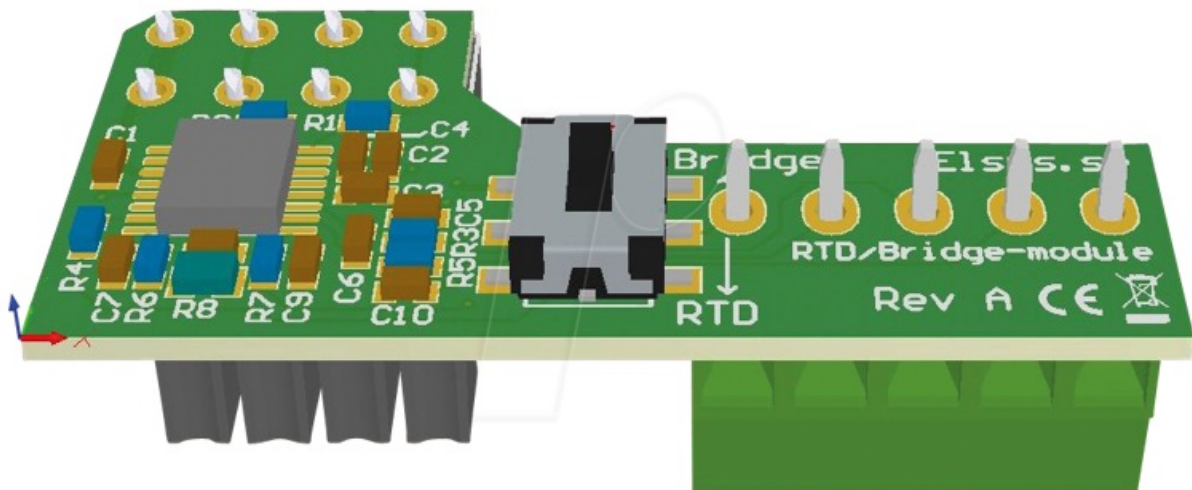


ELSYS ELT2 ADC Module Instructions

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Technical manual
ADC Module
Published: 15 January 2024

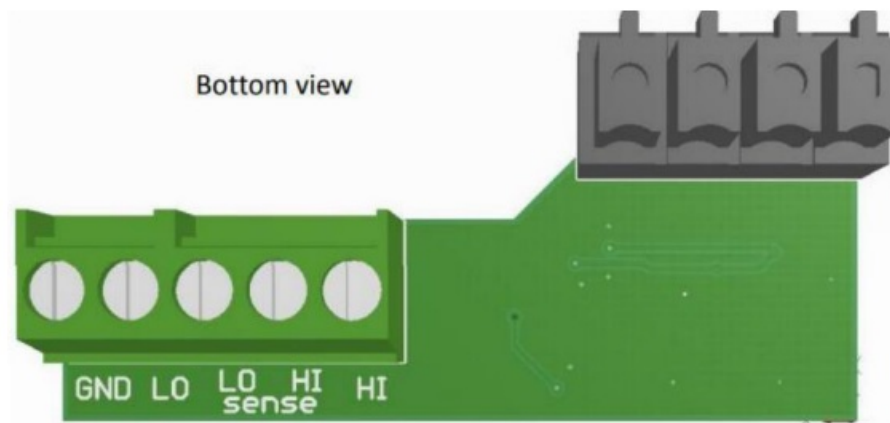
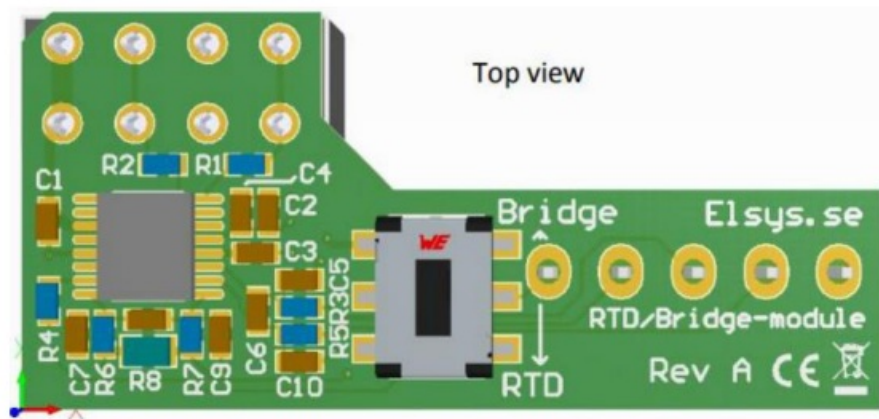
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ELT2 ADC Module

