Datasheet

Membrane Dissolved Oxygen Analyzer

AI-DM280

Arka Instruments LLP

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Membrane Dissolved Oxygen Analyzer
AI-DM280

Dissolved oxygen online controller, is widely applied for continuous monitoring and measurement of dissolved oxygen, saturation, oxygen partial pressure and temperature in the solution in the industry of thermal power, chemical fertilizer, environmental protection, metallurgy, pharmacy, biochemistry, food and water, etc.
Continuous monitoring measurement data is connected with the recorder via transmitting output to realize remote monitoring and recording. It can also be connected with RS485 portal via MODBUS-RTU protocol to access computer for monitoring and recording.

Applications

- Food and water
- Thermal power
- Chemical fertilizer
- Environmental protection
- Metallurgy
- Pharmacy
- Biochemistry

Features

- Module design of the circuits.
- Isolating transmitting output.
- Isolating RS485 communication.
- DO, saturation and temperature measurement.
- Air calibration.
- Manual and auto temperature compensation.
- High/low alarm.
- LCD backlight switch.

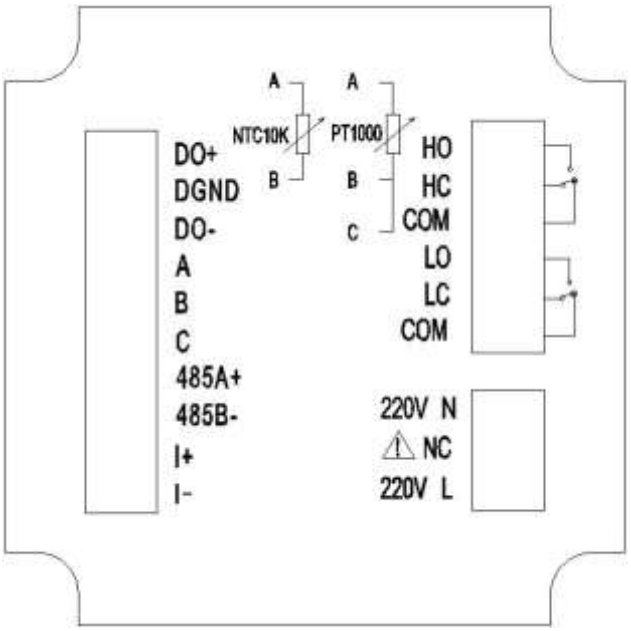
Membrane Dissolved Oxygen Analyzer

Principle

Continuous monitoring measurement data is connected with the recorder via transmitting output to realize remote monitoring and recording. It can also be connected with RS485 portal via MODBUS-RTU protocol to access computer for monitoring and recording.

Parameters	
Model	DM2800
Display	2.8-inch monochrome LCD screen, resolution 128*64
Dimension	Overall dimension: 100mm * 100mm * 150mm Cutout dimension: 92.5mm*92.5mm
Thickness of the installation panel	1.5mm～13mm
Weight	0.65kg
Measuring valuables	DO, Saturation, Oxygen partial pressure
Measuring range	DO:(0 ~ 20)mg/L Saturation: 0~200% Oxygen partial pressure: (0 ~ 400)hPa Temperature:(- 10 ~ 60) ℃
Accuracy	DO/saturation/oxygen partial pressure: ±1.5%F.S
Temperature accuracy	NTC10K: plus or minus 0.5 ℃ PT1000: plus or minus 0.5 ℃
Output	(4~20)mA output, maximum loop is 750Ω,±0.2%FS
Communication protocol	Isolated, MODBUS-RTU RS485
Alarm relay	Pickup/Breakaway AC250V/3A
Relative humidity	10%RH～85%RH（No condensation）
Operating temperature	0℃～60℃
Power supply	AC220V±10%, 5W Max, 50Hz
Storage conditions	Temperature: -15℃~65℃ Relative humidity: 5%~95%RH (No condensation) Altitude:<2000m
Temperature compensation	NTC10K/PT1000 Automatic /Manual temperature compensation
Ingress protection	IP54

