



# LVM110 LoRa Voltage Meter

LVM110 is a compact device used to monitor and report voltage levels in the range of 8-30V DC over a LoRaWAN network. The LVM110 device itself has very low power consumption making it possible to power the LVM110 by the same source which is being monitored. In addition to supply voltage also air temperature and relative humidity is reported.

Target usage includes monitoring vehicle batteries during storage, supervision of stand-by chargers as well as general purpose supervision of battery power equipment.

## TECHNICAL DATA

### Supply Voltage

- Connector: Würth WR-TBL Series 3175
- Voltage range: DC 8 to 30V
- Report format: Resolution 1mV, typical accuracy +/- 10mV
- Protection: Reverse polarity, overvoltage (more than 100V DC)
- Input Current: Less than 0.17mA at 12V DC, less than 0.24mA at 24V DC

### Environmental Sensor

- Temperature: Typical accuracy +/- 0.2° C
- Humidity: Typical accuracy +/- 2%

### LORAWAN

- Frequency: 868MHz (EU868 region) version 1.0.2
- Output power: 14dBm
- Antenna: Built-In
- Activation mode: OTAA (Over The Air Activation), ABP available as special ordering options
- Security: Hardware crypto co-processor for secure key storage. Encrypted FW.
- Report interval: 15 minutes by default (configurable via LoRaWAN downlink).

### MECHANICAL

- Dimensions: 91 mm x 43 mm
- Mounting method: Screws or clips using enclosure flanges or tape

### ENVIRONMENTAL

- Operating Temperature: -30C to +55C
- Operating humidity: Max 95% RH (non-condensing)
- Usage class: External weather proofing required, pollution degree 2
- Storage Temperature: -40C to +85C
- Altitude: 0 to 2000m

### EU DECLARATION OF CONFORMITY

LVM110 conforms to the following harmonized standards:

- EMC 2014/30/EU (SS-EN 55032:2015, SS-EN IEC 61000-6 -1 -2 -3 -4)
- LVD 2014/35/EU (IEC 62368-1:2018)
- RED 2014/53/EU (EN 300 220-1, EN 300 220-2, EN 301 489-1, EN 301 489-3, EN 18031)
- RoHS 2002/95/EG