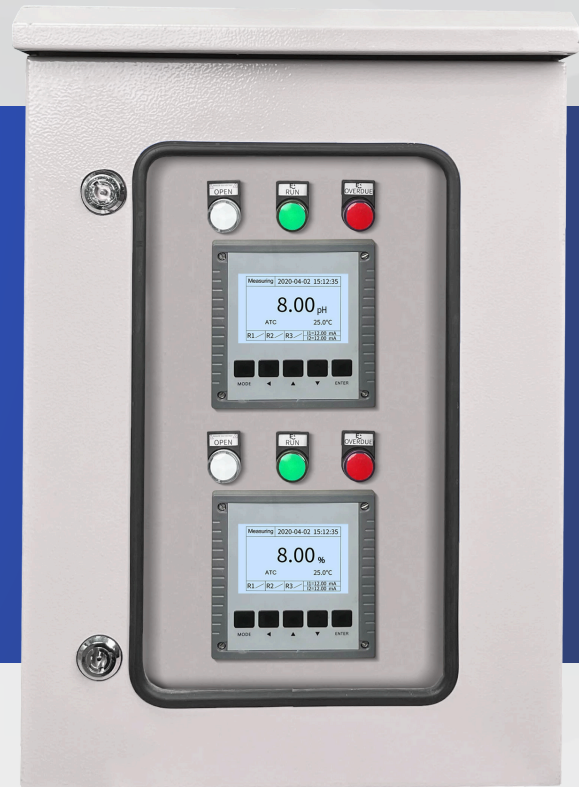








AquaDuo Set A

AquaDuo Set A is a solution that will simplify water quality measurement. and more efficient can be used in the food, beverage, and agricultural production industries. By monitoring pH (positive potential of the hydrogen ions) and DO (Dissolved oxygen) values from IoT devices through a dashboard on the software platform in real time. and notification system via LINE Notify.



Key Features

- 
Ability
There is a software platform that can monitor the operation of the device in real time, such as measuring pH, dissolved oxygen, temperature and relative humidity.
- 
Easy installation and compatibility
The solution has been developed in a plug and play format. allowing easy connection to other devices or sensors, such as in the food, beverage, and agricultural production industries.
- 
Easy to use
User manuals and display screens of the platform software have been prepared to be easy to understand and in Thai language.
- 
Strength and durability
The cabinet material is made of steel. Has a cover and roof for dustproof and waterproof protection.
- 
Customization and flexibility
Supports customization or additions according to specific requirements such as adding an Airlar solution, adding an electrical conductivity sensor, adding a weather station, adding a rain sensor, adding a Chlorine sensor, adding a Nitrate sensor, adding a Phosphorus Sensor, and adding a Potassium sensor.
- 
Data Security
It has an industrial-grade Industrial IoT eSIM (MFF2) chip designed to operate in industrial environments. and can connect to the internet with service provider networks in Thailand It also has an encrypted hardware chip. (CryptoAuthentication) makes data transmission using IoT technology extremely secure and reliable.



