

# S650 Smart Grid Terminal

## Fact sheet

Landis  
+Gyr<sup>+</sup>  
manage energy better



## Enabling grid digitization with new sensor capabilities

**The Landis+Gyr S650 Smart Grid Terminal is a monitoring and control solution that ensures reliable and efficient delivery of energy in a dynamic smart grid environment through increased visibility and enhanced data management. It is a metering node with advanced communication and computing capabilities, designed to retrofit and digitize existing grid infrastructure in a cost-effective way. Combined with easy-to-install Rogowski sensors, the S650 is the ideal solution for retrofitting existing feeders or low voltage transformers without station shutdown. The terminal aggregates and transmits real-time data to multiple utility systems and can be leveraged as a communication node for local devices from other vendors.**

The S650 Smart Grid Terminal combines advanced metering capabilities of the S650 with the state-of-the-art open communication functionalities offered by the Landis+Gyr newest E65C CU-XE communication unit. The calibrated device is delivered with a set of three Rogowski sensors for installation on mains feeders of 200 kVA and up, capable of providing accurate bi-directional current measurements. Station upgrade is as simple as “click-and-twist” installation of the sensor, without power interruption, resulting in significant time and cost savings not to mention higher safety for installers.

### Enhanced distribution intelligence

The Landis+Gyr E65C CU-XE unit supports various communication protocols such as Modbus, IEC 61870-5-104, IEC 61850 and DLMS, allowing secure simultaneous access from multiple systems, e.g. AMI, SCADA, etc. Highspeed data access enables multiple computing applications such as network and environment monitoring, transformer modelling, control of photovoltaic sites, fault prevention, and much more. Co-located Modbus devices like power quality analyzers, heat/cooling meters, intrusion detection devices or digital thermometers can be easily integrated, providing access to additional operational information. This allows utilities to increase visibility of their distribution network, which leads to improved asset management and better grid investment decisions. Upgradability for IoT applications further enhances return on investment.

### Top security

Extensive security features like OpenVPN® and IPSec secure access from systems.

### Future-proof modularity

Leveraging a modular design, the S650 Smart Grid Terminal with Rogowski coils is compatible with a wide portfolio of communication modules. This allows for communications to be changed and intelligence to be added as the market and utility needs evolve.



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## Functionality

### S760 Offer

Standard  Option\*

#### Supervision modularity

Single LV feeder/transformer

#### Type of measurements

Network measurements (3xI; 3xV; F;  $\pm 3 \times Q$ ; cos phi; 10min average.)

Basic power quality according to EN50160

#### AMI features

Energy balancing with smart meters

#### LV fault detection

Earth fault detection (zero-sequence method)

#### Substation supervision and control

Over current alarms to detect overload (transformer/cables)

Switchgear status (SF6, open/closed etc.)

Temperatur monitoring

Door status (open/closed with logging)

Transformer tap changers control (renewable integration)

Street light control (astronomical clock)

#### Communication infrastructure with CU-XE

Multi-channel system communication with single modem (parallel communications with AMI/AMR and/or DMS/SCADA and/or PQ system) via Ethernet or external modem

Serial connections RS232, RS485

Remote configurable and upgradeable RTU software

#### Supported service protocols using IP

IEC 62056-21 or DLMS TPC pass-through

MODBUS slave

IEC 60870-5-104 controlled station

IEC 61850 server, MMTR and MMXU model

#### Supported service protocols using serial interface

MODBUS RTU slave/master

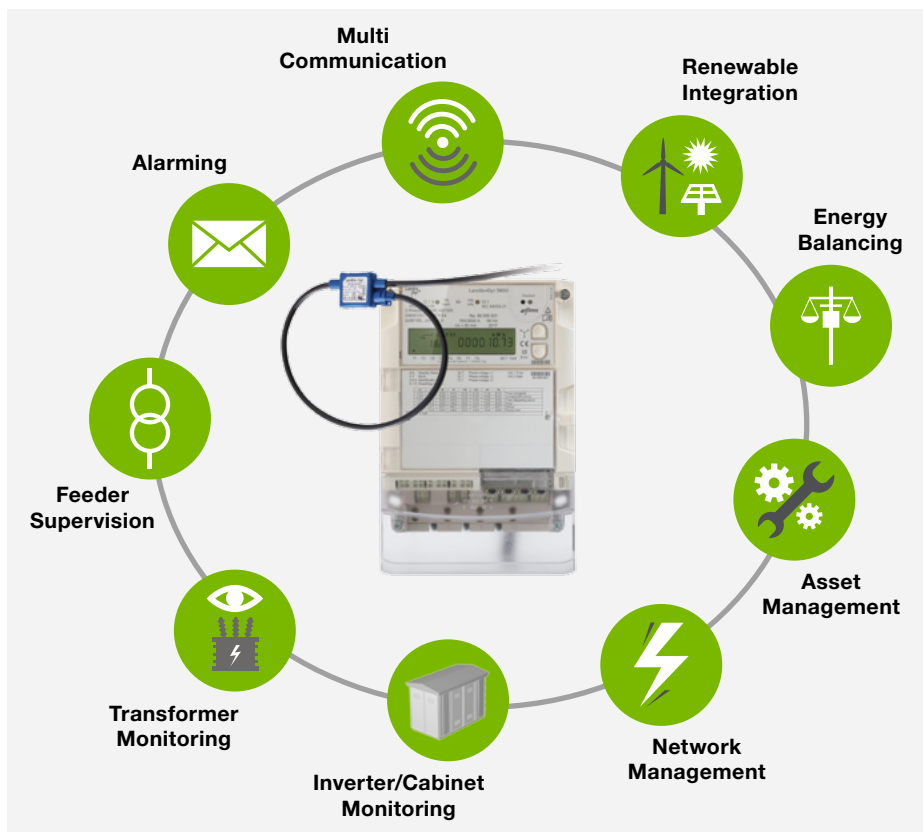
IEC 62056-21 or DLMS

#### Security

OpenVPN® based security

IPSec based security

## Applications overview



Easy retrofit and high integration capability with S650 Smart Grid Terminal

### Easy “click-and-twist” installation of Rogowski sensors for fast retrofit without station shutdown

Set of three Rogowski coils:

- Up to 3000 A
- Accuracy class 0.5 (IEC-61869-2)
- Pre-calibrated sensors
- PTB certified

