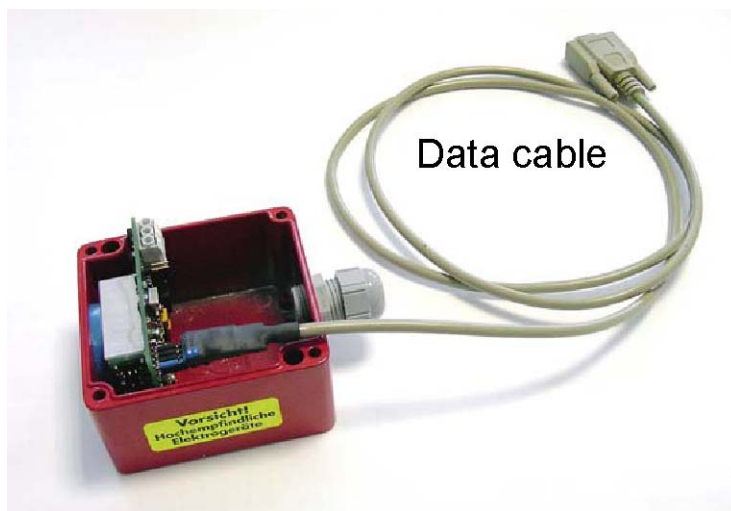# Software & Data Cable for Calibration & Test of CO_2 Infrared Sensors

Data cable

Operating Instructions

Connect the cable, ensuring that the red dot symbol printed on the cable is in line with the red dot on the sensor socket.

The supplied files need only to be copied onto the hard drive. Installation of the software is unnecessary. After the software has been copied, double click on the file:

DE_CO2_CH4.exe

Should there be an error message, check that the cable is inserted correctly and ensure that all the correct files have been copied. The following files must be present:

Main record
DE_CO2_CH4.exe
MSCOMM32.OCX
COMDLG32.OCX
MSCHART.OCX
RICHTX32.OCX
DBLIST32.OCX
prbar.ocx

Test and calibration software for all CO_2 infrared sensors   **Part no: 2112B9075**

Data cable, 2.5 metres   **Part no: 2112B9085**

CO$_2$ CALIBRATION SOFTWARE
- INSTRUCTIONS -

1. Connect the 9-pin D-sub connector to a Com-Port of your computer.

2. Connect the 8-pin male connector to the female 8-pin configuration port of the sensor, making sure that the red dots on both connectors are aligned.

3. Start the program by clicking on icon or on the file DE_CO2_CH4.exe

4. Select the Com-Port connected by clicking on CONFIGURATION (upper left corner). Select COM-PORT CONFIGURATION. Choose the port connected to the sensor from the list in the popup window.
   Press the button TEST COM_PORT. If the port is connected correctly and a sensor is connected, a window will appear saying COULD OPEN COM-PORT, THE TRANDUCER IS CONNECTED. Click on OK button and then SELECT COM-PORT.

   <u>Calibration of Current/Voltage Output</u>

5. Plug a mA current meter (alternatively a 100Ohm resistor with a voltage meter) between sensor output and sensor ground.

   Click on CALIBRATE OUTPUT. On the next screen, click on GO TO TESTPOINT in the field 1.TESTPOINT. Enter the reading of the current meter (alternatively the current calculated by the voltage measurement) in the field VALUE, then press SAVE DATA. Continue with the second test point in the same way.

   <u>Calibration of Gas Response</u>

6. Zero Point Calibration
   - Purge the sensor with pure Nitrogen or Synthetic Air (without CO2).
   - Push the button CALIBRATE SENSOR.
   - On the next screen, click START ZERO POINT DETERMINATION.
   - Observe the measurement values in the column VALUE. If the values are stabilised and you have nearly 6 identical values in the column, press FINISH ZERO POINT DETERMINATION.
   - The sensor output should now be 4mA (+/- tolerance).

7. End Point Calibration (full scale detection determination)
   - Apply gas with a concentration between half of the end point concentration and end point concentration.
   - Enter the concentration of your gas in the filed GAS CONCENTRATION. Choose the unit and press the ADOPT VALUE button below.
   - Start the determination of end point by pressing START F.S.D. DETERMINATION.
   - Wait until the values are stabilised. The value of the factor should be around 1. Then click on FINISH CALIBRATION.