

# Solutions for smart energy management

2022



Company Profile  
Product Overview



2008

Meter&Control is established in Belgrade, Serbia, as a privately owned, limited liability company, specializing in the development and production of smart metering technology

2010

Launch of the 1<sup>st</sup> generation of smart meters

Development of the 2<sup>nd</sup> generation of smart meters

Development and commercialization of the 1<sup>st</sup> generation of AMI software

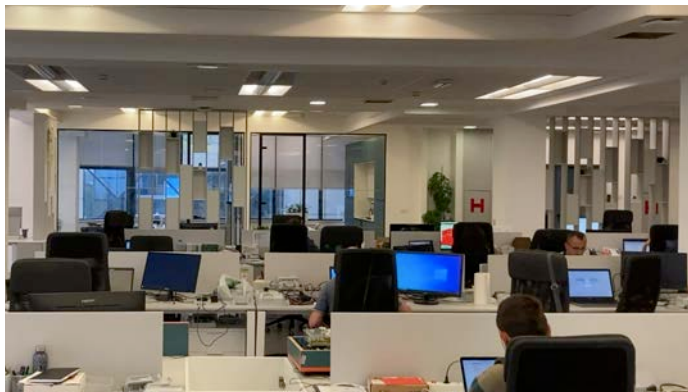
2011

Development and commercialization of the 2<sup>nd</sup> generation of AMI software with upgrades and new functionalities

Meter&Control is the first private company in Serbia to become authorized body for meter verification

2014

Meter&Control becomes the 5<sup>th</sup> company worldwide with IDIS certificate on interoperability, positioning itself along the global leaders in the smart metering industry



## Inspired by Energy

Meter&Control develops and manufactures state-of-the-art hardware and software solutions for smart energy management in industrial, commercial and residential environments. Established in 2008 in Serbia, as an independent, limited liability company, we successfully combine innovative thinking, latest technologies, engineering expertise, continuous development, and quality excellence in all our products. The entire research, development, production and verification process takes place at our facility in Belgrade.

Our broad range of AMI devices and software features smart electricity meters with PLC and GPRS/3G/LTE communication, data concentrators and gateways, as well as AMM/AMI software for remote meter reading and power consumption management of commercial and residential customers. Our products offer versatile and custom functions, interoperability according to global standards, reliability associated with genuine European manufacturing, ease of use and attractive design.

Working closely with customers in order to understand their specific challenges is the key to our track record of safe operation and of delivering added value in all our solutions. This customer-oriented flexibility remains our strongest competitive advantage we pride ourselves on.

## Smart metering is in our DNA

Meter&Control has a long background in smart metering technology. The company stems from an early research of PLC technology conducted at the Faculty of Electrical Engineering in Belgrade in 1980's by a team of engineers who devised one of the world's first PLC modems, thus becoming pioneers in Automatic Meter Reading technology. Meter&Control took this innovative project on fast track to commercial expansion and development of smart metering portfolio.

## Responding to future needs now

Our range of smart metering products and services provides utilities with hardware and data required to manage energy use, anticipate demand and achieve cost-efficient, low-loss operation. It also helps end consumers to act more sustainably. Responding to current and future needs of utilities and consumers for smart and sustainable energy transition, we have hands-on experience in various topologies of electricity networks, seamless integration with other manufacturers in diverse networks, as well as in development and adaptation of devices to specific requirements of distribution companies.



## 2016

Meter&Control is granted the MID-D certificate of conformity

Meter&Control enters the markets of Slovakia and Switzerland and expands the business to the EU

## 2018

Development of the 3<sup>rd</sup> generation of smart meters

Continued deliveries to SSE in Slovakia

First delivery of a complete AMI system in Montenegro

## 2019-2021

Opening of the new production facility

Development of the 4<sup>th</sup> generation of smart meters

Successfully completed certification of the new PLC smart meter by G3-PLC Alliance

Successful IDIS Package 2 certification

## 2022

Long-term supply agreement for the delivery of smart metering technologies to the Czech market

Development of 4<sup>th</sup> generation of smart meters with NB IoT i CAT M1 communication technologies



## Member of Science Technology Park Belgrade

Our head office, Research&Development and Quality Assurance are located in Science Technology Park Belgrade, the main innovation and development hub, which hosts many startup and established technology companies.

