

Duct carbon dioxide and temperature sensor

- >> 0-2000 PPM CO₂ range
- >> Patented self-calibration algorithm
- >> Guaranteed 5 year calibration interval
- >> NTC 10k Temperature Sensor
- >> Easily field calibrated



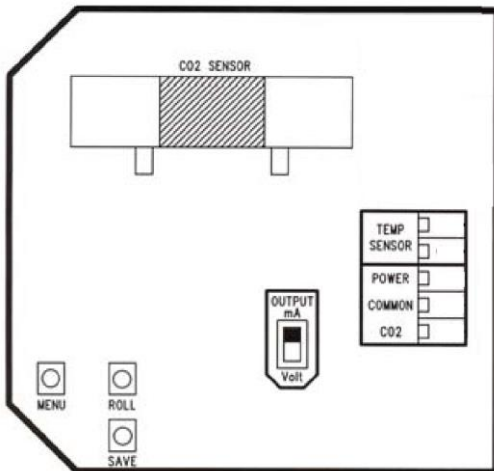
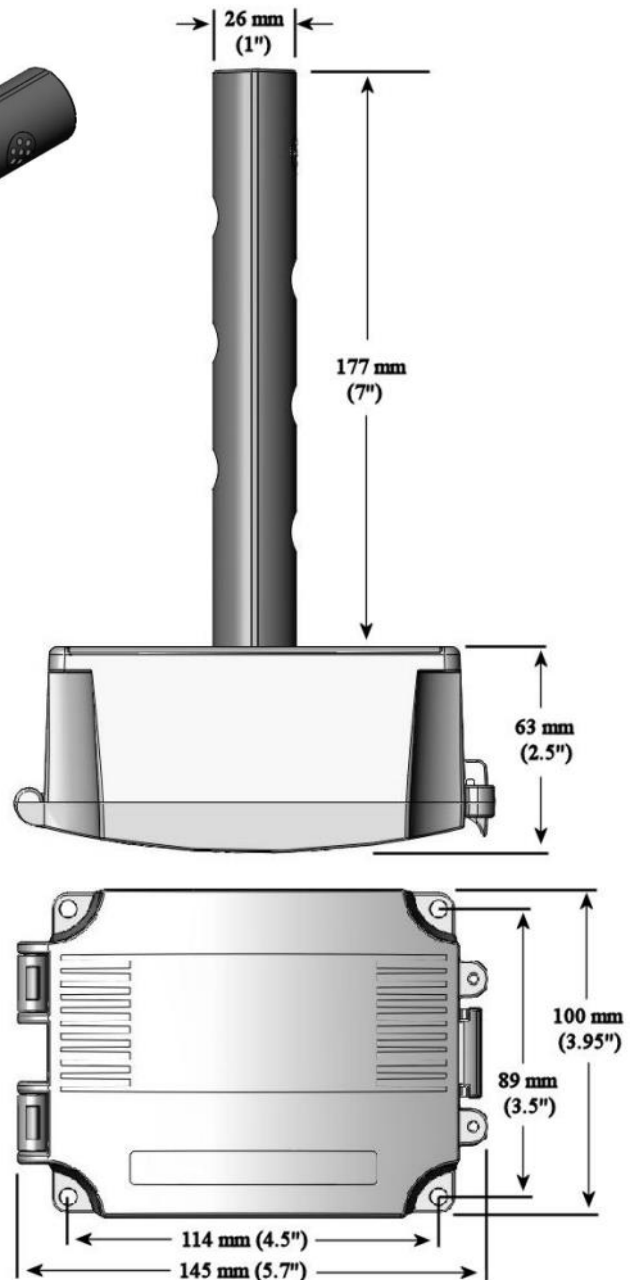
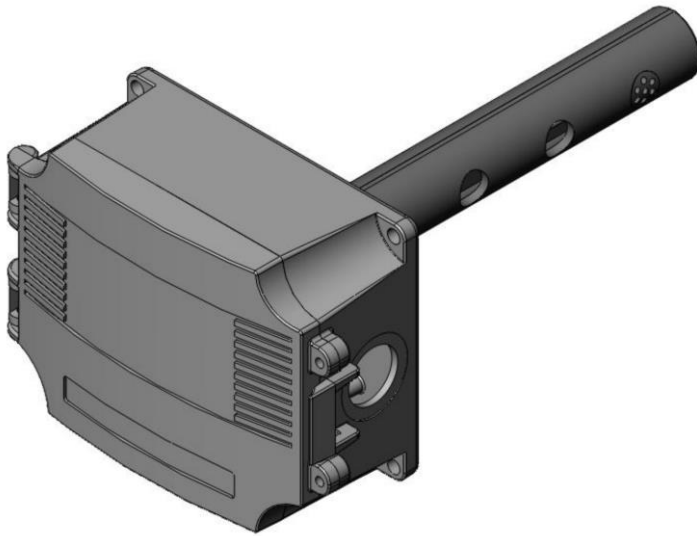
Duct carbon dioxide (CO₂) measurement

