HDH-ALARM Room CO_2 Alarm / Transmitter

HDH-ALARM has been designed for monitoring and control of CO_2 levels in room spaces. The transmitters have built-in display and alarm LED for indicating high CO_2 concentration. The transmitters have 2 x 0..10Vdc outputs for transmitting the CO_2 measurement and the space temperature to BMS and control systems.

The display can be configured to show CO_2 concentration, temperature or alternate the both measurements.

The alarm LED operation is configured by removing the unit cover and by setting the low CO_2 limit and high CO_2 limit. When the CO_2 measurement exceeds to high setpoint the ALARM LED is emitting at the highest intensity.

The CO2 transmitter is automatically calibrated using ABCLogicTM. ABCLogic is a result of over 10 years R&D for the CO2 measurement. ABCLogic measures the background CO2 level and uses the advanced statistical analysis to correct the readings automatically, removing the need for expensive calibration.

Model Type

Model	Description
HDH-ALARM	HDH Room CO_2 Alarm, CO_2 and Temperature Transmitter with Display

Technical Data

Power supply	24Vac (15...28V) / 0.5VA 24Vdc (15...36V) / 0.5W
Alarm Output	High Intensity LED (0..10Vdc Internal Signal)
Alarm Limits	Fully Adjustable Low Limit = LED off (0Vdc) High Limit = LED at maximum intensity (10Vdc
Display	CD Display for Showing CO_2 and Temperature (configurable for CO_2 or temperature only)
Outputs	2 x 0..10V < 2mA
Range	CO_2: 0...2000ppm CO_2 Temperature: 0..50°C
Accuracy - CO_2	± 40ppm + 3% of the reading @ 25°C (ABCLogic^{TM})
Accuracy - Temperature	±0.5°C
Stability / Year	<2% FS (ABCLogic^{TM})
Temperature dependence	0.2% FS / °C
Pressure dependence	0.17% reading/mbar
Operating temperature	0°C...+50°C
Ambient humidity	0...95%rh (non-cond.)
Response time (0...90%)	<1min
Warm-up time	<10 min
Housing	ABS-plastic, IP 20
Dimensions	W87 x H86 x D32mm

Wiring Terminals

1 - 24V	24Vac/dc power supply
2 - 0V	0V common
3 - CO2	CO2 output: 0..10Vdc = 0..2000ppm CO_2
4 - TE	Temperature outpu:t 0...10Vdc = 0...50°C

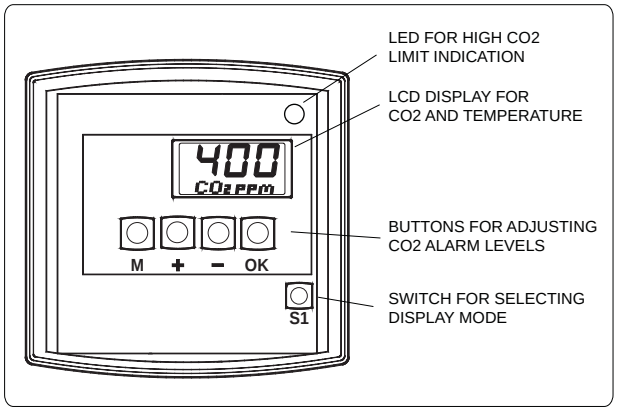
ABCLogic^{TM} & Calibration

ABCLogic^{TM} 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 5th year even if ABCLogic is on.

HDH-ALARM Start-Up

1. Install the device. Connect the power supply and outputs. CO2 concentration output is available at terminal 3 and temperature output at terminal 4. Terminal 5 is connected to the ALARM LED.

2. Let the transmitter be connected and warm-up for 10 min before start up. In the display is alternating CO2, temperature.



HDH-ALARM Controller - Changing Adjustments

1. As default the AO3 is connected to the alarm LED. However if it is necessary to change / check the control signal output (LED wiring terminal) the following procedure can be used. Active control output signal can be chosen between CO2, temperature or the maximum output . By pressing ”M” for 3 to 5s gets you to AO3 display . By pressing frequently “M” you can check witch signal is chosen active for example ” CO2+” (default in HDH-ALARM). Active signal can be chanced to passive by pressing “-“ or by chancing some other signal active. Changes will be saved by pressing “OK “or automatically after 5 s.

2. Changing the ALARM LED output settings (controller output). By pressing S1 you may choose to the display the variable, which you want to adjust. Normally select CO2. By pressing “M” button you’ll see the minimum level of CO2 e.g. 700ppm “LO”. Value can be changed by ”+” and ”-” as long as ”LO” is flashing in the display. By pressing first ”M” and then ”OK” you will see the maximum level e.g. 1100ppm ”HI”. Value can be changed by ”+” a d ”-” as long as ”HI” is flashing in the display.

Minimum Level CO2 = Alarm LED Off
Maximum Level CO2 = Alarm LED with Maximum Intensity

Changes will be saved by pressing ”OK” or automatically after 5 s.

Note! Check / Change always first minimum level and after that maximum level.

Note! It is also possible to configure the ALARM LED output to be controlled by temperature (high temperature LED is fully ON) or based on the MAXIMUM i.e. if the CO2 is High or Temperature is High the Alamr LED is ON..

Dimensions