Microchip ATECC608A



Micro SD card



USB type C port

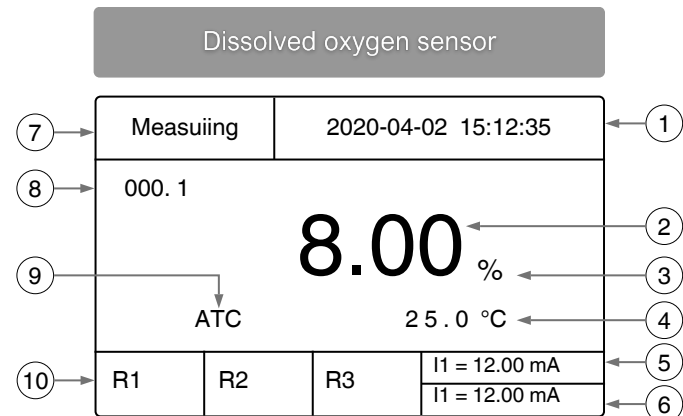
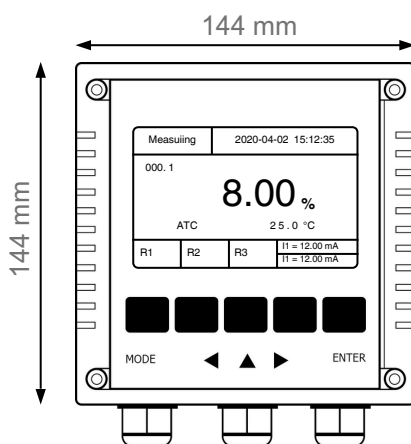
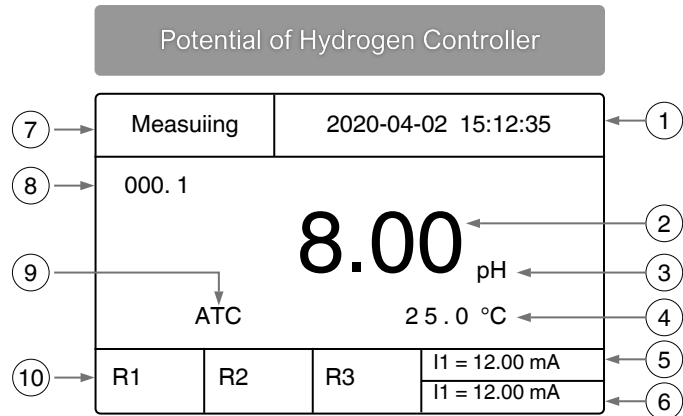
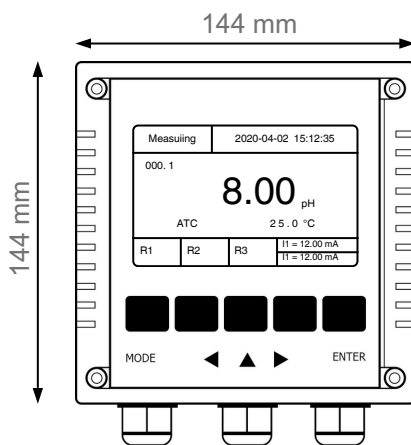
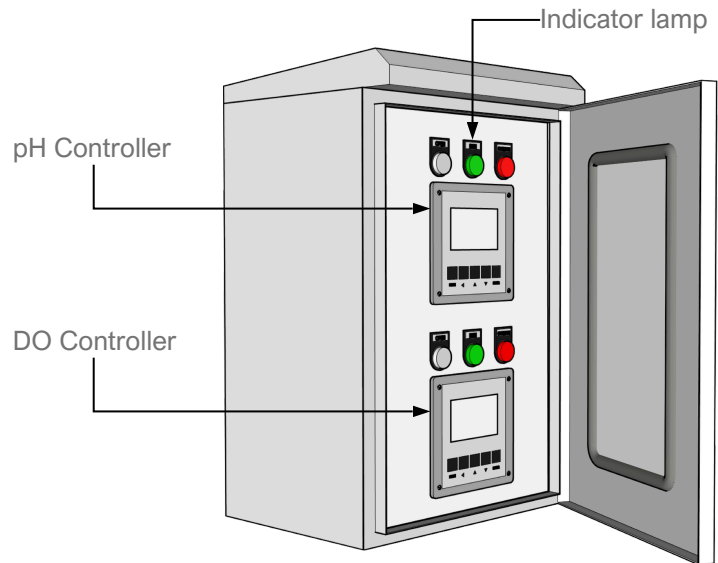
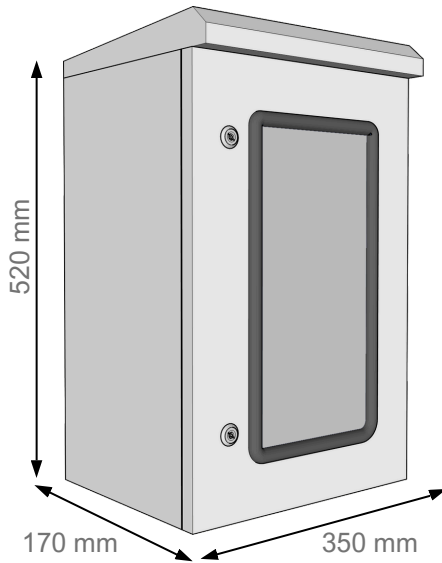