Wiring



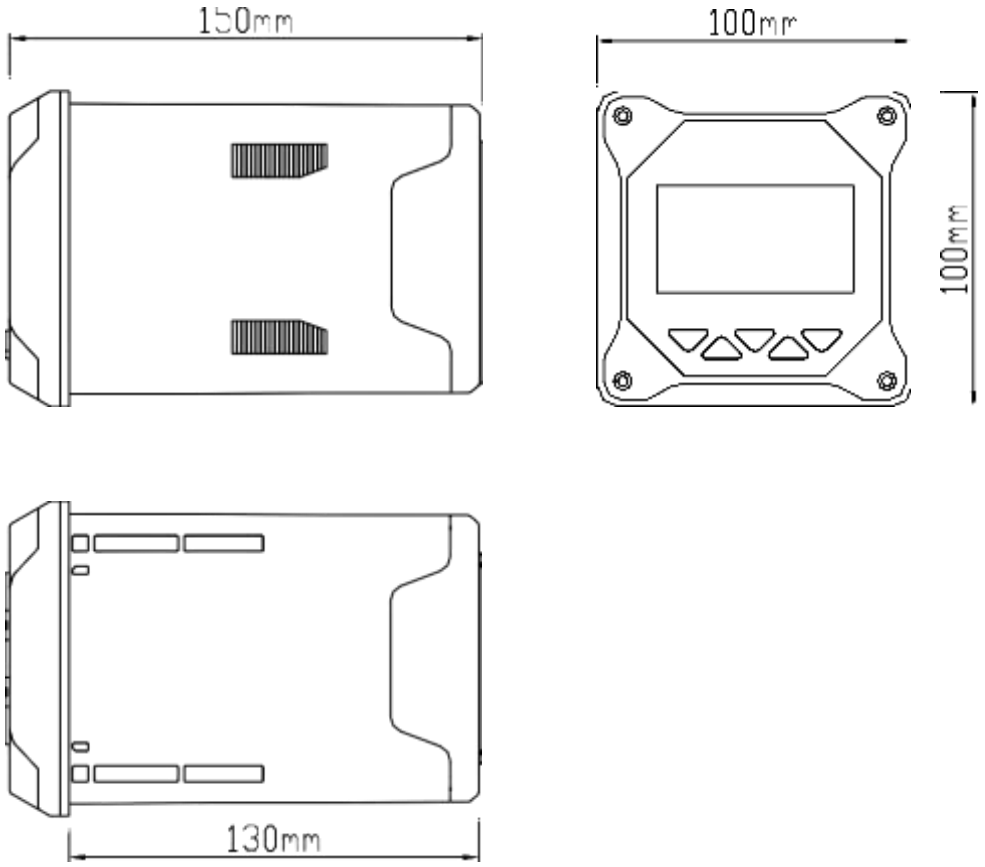
Identification of terminal

- DO+: Dissolved oxygen electrode anode
- DGND: Dissolved oxygen electrode shield wire
- DO-: Dissolved oxygen electrode cathode
- A: Temperature compensation terminal A, NTC10K A or PT1000 A
- B: temperature compensation terminal B, NTC10K B or PT1000 B
- C: Temperature compensation terminal C, short-circuit terminal, PT1000 three-wire system, short-circuit of PT1000 two-wire system to B, NTC10K does not need to be connected to C
- 485A+: RS485 communication output terminal A+
- 485B-: RS485 communication output terminal B-
- I+: (4～20)mA output terminal+
- I-: (4～20)mA output terminal-
- HO: High alarm normally open relay
- HC: High alarm normally closed relay
- COM: Common terminal
- LO: Low alarm normally open relay
- LC: Low alarm normally closed relay
- COM: Common terminal
- 220V N: AC 220V neutral line
- NC: Null
- 220V L: AC 220V live wire

Attention

- Confirm that the instrument is not power on before connected with signal wire, to avoid electric shock.
- Use double insulation wire to prevent fire accident.
- Do not put electric product close to signal terminal, which may cause failure.

Dimensions



Installation

Instrument installation

The installation site and method of the instrument are explained, the part shall be carefully read during the installation.

Notes for installation

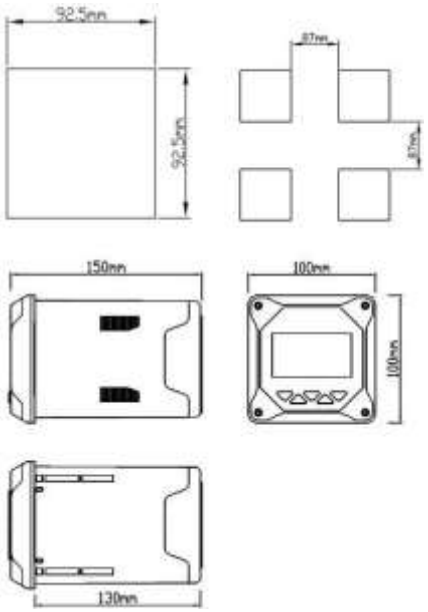
- The instrument is panel mounted.
- It shall be installed inside the building so as to avoid wind and rain as well as direct sunlight.
- Please install it at the place with good ventilation in order to prevent the internal temperature of the instrument from rising.
- Don’t lean to left or right when the instrument is installed, horizontal installation shall be realized as possible (tilting back<30°).

