

Features

- CO₂ measuring element: NDIR Sensor
- CO measuring element: Electrochemical sensor
- Temperature/Humidity sensing element : CMOS sensor
- Analog output option: 4~20mA or 0~10V
- Communication output option: RS485 Modbus RTU
- Configured by PC with free software via USB cable (option)
- Present value offset adjustable
- Inside buttons for adjust output parameters
- LCD backlight color to Indicated CO/CO₂ concentration
- Temperature measuring range can be -50~100°C via USB console port to setting



Ordering Information

HTO — Measure Item — CO/CO₂ Measuring Range — Output

| CODE | Measure Item | CODE | Range of CO | CODE | Range of CO ₂ | CODE | Range of CO+CO ₂ | CODE | Output | CODE | Output |
|------|-----------------------------------|------|-------------|------|--------------------------|------|-----------------------------|---|---------------|------|---|
| 1 | Temp. & Humi. | N | None | N | None | N | None | N | None | N | None |
| 2 | Temperature | 1 | 100ppm | 2 | 0~2000ppm | 1 | 100+2000ppm | A | 4~20mA | 1 | 4~20mA CO+CO ₂ +Temp. |
| 3 | CO ₂ | 3 | 300ppm | 5 | 0~5000ppm | 2 | 100+5000ppm | V | 0~10Vdc | 2 | 4~20mA CO+CO ₂ +Humi. |
| 4 | CO ₂ +Temp. & Humi. | 5 | 500ppm | A | 0~10000ppm | 3 | 100+10000ppm | R | RS485 | 3 | 0~10Vdc CO+CO ₂ +Temp. |
| 5 | CO ₂ +Temperature | | | | | 4 | 300+2000ppm | M | RS485+4~20mA | 4 | 0~10Vdc CO+CO ₂ +Humi. |
| 6 | CO | | | | | 5 | 300+5000ppm | S | RS485+0~10Vdc | 5 | RS485+4~20mA CO+CO ₂ +Temp. |
| 7 | CO+Temp. & Humi. | | | | | 6 | 300+10000ppm | If measure item is Temperature only, the output option code is "A" only | | | |
| 8 | CO+Temperature | | | | | 7 | 500+2000ppm | | | | |
| 9 | CO+CO ₂ | | | | | 8 | 500+5000ppm | | | | |
| A | CO+CO ₂ +Temp. & Humi. | | | | | 9 | 500+10000ppm | | | | |
| | | | | | | | | | | 6 | RS485+4~20mA CO+CO ₂ +Humi. |
| | | | | | | | | | | 7 | RS485+0~10Vdc CO+CO ₂ +Temp. |
| | | | | | | | | | | 8 | RS485+0~10Vdc CO+CO ₂ +Humi. |

Note: Code 9 and A not available in Duct type

This code only for measure item code A, there are with analog output.

LCD Display — USB Cable — Power Supply — Duct Type — Cable Length

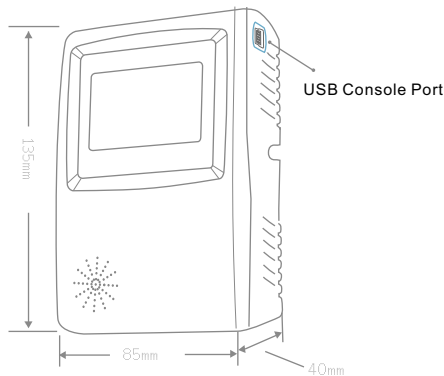
| CODE | LCD Display | CODE | USB Cable | CODE | Power | CODE | Duct Type | CODE | Cable Length |
|--|-------------|------|-----------|------|--------|--|-------------------|---|--------------|
| N | None | N | None | D24 | DC 24V | 1 | Duct | 5 | 5M |
| L | LCD | U | USB Cable | | | 2 | Duct & Wall Mount | 10 | 10M |
| If output option with RS485, display must be with LCD. If measure item is Temperature only, display will be none. | | | | | | 3 | Remote Probe | 15 | 15M |
| | | | | | | This code not available in Wall Mount type | | Remote Probe type must be assign cable length | |

