SaiJai TECH

HighDO Solution
BY SAIJAI TECH

SAIJAI TECH CO., LTD.
40 Lai Unique Thesaban Rangsan Nuea Road, Ladyao Subdistrict, Chatuchak District, Bangkok 10900

Contact
02-128-0942
iot@saijai.tech
www.saijai.tech

SaiJai Tech
@saijaitech
@saijaitech

HighDO (EC)

A system that measures water quality using software platforms and IoT devices.

HighDO is a water quality measurement solution developed with high-quality IoT devices and a real-time software platform for monitoring and analysis. It can also be customized or adapted to specific needs without affecting the existing system.

Key Features

Efficiency
Can measure various values related to water quality such as electrical conductivity, temperature etc.

Customization and flexibility
Support customization or additions according to specific requirements such as Phosphorus sensor, Turbidity Sensor, Biological Oxygen Demand (BOD) Sensor, Chemical Oxygen Demand (COD) Sensor, dissolved oxygen (DO) sensor etc.

Easy installation and compatibility
Adopts Plug and Play principle which makes it easy to integrate with existing systems.

Easy to use
Has a clear information show on display screen and status lights.

Strong and durable
It is an aluminum enclosure with a lid and roof, dustproof, waterproof, and unbreakable.

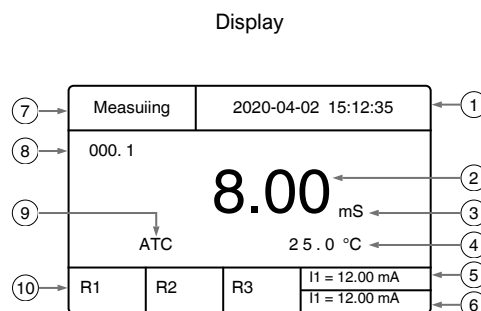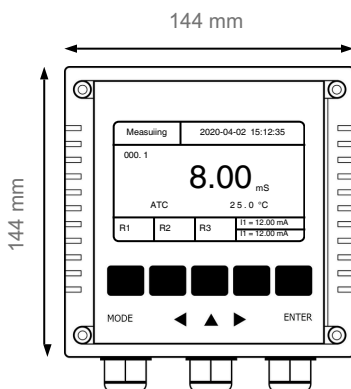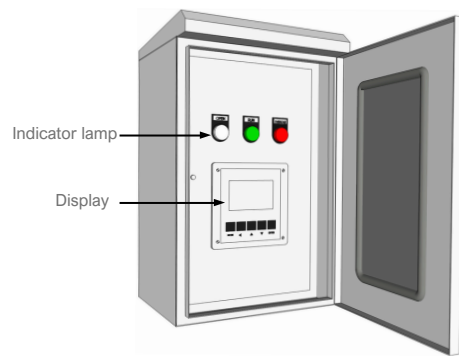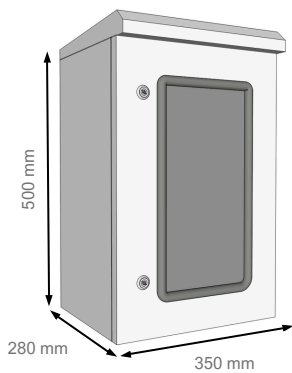**Microchip ATECC608A**   **Micro SD card**   **USB type C port**   **ARM Cortex-M 32-bit**   **RS485 / RS232**

SaiJai TECH

SAIJAI TECH CO., LTD.

HighDO Solution
BY SAIJAI TECH

40 Lai Unique Thesaban Rangsan Nuea
Road, Ladyao Subdistrict, Chatuchak
District, Bangkok 10900

Contact
02-128-0942 — SaiJai Tech
iot@saijai.tech — @saijaitech
www.saijai.tech — @saijaitech

Overview

Wiring diagram

- Power Supply
- Circuit breaker
- Energy meter
- Fuse protection
- Main Circuit breaker
- Surge protection
- Temp & Humidity sensor
- Controller

Pilot lamp 220VAC (White)
Pilot lamp 220VAC (Green)
Pilot lamp 220VAC (Red)

