



ppm ppb % µg/L mg/L °C



Intelligent SUNTEX DC-5310(RS) Dissolved Oxygen Transmitter

Intelligent Dissolved Oxygen Transmitter..DC-5310(RS)

Overview



Intelligent Dissolved Oxygen Transmitter..DC-5310(RS)

Background

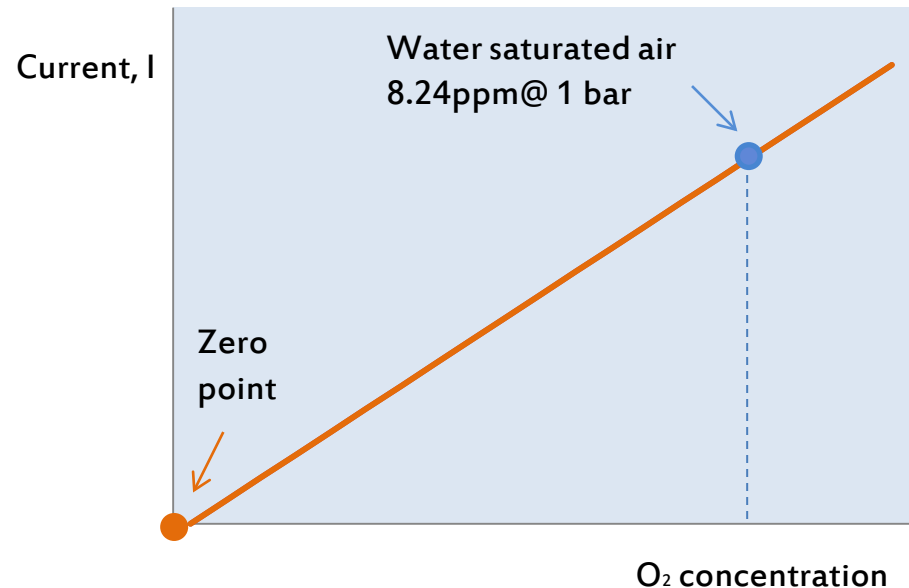
About Dissolved Oxygen

Dissolved oxygen means the amount of gaseous oxygen (O_2) dissolved in an aqueous solution. DO is measured either in milligrams per liter (mg/L) or "percent saturation." Continuous measurements of dissolved oxygen have played a major role in water or wastewater treatment facilities, where the amount of oxygen consumed by microorganisms indicates the efficiency to transform organic materials.

Principle

By electrochemical approach the oxygen diffuses through the membrane of the DO sensor and then is transformed into a current that associates with oxygen concentration in a chemical reaction by using an electrolyte.

Linear relationship of current towards oxygen concentration



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Where to use

Online measuring, monitoring,
controlling

- Wastewater treatment - aeration/effluent
- Fish-farming / Aquaculture
- Fermentation process



ISO 9001:2008
Certificate supplier

IP65

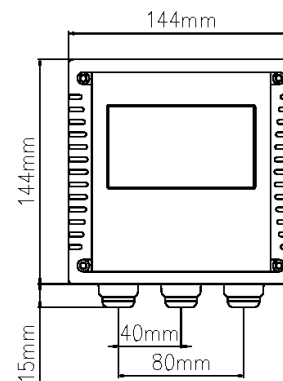
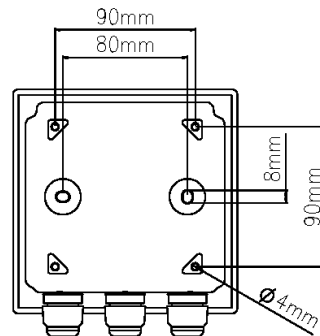
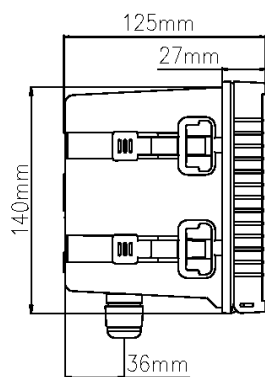
1 year
warranty