Committed to continuous improvement and serving the market with up-to-date solutions, we are consistently investing resources in four key components: standardization, quality, research&development and support. Meter&Control has a state-of-the-art R&D center, which includes adopting and implementing new ideas and technologies, simulating real world environmental conditions and different network topologies.

## Authorized verification body

Meter&Control was the first private company in Serbia to become authorized body for meter verification. The verification department operates as an independent subsidiary offering services to third parties.



## State-of-the-art manufacturing plant

Meter&Control has its own production facility with scalable manufacturing capacity of up to 500,000 units per year, and the potential to expand to 1 million units per year. All our products are manufactured, assembled and tested in Serbia: from PCB assembly and case molding, to final assembly, testing and final verification. Our production process is approved with MID module D certificate and Swiss METAS module D certificate. The advantage is that units leave the factory already tested and verified and are delivered to customer ready for installation, without need for further verification or calibration.

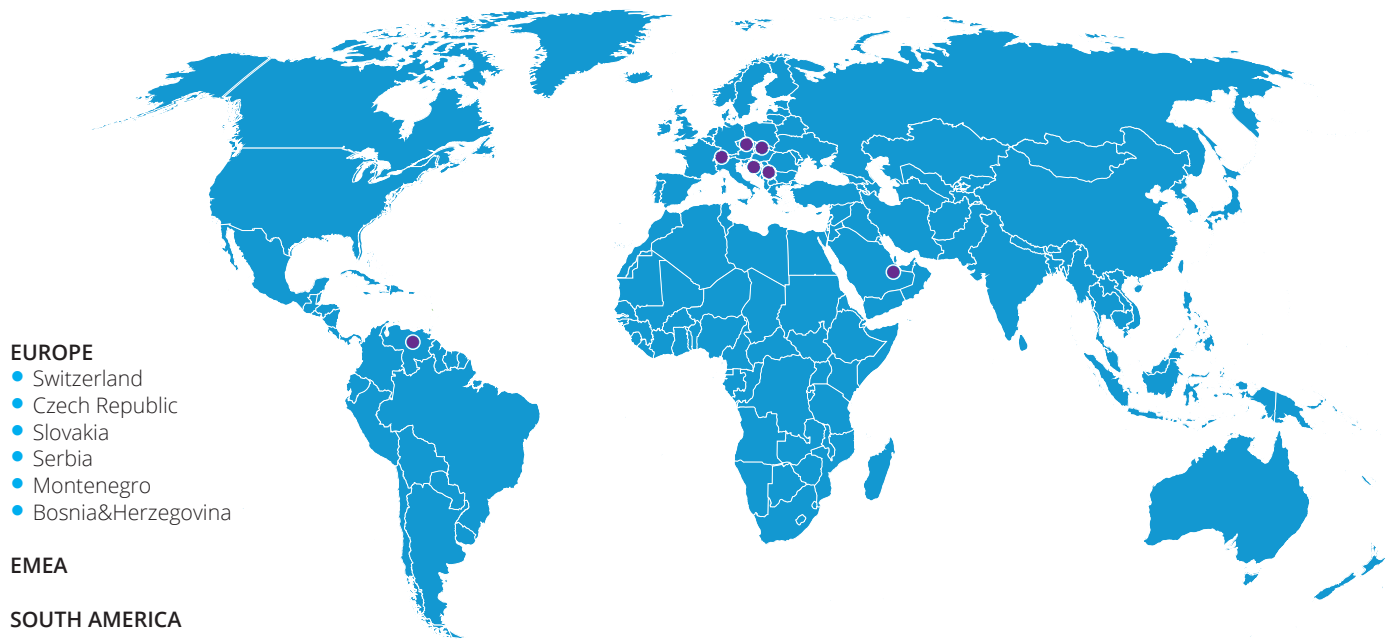
## Aligned with global standards

At Meter&Control, we recognize the strategic role of quality management systems in reaching our goals and we rigorously apply them to measure and review every organizational segment's effectiveness in attaining these goals. All processes in our company are certified by relevant Quality Management System certificates.





