

DSCO2 Range

Duct Mount Carbon Dioxide Sensors



Product Overview:

The DSCO2 Range: Featuring duct-mount NDIR Carbon Dioxide Sensors designed to monitor and measure vital indoor air quality parameters with precision and reliability. Engineered for use across residential, public, commercial, and light industrial settings, these sensors offer both digital and analog outputs along with exceptional performance features.

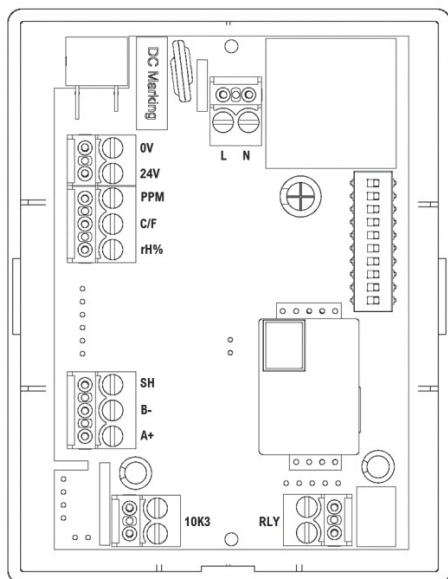
ABS (Automatic Background Calibration):

The DSCO2 sensor features Automatic Background Calibration (ABC) for simplified, maintenance-free calibration to fresh-air CO2 levels. Over a 24-hour period, the sensor monitors CO2 concentrations and automatically calibrates to the lowest detected value, assuming it represents fresh-air conditions. For optimal performance, the DSCO2 sensor must be exposed to fresh-air conditions on a regular basis.

Model Numbers and Outputs:

MODEL NUMBER	RELAY	ANALOGUE OUTPUT	COMMUNICATION	POWER	DISPLAY
DS-CO22-DUCT	VFC SPST 70mA	0-10V & 10k3 Thermistor	None	24V AC / DC	Traffic Light LED
DS-CO22-MOD-DUCT	VFC SPST 70mA	0-10V & 10k3 Thermistor	Modbus RTU	24V AC / DC	Traffic Light LED
DS-CO22-BAC-DUCT	VFC SPST 70mA	0-10V & 10k3 Thermistor	BACnet MS/TP	24V AC / DC	Traffic Light LED

Circuit Board Diagram:



CONNECTION	LABEL	TERMINATION
120V AC IN	POWER LIVE IN	L (Line) N (Neutral)
24V AC/DC INPUT	24V IN	+24V 0V (Common GND)
ANALOG OUT/P	+10V OUT	PPM (CO2 Sensor O/P)
DIGITAL OUT/P	RS-485	A+ B-SH (Shield)
THERMISTOR	10K3	Disabled On This Model
CO2 VFC RELAY	RLY 70mA	(Open/Close Circuit)

Technical Specifications

Mechanical

Mounting	Duct Mounted
Tube Length	220mm
Size (W x H x D)	5.95" x 4.37" x 1.97"
Weight	0.66lb max
Enclosure	ABS UL Flame retardant - IP40

Electrical

24V AC/DC Power Rating	12-24VDC (11-32 VDC) / 24VAC, (20-27 VAC) 50-60Hz
110VAC Power Rating	Nominal 110VAC, (90-250V AC), 50-60H
Internal Fuse	Resettable PPTC 110VAC, 400mA
Communication	127 Units Max
Power Consumption	2.5W Max

Environmental

Operating Temperature	14°F to 122°F / -10°C to 50°C
Storage	32-86°F / 0°C to 30°C
Room Humidity	0 to 95% RH (continuous) Non-Condensing
Atmospheric Pressure	80 to 110Pa
Altitude	<6562ft
Installation Cat (110V Voltage)	II (Class 2) Pollution Degree 2
Installation Cat (24V Voltage)	III (Class 3) Pollution Degree 2

Inputs / Outputs

Analog Outputs	1x Linear 0-10V/2-10V CO2
Digital Networks	BACnet MS/TP or MODBUS RTU (Parity: None Data bit: 8bit Stop bit: 1)
Relay Outputs	1 x SPST 70mA

Cable Spec

Power	22 - 24 AWG
Analog Output	22 - 24 AWG
Relay	22 - 24 AWG
Digital Output	22 - 24 AWG twisted pair + ground, shielded cable with 120 Ω characteristic impedance.

User Interface

Language	English
Display	LED
Indication	Green: Power (OK) / Yellow: Warning (Pre-Alarm) / Red: Danger (Alarm)

Safety & EMC

Safety	BS 61010-1 (CE / UKCA)
Electromagnetic Compatibility	BS 50270 (CE / UKCA)
Compliance	CE, EMC, RoHS, REACH and WEEE Compliant

CO2 Sensor (PPM)

Sampling: Diffusion Type
NDIR Indication Range: 400 - 5000ppm
Response: t90 <120s
Calibration: ABC Logic Self Calibration
Warm Up Time: ~1 Minute
Accuracy: 5% FS @ 77°F
Lifespan: > 10 Years
Resolution: 1ppm