Leading innovation

Extraordinary Design

.....state-of-the-art technology being integrated

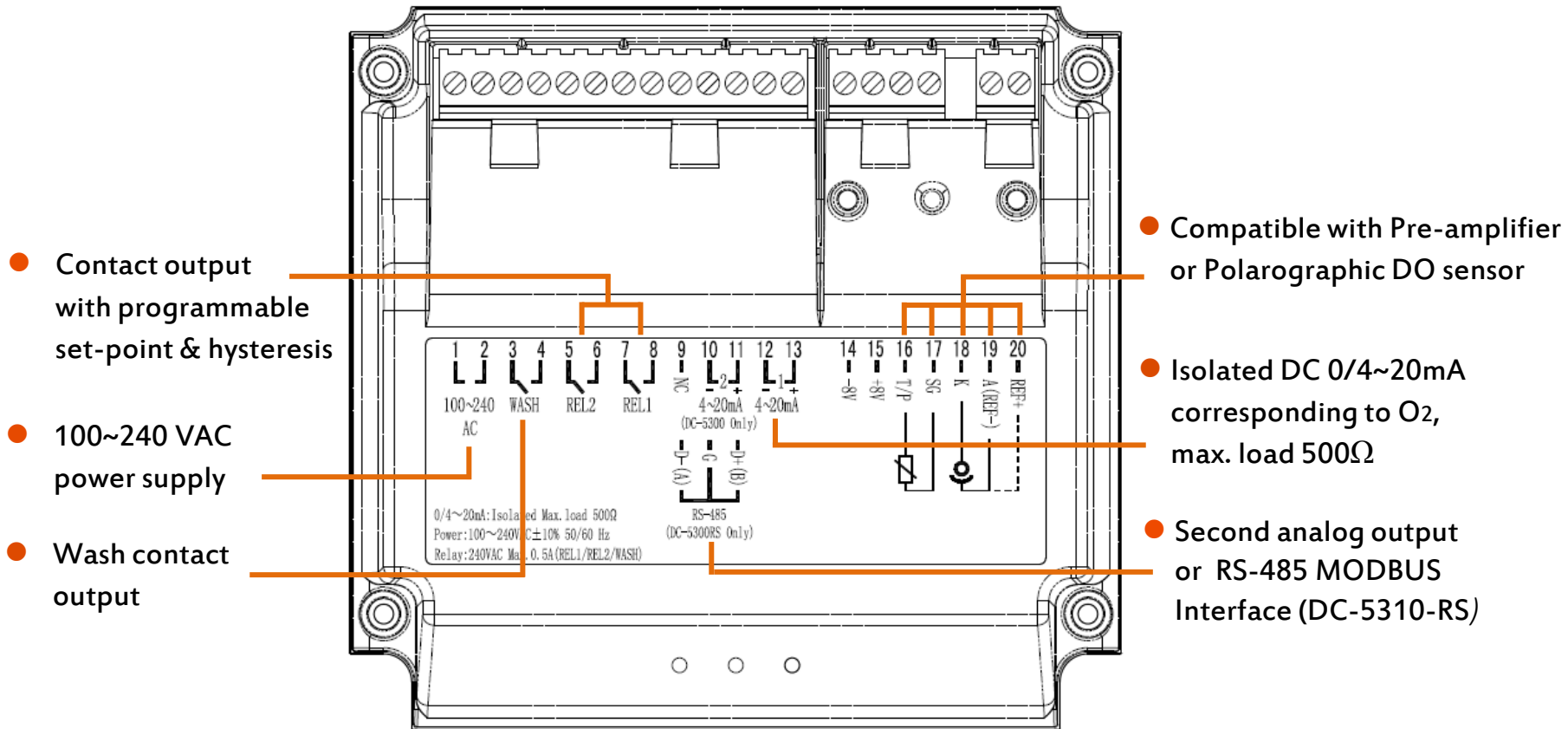
Intelligent technology with robust protection ability makes DC-5310(RS) superior in operation experience as well as the highest reliability by significant EMC protection and IP65 waterproof & dustproof ability. An optional sun-shield accessory coming along with wall / pipe mounting kit can prevent the unit from direct exposure to sunlight, ensuring high life span for outdoor practices.