The FX-CDTES-D duct carbon dioxide sensor (CO₂) uses a highly accurate and reliable non-dispersive Infrared (NDIR) sensor combined with state-of-the-art digital linearization and temperature compensated circuitry to monitor duct CO₂ levels. The duct CO₂ transmitter principal of operation is based on the Venturi effect of the probe that extends into the HVAC duct. Air flowing through the duct is forced into the vent holes on one side of the probe, into the enclosure, over the CO₂ sensor and then the air is drawn back out of the enclosure via the vent holes on the opposite side of the probe. Optional temperature sensor and adjustable relay output is also available.

Technical features

Range:	0 - 2000 ppm
Accuracy:	±30 PPM + 3% of reading with Auto Cal on.
Sensor:	Non-Dispersive Infrared (NDIR), diffusion sampling
Temp. Dependence:	0.2% FS per °C
Stability:	< 2 % FS over life of sensor
Sensor Life Span:	15 years typical
Press. Dependence:	0.13% of reading per mm Hg
Altitude Correction:	Programmable from 0-5000 ft via keypad
Response Time:	<2 minutes for 90% step change typical
Warm-up Time:	<2 minutes
Power Supply:	20-28 Vac/dc (non-isolated half-wave rectied)
Output Signals:	4-20 mA active (sourcing), 0-5 Vdc or 0-10 Vdc (selectable)
Consumption:	100mA max @ 24Vdc, 185mA max @ 24Vac (with all options)
Output Drive Capability:	Current: 550 ohms max Voltage: 10 Kohm min
Output Resolution:	10 bit PWM
Protection Circuitry:	Reverse voltage & overvoltage protected
Operation Conditions:	0° - 50°C (32°-122°F), 0-95% RH non-condensing
Wiring Connections:	Screw terminal block (14 to 22 AWG)
External Dimensions:	145mm W x 100mm H x 63mm D (5.7" x 3.95" x 2.5") Duct Probe: 177mm (7") long x 25.4mm (1") dia
Temperature Element:	NTC 10k
Enclosure Ratings:	IP65 (NEMA 4X)
LCD Display Resolution:	1 ppm CO ₂
LCD Display Size:	1.4" w x 0.6" h (35 mm x 15 mm)
Backlight:	Enable or disable via keypad
Manufacturing Process:	ISO9001

Temp.	Ω	Temp.	Ω	Temp.	Ω	Temp.	Ω	Temp.	Ω	Temp.	Ω
		75	1480	29	8406	19	13073	9	20884	-5	42327
140	235	70	1752	28	8779	18	13681	8	21918	-10	55329
130	301	65	2083	27	9165	17	14325	7	23015	-15	72957
120	390	60	2488	26	9574	16	15000	6	24170	-20	97083
110	511	55	2986	25	10000	15	15710	5	25391	-25	130422
100	679	50	3602	24	10448	14	16461	4	26683	-30	176976
95	786	45	4368	23	10924	13	17256	3	28051	-35	24682
90	916	40	5324	22	11421	12	18091	2	29498	-40	336479
85	1070	35	6532	21	11940	11	18970	1	31030	-45	472178
80	1255	30	8055	20	12491	10	19902	0	32650	-50	671305



Part numbers

FX-CDTES-D
FX-CDTES-D-LCD

CO₂ 0-5/10 Vdc or 4-20 mA, **TE** NTC 10k
with 3-digit LCD display