communication LTE CAT-M1 and Ethernet communication. Read more



[Contact Us \(https://www.landisgyr.eu/contact/\)](https://www.landisgyr.eu/contact/)

Description:

The E66C is the communication module exclusively designed for the [E660](#) (</product/landisgyr-e660/>). It supports state of the art IP-communication LTE CAT-M1 and Ethernet communication.

Securely collect, route and access data at the edge

A push and pull functionality reduces traffic and duration, intelligent data delivery (SmartPush) leads to further traffic reduction and very reliable communication. Furthermore, it is possible to have parallel connections to various MDM-, SCADA- and PQ-monitoring systems for improved network management. Multiple sessions can even be run simultaneously and the integration of protocol converters drives interoperability.

This makes the E66C an intelligent data hub that opens the door for local control and further powerful, customer specific grid edge use cases, such as streetlighting or transformer monitoring.

The module is designed for always-on network mode and permits secure and simultaneous access for all registered users, locally or remotely. Its web interface enables maintenance for communication without a dedicated tool. Multidrop (meter room) applications are possible over powerful Ethernet or legacy RS485.



[Declarations of Conformity D000069356 \(? download=285332&filename=/webfoo/wp-](#)



content/uploads/2021/02/DoC_E66C_LTE_D000069356.pdf)

Declarations of Conformity D000069357 (?)

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content/uploads/2021/02/DoC_E66CS1_R1_Ethernet_D000069357.pdf)



Landis+Gyr E65C

The modular communication concept for industrial and commercial applications. Read more



View features

Contact Us (<https://www.landisgyr.eu/contact/>)

Description:

Energy meters are a long-term investment. Telecommunication solutions have a much shorter life span, so flexibility is key: this is why communication modules from Landis+Gyr are specifically designed to be easily retrofitted. With this, they are offering the most cost-effective data transfer technology which allows energy companies to significantly improve their operational efficiency.

Broadest portfolio in the market

Landis+Gyr provides the broadest selection of communication units to fit the utility network architecture, size and the existing communication infrastructure. Our modules do not just establish connection to a fixed installation (RS-232, RS-485, Ethernet), they support the remote transfer via LTE, UMTS or GPRS. Compliance with open communication protocols like IEC-62056-21 or DLMS ensures flexibility and future-proof communication media choices.

Simple installation

The interchangeability of the modules within various meter families through Plug&Play installation keeps field installation costs down. Also, the communication units can be retrofitted by using an external adapter.

Enhanced installation options

A flexible building block concept allows the combination of various communication units, meters and accessories to best fit into the respective meter park architecture. Multi-drop, various adapter options or multi-master applications keep operational expenses under control. A meter room application via Ethernet Network Bridging is also possible. **Features**

BLOG ARTICLES

CU-L52: Stay Connected in a Changing World

([https://eu.landisgyr.com/blog/cu-l52-stay-connected-in-a-changing-world?](https://eu.landisgyr.com/blog/cu-l52-stay-connected-in-a-changing-world?__hstc=133251601.318293a530154c2717803ea5636dfb93.1724495199030.1724932849477.172!)

[__hstc=133251601.318293a530154c2717803ea5636dfb93.1724495199030.1724932849477.172!](https://eu.landisgyr.com/blog/cu-l52-stay-connected-in-a-changing-world?__hstc=133251601.318293a530154c2717803ea5636dfb93.1724495199030.1724932849477.172!)

The world of telecommunication is changing rapidly – and the energy industry is very much affected by it. A significant part of the installed base of industrial electricity meters relies on connectivity services provided by telecommunication providers. And when these...

Read (https://eu.landisgyr.com/blog/cu-l52-stay-connected-in-a-changing-world?__hstc=133

([https://eu.landisgyr.com/blog/cu-l52-stay-connected-in-a-changing-world?](https://eu.landisgyr.com/blog/cu-l52-stay-connected-in-a-changing-world?__hstc=133251601.318293a530154c2717803ea5636dfb93.1724495199030.1724932849477.1725082381923.8&__hssc=133251601.10.1725082381923&__hsf)

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Features

Documents

Resources

FEATURES

- Read-out, reset, synchronization and re-parametrization of the meter by remote access
- Plug&Play installation in meter housing or external connection via adapter
- Multi-master operation (up to 32 meters, several central stations)
- TCP/IP Connection
- DLMS or IEC-62056-21

VARIATIONS

Available interfaces with diverse combinations of:

- LTE 4G
- UMTS 3G
- GPRS 2G
- Ethernet
- CS Interface (active and passive)
- RS-232 Interface
- RS-485 Interface

AVAILABILITY

Europe, the Middle East and Africa