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Wiring Illustration



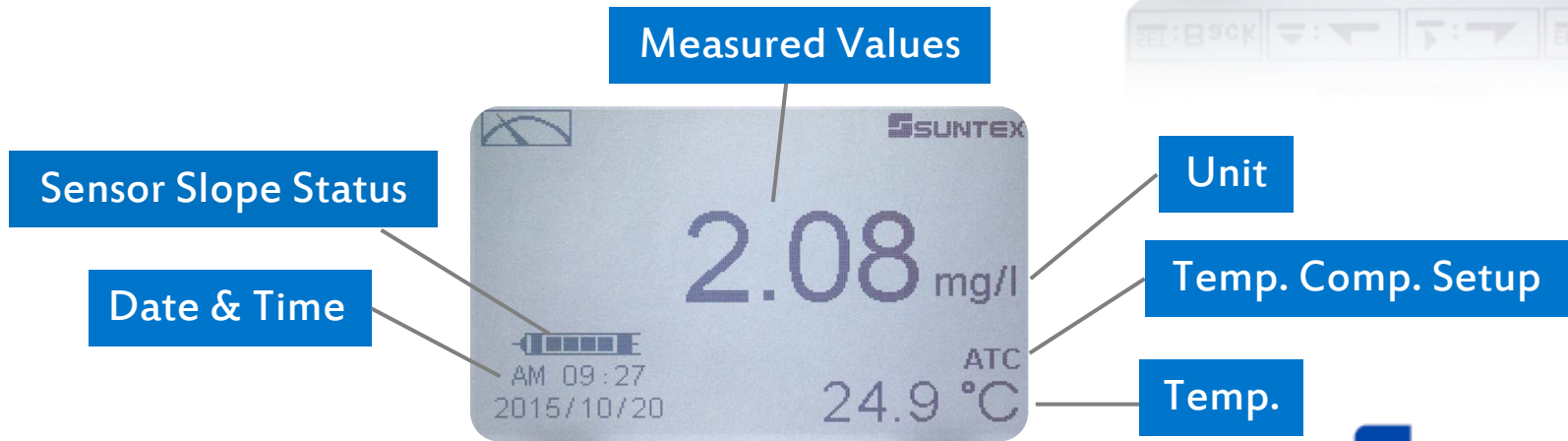
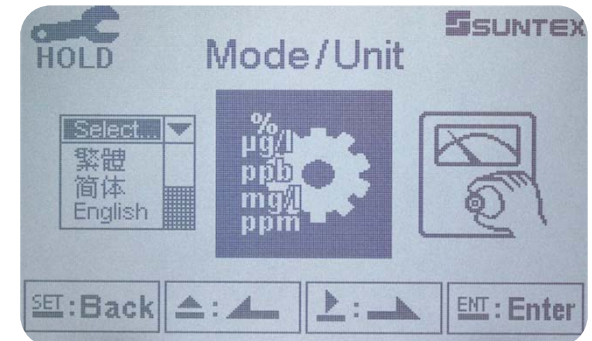
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Clear at a glance.....

Informative Display

..... leading to the world of unique design

Fine resolution display simultaneously shows multi-data such as readings & unit, temperature, date & time, alarms, offering clear information at a glance. With the graphical menu structure more than text for all parameter setup it leads to easy-to-use interface and further intuitive and user-friendly operation.



