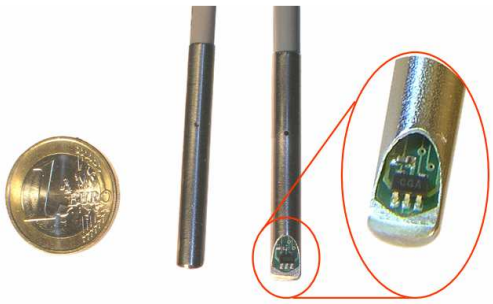
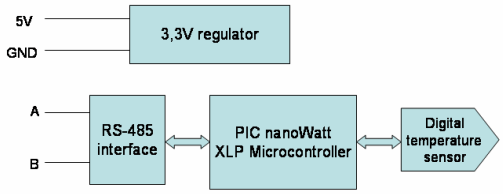
**Digital temperature sensor with MODBUS interface !**

Betio TSEN-485 is a miniaturized digital temperature sensor suited for a temperature range between -40°C and 125°C. It is equipped with a serial RS-485 interface, which implements a subset of the widely used standardized MODBUS protocol. The sensor comes in a tiny and robust stainless steel case.

The BETIO sensor provides an accuracy of typically ±0,5°C without the need for calibration The bus interface makes it simple to connect and operate a multitude of sensors by a single MODBUS bus master without any additional analog hardware.

Thus, the BETIO sensor provides a cost-effective and easy to use solution for temperature measurement for a variety of applications.






## Application Areas:

- Solar energy systems
- Heating/Cooling systems
- Industrial Process control
- Environmental data monitoring

## Main features:

- Operating range: -40°C….125°C
- Accuracy: ±0,5°C typ.
- Supply voltage: 5V ±10%
- Power dissipation:
- Interface: RS-485
- Data rate: 9600 bps
- Protocol: MODBUS RTU

## Enclosure and cable:

- Stainless steel
- Dimensions: 42mm x 6mm dia.
- Weight: ca.
- 4-wire shielded, length 1,5m
  (Longer cables on request)
- Connector: USB Mini-B
  (Other connectors on request)

## Product description:

The BETIO TSEN-485 sensor contains a complete temperature measurement system comprising of bus interface, microcontroller, supply voltage regulator and 10-bit digital temperature sensor on a miniaturized electronic circuit board fitted into a stainless steel case of merely 6mm diameter. It comes with a 4-wire cable for supply and bus interface, which can be connected to any standard 5V source and RS-485 serial interface. Each sensor can be given a unique identification number and application descriptor in order to guaranty the correct assignment of measured data. The communication protocol is compatible to the MODBUS standard. Depending on the overall cable length, up to some dozen of sensors may be used by simply connecting together the lines of all sensors. No extra signal conditioning and digitizing hardware is required ! Thus, the BETIO sensor concept saves cost and reduces wiring harness compared to measurement systems using conventional Pt100/Pt1000 sensors !