

Residential electricity meter E120GiME



The E120GiME is the most advanced electricity meter with GPRS communication for the residential metering segment. It offers several ways to read, manage and control energy information. Easy installation and system set-up, reliable operation and communication and care-free maintenance create the perfect solution for different metering needs.

Leading technology

The E120GiME electricity meter has active (class B) and reactive (class 2) measurement and an integrated GPRS communication module with TCP/IP. Its GPRS technology is reliable and excellent for point-to-point services. E120GiME can also act as a communication gateway to other meters, providing a cost efficient solution and point-to-point advantages in point-to-multipoint locations. E120GiME can handle communication for up to 48 E120iME meters. Local communication between E120GiME and E120iME devices is via wireless technology so there is no need for extra wiring.

Easy deployment

The E120GiME is easy and fast to install. The meter guides the installation and informs clearly if something is incorrect. The device has an internal GSM antenna, which speeds up installation. An external antenna can be added later, if needed, without removing the meter's seals. With AIM Site Manager application

you can automate and organise the installation process and minimise human error both in the system and out in the field. A PDA application can also be used to locally read meters and change meter S0 and M-Bus register configuration at the installation site.

Reliable operation

After the meter has been installed and the location has sufficient GSM coverage, the E120GiME is easy to connect to an advanced metering system, like Landis+Gyr AIM. E120GiME provides real-time power cut information to the system for better customer service and statistics. The meter's versatile registers and logs record metering data and events, like configuration, voltage levels and relay status changes etc. and they are available from the system. E120GiME does not only gather electricity metering information. The S0 and M-Bus inputs can be used to gather metering values to the system from other sources, like gas, water or district heating meters. E120GiME meter's several relay options also suit many installation locations and serve many different control purposes.

E120GiME Technical specification

Accuracy Class

- Class B for active (kWh)
- Class 2 for reactive energy (kvarh)

Metrological Requirements

- In accordance with EN 50470-1, EN 50470-3 and 2004/22/EC (MID)

Method of Measurement

- VLSI-ASIC (A/D-conversion and digital signal processing)

Voltage

- $U_n = 3 \times 230/400 \text{ V}$
- $U_n = 3 \times 230 \text{ V}$
- $U_n = 1 \times 230 \text{ V}$
- Measuring range: -20 % to +15 % U_n

Current

- Current $I_{ref} = 5 \text{ A}$ or 10 A
- Maximum current $I_{max} = 85 \text{ A}$
- Starting current: (0.4) % of I_{ref} ($\leq 20 \text{ mA}$)
- Thermal current $I_{th} = 100 \text{ A}$

Frequency

- 50 Hz $\pm 1 \text{ Hz}$
- Power Consumption in voltage circuit
- 2,5 VA and 0,5 W (including metering and application mod.)

Power Consumption in current circuit

- 0,01 VA

S0 input

- In accordance with IEC62053-31, Class A
- Isolation voltage test 4 kV rms
- Impulse voltage test 6 kV

M-Bus master

- According to EN13757-2
- can handle 4 M-Bus devices
- Max. distance between master and slave 350 m

Load control relay output

- Mechanical change-over relay output, 230 V, 6 A

Service relay output

- Semiconductor (230V, 100 mA) or mechanical (230V, 5 A) relay output

Communication

- integrated GSM module
- GPRS, TCP/IP, SMS
- Wireless local communication (2.4 GHz)

Real-time clock

Normal operation

- Clock accuracy: $\pm 0.2 \text{ s / day}$ (at $+23^\circ \text{ C}$) (EN62054-21 Particular requirements for time switches: 0,5 s)

Reserve running

- Accuracy: $< 1 \text{ s / day}$ (at $+23^\circ \text{ C}$)
- Power back-up: super capacitor 14 days (over product life time)

Overvoltage protection

- 12 kV (metering core) / SP1618
- 4 kV AC voltage test
- 6 kV 1.2 $\mu\text{s}/50 \mu\text{s}$ impulse voltage test

Meter constant (yellow LED indicator)

- 10 000 imp/kWh

LCD display

- 8 digits
- Cumulative values alternate on display

Temperature ranges

- Operating $-40 \dots +70^\circ \text{ C}$
- LCD operating $-20 \dots +55^\circ \text{ C}$
- GSM operating $-25 \dots +55^\circ \text{ C}$

Case

- According to DIN 43857 and DIN 43859
- IP51 / IP20 (terminal block and terminal cover)

Weight

- 1.4 kg

Register structure

- 2 configurable cumulative profiles for electricity
- 4 configurable tariff registers
- 1 register for S0 reading data
- Power cut log, power quality log and alarm & event log
- 4 lifetime cumulative values for electricity (verification purposes)
- 6 registers for M-Bus data

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