User's Manual

Carbon Dioxide Detector

Model: AT-VLC-ND-A1-PID
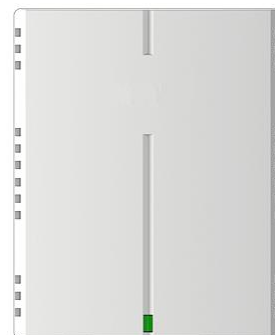
Specifications

| General Data	
Power supply	24VAC/VDC±10%
Consumption	3.5 W max. ; 2.0 W avg.
Analog outputs	One 0~10VDC/4~20mA for CO2 measurement PID control output is selectable for CO2
LED light	3-color mode (default) Green: ≤1000ppm Orange: 1000~1400ppm Red: >1400ppm Red flashing: CO2 sensor faulty
Operation condition	0~50℃; 0~95%RH, non condensing
Storage condition	-10~60℃ / 0~80%RH
Net Weight / Dimensions	190g /117mm(L)×95mm(W)×36mm(H)
Installation	wall mounting with 65mm×65mm or 2"×4"wire box
Housing and IP class	PC/ABS fireproof plastic material, protection class: IP30
Standard	EMC approval
Carbon Dioxide	
Sensing element	Non-Dispersive Infrared Detector (NDIR)
CO_2 measuring range	0~2000ppm
CO_2 Accuracy @22℃(72℉)	±60ppm + 3% of reading or ±75ppm (whichever is greater)
Temperature dependence	0.2% FS per℃
Stability	<2% of FS over life of sensor (15 year typical)
Pressure dependence	0.13% of reading per mm Hg
Calibration	ABC Logic Self Calibration Algorithm
Response time	<2 minutes for 90% step change typical
Signal update	Every 2 seconds
Display resolution	1ppm
Warm-up time	2 hours (first time) / 2 minutes (normal operation)

Dimension and Mounting
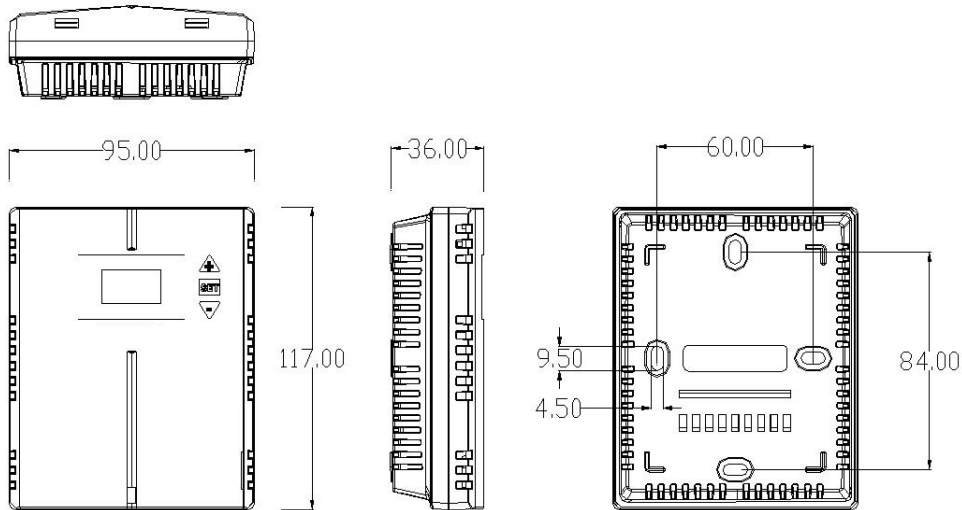
◆ Please note the power supply is 24VAC/VDC±10%. Don't install the detector with over the voltage.
◆ First of all, please prepare a flat head screwdriver and gently put it deep inside of the hole on the bottom of the detector housing. Then slant the screwdriver and open the cover gently. Do not mount it near diffuser or any steam source, in direct sunlight.
◆ Mount the wall plate. Place the detector against the wall at desired location; make sure wires can be passed through the notch on the wall plate.
◆ Connect wires to terminal strips. Make sure wiring connection correct and secure.
◆ Finally close the cover gently.

Wiring Diagram
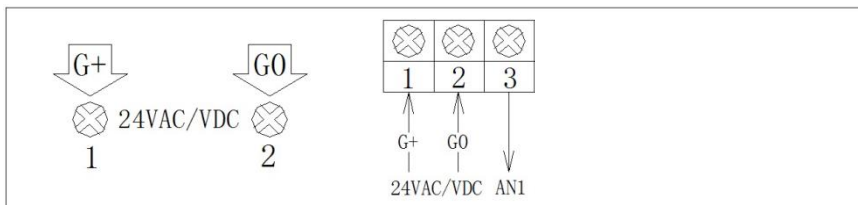
Analog output selection

Open the cover, there are 3 black blocks J1 & S1~S2, the default analog output is 0-10V, refer to below picture to adjust the analog linear output.
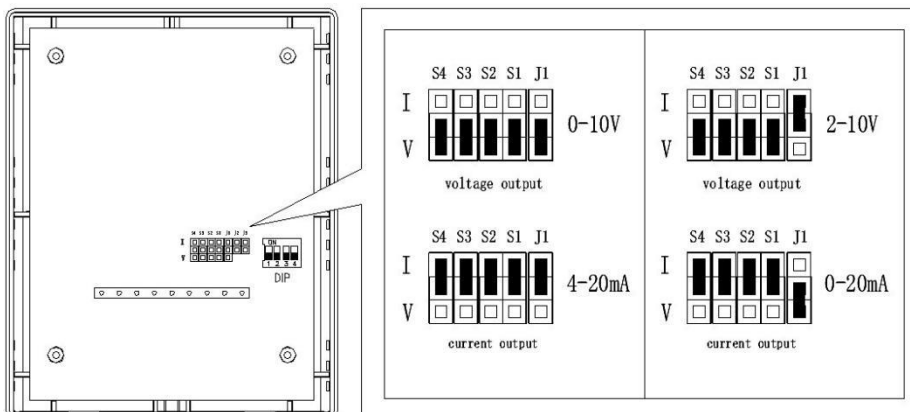
DIPs Setting

Cut off the power and open the cover, there are four DIP switches on the middle right side of circuit board.

DIP1=OFF   Normal use   DIP1=ON   Set advanced parameter (not available)   Default: OFF

DIP2=OFF   Centigrade   DIP2=ON   Fahrenheit   Default: OFF

DIP3=OFF   Analog linear output   DIP3=ON   PID output   Default: OFF

DIP4=OFF   PID setpoint   DIP4=ON   Analog output max/min   Default: OFF

(Note: refer to below table for DIP4, J2, J3 settings, J2 and J3 are located beside of J1)

DIP4	J2 (0: disconnect, 1: connect)	J3 (0: disconnect, 1: connect)	Function
OFF (Default)	0	0	PID setpoint 1000ppm (default)
	1	1	PID setpoint 1200ppm
	0	1	PID setpoint 600ppm
	1	0	PID setpoint 800ppm
ON	0	0	Linear output
	1	1	AN1 output max. value
	0	1	AN2 output max. value
	1	0	AN1/AN2 output min. value