Electric Conductivity CONTROLLER

pH Sensor DO Sensor EC Sensor

500 mm
280 mm
350 mm

Indicator lamp
Display

Accessories

144 mm
144 mm

Display

	Measuiing	2020-04-02 15:12:35
	000. 1	
		8.00 mS
	ATC	25.0 ℃
	R1	R2	R3	I1 = 12.00 mA

MODE ◄ ▲ ► ENTER

7 Measuiing 2020-04-02 15:12:35 1
8 000. 1
9 8.00 mS 2 / 3
   ATC 25.0 ℃ 4
10 R1 R2 R3 I1 = 12.00 mA 5
                 I1 = 12.00 mA 6
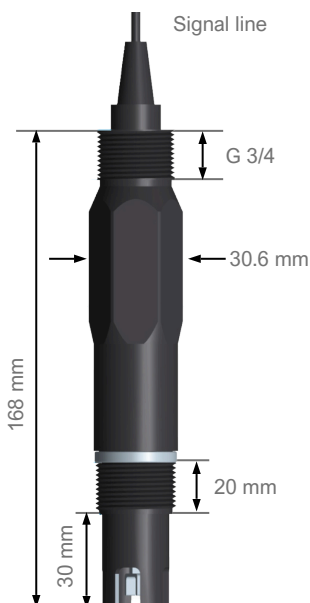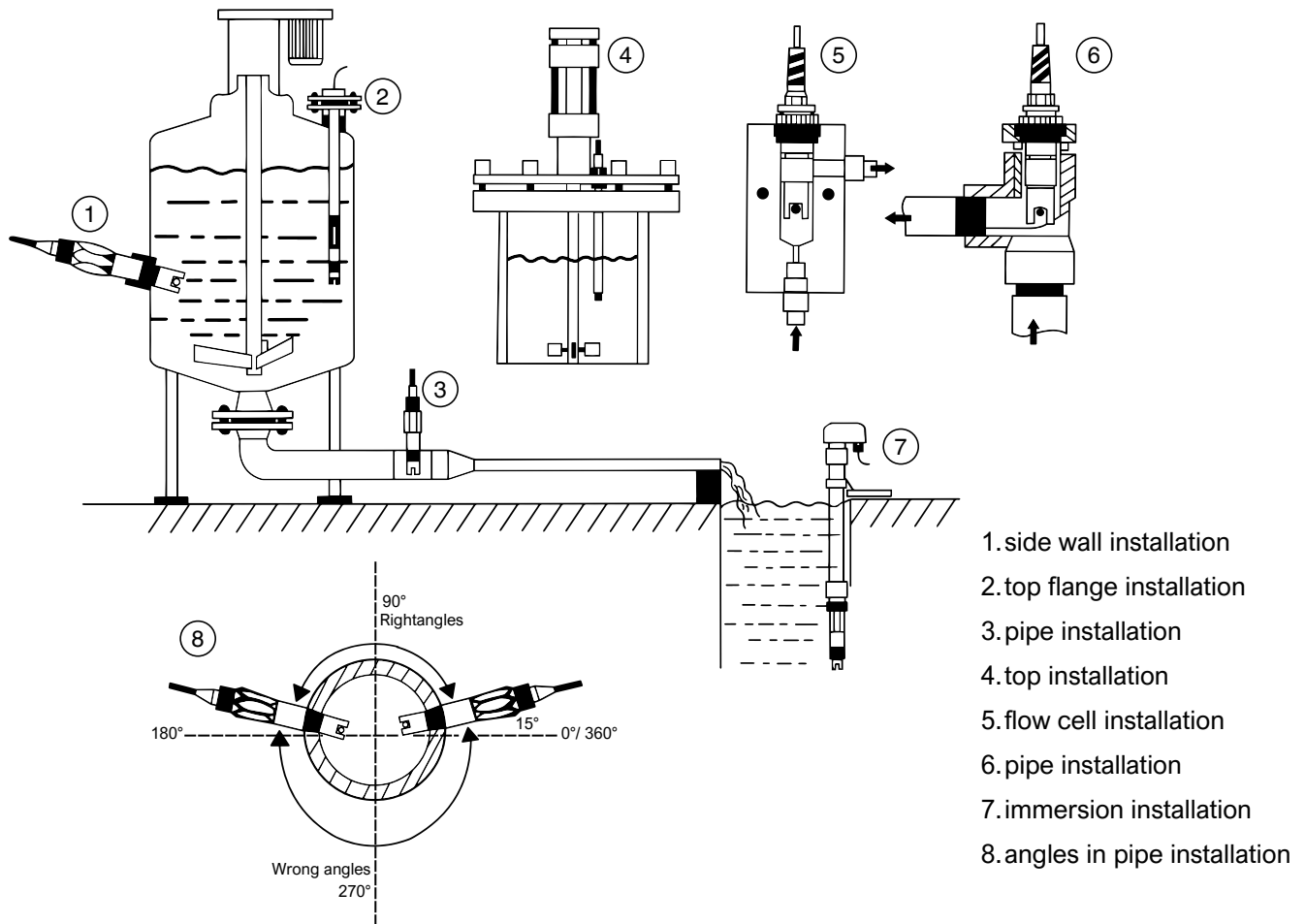
1. Date and time
2. Main display
3. Unit
4. Temperature and unit
5. First current output
6. Second current output
7. Measurement status and Error indicator
8. Count down timer
9. Temp. compensation: auto(ATC) or manual(MTC)
10. Relay indicator

