

## TCO20

## Data logger for Humidity, Temperature, Air Pressure and CO<sub>2</sub>

The TCO20 facilitates exact and professional recordings for climatic measurements of humidity, temperature, air pressure and CO<sub>2</sub> concentration. The TCO20 is ideally suited for monitoring indoor climate and control of all climate-sensitive production processes. The long battery life and large memory allow for continuous data recording over long periods of time. The configuration of the data logger and the evaluation of the measurement data are simple and straightforward using SmartGraph3 software, which is included in the scope of supply. The built-in Ethernet interface makes the TCO20 Network capable, and ensures maximum reliability in data transmission. Visual / acoustical alarm, a convenient one-button operation and the recording of MIN / MAX / AVG values are more powerful features of TCO20.

For various requirements in the application, the three models **THI**, **THIP** and **TCO** are available.



**TCO20 THI**

### Typical Applications

museums and exhibition spaces  
clean rooms  
warehouses  
electronic-data-processing centres  
calibration laboratories

### Features

large data memory  
large format display  
USB and Ethernet interface  
network-capable  
powerful software for data analysis

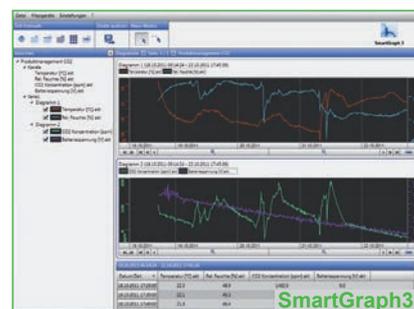
| Measurement Categories                           | Model     |           |            |
|--|-----------|-----------|------------|
|  | THI       | THIP      | TCO        |
| Temperature (air)                                | 4         | 4         | 4          |
| Relative humidity                                | 4         | 4         | 4          |
| Absolute humidity                                | 4         | 4         | 4          |
| Dew point temperature                            | 4         | 4         | 4          |
| Barometric air pressure                          |           | 4         |            |
| Relative air pressure                            |           | 4         |            |
| CO <sub>2</sub> Concentration                    |           |           | 4          |
| <b>Functions</b>                                 |           |           |            |
| Power supply battery                             | 4         | 4         | 4          |
| Power supply USB                                 | 4         | 4         | 4          |
| Power supply LAN (PoE)                           | optional  | optional  | optional   |
| Measured data storage                            | 3,200,000 | 3,200,000 | 3,200,000  |
| Typical battery life                             | > 1 year  | > 1 year  | > 4 months |
| LC-display                                       | 4         | 4         | 4          |
| One-button operation                             | 4         | 4         | 4          |
| 1-point calibration by operator                  | 4         | 4         | 4          |
| °C/°F switchable                                 | 4         | 4         | 4          |
| Optical / acoustical alarm                       | 4         | 4         | 4          |
| Date / time                                      | 4         | 4         | 4          |
| Records MIN/MAX/AVG                              | 4         | 4         | 4          |
| SmartGraph3 evaluation software                  | 4         | 4         | 4          |
| <b>Functions Software SmartGraph3</b>            |           |           |            |
| Graphical representation                         | 4         | 4         | 4          |
| Numerical data (measured value display)          | 4         | 4         | 4          |
| Print function                                   | 4         | 4         | 4          |
| Export function for measured values (e.g. Excel) | 4         | 4         | 4          |
| Gathered printouts of all measurement sites      | 4         | 4         | 4          |
| User administration                              | 4         | 4         | 4          |
| Administration of up to 255 data logger          | 4         | 4         | 4          |



**TCO20 THIP**



**TCO20 TCO**



**TCO 20**

## Technical Data

### General

|                            |  |                            |           |
|----------------------------|--|----------------------------|-----------|
| Dimensions                 | length 166 mm, width 78 mm, depth 32 mm  |                            |           |
| Housing / protection class | plastic ABS / IP40   |                            |           |
| Battery lifetime           | THI, THIP:   | > 1 year                   |           |
|                            | TCO:   | > 4 months                 |           |
| Data storage               | 16 MB, 3,200,000 measured values   |                            |           |
| LC-Display                 | size 90x64 mm  |                            |           |
| Weight                     | approx. 250g   |                            |           |
| Interface                  | USB, LAN (Ethernet)  |                            |           |
| Measurement rate           | 10/30s, 1/10/12/15/30min, 1/3/6/12/24h   |                            |           |
| Storage rate               | 1/10/12/15/30min, 1/3/6/12/24h   |                            |           |
| Power supply               | Battery 4 x LRG AA Mignon or USB,<br>optionally the power supply via PoE (Power over Ethernet) is possible |                            |           |
| Working range              | Temperature:   | -20...50°C (-4...120°F)    |           |
|                            | Humidity:  | 0...95%RH (non condensing) |           |
| CE compatibility according | EN61000-6-2  | EN55022                    | <b>CE</b> |
|                            | EN6100-4-2 bis EN6100-4-6  |                            |           |

### Measurements

#### Relative Humidity

|                   |            |
|-------------------|------------|
| Sensor            | capacitive |
| Measurement range | 10...95%RH |
| Accuracy          | ±2%RH      |
| Resolution        | 0.5%RH     |

#### Temperature

|                   |   |
|-------------------|---|
| Sensor            | NTC   |
| Measurement range | -20...50°C (-4...120°F)                         |
| Accuracy          | ±0.3°C (0...40°C; 32...102°F), otherwise ±0.5°C |
| Resolution        | 0.1°C   |

#### Air pressure (only Model THIP)

|                   |   |
|-------------------|---|
| Measurement range | 300...1300 hPa absolute                 |
| Accuracy at 25°C  | ±0.5 hPa in the range of 700...1100 hPa |
| Resolution        | 0.1 hPa                                 |

#### CO<sub>2</sub> (only Model TCO)

|                               |                                 |
|-------------------------------|---------------------------------|
| Sensor                        | NDIR 2-Beam Principle           |
| Measurement range             | 0...5000 ppm                    |
| Accuracy                      | ± (50ppm +3% of measured value) |
| Resolution                    | 1 ppm                           |
| Long-term stability           | 20 ppm/year                     |
| Response time t <sub>90</sub> | < 195s for measurement rate 10s |

## Ordering Guide

| MODEL   | Accessories                  |
|---|------------------------------|
| Temperature and relative humidity               | Power supply for HUMLOG20    |
| Temperature, relative humidity, air pressure    | theft-proof installation kit |
| Temperature, relative humidity, CO <sub>2</sub> |                              |
| optional PoE (Power over Ethernet)              |                              |
|   |                              |

|            |
|------------|
| TCO20 THI  |
| TCO20 THIP |
| TCO20 TCO  |
| -POE (add) |

|          |
|----------|
| HA030106 |
| HA030104 |

## Order Example

### TCO20 THI

Data logger for Temperature and relative Humidity

### TCO20 TCO-POE

Data logger for Temperature, relative Humidity and CO<sub>2</sub> with PoE (Power over Ethernet)