ARM Cortex-M 32-bit



RS485 / RS232

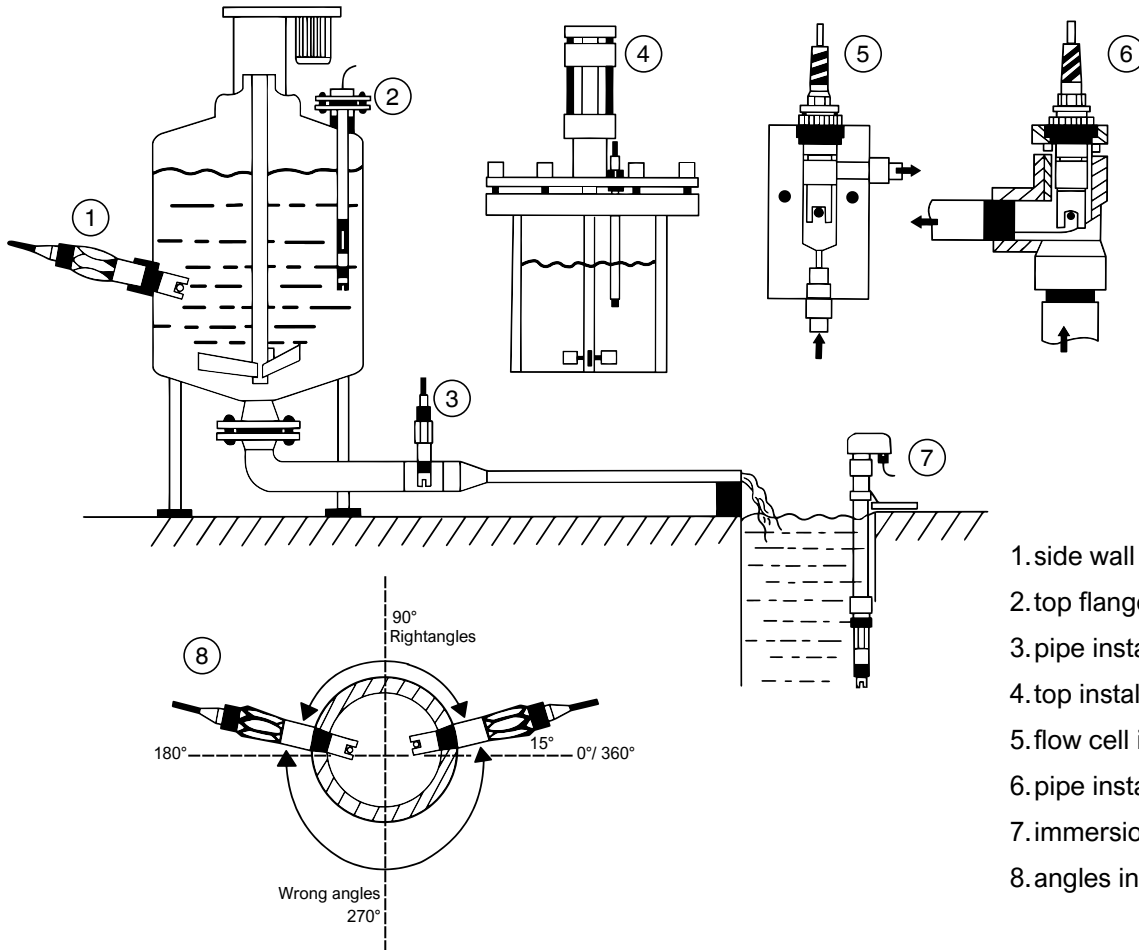
Overview



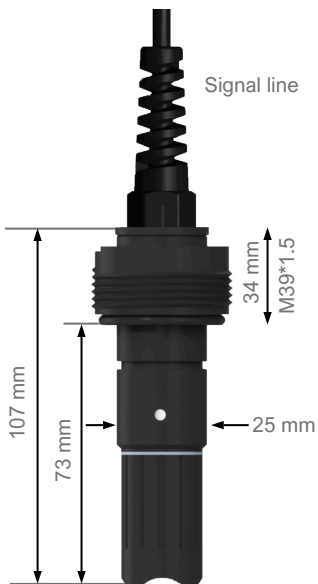
- | | |
|-------------------------|---|
| 1. Date and time | 6. Second current output |
| 2. Main display | 7. Measurement status and Error indicator |
| 3. Unit | 8. Count down timer |
| 4. Temperature and unit | 9. Temp. compensation: auto(ATC) or manual(MTC) |
| 5. First current output | 10. Relay indicator |