## Markets served



## Corporate values

### Our Mission

Up-to-date and reliable solutions for smart energy management through early adoption of latest technologies, rounded-up development and production process and individual approach to client demands.

### Our Vision

Leading independent company in the field of smart energy management, whose solutions create added energy, financial and ecological values.

## Key advantages

### Fast and reliable supply

- Robust component procurement chain and transport method ensures honoring agreements and deadlines to customers, even in situations such as 2020-22.

### Cost-effective quality

- Complete production and R&D in Serbia, Europe
- METAS, IDIS, ISO, G3-PLC certificates
- Interoperability - Meters operating in existing HES environments of European utilities
- High quality components from official distributors allow long meter lifetime and reliability
- Fast and agile customer support

### Energy savings

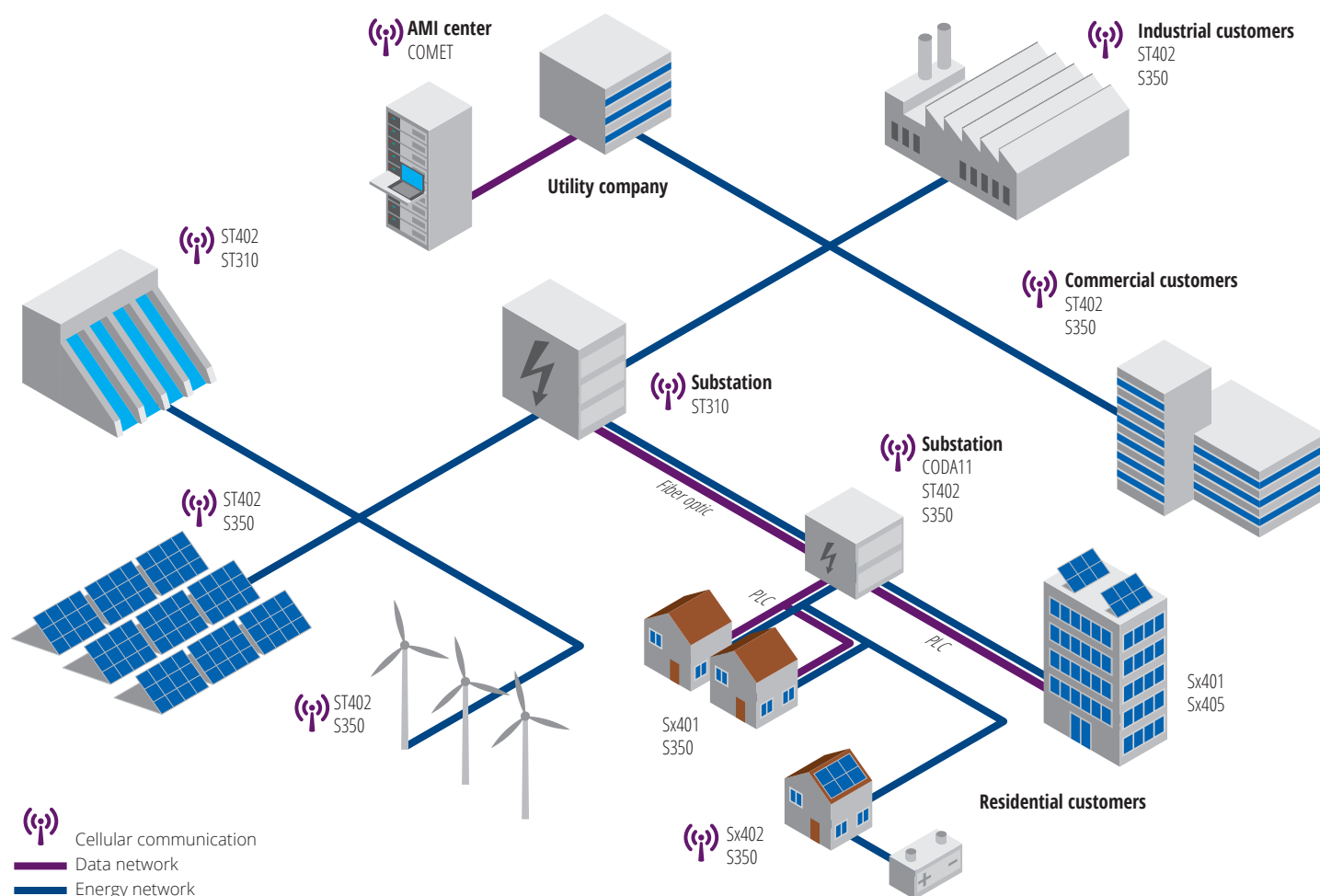
- High accuracy class
- Standard accuracy class B (1) and A (2) are much above minimum defined accuracy class threshold which provides reduction of losses for utilities
- Prosumers support
- Two direction energy measurement
- Power supply quality data
- Availability of data for the customers (P1 port)