SaiJai TECH

HighDO Solution
BY SAIJAI TECH

SAIJAI TECH CO., LTD.
40 Lai Unique Thesaban Rangsan Nuea Road, Ladyao Subdistrict, Chatuchak District, Bangkok 10900

Contact
02-128-0942
iot@saijai.tech
www.saijai.tech

SaiJai Tech
@saijaitech
@saijaitech

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

Signal line

G 3/4

30.6 mm

168 mm

20 mm

30 mm

Conductivity Sensor (EC)

Suitable for water conductivity measurement such as water treatment, measuring nutrient concentration in soil solution, checking water quality in aquaculture, controlling drinking water production quality, etc.

![SaiJai TECH]

HighDO Solution
BY SAIJAI TECH

SAIJAI TECH CO., LTD.
40 Lai Unique Thesaban Rangsan Nuea Road, Ladyao Subdistrict, Chatuchak District, Bangkok 10900

Contact
- 02-128-0942
- iot@saijai.tech
- www.saijai.tech
- SaiJai Tech
- @saijaitech
- @saijaitech

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
EC sensor	Technical data • Support measuring : Conductivity / TDS / Salinity • Measuring range : 0 - 2000µS/cm • Accuracy : <2% • Resolution : ±1 µS/cm • Temp. measure range : 0.0 - 60.0 °C • Temp. compensation : Automatic/Manual • Output signal : RS485;4 - 20mA • Power supply : DC9-30 VDC Recommend 24 VDC • Shell material : PPS,ABS • Pipe thread : M39*1.5,3/4 • Cable length : 5m or customized • Protection grade : Ip68
EC Controller	Specifications • Measuring range : 0.00 to 20.00/0.00 to 2.00 µS/cm • Resolution : 0.01/0.001 µS/cm • Accuracy : ±0.01ppm / ±0.001 µS/cm • Temp. compensation : -10.0 to +130.0°C • Temp. range : -10.0 to +130.0°C • Temp. compensation range : -10.0 to +130.0°C • Storage temp : -20 to +70°C • Display : Back light, dot matrix LCD display • Current output accuracy : ±0.05 mA • Baud rate : 9600/19200/38400 • Relay delay: 0-120 seconds • Data logging capacity : 500,000 • Waterproof grade : IP65
IoT Box Size	H: 500 x W: 350 x D: 280 mm
Weight	18 kg

SaiJai TECH

HighDO Solution
BY SAIJAI TECH

SAIJAI TECH CO., LTD.
40 Lai Unique Thesaban Rangsan Nuea Road, Ladyao Subdistrict, Chatuchak District, Bangkok 10900

Contact
02-128-0942
iot@saijai.tech
www.saijai.tech

SaiJai Tech
@saijaitech
@saijaitech

HighDO (DO)

A system that measures water quality using software platforms and IoT devices.

