



# CTI ENERGY METERING BOX DATA SHEET

Connected Things Integrator



ERLEBEN, WAS VERBINDET.

# Energy Metering Box OVERVIEW

Connected Things Integrator

## Energy Consumer

consumes electricity (230V)



## Energy Metering Box

Measures energy,  
temperature and humidity



## Mobile Network

Mobile transfer of the  
collected data to the central  
cloud storage



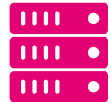
## Cloud of Things

Storage, processing and  
evaluation of the recorded  
consumption data



## Enterprise Systems

Providing the data for  
ERP/CRM systems via  
interfaces, e.g. for billing or  
project plans



The path to the digitized energy metering and more

# CTI ENERGY METERING BOX DATA SHEET



## FEATURES

- Measurements
  - Energy consumption (Wh).
  - Temperature ( $^{\circ}$ C) and humidity (%).
  - Geo position via mobile cell information.Data buffer in case of missing connectivity.  
Configurable upload interval, at least 10s.
- Remote Control
  - Firmware OTA update.
  - Configuration.
  - Restart.
  - Log file upload.Configurable remote operation fetch interval, at least 10s.
- Mobile network connectivity.
- LED status indicators.
- Battery buffering.
- Customizable housing and cable length.

# CTI ENERGY METERING BOX DATA SHEET

## SENSORS AND INTERFACES

- Single-phase meter S0 connector.
- Temperature/humidity sensor.
- I<sup>2</sup>C bus, extendable via I<sup>2</sup>C post connector.
- SPI.
- UART.
- Digital In.
- NFC tag.

## CONNECTIVITY

- 2G Modem.
- Bluetooth 4.2.

## PHYSICAL SPECIFICATION

- |                                  |   |
|----------------------------------|---|
| ▪ Housing size                   | 120 x 80 x 85mm   |
| ▪ Mass                           | 1.5kg incl. 4m cable (cable length customizable)                                |
| ▪ Protection class               | IP44  |
| ▪ Nominal voltage                | 230V ~ 50Hz   |
| ▪ Max. load                      | 3500W (230V ~ 16A)  |
| ▪ Class accuracy active energy   | Cl. B according to EN 50470-1, -3   |
| ▪ Measuring accuracy humidity    | ±2 %RH  |
| ▪ Measuring accuracy temperature | ±0.2°C  |
| ▪ Power consumption              | < 5W  |
| ▪ Operation temperature          | -20°C to +40°C  |
| ▪ Storage temperature            | -20°C to +45°C<br>0°C to +30°C recommended when stored longer than 3 months     |
| ▪ Humidity                       | max. 80%, not condensing, according to IEC 62052-11, EN 50470-1, IEC 60068-2-30 |
| ▪ Battery                        | 550mAh, rechargeable  |
| ▪ Attachment                     | Magnetic holder   |

# CTI ENERGY METERING BOX DATA SHEET

## HARDWARE COMPONENTS

▪ Circuit breaker incl. plug type F (CEE 7/4)	Brennenstuhl BDI S 2 30
▪ Single-phase meter	Eastron SDM120A (MID certified)
▪ Battery	Renata ICP622540PCT-04
▪ Power supply	MeanWell IRM-10-5
▪ NFC tag	-
▪ Power LED	-
▪ Status LED	-
▪ MCU	Microchip DSPIC33EP256GP504-I/ML
▪ F-RAM	Cypress FM25CL64B 64Kbit
▪ NOR Flash	Winbond W25Q128JVFIQ 16MB
▪ MFF SIM	MFF2_SIM_CARD QFN8
▪ GSM Modem	ublox SARA-G350
▪ GSM Antenna	-
▪ Battery connector	-
▪ I <sup>2</sup> C connector	-
▪ BLE chip	Telit BlueMod+S42

# CTI ENERGY METERING BOX DATA SHEET

## CE CERTIFICATE

- Compliant with these EU directives:
  - Health EN 62311:2008; Council Recommendation 1999/519/EC; MPE Calculation
  - Safety EN 62368:2014/AC:2015
  - EMV EN 301 489-1 V2.1.1
  - EN 301 489-17 V3.1.1
  - EN 301-489-52 V1.1.0
  - RF EN 301 511 V12.5.1
  - EN 300 328 V2.1.1
  - 2014/53/EU, 2004/32/EG, 2009/125/EG, 2011/65/EU
- Conformity with the above directives is confirmed by the CE mark on the box:

