

G4N03RHT

Temperature & Humidity sensor with CAN-bus or K-line



KEY FEATURES

- High accuracy, adjustable timebased digital processing
- Calibrated digital sensor
- Remote configuration
- Output data via CAN-bus or K-line interface
- Integrated high-accuracy RH sensor
- Alarms triggered by I/O state
- Real-time temperature alarm
- Pull-down Output for triggering siren
- Input for door switch alarm
- Programmable alarm's behavior

Product overview:

G4N03RHT is an affordable programmable ambient temperature and humidity transmitter designed mainly for automotive industry to perform inside the climatic controlled containers. The product combines the internal temperature and RH sensors with optional external channels for either voltage inputs or door switch for recording parameters. This product responds to various demands of real-time metering specific for the transport of vegetables, food & beverage, pharmaceuticals or for the IoT industrial automation.

The humidity and temperature sensors are factory-calibrated. This ensures that the sensors are fully interchangeable, with no recalibration or software changes required. The sensor have a linear low typical error over a wide temperature range, thus having a constant and repetitive reading and providing a wider precision range than the thermistor sensors.

According to the CAN-bus 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 CAN-bus in a format simulating the SAE J1939 message protocol.

Hardware Features:

- The device is available in 2 versions CAN-bus that emulate J1939 and K-Line.
- A bi-colored LED which indicates the presence of data over the bus and power-on.
- The data interface is connectable directly in any recording interface or telematic unit.
- Multiple sensors can be connected in parallel on the bus.
- The CAN output interface can communicate to a distance to over 100m @250Kbps.
- The I/O can be turned in a pull-down output with the help of an internal jumper.

Software Features:

- Instantaneous acquisition and transmission of measured temperature and humidity at preset time resolution above 1 second.
- Average temperature and humidity values for a determined preset time interval.
- Alarm triggered messages transmitted when the temperature or humidity is passing a preset threshold values for high or low.
- Full setup, time interval, the minimum and maximum threshold for alarm values are set with dedicated CAN messages (commands) sent by the telematic unit.
- The Input pin can act like a Boolean channel for door switches or alarm contacts that can trigger an alarm state and also to command the Output pin to trigger a siren.

Technical Parameters:

- Power input +5 .. 36 Vdc
- Power consume <1mA @12V, <0.8mA @24V
- Over-voltage protection
- Enclosure size 50x35x15 mm
- Humidity & corrosion protection
- 1 LED - data traffic & power
- 1 Analog Input, 8 bit, max. 39V
- 1 I/O, Pull-Down output
- Reading Rate: 1..600 second

Temperature Sensor:

- Sensitivity Range -40..125°C
- Accuracy -10..85°C ±0.4°C (max.), -40...-10 / 85..125°C ±1°C (max.)
- Thermal drift 0..85°C ±0.1°C, -40...0 / 85..125°C ±0.2°C (max.)
- Resolution 14bits

Humidity Sensor:

- Operating Range 0..100 %RH
- Accuracy 0..80 %RH ±3 (max.), 80..100 %RH ±4.5 (max.)
- Resolution 12 bit
- Drift vs. Temperature 0.05 %RH/°C

CAN-bus Interface:

- CAN-bus speed rate: 250 kbps
- Compatible with CAN 2.0B
- Extended frame format only

K-Line Interface:

- Speed rate: 9600 bps, 8,n,1
- Multinode protocol