HighDO is a water quality measurement solution developed with high-quality IoT devices and a real-time software platform for monitoring and analysis. It can also be customized or adapted to specific needs without affecting the existing system.

Key Features

Efficiency
Can measure various values related to water quality such as electrical conductivity, temperature etc.

Customization and flexibility
Support customization or additions according to specific requirements such as Phosphorus sensor, Turbidity Sensor, Biological Oxygen Demand (BOD) Sensor, Chemical Oxygen Demand (COD) Sensor, dissolved oxygen (DO) sensor etc.

Easy installation and compatibility
Adopts Plug and Play principle which makes it easy to integrate with existing systems.

Easy to use
Has a clear information show on display screen and status lights.

Strong and durable
It is an aluminum enclosure with a lid and roof, dustproof, waterproof, and unbreakable.

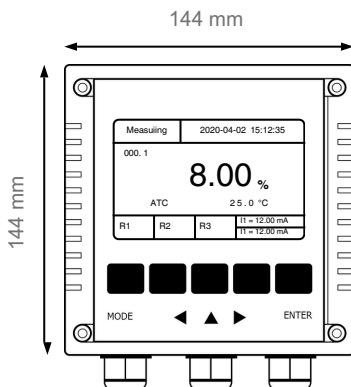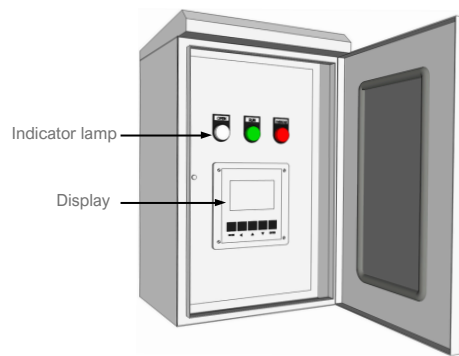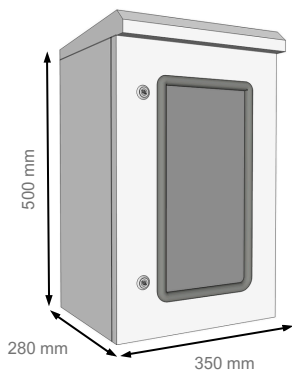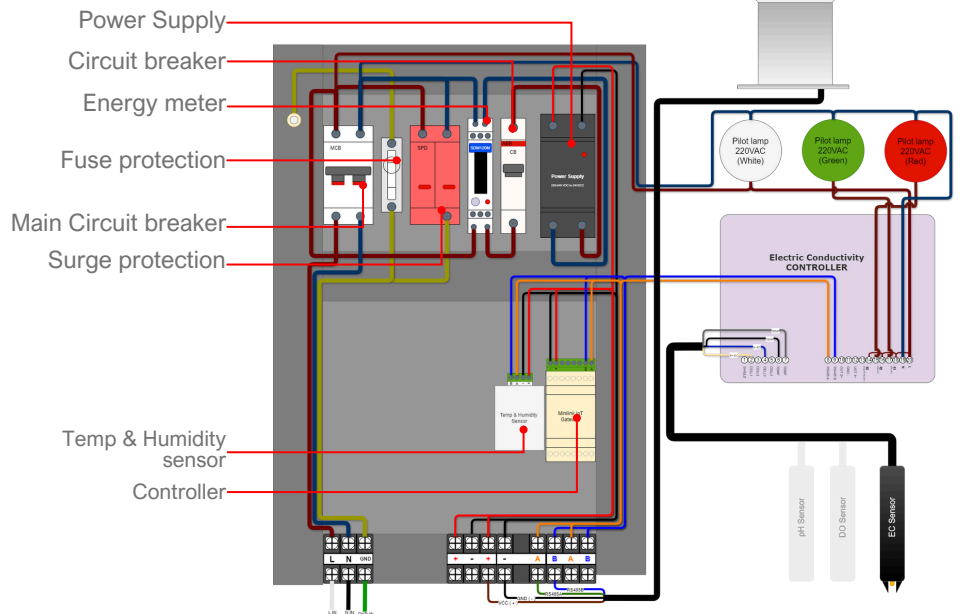**Microchip ATECC608A** | **Micro SD card** | **USB type C port** | **ARM Cortex-M 32-bit** | **RS485 / RS232**

