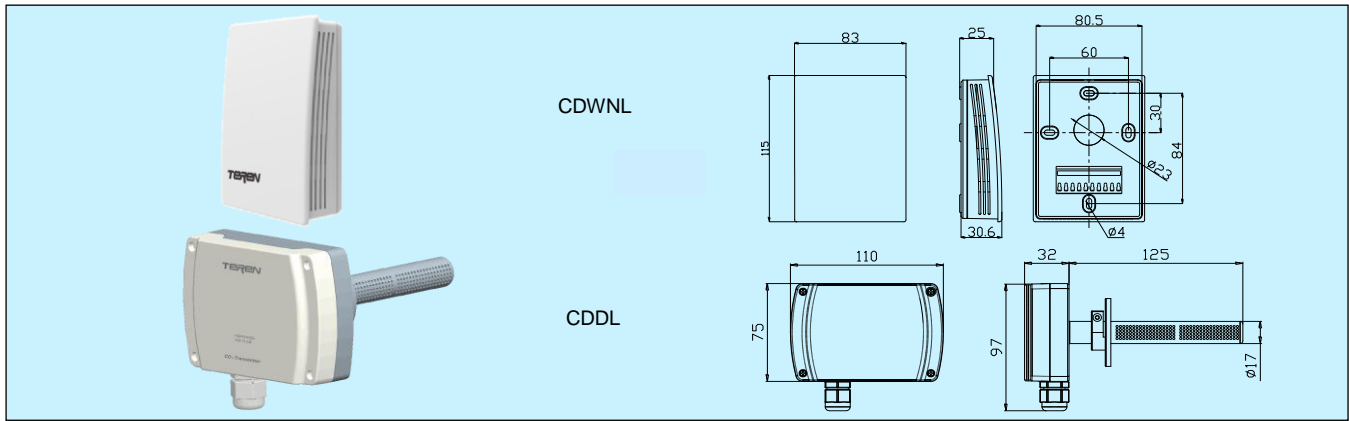


# CDWNL/CDDL Economical Carbon Dioxide (CO<sub>2</sub>) Transmitter



## Applications & Features

- This series transmitters are designed for monitoring & controlling indoor air quality (CO<sub>2</sub> concentration)
- CDWNL is for wall mount and CDDL is for duct mount
- CDDL uses a patented probe structure for excellent sampling performance
- High performance NDIR digital sensor and circuit, ensure precise measurement and temperature compensation
- Over voltage and reverse polarity protection, high reliability and anti-interference capability
- All electrical terminals are on the inside bottom, avoid any possible destroy to PCB when wiring (for CDWNL)
- Dual outputs 0~10V and 4~20mA
- 15 years sensor life without maintenance

## Specifications

**Sensor:** NDIR sensor, with ABC algorithm

**Sampling Method:** diffusion

**Accuracy:** ± (50+5%MV) ppm

**Response time(T90):** < 120s (30cc/min, low airflow)

**Drift:** <±10ppm/year

**Range:** 0~2000ppm

**Output:** 4~20mA & 0~10V

**Load resistance:** ≤500Ω(Current output), ≥2kΩ(Voltage output)

**Power supply:** 18~28VAC/16~35VDC

**Working environment:** 0~50°C, 0~95%RH (Non-cond.)

**Temp. Compensation:** 10~40°C

**Storage temperature:** -30~60°C

**Housing:** fire retardant PC(UL94V-0) (CDWNL),  
fire retardant ABS+PC(UL94V-0) (CDDL)

**Protection:** IP30(CDWNL), housing IP65/probe IP30(CDDL)

**Weight:** 145g(CDWNL), 230g(CDDL)

**Approval:** CE

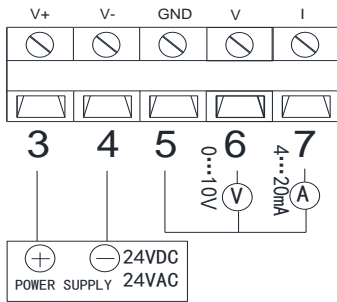
## Models

Model	CDWNL	Room CO <sub>2</sub> Transmitter
	CDDL	Duct mount CO <sub>2</sub> Transmitter

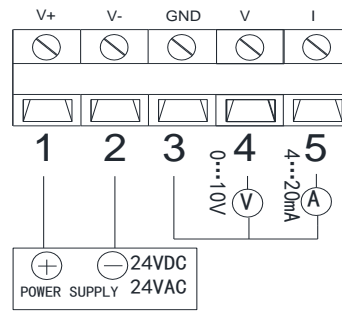
**Connection**

Different models have different electrical terminals. Please wire specific model according to the wiring diagram inside the front cover.

