



GS07 CO₂ Transmitter

Air Quality-GS07

www.eyc-tech.com



| Features |

- Using patented state-of-the-art non-dispersive infrared(NDIR)wave-guide technology and offers reliable measurements
- Comply to EMC directive 2014 / 30 / EU
- CO₂ Measuring range : 0 ... 2,000 / 0 ... 5,000 / 0 ... 10,000 / 0 ... 20,000 (PPM) (Max. : 50,000 PPM) ; IP rating : IP65
- Digital output(RS-485 Modbus RTU protocol), analog output(0 ... 10 V, 4 ... 20 mA)
- Maintenance-free in most HVAC ventilation applications
- High tolerance to extreme humidity environment conditions
- Non-frill design, direct DDC connection

| Introduction |

eyc-tech GS07 is a state-of-the-art non-dispersive infrared(NDIR)carbon dioxide(CO₂)transmitter. The direct insertion design and miniature size make it easy to install in the ventilation duct.

eyc-tech GS07 provides measurement in analog outputs(0 ... 10 V, 4 ... 20 mA)and digital output(RS-485 Modbus RTU protocol).

With CO₂ demand controlled ventilations, eyc-tech GS07 helps to save money by decreasing the energy consumption while maintaining a healthier indoor climate.

| Applications |

Greenhouses / Mushroom farming / Industrial safety / AHUs in high RH regions

Specification

CO ₂ Measuring range		0 ... 2,000 / 0 ... 5,000 / 0 ... 10,000 / 0 ... 20,000 (PPM) (Max. : 50,000 PPM)
Output	RS-485	Digital output with Modbus RTU protocol
	Voltage signal terminal CO ₂ ^{Note3}	Voltage or current output : Jumper selection(Default 0 ... 10 V)
		D/A resolution : 10 bits(10 mV / 0.016 mA)
		D/A conversion accuracy : ±2% of reading±50 mV
		Electrical characteristics : Voltage output-R _{OUT} <100 Ω, R _{LOAD} >5 kΩ
		Current output-R _{LOAD} <500 Ω
Operating temperature range		0 ... 50°C
Storage temperature range		-40 ... +70°C
Operating humidity range		0 ... 100% RH(Sensor in powered-up condition)
Operating environment		Residential, commercial and industrial spaces ^{Note 1}
Warm-up time		≤1 min(at full specs≤15 min)
Sensor life expectancy		> 15 years
Duct air velocity		Direct insertion sensor, no minimum airs peed requirement
Maintenance interval		No maintenance ^{Note 2} (with ABC algorithm)
Power input		AC / DC 24 V±20%, 50 Hz or 60Hz(Half-wave rectifier input)
Power consumption		<1 W average
Connection wires		M12 male connector for power input (G+, G0) & voltage/current output (Out) with M12 female quick connection cable (AWG24 wires)
Sensing method		Non-dispersive infrared(NDIR)wave-guide technology with Automatic Background Calibration(ABC)and passive gas diffusion(No moving parts)
Response time(T _{1/e})		< 10 sec(at 30 cc/min flow rate)/ <3 min diffusion time
Repeatability		±30 PPM±1% of reading
Accuracy at 25°C ^{Note 1,2}		±40 PPM±3% of reading (2000/5000 PPM), ±200 PPM±3% of reading (10000/20000 PPM)
Annual zero drift ^{Note 1,2}		< ±10 PPM(with ABC function)
Pressure dependence		+1.6% reading per hPa
Installation support		Background level calibration adjustment jumper trigger(bCAL)
Dimension		94x30 mm diameter
Duct probe length		51 mm
IP rating		IP65
Compliance with EMC directive		2014 / 30 / EU

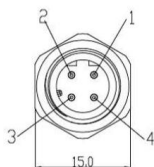
Note 1: The SO₂ enriched environments are excluded.

Note 2: In normal IAQ applications(at NTP). Accuracy is defined after minimum 3 weeks of continuous operation.

The tolerance of the span calibration gas(2% unless otherwise requested)and test gas adds to the total uncertainty.

Note 3: The specifications are valid for the output load connected to ground G0. Other outputs and measurement ranges are available per request.

| Diagram |



M12 Male Connector

1	G+	Red	AC / DC 24 V(+)
2	G0	Black	System ground(—)
3	Out	Yellow	Signal output, 0 ... 10 V (by default) or 4 ... 20 mA (Jumper select)
4	NC	White	No connection

| Ordering Guide |

	Output	CO ₂ Range	Installation
GS07 —	1	5	C
	1 : 4 ... 20 mA 6 : 0 ... 10 V N : RS-485	2 : 2000 PPM 5 : 5000 PPM 8 : 10000 PPM 9 : 20000 PPM (0 ... 2 vol.%) W : Other (Max. 0 ... 5 vol.%, accuracy : ± 200 PPM $\pm 10\%$ of reading)	C : Wall (Clamp) F : Duct (Flange)