SaiJai TECH

HighDO Solution
BY SAIJAI TECH

SAIJAI TECH CO., LTD.
40 Lai Unique Thesaban Rangsan Nuea Road, Ladyao Subdistrict, Chatuchak District, Bangkok 10900

Contact
02-128-0942
iot@saijai.tech
www.saijai.tech

SaiJai Tech
@saijaitech
@saijaitech

Overview

Wiring diagram

Power Supply
Circuit breaker
Energy meter
Fuse protection
Main Circuit breaker
Surge protection

Temp & Humidity sensor
Controller

Pilot lamp 220VAC (White)
Pilot lamp 220VAC (Green)
Pilot lamp 220VAC (Red)

Electric Conductivity CONTROLLER

pH Sensor
DO Sensor
EC Sensor

---

500 mm
280 mm
350 mm

Indicator lamp
Display

Accessories

Display

144 mm
144 mm

Measuiing   2020-04-02 15:12:35
000. 1
8.00 %
ATC   25.0 ℃
R1 R2 R3   I1 = 12.00 mA
             I1 = 12.00 mA

MODE ◀ ▲ ▶ ENTER

7 Measuiing   2020-04-02 15:12:35   1
8 000. 1
                  8.00 %   2
9   3
   ATC   25.0 ℃   4
10 R1 R2 R3   I1 = 12.00 mA   5
                  I1 = 12.00 mA   6
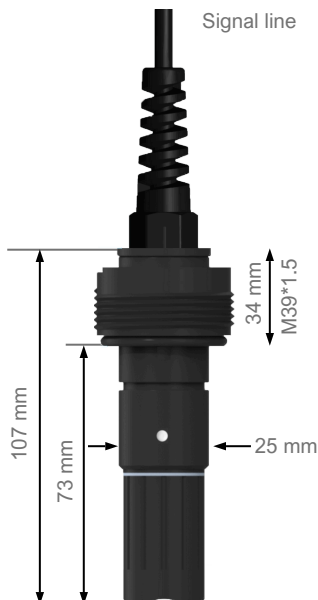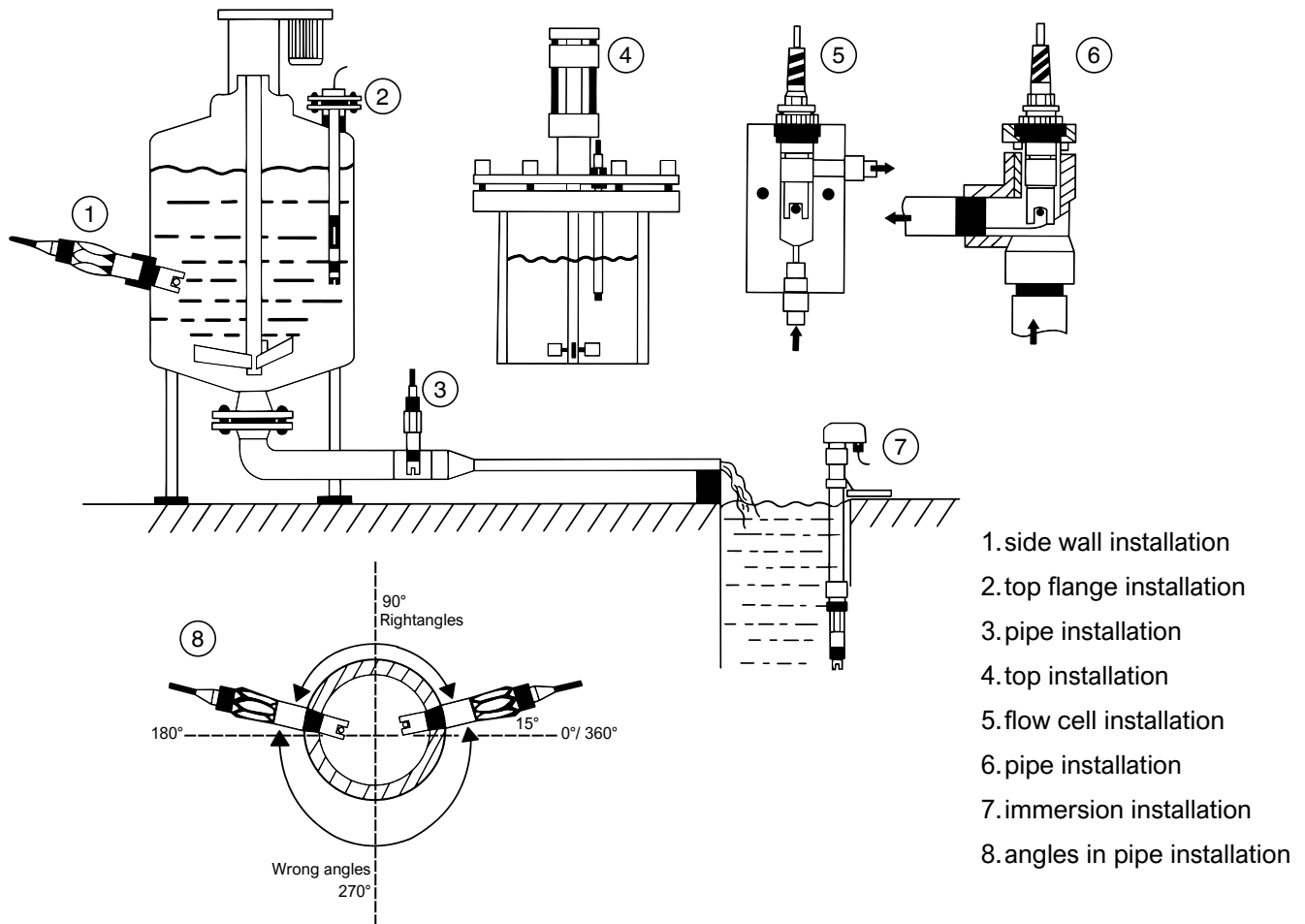
1. Date and time
2. Main display
3. Unit
4. Temperature and unit
5. First current output
6. Second current output
7. Measurement status and Error indicator
8. Count down timer
9. Temp. compensation: auto(ATC) or manual(MTC)
10. Relay indicator