Intelligent Dissolved Oxygen Transmitter..DC-5310(RS)

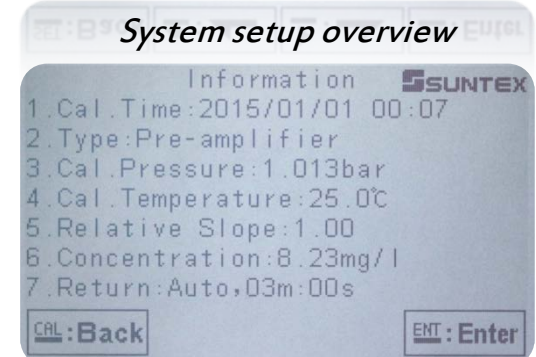
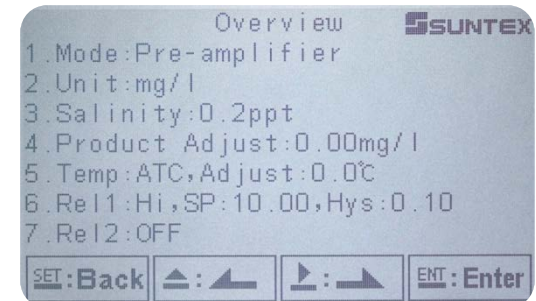
Easy to understand

Informative Display

..... all settings & last calibration record at a glance

Overview of the system information makes it possible to review all details at a glance. Thanks to this superior design, there is no need to browse through and check every parameter one by one. This, therefore, saves much operation time and thus augments higher efficiency, as well as a higher workflow.

More considerably, it is available to offer a higher level of security mechanism by the built-in password for system setup and calibration setup respectively. In this case, only authorized personnel have access to parameter setup, calibration and thus safety process can be guaranteed greatly.



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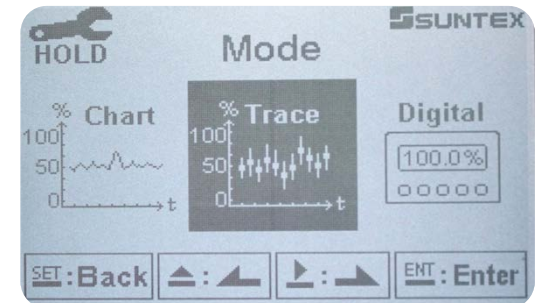
Advanced graphic curve display

Trace & Real-Time Chart Display

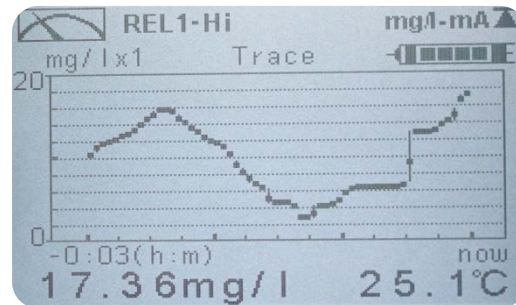
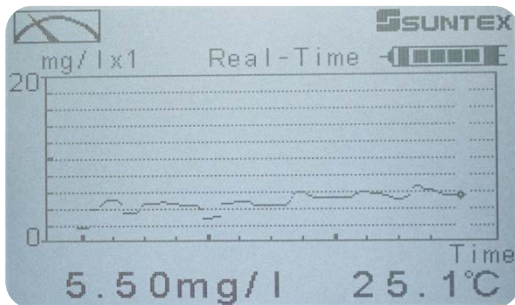
..... offering recordable or updating trend



The DC-5310-RS provides the trend chart for ease of understanding the latest or historical field conditions. Real-time mode is to show the data changes in every 3 minutes, while trace mode is to show the data changes in a minimum of 3 minutes up to a maximum of 4 weeks. This satisfies customers with a wide range of demands as a whole.



Real-time & trace mode can only be seen in RS-series



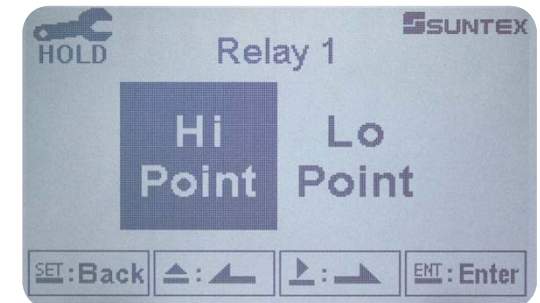
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Indispensable.....