Technical Specification

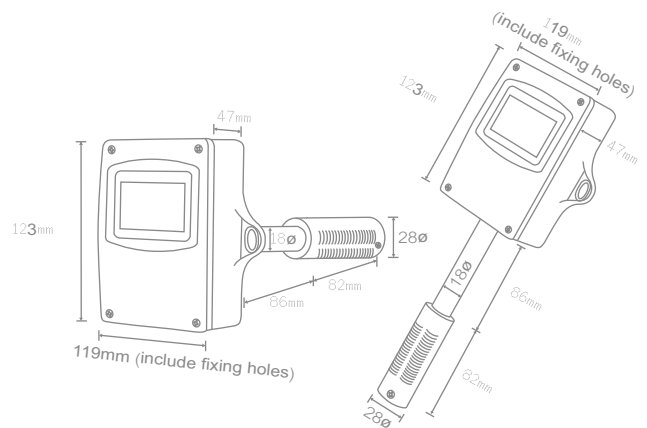
| | |
|---|--|
| RS485 | RS485 MODBUS RTU (Remote real-time monitoring by PLC, DDC, PC) |
| RS485 Modbus RTU | N81, N82, O81, E81 |
| Baud rate | 2400 or 4800 or 9600 or 19200 or 38400 or 57600 or 115.2K |
| RS485 address | 1~255 |
| Output response time | <200mS |
| Temp.&Humi sensing element | CMOS sensor |
| Temp.&Humi sampling time | 1~10 second programmable |
| Temp.&Humi measuring accuracy | $\pm 3\%RH(10\sim 90\%RH)(at 25^{\circ}C) \cdot \pm 0.4^{\circ}C(at 25^{\circ}C)$ (Power supply 24Vdc, operating temperature at 25°C) |
| Gas sensing element | CO: Electrochemical sensor / CO ₂ : NDIR sensor |
| CO measuring range | 0~100ppm or 0~300ppm or 0~500ppm |
| CO ₂ measuring range | 0~2000pp or 0~5000ppm or 0~10000ppm |
| CO backlight LCD indication | Green:0~9ppm / Blue:10~30ppm / Orange: >31ppm |
| CO ₂ backlight LCD indication | Green:0~600ppm / Blue: 600~1000ppm / Orange:>1001ppm |
| Gas measuring accuracy | CO: $\pm 10ppm$ / CO ₂ : $\pm 70ppm$ |
| Gas response time | CO:60 second / CO ₂ :1 second |
| Analog Output driver ability | 4~20mA $\leq 500\Omega$ / 0~10V $\geq 600\Omega$ |
| Analog Output resolution | 15 bits |
| USB console port | Can via this port to supply power by PC or charger and setting parameter. Option function. |
| Operating temperature and condition | Temperature: -10~50°C / Humidity: 0~100%RH(Non-condensing) |
| Current consumption | $\leq DC 50mA$ |
| Wall Mount type dimensions and housing | Length:135mm X width 85mm X Height 40mm / Housing: ABS / PC |
| Duct and Remote Probe type dimensions and housing | Length:123mm X width119mm X Height 47mm Tube168mm / Housing: ABS / PC |
| Power Supply | DC24V $\pm 20\%$ |

Dimensions

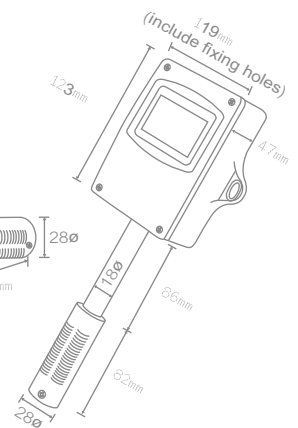
Wall Mount type



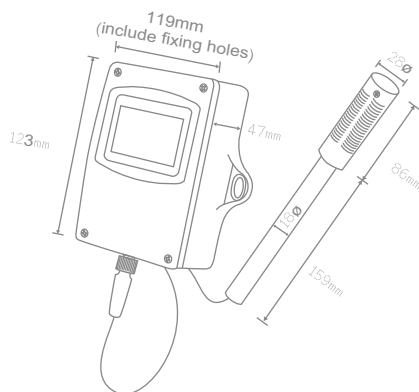
Duct type



Duct & Wall Mount type

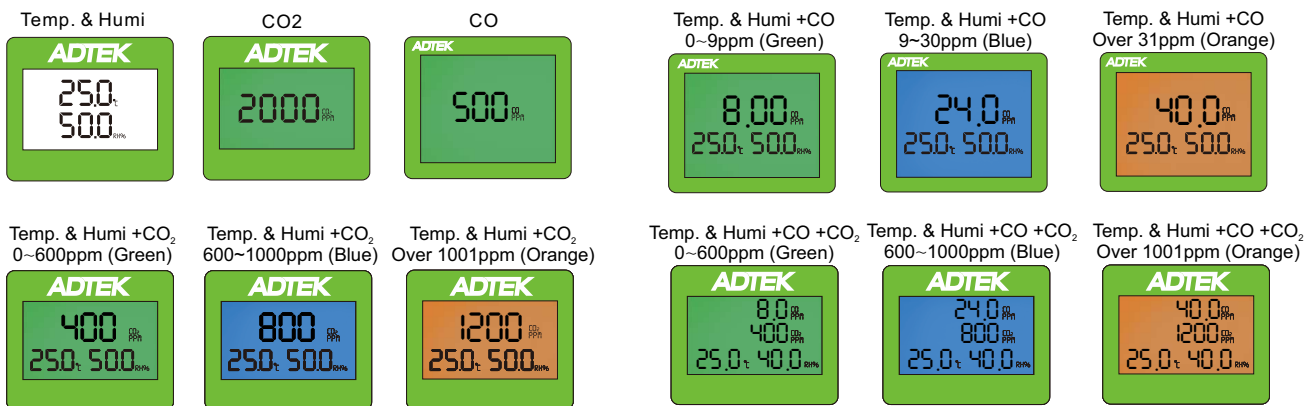


Remote Probe type



HTO

LCD Backlight Indication



Connection Diagram

