Smart Dupline®
CO2, Temperature and Humidity Sensors w. Display
Type SHSUXXXXD

- **Bus-powered CO2, temperature and humidity sensors**
- **Wall mounting**
- **CO2 measuring range: 0 to 2000 ppm**
- **Temperature measuring range: -20 to 50 °C**
- **Humidity measuring range: 0 to 100 %RH**
- **LCD Display for showing measured values**
- **Touch function to activate back-lighting and change signal type**
- **Low current consumption**
- **Easy installation**
- **Smart Dupline® protocol**

Product Description

The SHSUXXXXD line are bus-powered room sensors for wall-mounting. They are available in different combinations of CO2, temperature and relative humidity. The sensors have a LCD display for showing the measured values. By activating the touch button in the front the LED backlight is turned on and the signal type to be shown can be changed. The only connection needed for the sensor is the Dupline® 2-wire cable. Several sensors can be multi-dropped via the same Dupline® 2-wire bus, thereby simplifying the wiring to the controller significantly. The address assignment and the setup of the display operating mode are performed over the bus by using the SBWEB/SHWEB PC-based programming tool.

Ordering Key

SH SU CO T H D

- **Smart Dupline®**
- **Sensor**
- **CO2**
- **Temperature**
- **Humidity**
- **Display**

Type Selection

Module type	Indication	Supply: Bus-powered
CO2 + Temperature	Display	SHSUCOTD
CO2 + Temperature + Humidity	Display	SHSUCOTHD
Temperature + Humidity	Display	SHSUTHD
Temperature	Display	SHSUTD

Supply Specifications

Power Supply	Supplied by Dupline®
Power on delay	≤ 3 s

Dupline® Specifications

Voltage	8.2 V
Maximum Dupline® voltage	10 V
Minimum Dupline® voltage	5.5 V
Maximum Dupline® current	
SHSUCOTD	10 mA
SHSUCOTHD	10 mA
SHSUTHD	5 mA
SHSUTD	5 mA

Input specifications

CO2	
Measurement principle	Non-Dispersive Infrared Technology (NDIR)
Sensing element	E+E Dual Source Infrared System
Signal range	0 to 2000 ppm
Accuracy (@ 25°C and 1013mbar)	< ± (50ppm +2% of measuring value)
Response time	Typ 300 s
Temperature dependence	Typ. 2ppm CO2/°C (0...50°)
Long term stability	Typ. 20ppm / year
Temperature	
Signal range	-20 to 50 °C
Inaccuracy	+/-0,5°C
Sample rate	5 s
Humidity	
Signal range	0 to 100 %RH
Inaccuracy	30%..70% : +/-3% 0%..100%: +/-5%
Sample rate	5 s

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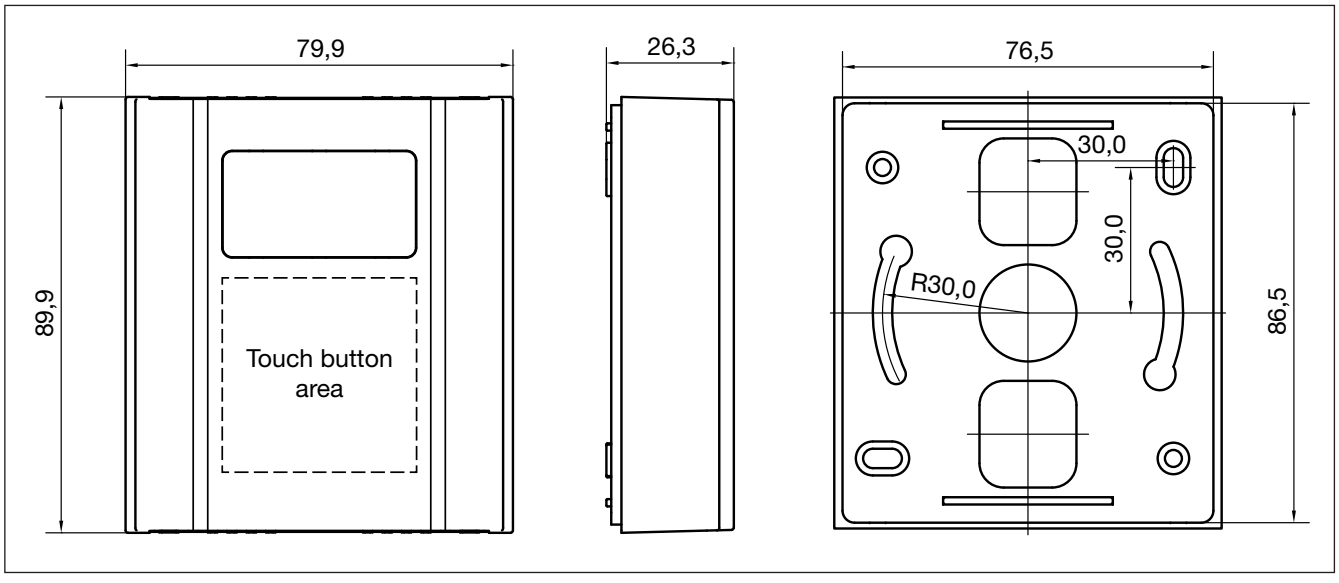
Touch button

- When the touch button in the front is activated the LCD display turns on with backlighting.
- When activated again the display changes to show the next signal.
- Backlighting switches off after 30s without activations and the home variable is shown.
- The “home signal” is selectable by configuration tool
- The time-out period is selectable by configuration tool

General Specifications

Environment	
Pollution degree	2(IEC 60664-1, par. 4.6.2)
Operating temperature	-20 to +50°C (-4 to +122°F)
Storage temperature	-40 to +70°C (-40 to + 158°F)
Humidity (non-condensing)	0 - 90% (not-condensing)
Housing	
Material	ABS
Colour	White matt
Dimensions (h x w x d)	80 x 90 x 26 mm
Protection degree	IP20
Terminal block	
Dupline® bus	2 x spring terminal
Cross-sectional area	Terminal: max. 1.5 mm^2
EMC	
Immunity	EN61000-6-2
- Electrostatic discharge	EN61000-4-2
- Radiated radiofrequency	EN61000-4-3
- Burst immunity	EN61000-4-4
- Surge	EN61000-4-5
- Conducted radiofrequency	EN61000-4-6
- Power frequency magnetic fields	EN61000-4-8
- Voltage dips, variations, interruptions	EN61000-4-11
Emission	
- Conducted and radiated emissions	CISPR 22 (EN55022), cl.B
- Conducted emissions	CISPR 16-2-1 (EN55016-2-1)
- Radiated emissions	CISPR 16-2-3 (EN55016-2-3)
Approvals	CE cULus according to UL60950

Dimensions



Wiring Diagram

Module seen from the flipside