The following places shall be avoided during the installation

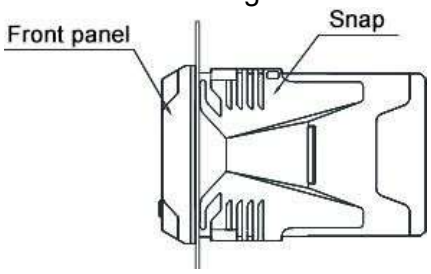
- The place where the environment temperature exceeds 60℃ during the work.
- The place where the environment humidity exceeds 85% during the work.
- The vicinity of the electromagnetic occurring sources.
- The sites with strong mechanical vibration.
- The site where the temperature is changed a lot and the moisture condensation is easily formed.
- Places with lots of lampblack, steam, moisture, dust and corrosive gas.

Installation

92.5mm*92.5mm (H*W) installation hole is opened at the instrument cabinet or installation panel (the dimension is 100*100*150mm (H*W*D)).



The instrument into the mounting hole and then buckle on the snap, as shown below

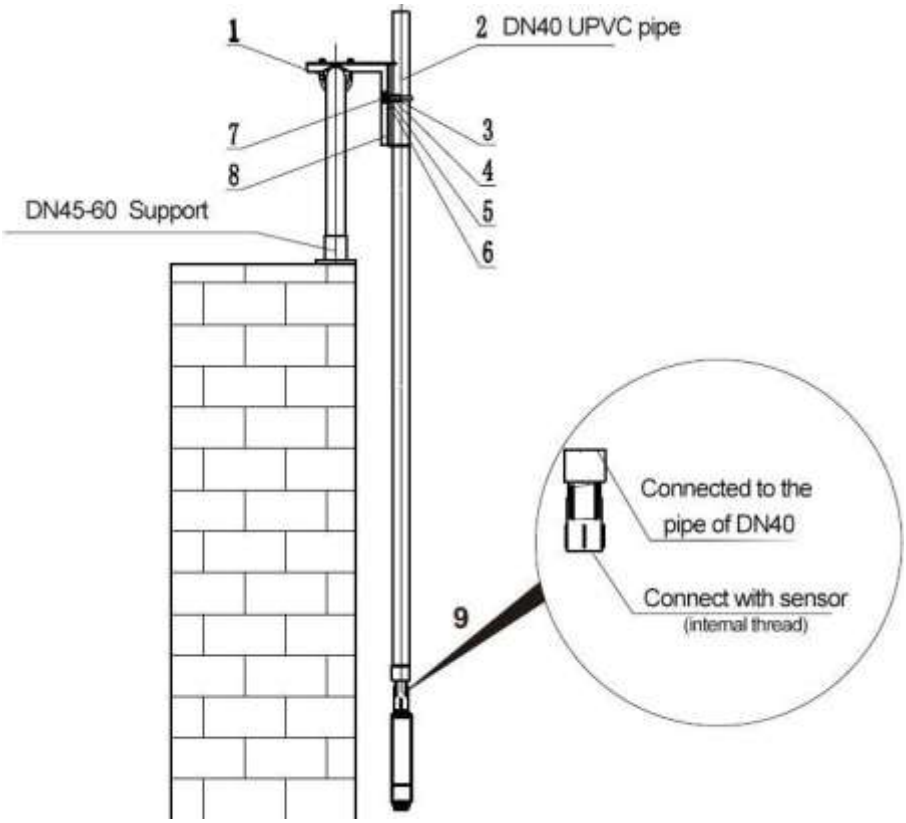


1.1. Electrode installation

The installation steps for the sensor as follow:

1. Use 1 (M8U buckle) to fixing 8 (installation panel) on the railing by pool near the installation point of the sensor；
2. Use glue to connect 9 (connector) and 2 (DN40) PVC pipe, and let sensor cable run through PVC pipe, connect the sensor and make sure that water proof has been done correctly.
3. Using 4 (DN42 U shape clip) to fixing 2 (DN40 pipe) on 8 (installation panel), as picture show below.

1- M8 U clamp（DN60）	2- DN40 UPVC pipe
3- M6*120 Bolt	4- DN42 U clamp
5- M8 washeer（8*16*1)	6- M8 washer（8*24*2)
7- M8 spring washer	8- installation panel
9- Threaded Adapter	



Ordering Code

AI-DM280-WC-B-4-1-E-P1							Description
AI-DM280	-	-	-	-	-	-	
Measurement Range	WC						0-20mg/L
Output		B					4-20mA+RS485
Alarm Output			4				2-channel SPDT
Electrical Interface				1			M16×1.5 cable gland×2+M12×1.5 cable gland
Power Supply					E		220VAC
Accessories						P1	304SS Back Panel Mounting Bracket

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