SaiJai TECH

SAIJAI TECH CO., LTD.

HighDO Solution
BY SAIJAI TECH

40 Lai Unique Thesaban Rangsan Nuea Road, Ladyao Subdistrict, Chatuchak District, Bangkok 10900

Contact

02-128-0942

iot@saijai.tech

www.saijai.tech

SaiJai Tech

@saijaitech

@saijaitech

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

90°
Rightangles

180° — — — — — — — 15° — 0°/ 360°

Wrong angles
270°

Signal line

34 mm
M39*1.5

107 mm

73 mm

25 mm

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.

SaiJai TECH

HighDO Solution
BY SAIJAI TECH

SAIJAI TECH CO., LTD.
40 Lai Unique Thesaban Rangsan Nuea
Road, Ladyao Subdistrict, Chatuchak
District, Bangkok 10900

Contact
📞 02-128-0942
✉ iot@saijai.tech
🌐 www.saijai.tech

f SaiJai Tech
LINE @saijaitech
X @saijaitech

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
Do sensor	• 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	Specifications • Measuring range : 0.00 - 400.00 • Resolution : 0.1 • Accuracy : ± 0.2 • Temp. compensation : Pt-1000 / NTC22K • Temp. range : -10.0 to + 130.0°C • Temp. compensation range : -10.0 to + 130.0°C • Sensor current measurement range : -2.0 to + 400 nA • Sensor current measurement accuracy : ±0.005 nA • Polarrization voltage range : -0.675 V • Pressure range : 500 to 9999 mBar • Salinity compensation range : 0.00 - 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	18 kg