Overview

Electrode Installation

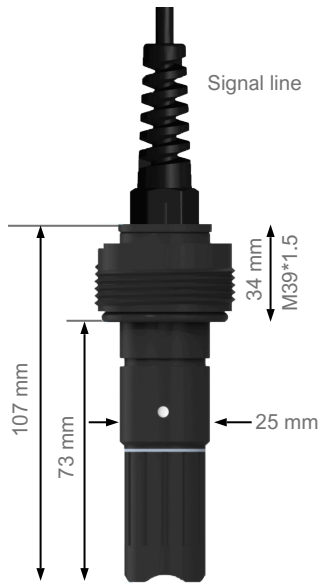


- 1. side wall installation
- 2. top flange installation
- 3. pipe installation
- 4. top installation
- 5. flow cell installation
- 6. pipe installation
- 7. immersion installation
- 8. angles in pipe installation



Potential of Hydrogen Sensor (pH)

Suitable for pH measurement of various substances in medicine, agriculture, wastewater treatment, water quality control in various production processes such as food, beverages, medicine, etc.



Dissolved oxygen sensor (DO)

Suitable for work such as checking dissolved oxygen in water, such as aquaculture systems, wastewater treatment, production control such as beer or wine fermentation, controlling the quality of water used in medicine or agriculture, and others.

Product Description

MCU	ARM Cortex-M 32-bit RISC ARM Processor cores
Interface port	RS485 or RS232 isolation with auto-direction (Software mode selection) RS485 or I2C with auto - direction
Indicator lamp	LED Open LED Run LED Overdue
Power supply	24 Vdc
Display	LCD
USB type C port	Program Upload
Case	Aluminium
pH sensor	<p>Technical data</p> <ul style="list-style-type: none"> • pH range : 0 - 14 pH (Resolution : 0.01 pH, Accuracy : ± 0.01 pH) • pH balance : 7.00 ± 0.25 • Temperature range : 0.0 - 60°C (Resolution : 0.1°C Accuracy : ± 0.3 °C) • Temperature compensation : Automatic • Output : RS485; 4 - 20mA • Power supply : DC9 - 30V(Recommend 12V) • Pressure range : 0 - 3bar • Shell material : PPS, ABS • Liquid junction : PTFE • Pipe thread : 3/4, M39* 1.5 • Cable length : 5m or customized • Protection grade : IP68

Product Description

pH Controller	<p>Specifications</p> <ul style="list-style-type: none"> • Measuring range : 0.00 - 20.00/0.00 - 2.00 μS/cm • Resolution : 0.01/0.001 μS/cm • Accuracy : \pm0.01ppm / \pm0.001 μS/cm • Temp. compensation : -10.0 - 130.0°C • Temp. range : -10.0 - 130.0°C • Temp. compensation range : -10.0 - 130.0°C • Storage temp : -20 - 70°C • Display : Back light, dot matrix LCD display • Current output accuracy : \pm0.05 mA • Baud rate : 9600/19200/38400 • Relay delay: 0 - 120 seconds • Data logging capacity : 500,000 • Waterproof grade : IP65
Do sensor	<ul style="list-style-type: none"> • Measuring range: 0.00 - 20.00 mg/L(ppm) • Accuracy : +2% FS • Temperature range : 0.0 - 60.0°C • Temperature sensor : NTC22K • Response time : 90% < 90 seconds • Medium flow rate : > 0.02 m/s • Calibration interval : Once every 1 month • Shell material : ABS • Pressure range : 0 - 2bar • Polarization voltage : 675mV • Process connection thread : M39* 1.5 • Cable length : 5m or customize • Electrical connection : Pin type or BNC connector • Protection grade : IP68
Do Controller	<p>Specifications</p> <ul style="list-style-type: none"> • Measuring range : 0.00 - 400.00 • Resolution : 0.1 • Accuracy : \pm0.2 • Temp. compensation : Pt - 1000 / NTC22K • Temp. range : -10.0 to +130.0°C • Temp. compensation range : -10.0 - 130.0°C • Sensor current measurement range : -2.0 - 400 nA • Sensor current measurement accuracy : \pm0.005 nA • Polarrization voltage range : -0.675 V • Pressure range : 500 - 9999 mBar • Salinity compensation range : 0.00 to 50.00 ppt • Ambient temperature range : 0 - 70 °C • DO current output1 : isolated 4-20 mA output, max. load 500 Ω
IoT Box Size	H: 500 x W: 350 x D: 280 mm
Weight	20 kg