G4N02TMP

GPS4NET

Temperature & Humidity sensor with CAN interface

Product Overview:

G4N02TMP is an advanced digital sensor for temperature and humidity measurement designed to work inside the climatic controlled containers. This product is responding to various demands specific for transport of vegetables, food & beverage, or pharmaceutics.

This device was designed for automotive industry being protected against corrosion, humidity, static electricity, thermal shocks and over-voltage.

The product is provided in two version, one basic temperature sensor and another with a fully calibrated temperature/humidity sensor. The second version of the product is extending the application range, thus responding to specific requirements of the markets where is mandatory to control the temperature against the humidity.

The CANbus interface integrated into the device is not compatible with the CANbus of vehicles or utilities. The product has been designed to be connected to CAN-FMS acquisition interfaces, independent of the vehicle's CANbus.

According to the CANbus standard it is possible to create a network of sensors and install it into several climatic controlled container or to measure in several points the temperature for a higher accuracy. The information is sent over CANbus in a format simulating the CAN J1939 message protocol.

The information of temperature and humidity is generated by three algorithms handling the data processing and transmission of CAN messages:

- Instantaneous acquisition of measured temperature / humidity values and data transmission at each second.

- Average temperature / humidity values for a determined preset time interval. The time interval is set with a dedicated CAN message (command) sent by the acquisition interface.

- Alarm triggered messages transmitted when the temperature or humidity is passing a preset threshold value. Once the temperature / humidity drops bellow the threshold value a message is sent, marking the ending moment of the alarm state. The minimum and maximum threshold values are configurable with dedicated CAN commands.

Technical Specifications:

- Small size 35x35x15 mm
- 1 CAN 2.0b interface, Extended Frames 29bit ID, Transmission speed 250kbps
- Power supply: 8 - 32 V. Dc.

Temperature Sensor:

- Sensitivity Range -40..100°C
- Accuracy -10..10°C ±0.5°C, -40..100°C ±1°C (max.)
- Resolution 0.005°C
- 1 calibration point

Humidity Sensor:

- Sensitivity Range 0..100 %RH
- Accuracy 20..80 %RH ±3, 0..20~80..100 %RH ±4 (max.)
- Resolution 12 bit
- Maximum precision RH ~ 25°C