

# DXC

## Duct CO<sub>2</sub> sensor / switch



The DXC series are sensors / switches which measure the concentration of CO<sub>2</sub> in ducts. Four pre-defined ranges provide ideal measurement windows with one user-definable range. The integrated NDIR sensor is self-calibrating and maintenance-free. These units are equipped with Modbus RTU (RS485) communication and have an analog output and a relay output.

### Key features

- Microcontroller based design
- 1 analog and 1 relay output
- Modbus RTU (RS485) communication
- Multiple ranges as measurement windows available
- Innovative self-calibrating algorithm
- Long-term stability and accuracy

### Technical specifications

Outputs	1 analog output (0–10 VDC / 0–20 mA) 1 C/O relay output (230 VAC / 2 A)	
Power consumption	No load: maximum 50 mA Full load: maximum 70 mA	
Load resistance	0–10 VDC mode > 500 Ω 0–20 mA mode < 500 Ω	
Sensor ranges	450–1.850 ppm 0–1.000 ppm 0–1.500 ppm 0–2.000 ppm	
Sensor range (Modbus selection)	0–2.000 ppm, free selectable	
Hysteresis (Modbus or jumper selection)	50 / 100 / 150 / 200 ppm	
Switching point	Selectable by trimmer or via Modbus RTU	
Accuracy	30 ppm CO <sub>2</sub> ±5% (0–2.000 ppm)	
Protection standard	Enclosure: IP54, probe: IP20	
Ambient conditions	Temperature	0–50 °C
	Rel. humidity	< 95 % rH (non-condensing)



### Article codes

	Supply	Connection
<b>DXC-G</b>	15–24 VAC ±10 % 18–34 VDC	3-wire
<b>DXC-F</b>	18–34 VDC	4-wire

### Area of use

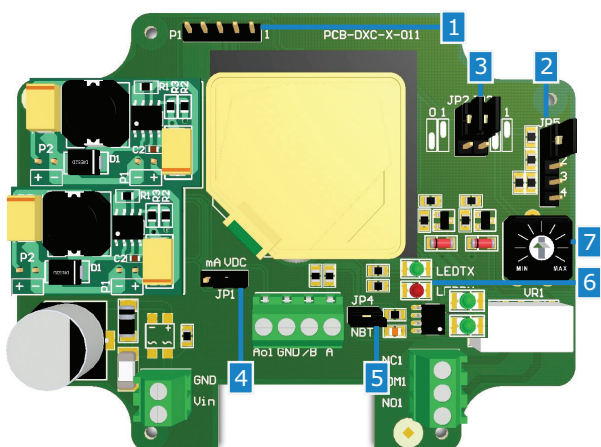
- Maintaining and monitoring CO<sub>2</sub> levels in ducts

### Wiring and connections

Vin	Positive DC voltage / AC ~
GND	Ground / AC ~
A	Modbus RTU (RS485) signal A
/B	Modbus RTU (RS485) signal /B
Ao1	Analog output (0–10 VAC / 0–20 mA)
GND	Ground
NO1	Normally open contact
COM1	Common contact
NC1	Normally closed contact
Connections	Cable cross section: max. 1,5 mm <sup>2</sup>

**Caution:** If an external AC / DC powered unit (G-series) is using the same safety transformer as a DC powered unit (F-series), a **SHORT CIRCUIT** in the source may result when connecting 3-wire applications (common ground)!

If an AC power supply is used with any of the units in a Modbus network, the GND terminal should **NOT BE CONNECTED** to other units on the network or via the CNVT-USB-RS485 converter. This may cause permanent damage to the communication semiconductors and / or the computer!



### Modbus registers



The Sensistant Modbus configurator allows you to easily monitor and/or configure Modbus parameters.

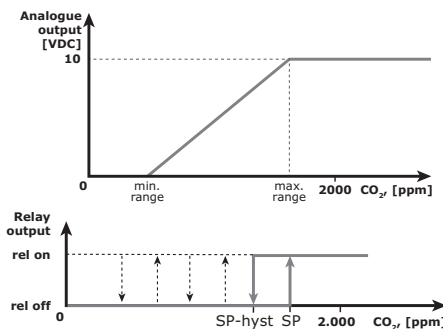


The parameters of the unit can be monitored / configured through the 3SMODBUS software platform. You can download it from the following link:

<https://www.sentera.eu/en/3SMCenter>

For more information about the Modbus registers, please refer to the product Modbus Register Map.

### Operational diagram(s)





### Settings

1 – Modbus settings reset jumper (P1)		Put and hold for 20 seconds
2 – Sensor range selection JP5		450–1.850 ppm
		0–1.000 ppm
		0–1.500 ppm
		0–2.000 ppm
3 – Hysteresis selection JP2 & JP3		50 ppm
		100 ppm
		150 ppm
		200 ppm
4 – Analog output selection JP1		0–10 VDC
		0–20 mA
5 – Network bus resistor JP4 (NBT)		The DXC is the first or the last unit
6 – Modbus communication indication	Blinking green	Transmitting
	Blinking green	Receiving
7 – Setpoint trimmer		VR1 - switching point for the relay

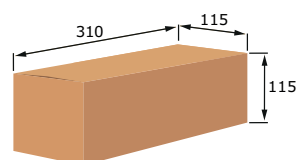
indicates the position of the jumper.)

### Standards

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC: EN 61326
- WEEE Directive 2012/19/EC
- RoHS Directive 2011/65/EC



### Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
DXC-F	Unit (1 pc.)	310	115	115	0,20 kg	0,32 kg
	Box (20 pcs.)	590	380	505	4,00 kg	7,65 kg
DXC-G	Unit (1 pc.)	310	115	115	0,20 kg	0,32 kg
	Box (20 pcs.)	590	380	505	4,00 kg	7,65 kg

### Fixing and dimensions

