

## CARBON DIOXIDE (CO<sub>2</sub>) TRANSMITTER / - CONTROLLER FOR DUCT

HDK and HDK-N transmitters are designed to detect carbon dioxide concentration and temperature inside the ventilation duct.

The CO<sub>2</sub> sensor will become self-calibrated regularly by using patented ABCLogic™ method. Outputs, linear 0-10V signals related to CO<sub>2</sub>-concentration and temperature, can be used for demand controlled ventilation in buildings.

HDK transmitters can be installed in dry indoor environment.

HDK-N is like HDK, but with a display. As a factory setting the display is scanning between temperature and CO<sub>2</sub> every 2 seconds. By pressing the S1 button inside the desired display mode can be selected.

By changing the normal cover (and display) to the HDK-C option HDK (HDK-N) will become as a controller.

### ABCLogic™ & Calibration

ABCLogic™ is a patented self-calibration technique, that is designed to be used in applications where concentrations will drop to outside conditions (appr. 400 ppm) at least twice in a week period (= an unoccupied building). For applications that do not see periodic ambient conditions, ABCLogic™ can be turned off, but a regular single point calibration of the sensor in 6 -12 months is necessary. Checking and calibration is recommended every 5<sup>th</sup> year even if ABCLogic™ is on.



### Technical data:

|                            |   |
|----------------------------|---|
| Supply                     | 24Vac (15...28V) / 1 VA<br>24Vdc (15...36V) / 1 W |
| Ranges                     |   |
| CO <sub>2</sub>            | 0...2000ppm CO <sub>2</sub>                       |
| temperature                | 0...50°C  |
| Outputs                    | 0 -10V < 2 mA                                     |
| Accuracy                   |   |
| CO <sub>2</sub>            | ± 40 ppm +3% from value (ABCLogic™)               |
| temperature                | +/- 0,5°C   |
| Long term stability / year | < 2% FS ( ABCLogic™ )                             |
| Temperature dependence     | 0.2% FS / °C                                      |
| Pressure dependence        | 0.17% from value /mbar                            |
| Operating temperature      | 0...+50 °C  |
| Operating humidity         | 0...95 % RH (non cond.)                           |
| Time constant (t 63%)      | < 1 min   |
| Warm up time               | < 10 min  |
| Stem                       | Ø 10 mm x 110 mm;<br>duct isolation < 75 mm       |
| Housing                    | IP54  |
| Dimensions w x h x d       | 105 x 104 x 155 mm                                |

### Wiring:

|   |                 |   |
|---|-----------------|---|
| 1 | 24V             | supply 24Vac/dc                                 |
| 2 | 0V              | supply and outputs                              |
| 3 | CO <sub>2</sub> | output 0...10VDC (0...2000ppm CO <sub>2</sub> ) |
| 4 | TE              | output 0...10VDC (0...50°C)                     |
| 5 | AO3             | controller output                               |

### Ordering guide:

| Model | Product number | Description  |
|-------|----------------|--|
| HDK   | 1135050        | CO <sub>2</sub> duct transmitter                       |
| HDK-N | 1135051        | duct transmitter with display                          |
| HDK-C | 1135052        | calibration tool and controller option for HDK and HDU |

Products fulfill the requirements of directive 2004/108/EY and are in accordance with the standards EN61000-6-3: 2001 (Emission) and EN61000-6-2: 2001 (Immunity).

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