



| 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- $R_{OUT} < 100 \Omega$, $R_{LOAD} > 5 k\Omega$ Current output- $R_{LOAD} < 500 \Omega$
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 air speed 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		3x22 AWG cables for power input(G+, G0)& voltage / Current output(Out)
Connection screw terminal		4x1.0 mm ² for power input(G+, G0), RS-485 output(A, B)
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

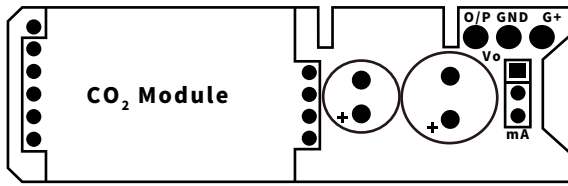
Note 1: The SO₂ enriched environments are excluded.

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

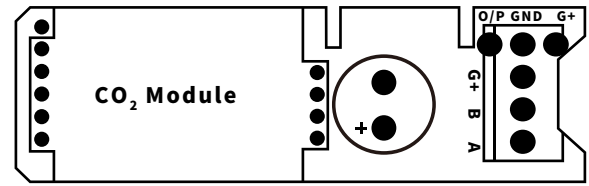
The tolerance of the span calibration gas(2% unless otherwise requested)and test gas adds to the total uncertainty.

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

| Diagram |



1	G+	Red	AC / DC 24 V (+)
2	G0	Black	System ground (-)
3	Out	Brown / Blue	Signal output, 0 ... 10 V (by default) or 4 ... 20 mA (Jumper select)



1	G0	System ground(-)
2	G+	AC / DC 24 V(+)
3	B	RS-485 connections
4	A	

Power supply has to be connected to G+ and G0. G0 is considered as system ground.

If analog output is connected to a controller, the same ground reference has to be used for the GS07 unit and for the control system.

| Ordering Guide |

GS07 — **1** — **5** — **C**

Output

1 : 4 ... 20 mA
 6 : 0 ... 10 V
 N : RS-485

CO₂ Range

2 : 2000 PPM
 5 : 5000 PPM
 8 : 10000 PPM
 9 : 20000 PPM (0 ... 2 vol.%)
 W : Other (Max. 0 ... 5 vol.%, accuracy : ±200 PPM ± 10% of reading)

Installation

C : Wall (Clamp)
 F : Duct (Flange)