



Electricity Meter
Landis+Gyr E650
ZMD300/400
ZFD400

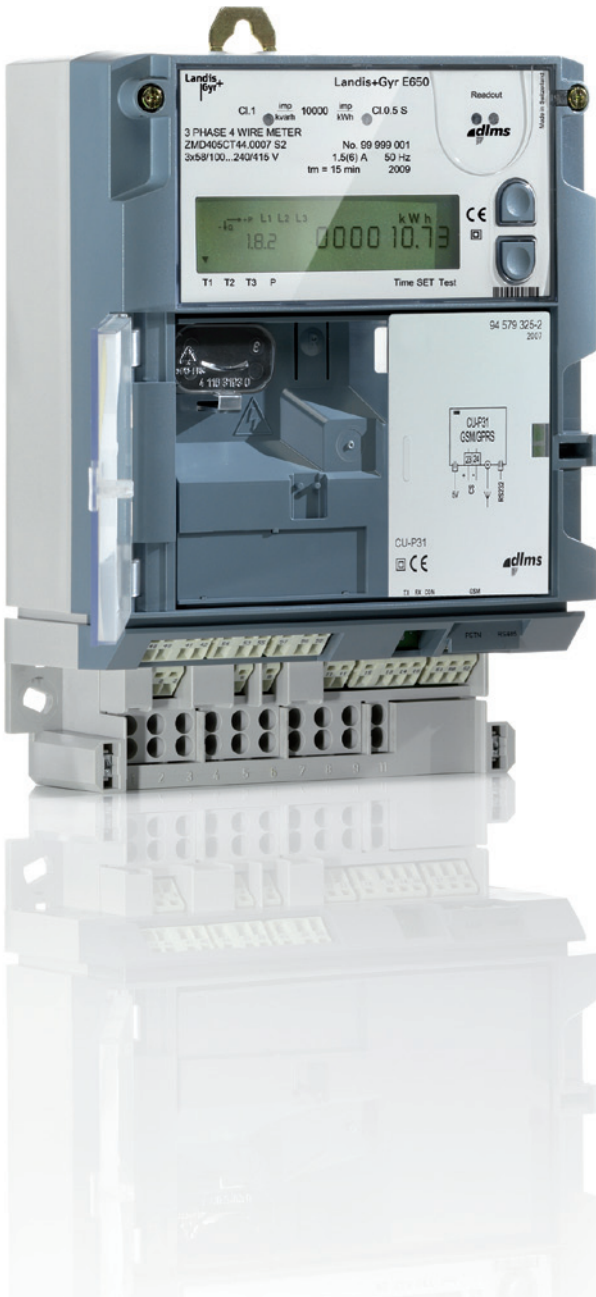
Investment protection
through flexible
modularity

No-one can tell what customers will require tomorrow. That is why you want a safe metering investment for the future and a maximum flexibility for the best investment protection: comprehensive functionality, unique modularity and smart interoperability within a meter family.

- more than 30 different communication options
- extensive range of options to serve maximum no. of applications
- robust long life design in electronics and mechanics
- many special features to support installation, maintenance and operations

The leading product for I&C metering

Since its introduction to the market Landis+Gyr has delivered over one million Landis+Gyr E650 (ZFD400 and ZMD300/400) meters to customers in more than 70 countries around the world. This popularity encourages us to continuously improve the quality and functionality of this flagship I&C meter. With ongoing investments to performance and functionality this top product line gives our customers the optimal solution for their demanding I&C needs.



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 |
| | 8 measurement channels with total register |
| Recording | 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 |
| Housing | Remote control of output contacts |
| | Glass fiber reinforced, antistatic |
| | Crystal clear, unbreakable windows |
| | Wiring diagram on faceplate |
| | Utility sealed battery box |



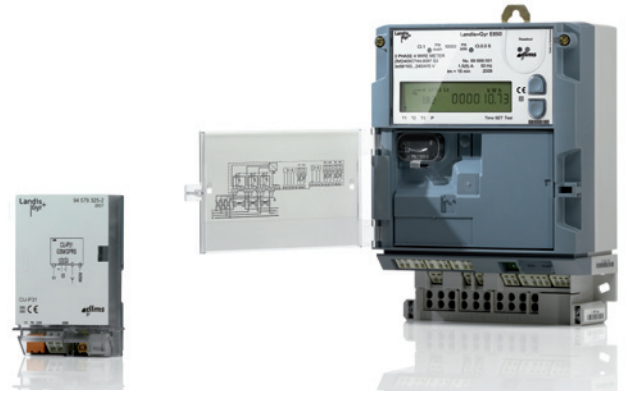
Basic Configuration

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 sophisticated 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+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 (ZMD410A) | 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 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | | Combi | | | | | Active | | | | |
| Energy Type | Active energy | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | Reactive energy | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | Apparent energy | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

Additional Functionality



| | |
|--------------------------------------|--|
| Tariff functions | Average demand |
| | Time-of-use (TOU) tables |
| | Programmable matrix-based mixed control |
| Measured Values | Power factor |
| | Instantaneous values for current, phase angle, frequency, power factor |
| | Recording |
| Recording | 24 demand registers |
| | 2 power factor register |
| | 14-channel profile memory |
| Special functions | Monitoring for power, current, power factor |
| | Backlit display |
| | CT/VT error correction |
| Extension boards (only one possible) | Detection of strong magnetic fields |
| | Opening detection of terminal cover |
| | 4 control inputs + 2 output contacts |
| Extension boards (only one possible) | 2 control inputs + 4 output contacts |
| | 6 output contacts |
| | RCR161 ripple-control-receiver |
| Extension boards (only one possible) | RCR161 + 4 output contacts |
| | Additional power supply + 4 output contacts |

Software Tools

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

Combining IEC 1107 and DLMS for total communication capability

Maximum communication performance

Only reliable, total availability of precise metering data provides the prerequisites for 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 assured by the built-in communication interface or by readily interchangeable communication units. That gives you the flexibility to optimise your metering communication investments.

Exceptional functionality for demanding I&C metering

- The broad selection of measured quantities can be utilized via special registers
- evaluation of threshold value overshoots and undershoots provides for comprehensive analysis and control of loads and tariffs; operational irregularities are detected, and can be logged
- enhanced operating and installation tools reduce user errors, and simplify installation and service
- alarms for new service and maintenance possibilities
- optional additional power supply for remote meter reading when the measuring-circuit voltage is off
- MAP service tools for adaptation of standard functions such as time-of-use tables, billing lists, profile memory or pulse outputs and for remote parameter modification.

Manage energy better

We deliver peace-of-mind when it comes to managing your energy. Decades of leadership in technology and in-depth knowledge at Landis+Gyr means we are able to offer you an extensive, high quality and proven portfolio.

Obtaining the highest level of energy efficiency has never been easier. We have translated our unique expertise of utility processes into an integrated energy management solution, Gridstream. We can help you streamline your processes, increase customer loyalty and secure revenue. Gridstream packages our AMM offering, meeting your needs today and in the future.

Let us tailor our innovative solutions to meet your specific needs. Whether electricity, water, heat/cold, gas metering or load management, we provide what you need to ensure that your energy is managed with increased precision and reliability.

With Landis+Gyr as your trusted partner, you can manage energy better

Landis+Gyr in short

- 5000 employees worldwide
- Operations on all five continents
- Broadest portfolio of products and services in the industry
- 25 years of smart metering experience
- 1000 AMM systems delivered
- 300 million energy meters produced
- Largest relevant engineering capacity in the industry
- 60 years of direct load management experience
- 15 million load management receivers produced
- 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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