## Product overview

Complete hardware and software solutions for AMI systems

Production and verification processes, EU compliance and interoperability, are approved by a number of industry leading standards and certificates:

- ISO/IEC 17020 Inspection body type C
- MID-D certificate on production quality system
- EU-type examination certificate (MID B)
- METAS MID B and MID D certificate issued by Swiss Federal Bureau of Metrology
- Type test reports issued by NMi Laboratories, The Netherlands
- SPODES certificate and conformance with relevant GOST standards, Russia
- DLMS/COSEM
- IDIS
- ITU G.9903/08-2017 (G3-PLC)
- IEC 62052-11
- IEC 62053-21
- IEC 62053-23
- EN 50470-1,3
- IEC 62055-31
- IEC 60529
- EU Directive 2014/32/EU (MID B+D)



# Modular smart meters

New smart modular meters for green energy transition



## S350

Three-phase and single-phase modular meters with replaceable communication modem

**idis**<sub>2DLM</sub>

**DLMS**<sup>TM</sup>

**G3-PLC** CERTIFIED CEN A

S350 are smart electronic meters for measurement of active, reactive and apparent electrical energy, with direct or CT connection to three-phase and single-phase networks. The new platform allows the use of various communication technologies by easy replacement of communication modem. LTE NB IoT and CAT M1 communication technologies are supported, as well as G3-PLC in CENELEC A and FCC frequency range and hybrid RF-PLC solution. This allows utilities to keep pace

with fast transitions and evolutions of communication technologies within meter lifetime and to choose a smart metering concept according to their needs. S350 features high level of security, wide range of measurement data much beyond classic billing data, and various interfaces toward smart home and other external systems. S350 empower utilities with data necessary for successful handling of ongoing energy market transformation.

### Key features

- Measurement of electrical values (total and per phase)
- Exchangeable communication modem
- Replaceable real-time clock battery
- Flexible tariff policy with up to 8 tariffs
- Two measurement principles including Ferraris method suitable for prosumers
- Two RS485 ports
- Support for In-Home Display with easy accessible RJ12 connector
- Variety of additional input/output options available on demand (relays, pulse outputs, inputs and other)
- Integrated switching device
- DLMS/COSEM
- MID certified
- High level data security
- IDIS2 interoperability
- Fraud detection
- Load profiles
- Power limit
- Event logs
- Measurement of energy quality
- Firmware update
- M-Bus port for G, W, H meters reading (optionally Wireless M-Bus)

# New generation integrated smart meters

Expanded platform allows new communication technologies, extended functions and more DSO and user features