Programmable Relay

..... controlling the external devices in an effective way

Depending upon requirements of the process, two individual programmable relays can be applied accordingly. Set-point and hysteresis that can be set according to different field conditions is going to ensure an appropriate timing to activate external devices such as pumps or valves. In this case, unnecessary and frequent activation of pumps or solenoid valves can be avoided. For cleaning procedure, a cleaning timer relay can be either prepared for external clean devices or can be served as a timer alarm.



Individual Hi/Lo programmable relay



Set-point setup

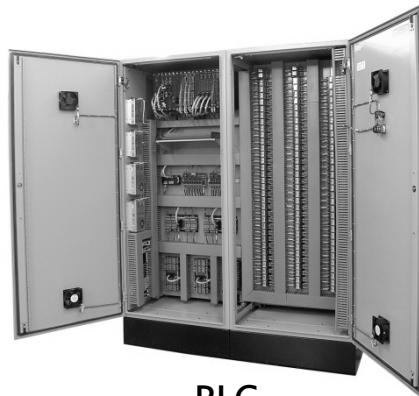
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Flexible & reversible.....

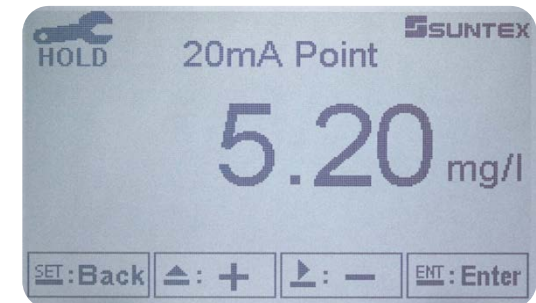
Analog Output

..... for PLC communication or recorder

Analog communication is a common form used for signal transmission among all units. The D.O. transmitter DC-5310(RS) can output a 0/4~20mA signal that matches the main measurement value (mg/L, μ g/L ppm, ppb or %). Programmable setting with a desired range, furthermore, enhances the output resolution.



PLC



20mA output => 5.20mg/L

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Digital communication.....

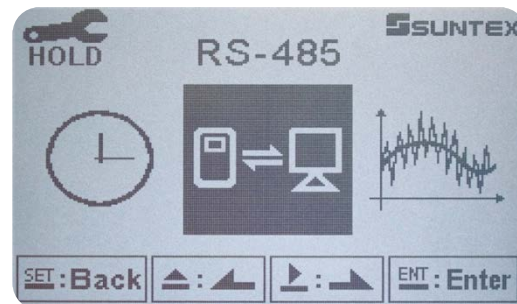
MODBUS RS-485 Interface

..... accessible to HMI, PLC or PC



The DC-5310-RS provides either one digital output or one analog output for data transmission. The RS-485 communication applies MODBUS protocol that can transmit data in dual ways and allow the serial connection up to 31 devices as well.

Suntex also supplies optional data logger software, DLT, for personal computer connection. That makes it easy to record down the measurement data and transform it to excel format for further data processing and study.



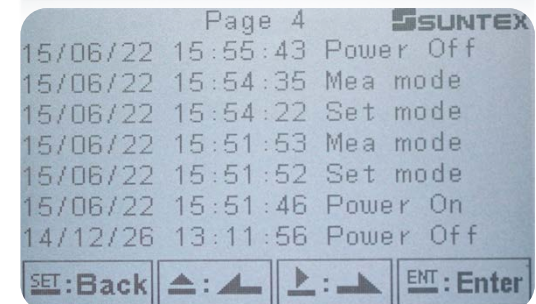
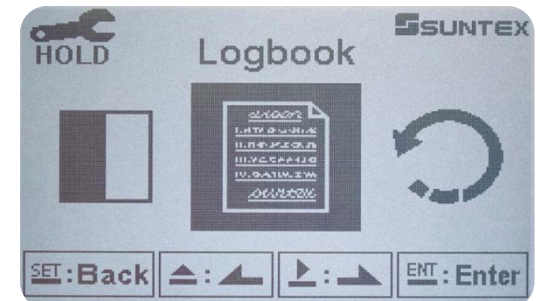
Intelligent Dissolved Oxygen Transmitter..DC-5310-RS

All-inclusive events.....

