

## Data sheet A1EM.MID

### Acquisition of electric field data for accounting

#### Product description

The A1EM.MID series are intelligent IoT-devices that collect consumption values of electric energy and communicate the information as digital field data. The acquisition of the data conforms to MID standards. The devices are accredited for accounting by the manufacturer. The components may be used e.g. for invoicing.

Different variants of the A1EM.MID series detect energy consumption directly on one or three phases or indirectly using current transformers, if current exceeds 100A per phase.

All variants come with a control display that allows the user to control the data on-site.



#### Application

- cross-checking of the invoicing of the energy supplier
- collection of individual energy consumption data of rented parts of a building
- remote reading and accounting of energy consumption on single camp sites, apartment buildings, market spaces and marinas

#### Features

- acquisition of active and reactive power
- bidirectional (in- and output) energy meter with parted pricing
- detection of power quality parameters
- LCD display with background light

#### Technical data

| model                                       | 3-phase direct measurement | 3-phase with current transformer | 1-phase direct measurement | 1-phase direct measurement |
|---|----------------------------|----------------------------------|----------------------------|----------------------------|
| operating voltage                           | 3x230V / 400V              |                                  |                            |                            |
| insulation voltage AC / impuls              | 4kV1min / 6kV1.2μs         |                                  |                            |                            |
| maximal current per phase                   | 100A                       | 6A                               | 45A                        | 100A                       |
| operating frequency AC                      | 45-60Hz                    |                                  |                            |                            |
| self consumption per phase                  | <2W / ≤10VA                |                                  |                            |                            |
| operating temperature                       | -40°C to +70°C             | -25°C to +70°C                   | -25°C to +55°C             |                            |
| protection class                            | IP51                       |                                  |                            |                            |
| max. line diameter                          | 35mm <sup>2</sup>          |                                  |                            |                            |
| accuracy class                              | B (=1% accuracy)           |                                  |                            |                            |
| accreditation / calibration validity period | MID / 8 years              |                                  |                            |                            |
| order ID                                    | A1EM.MID.3.100.01          | A1EM.MID.3.100.02                | A1EM.MID.1.45.01           | A1EM.MID.3.100.01          |

## Acquisition of electric field data for accounting

The A1EM.MID series detect consumption values of current circuits on one or three phases in home cabinets and transform the information to IoT data. The digitalized data is collected by a 4.0 Gateway A1GW and online transferred to its server. There it is accessible for manual or automatic accounting.

A1EM.MID allows accurate and MID-conform invoicing of power consumption. Meter readings and energy information of the single circuits are accessible via smart phone, tablet or PC to be read remotely and in real-time. In case of values exceeding predefined thresholds or specific meter readings alert messages may be sent to the user or concerned circuits may be shut down. Using these features precedent as well as subsequent payment services may easily processed using accurately timed and recorded consumption data. Energy thefts and manipulation are noticed right away, the status of the automatic cut-outs (e.g. in case of failure reports by the user) is always present and allows an efficient staff assignment. Transparency concerning invoicing and shorter latencies during login and logoff are some of the advantages for the customer.



## exemplary application scheme

