Sx401 G3-PLC are three-phase and single-phase smart meters designed for measurement of electrical energy of residential consumers, with integrated G3-PLC modem and switching module for remote reading and power management. Wide range of measurement values including power quality data in combination with large capacity of load profiles makes this meter a key tool for utilities for making insight in overall condition of low voltage network. Robust G3-PLC technology in both CENELEC A and FCC frequency range, combined with IDIS Package 2 compatibility, makes this meter reliable and easy to integrate in existing utility environment. All functions are compliant with the following specifications and standards: IDIS, DLMS/COSEM, IEC 62052-11, IEC 62053-21/22/23, EN 50470-1/3 (MID), ITU G.9903/08-2017 (G3-PLC), and M-Bus.

Key features

- Measurement of electrical values
- Integrated G3-PLC modem and switching device
- Internal real-time clock with DST
- Flexible tariff policy with up to 8 tariffs
- Maximum demand
- 230 V/50 Hz or 110 V/60 Hz supported
- Optical port
- Variety of additional input/output options available on demand (relays, pulse outputs, inputs e.a.)
- MID certificate
- DLMS/COSEM
- IDIS interoperability
- Fraud detection
- No-power reading and parameterization

- Billing profile
- Fraud profile
- Load profiles
- Power limit
- Event logs
- Measurement of energy quality
- Firmware update
- Functional inputs/outputs
- M-Bus port for G, W, H meters reading (Wireless M-Bus on demand)
- Support for in-home customer display
- High level data security
Technical data

Sx401 G3-PLC

Solutions for smart energy management

-40 °C - +80 °C

4 kV, 50 Hz, 1 min

5 (100) A

110-230 V (single-phase)

IEC 62056-21 (physical layer)

IP54, in accordance with IEC 60529

302 x 178 x 81 mm (three-phase)

Accuracy Class

Active energy 0.55, 1 or 2 (C, B or A)
Reactive energy 2 or 3

Nominal and maximum current 5 (100) A

Nominal voltage, \( U_n \)

110-230 V (single-phase)
3x(110-230) (190-400) V (three-phase)

Voltage range 0.8 Un - 1.15 Un

Frequency 50/60 Hz

Optical port IEC 62056-21 (physical layer)
IEC 62056-46 (DLMS) communication protocol

Self-consumption IEC 62053-21/22/23/61

Operational temperature range

-40 °C - +70 °C

Storage temperature range

-40 °C - +80 °C

Insulation AC strength 4 kV, 50 Hz, 1 min

Insulation impulse strength 6 kV, 1/2,1 μs

IP protection level IP54, in accordance with IEC 60529

Dimensions 302 x 178 x 81 mm (three-phase)
216 x 131 x 81 mm (single-phase)

Weight Approx. 1.80 kg (three-phase)
Approx. 0.83 kg (single-phase)

Programmable Tolerance time and Penalty time

Code Red

- Enables synchronous power limiting of groups (large number) of users in case of irregular situation on distribution network (e.g. lack of power)

Data security

- High level data security including authentication and data encryption

Firmware update

- Firmware is separated to Metrology and Application part according to Welmed 7.2, which allows safe update of applicative part of the firmware without need for additional meter verification after firmware update
- Firmware update can be done locally and remotely with no impact on accuracy, parameter configuration or billing data

No-power reading (optional)

- Local reading via display or via optical port in no power condition
- Integrated battery supply

Current terminal block

- For current up to 100 A
- For all types of conductors up to 35 mm²

Compact meter case

- Dimensions and fixing points in accordance with DIN 43857
- High quality, transparent, reinforced, self-extinguishing polycarbonate case
- IP54 protection against water and dust (in accordance with IEC 60529)

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