## Sx401 G3-PLC

Integrated G3-PLC modem and switching device

## Sx402

Integrated cellular modem and switching device

## Sx405D

RS485 port and switching device

**IDIS<sub>2DLM</sub>**  
Reg No: 0052

**DLMS<sup>TM</sup>**

**G3-PLC** CERTIFIED  
CEN A

New-generation three-phase and single-phase integrated smart meters designed for measurement of active and reactive electrical energy of residential, commercial and industrial consumers / prosumers with communication and switching modules. Wide range of measurement values including power quality data in combination with large capacity of load profiles makes these meters a key tool for utilities for making insight

in overall condition of power supply network. With integrated modem (G3-PLC or 2G/3G/LTE), switching device and variety of additional interfaces available as option makes this meter suitable for smart home system implementations at residential consumers as well as data collection hub in MV/LV substations. Optional support for prepaid over GPRS makes this meter applicable in diverse DSO environments.

## Key features

- Integrated G3-PLC or 2G/3G/LTE modem or RS485 port
- Integrated switching device
- Flexible tariff policy with up to 8 tariffs
- 230 V/50 Hz or 110 V/60 Hz supported
- Prepaid/postpaid modes supported
- Variety of additional input/output options available on demand (relays, pulse outputs, inputs e.a.)
- 2 RS485 ports for communication on RS485 bus and with IHD
- IDIS 2 certified
- MID certificate
- DLMS/COSEM
- High level data security
- Wired / optionally wireless M-Bus for communication with G/W/H meters
- Measurement of electrical values
- Measurement of energy quality
- Internal real-time clock with DST
- Maximum demand
- Fraud detection
- No-power reading and parameterization
- Billing and load profiles
- Power limit
- Firmware update

# Modular smart meters

Three-phase modular meters with plug-in communication and switching modules



## ST310

Modular meter for households, commercial and industrial consumers



ST310 is three-phase, MID-certified, modular smart meter designed for the measurement of electrical energy of residential, commercial and industrial consumers, with direct or transformer grid connection (CT or CT/VT). AMI system integration is enabled by connecting plug-in communication module (CMxS - PLC or cellular communication) and switching module (SD30S). Replaceable communication module offers seamless communication options and allows easy future upgrade of communication technology by simple modem replacement without need for removal of metrology seals.

Both plug-in modules are mounted under the terminal cover. ST310 version for direct grid connection is equipped with Port B for connection of the switching module and realization of load management functionality. Port B is realized in accordance with M-Bus standard. ST310 is available in versions without communication and/or switching modules. All ST310 functions are compliant with the following standards and regulations: IEC 62052-11, IEC 62053-21/22/23, EN 50470-1/3 (MID), M-Bus and DLMS/COSEM.

## Key features

- MID certificate
- Measurement of electrical values
- Integrated Real-time clock with DST
- Flexible tariff policy with up to 4 tariffs
- 230 V/50 Hz or 110 V/60 Hz supported
- Billing profile + 4 configurable load profiles up to 10 channels each
- Maximum demand
- RS485 port
- Optical port
- DLMS/COSEM
- Fraud detection
- No-power reading and parameterization
- Power limit
- Code red
- Event logs
- Measurement of energy quality
- Measurement of power generation electrical values
- Firmware update
- Functional inputs/outputs
- Data security



# Communication and switching modules

Plug-in communication and switching modules  
 for easy AMI system integration of modular meters



**CM13S/CM14S**  
 PLC modules with G3-PLC or S-FSK protocol

**CM23S/CM24S**  
 GPRS/3G/LTE modules for direct communication  
 with AMI center

**CM23E**  
 External transparent GPRS module

CM1yS and CM2yS are plug-in communication modules which provide data exchange between electricity meters and data concentrators (CM1yS) over low-voltage network (G3-PLC or S-FSK) or direct communication of meters with AMI center (CM2yS) over GPRS/3G/LTE network. Communication modules are simply mounted under the terminal cover and use

RS485 port for communication with meter. Modems are compatible with ST310 meter. After installation, additional parameterization of modem is not required because it automatically reads communication parameters from ST310 meter once it is connected.

