

VT Sensor – TV Module

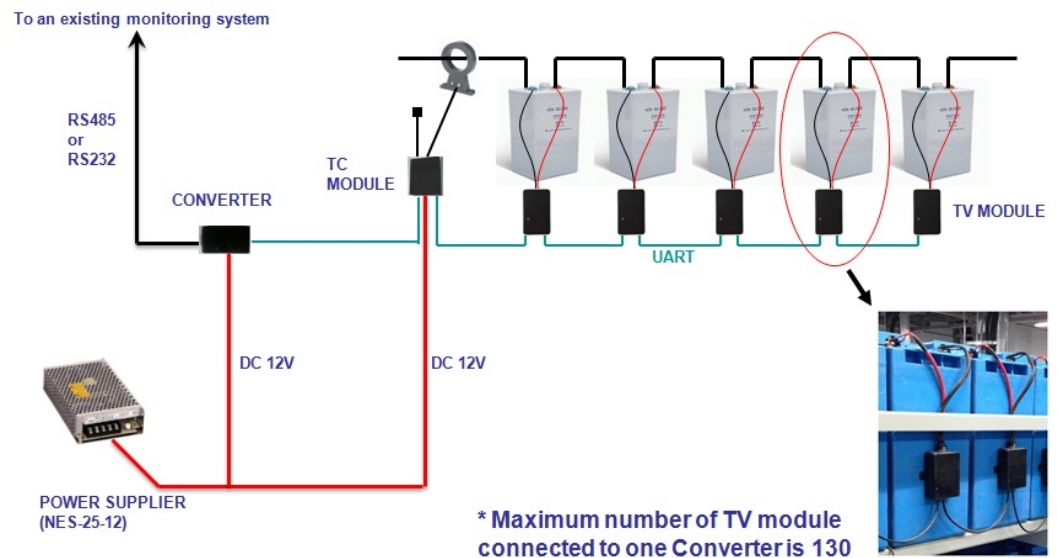
Voltage and Temperature Measurements

- Continuous 24/7 on-line monitoring
- One TV module monitors one cell, including voltage and temperature
- Serial port with Optical isolation, meet MODBUS protocol, easy to be accessed by an existing monitoring system
- Easy to install without specialized training



Overview

The TV Module is designed specifically as a sensor integrated into an existing monitoring system. It monitors voltage and temperature for one battery, uploading the data via its serial port with optical isolation as well. The module can be pasted on the monitored battery's case directly or mounted on an additional rail.



The TV module only with a UART port, the Converter is required to transfer it to a RS485 or RS232 bus to access to an existing monitoring system. TC module is optional for monitoring string current and ambient temperature.

Features

- Full battery temperature and voltage monitoring for comprehensive battery state of health analysis
- String current and ambient temperature monitoring (need TC module)
- All operating parameters can be set over through serial bus
- Supports MODBUS protocol with a RS485 or RS232 port (need Converter)
- Debug software is available

Specifications

Environmental

Operating temperature: $-5^{\circ}\text{C} \sim 50^{\circ}\text{C}$, $5\% \sim 90\% \text{RH}$

Storage temperature: $-10^{\circ}\text{C} \sim 70^{\circ}\text{C}$, $5\% \sim 90\% \text{RH}$

Used for

2V, 6V or 12V battery

Power Requirements

TV module : powered from the battery , less than 12mA(2V) or 4mA(12V)

TC module : DC8 ~ 13V, 2W

Converter: DC8 ~ 13V, 0.3W

Protection

Test load and power paths are fused

Measurement Range & Accuracy

Cell voltage : $1.5 \sim 2.5\text{V}$, $\pm(0.1\%+1\text{mV})$

$9 \sim 15\text{V}$, $\pm(0.1\%+10\text{mV})$

Battery temperature : $5^{\circ}\text{C} \sim 70^{\circ}\text{C}$, $\pm 1.5^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \sim +70^{\circ}\text{C}$, $\pm 0.5^{\circ}\text{C}$

String current : $0 \sim 500\text{A}$,

$\pm 2\%$ (Full scale)

Communications Interfaces

TV module : UART port, meet MODBUS protocol

TC module : UART port, meet MODBUS protocol

Converter: RS485 or RS232, meet MODBUS protocol, one Converter can drives up to 130 modules

Insulation

2000VAC

Installation

Paste on battery or rail mounting

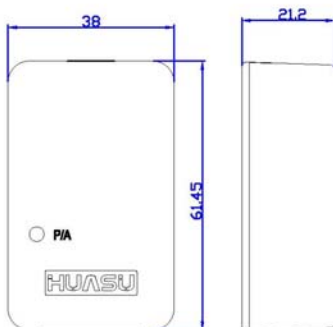
Weight

TV module: 50g

TC module: 260g

Converter: 40g

Dimensions



(Unit: mm)

Applications

- UPS
- Telecommunications
- Battery supplied applications
- Utilities
- Fire & Safety system
- Remote monitoring

Options

1. TC Module
Monitors string current and ambient temperature.
2. Power Supplier
Outputs 12V DC for Converter and TC Module



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