Operational Instruction Temperature Sensor AKKUTEC

MTIA – L33G5M01

This unit may only be installed, set up and serviced by trained electrical staff! Read these operating instructions before installing or using the unit and follow the directions given in them. Failure to do so may void the guarantee!

⚠ Safety regulations

- **The sensor has class IP20 protection, the operation is only allowed in dry rooms!**
- **Ventilation openings must not be covered or blocked**
- **The connection and disconnection of electrical lines is only permitted in zero potential state!**

General note for recharge of lead accumulators

Lead-acid batteries exhibit a temperature coefficient of approx.- 3mV per °C temperature rise and cell during standby parallel operation. For applications that are subject to strongly fluctuating or very low temperatures (0-15° C), the charging voltage should therefore be tracked accordingly to ensure sufficient charging of the batteries or to avoid overcharging. (Battery life!)
According to the ambient temperature fluctuation, the charging end voltage of the AKKUTEC is then varied in a range of 27.9 - 26.2 V DC.

☞ **To obtain a satisfactorily battery life span, the temperature of the battery should exceed 20°C permanently. Higher temperatures cause dramatic reduction of the life span !**

Scope of delivery

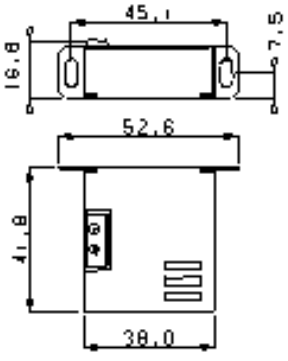
Temperature sensor

Retaining bracket

Tensioning strap

Tension clamp

2 self-tapping screws



Befestigungslochdurchmesser: 3,5mm

Installation at the battery bracket AKKU*TEC*

The temperature sensor is attached to the mounting holes provided on the retaining bracket of the AKKUTEC battery holder using the two self-tapping screws supplied. In order to achieve the maximum measuring accuracy, the best possible thermal contact between the battery surface and the underside of the sensor must be ensured (see Fig. 1). An exact adjustment is given by the slotted holes of the sensor module.
The ventilation openings of the sensor must not be covered or blocked.

Installation at an external battery

Install the sensor on the retaining bracket (U-profile) using the enclosed self-tapping screws. The retaining bracket is fixed to the battery with the enclosed tensioning strap and the tensioning clamp. The tensioning strap is guided through the elongated holes provided in the retaining bracket (see Fig. 2). Then guide the tensioning strap through the tensioning clamp (see Fig. 3). The tension clamp enables the temperature sensor to be held securely by tightening the tension band.
The ventilation openings of the sensor must not be covered or blocked, the installation position is arbitrary.

Connection

Terminal 1 and 2 of the temperature sensor are connected to terminal IO-1 (connection 1 and 2) of the **AKKU***TEC*. The polarity of the connection cable is arbitrary.
A maximum cable length of 5m must be observed.
The cable cross section should be 0,5mm².

⚠ Before switching on for the first time, check the correctness of the connections at **AKKU***TEC* (IO – 1) !

Commissioning

The temperature sensor is automatically recognized by the AKKUTEC after switching on the mains and the charging voltage is adjusted according to the temperature. An additional parameterization or the actuation of a device switch is not necessary.

Decommissioning

The temperature sensor is decommissioned by switching off the AKKUTEC. (see operating manual of the charging rectifier)

Maintenance

There are no user-serviceable components in the device. In the event of a fault, the device must be sent to the supplier. The sensor must be cleaned at least one time per year depending on the degree of pollution.

MTIA

Temperature sensor

Technical Data

Operation Data	
Supply voltage range	7,2 - 30V DC (SELV)
Accuracy (typ.)	± 2° C
Conversion ratio Temperature/ctrom	0 - 50°C → 4 - 20 mA
Operation temperature range	0 - 60°C
Storage temperature range	0 - 70°C
Safety	
Electrical	VDE 0805 / EN 60950 / IEC950 VDE 0160 / EN50178
Protective class	III
Protective system	IP20
EMC / CE-certification	
Radio interference suppression	EN55011, limit value class B
Interference immunity	EN 50082-2

Pictures of assembly variants:

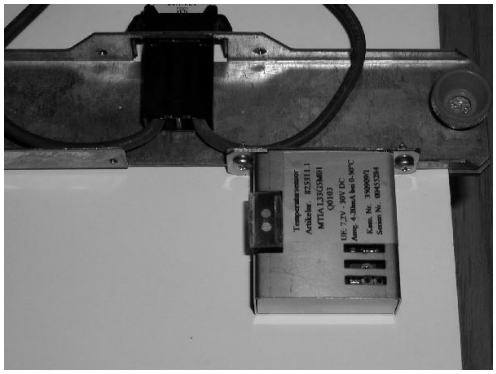


Fig. 1: installation at the battery holder **AKKU**TEC

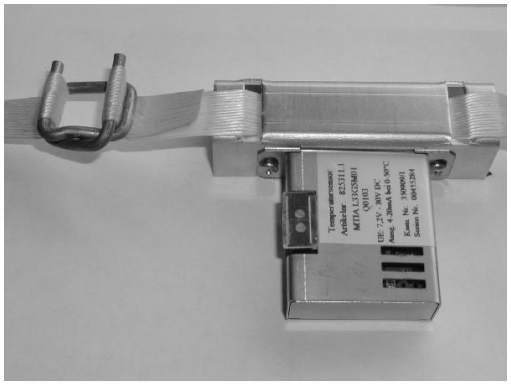


Fig. 2 installation at an external battery

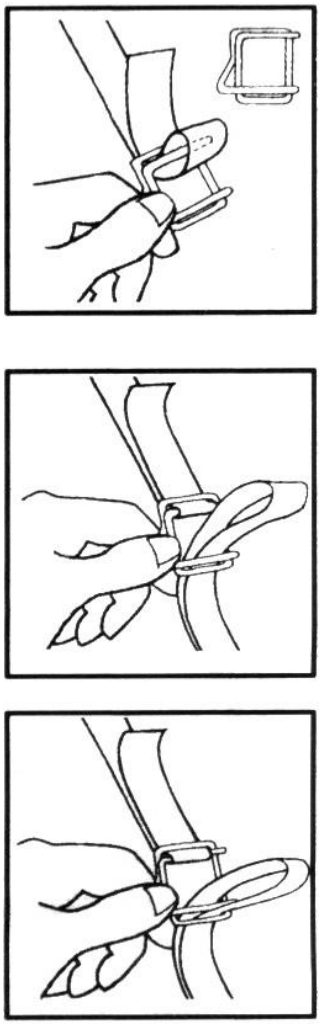


Fig 3