The ADC-module is a module that fits inside the ELT2 and is intended for connecting PT1000 platinum sensors or use as a general purpose bridge amplifier (e.g. load cell).

Features



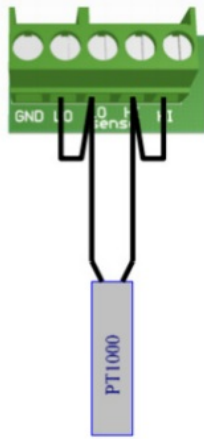
- Easy use with PT-1000 (RTD platinum sensor)
- 2- or 4-wire connection
- Measures -200 to 790 °C
- General high resolution bridge amplifier
- Fits inside the ELT-2 box
- Powered by the ELT-2 internal battery
- Very low energy consumption
- Terminal block for easy connection

Accuracy (RTD)

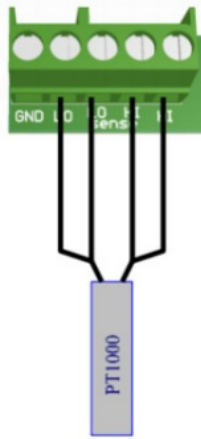
$\pm 0.1\text{ }^{\circ}\text{C}$ (-40 to 200°C) + sensor deviation.

$\pm 0.5\text{ }^{\circ}\text{C}$ (full span) + sensor deviation.

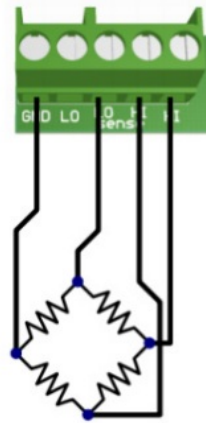
2-wire RTD connection



4-wire RTD connection



Bridge connection



Using the ADC module with a PT1000 RTD

- Set the switch on the module to “RTD”
- Set external sensor in the ELT2 to “PT1000”
- Read temperature value in degrees Celsius with data type “External temperature” (0x0C)

Using the ADC module with a load cell/measurement bridge

- Set the switch on the module to “Bridge”
- Set external sensor in the ELT2 to “Load cell”
- Read voltage from measurement in micro-volt with data type “External analog (uV)” (0x1B)
- To calculate deflexion of a load cell, also read internal battery voltage (0x07), multiply the 2 voltage measurements to get a value that can be compared to the load cell full scale output.

Calculation example for load cell:

- Load cell full scale is 2 mV/V @ 50 kg
- External analog reads 1274 uV from payload (0x1B)
- Internal battery reads 3628 mV from payload (0x07)

Full scale voltage is calculated to $2\text{mV/V} \times 3628\text{ mV} = 7256\text{ uV}$

Bridge voltage is then $1274/7256$ of full scale, thus weight is $1274/7256 \times 50\text{ kg} = 8,78\text{ kg}$.

Note that maximum reading from ADC module is $\pm 28,000\text{ uV}$ ($\pm 28\text{ mV}$)

Address

Tvistevägen 48 90736 Umeå Sweden

Webpage

www.elsys.se

www.elsys.se/shop

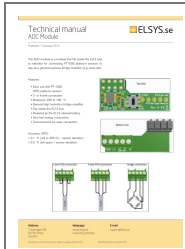
E-mail

support@elsys.se



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Documents / Resources



[ELSYS ELT2 ADC Module](#) [pdf] Instructions
ELT2 ADC Module, ELT2, ADC Module, Module

References

- [ELSYS Shop](#)
- [User Manual](#)

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