Events History Logbook

..... completely presenting a continuous record of all changes

The event logbook is available in the DC-5310-RS and it records down as many as the latest 50 events, inclusive of analog output over-range, power failure, relay on/off, and entry of measurement or setting mode with date and time stamp clearly, It registers actions taken in the unit, makes sure any changes could be under control and thus leads to the safety of the processes.



Intelligent Dissolved Oxygen Transmitter..DC-5310-RS

Considerate features.....

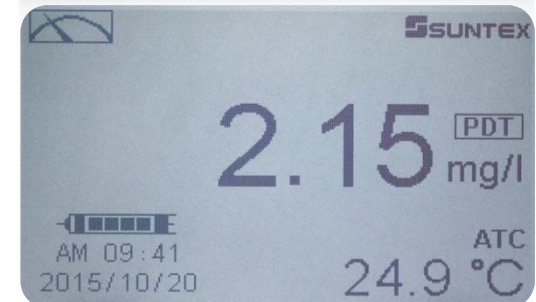
System with High Accuracy

..... by salinity calibration & on-site product adjustment



Salinity is also a key determinant for DO measurement. In order to ensure more accurate and reliable measuring data, it is certainly that the salinity compensation which covers a range of 0.0 ~ 45.0ppt is available and equipped in the DC-5310(RS).

For measurement, it is likely to see deviations between real values and reference values conducted from laboratory or a portable device. In this case, Product Adjustment will come to a place to fix this. Simply do users input the reference values, compensated results will be displayed simultaneously along with a symbol of PDT.



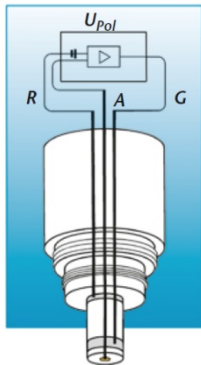
Intelligent Dissolved Oxygen Transmitter..DC-5310(RS)

Advanced & proved 3-electrode technology.....

Pre-amplifier Dissolved Oxygen Sensor

..... considerably leads to high accuracy from the start

The **TriOxmatic DO sensor** driven by polarizing voltage from the transmitter applies electrochemical approach to measure the oxygen concentration in a solution. Compared to conventional membrane sensor equipped with 2-electrode, there is another non-current reference system supplying constant potential against measuring signal; thus, this leads to greatly enhanced sensor signal stability and accuracy.



“Stable reading with no long-term or zero-point drifting.”



Intelligent Dissolved Oxygen Transmitter..DC-5310(RS)

Advanced & proved 3-electrode technology.....

Pre-amplifier Dissolved Oxygen Sensor

..... considerably leads to high accuracy from the start

Another advantage worth noticing is that the TriOxmatic DO sensor has a wide Teflon membrane that ensures free of maintenance in contrast to conventional membrane type sensor, which in this case significantly saves much operational and labor cost. Also, a solution to DO measurement in high fouling environments such as industrial wastewater and fish-farming is able to be fulfilled. Therefore, the DO sensor has been successfully applied in a range of demanding applications and winning a great deal of reputation since released.

“Wide-Teflon membrane is highly resistant to fouling.”



Intelligent Dissolved Oxygen Transmitter..DC-5310(RS)

High process reliability guaranteed.....

Polarographic Dissolved Oxygen Sensor

..... enhanced process safety & improved product quality

Apart from putting DO sensor in wastewater application, the DC-5310(RS) is also allowed to be compatible with Polarographic DO sensors which are typically applied to fermentation process in biotechnology and beverage application. The transmitter considerably supplies two types of driven voltage, -675mV for normal fermentation and -500mV for trace level down to 1ppb resolution.

“Features for industrial process applications.”



DC-5310 & DC-5310-RS

Intelligent Dissolved Oxygen Transmitter



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