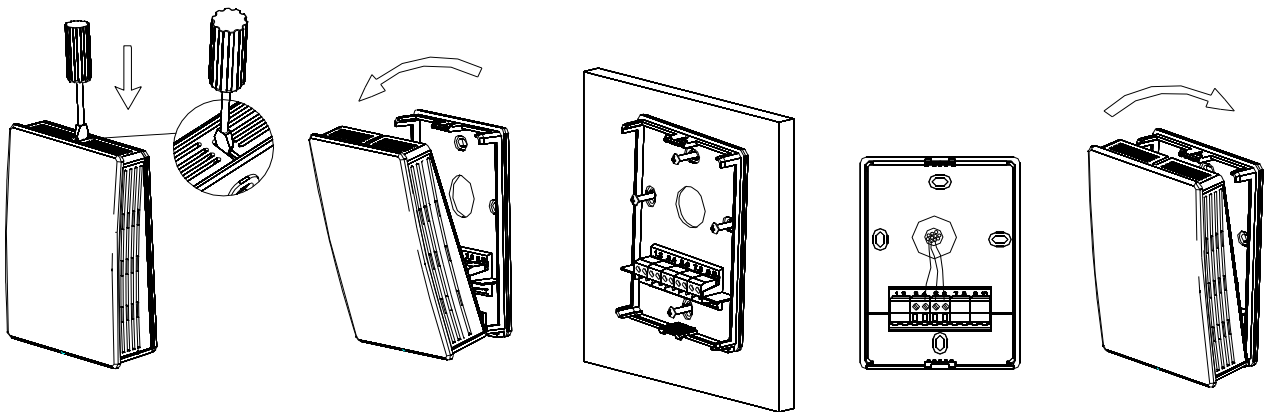
**1. CDWNL**



**2. CDDL**



**Wall mount installation**



- It should be installed vertically on the wall. The installation site should be far away from heater, cooler, fan, humidifier, dehumidifier, and other heat/cool/humidity sources.
- Use a screwdriver, insert into the snap at the upper side of the housing, and push down a little, then open the front cover.
- Feed the cable into the housing before installing the base on the wall according to the diagram.
- Finish electrical connection according to the wiring diagram.
- Restore the front cover, and finish the installation.

**Duct mount installation**

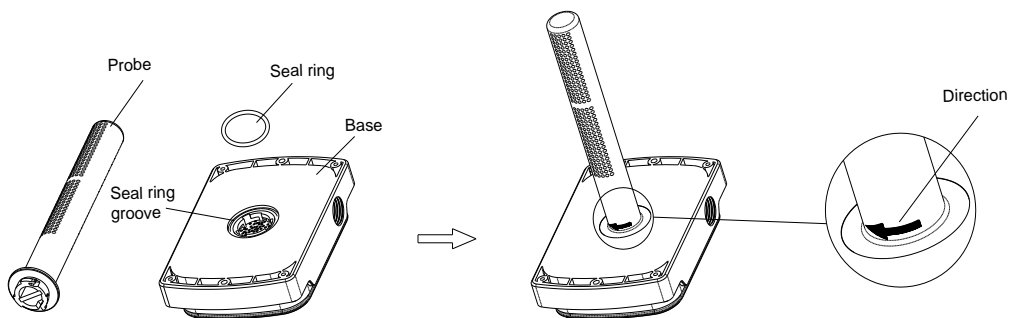


Fig.1

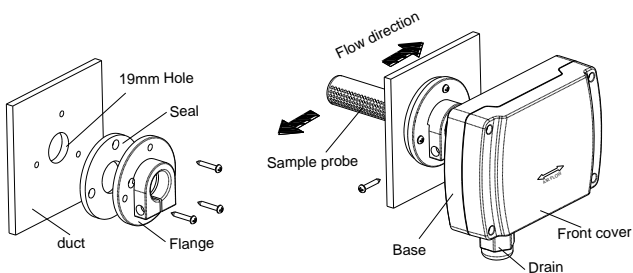


Fig.2

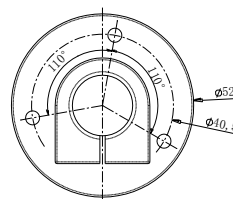


Fig.3

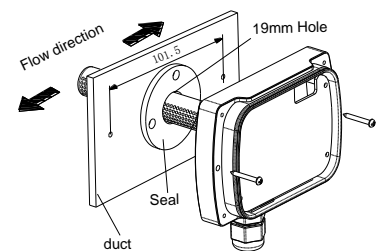


Fig.4

- First, assemble the separated probe on the bottom of enclosure as Fig.1. Insert the seal ring properly and then insert the probe, screw according to the direction indication to the end.
- Duct mount via one of the following ways. Make sure all sampling holes on the probe should be inserted into the duct, and the direction shows on the front cover should be the same as air flow in the duct.
  1. Install via the flange as Fig.2. Drill a  $\phi$  19mm hole on the duct, install the seal ring and the flange on, then insert the probe into, screw to lock the whole enclosure on the flange.
  2. Install the enclosure directly on the duct as Fig.4. Drill a  $\phi$  19mm hole on the duct, insert the probe into with the seal ring, and screw the enclosure on the duct directly.
- Electrical wiring. Open the front cover. Finish wiring according to the diagram.
- During all above procedures of assembling, installing and wiring, all seal rings should be applied properly to ensure the whole enclosure structures and the assemble part of the probe with the duct can be air tightened. Only in this way, the measured air can go into the enclosure from the sample holes on the probe, other than from the other parts. Meanwhile, keep the whole protection rate up to IP65.

### Attention

- The product is not suitable for high SO<sub>2</sub> concentration environment.
- The product needs to warm up for 180 seconds. In normal application environment, the transmitter could reach to the accuracy stated in the specifications after 3 ABC cycles of continuing work. Especially within 3 days after the initial power on, the measured value may not be accurate. But after 3 cycles of the internal ABC operation, the function can correct the output to the real value and meet the accuracy. The ABC cycle is 3 days.
- It should be power OFF during installing and wiring. When using 24VAC, it is strongly recommended to power the unit with independent transformer. If sharing a 24VAC transformer with other equipments such as controllers, transmitters or actuators, please make sure the terminals 24V and GND are connected correctly. Otherwise, it will perhaps reduce serious damages.

### Warranty

- It has limited warranty for eighteen (18) months after the production date.

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