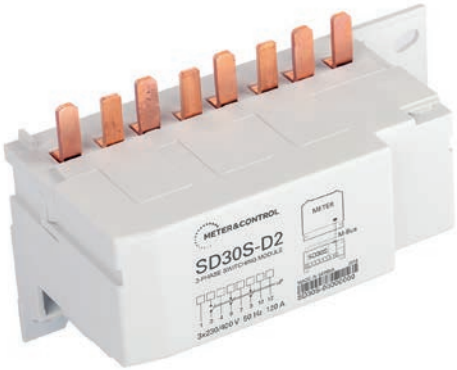
## Key features

- Auto-configuration according to the parameters stored in meters
- Automatic recovery
- RS485 port for communication with meter
- Additional port for connecting to RS485 bus (for meters which communicate via GPRS/3G network)
- Channel for communication with AMI center
- Visual communication LED
- Call identification
- Data protection
- Independent power supply
- Plug-in

## SD30S

Switching module

SD30S is a three-phase switching device which enables remote disconnecting/connecting of end consumers. SD30S is easily mounted on direct modular meters as a plug-in module via M-Bus interface port under the terminal cover. SD30S is compliant with IEC 62055-31 and UC3.



## Key features

- Current interruption up to 120 A
- Easy installation onto the meter
- Autonomous power supply
- Long exploitation life

# Data concentrators

Data concentrators for communication between smart meters and AMI center



**CODA 11**  
Data concentrator

CODA11 data concentrator provides communication between AMI center and electricity meters. Communication between concentrator and electricity meters is carried over PLC network (G3-PLC or S-FSK). Communication between concentrator and AMI center is carried over GPRS/3G/LTE network or Ethernet port using TCP/IP protocol. CODA11 provides reading, parameterization and management of meters, either

automatically by a predefined schedule, or on request of the AMI center. Collected data is stored in the concentrator's permanent memory and forwarded to the AMI center. CODA11 automatically detects newly installed meters on the PLC network and maintains the list of active meters. Concentrator is equipped with ports for local communication with meters, as well as for communication with external devices.

## Key features

- PLC (G3-PLC or S-FSK) channel for communication with meters
- GPRS/3G /LTE channel for communication with AMI center
- USB port for communication with an external device
- Ethernet port for communication with AMI center or local access
- RS485 port for local communication with meters and external devices
- RS232 port for communication with an external device
- Plug&Play
- Storing data in permanent memory
- Working with up to 1 024 meters
- Remote monitoring and control of the operation of the concentrator
- Automatic communication with meters by pre-defined schedule
- Communication with meters upon request from AMI center
- Firmware update
- Data security, including encryption
- Visual indication
- Automatic recovery
- Internal Real-Time Clock

# AMI software

HES software for remote AMI system reading, parameterization, and load management



**COMET**  
AMI center software

COMET is advanced AMI software designed for remote reading, parameterization and management of AMI devices: electronic meters, data concentrators and communication modules. AMI functions can be executed automatically, by pre-scheduling, or on operator's request. Depending on the access rights, the operator can create reports, administer complete AMI system and manage work orders for installation and maintenance. COMET processes and stores collected data in database. Complete history of communication with

AMI devices and actions executed by the operator is also stored. COMET supports third-party meters and uses web service interface, DLMS/COSEM and IP protocols to communicate with AMI devices. It also provides web service interface to other business applications, such as MDM, Billing, CRM, SAP, GIS and others. AMI center software consists of web service applications, relation databases and data exchange service. Operators access AMI center software through the web service applications using standard web browsers.

## Key Features

- Administration
- Data collecting
- Data storing
- Parameterization
- Management
- Work orders management
- Reports
- History
- Predefined schedule operation
- On-demand operation
- Interface to AMI devices
- Interface to business applications
- Interoperability
- Security
- Scalability

**Meter&Control d.o.o.**  
Science Technology Park Belgrade  
Veljka Dugoševića 54  
11050 Belgrade  
Serbia

office@meterandcontrol.com  
www.meterandcontrol.com

