



%

ppm

mg/L

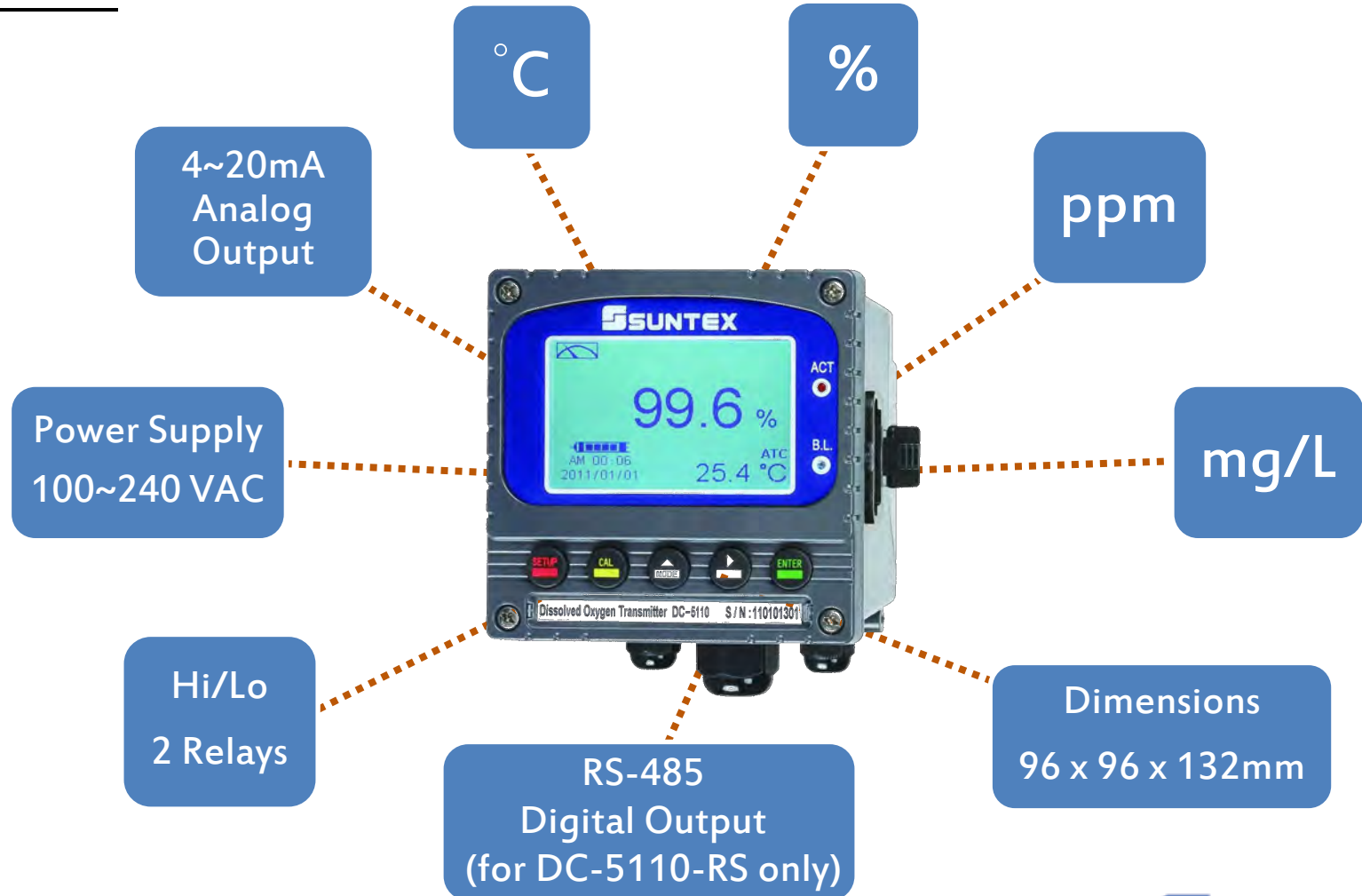
°C



## Intelligent **SUNTEX DC-5110(RS)** Dissolved Oxygen Transmitter

# Intelligent Dissolved Oxygen Transmitter..DC-5110(RS)

## Overview



# Intelligent Dissolved Oxygen Transmitter..DC-5110(RS)

## Background

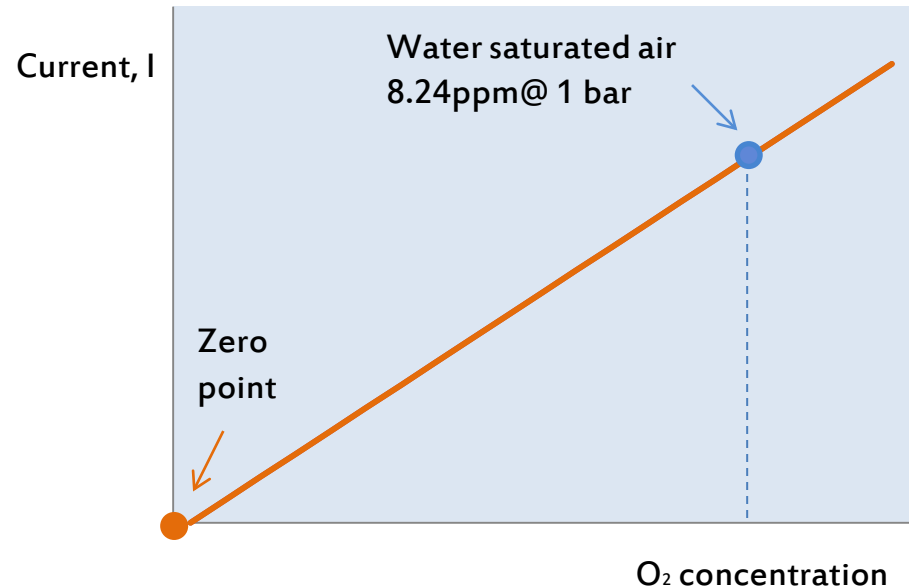
### About Dissolved Oxygen

Dissolved oxygen means the amount of gaseous oxygen (O<sub>2</sub>) 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*



# Intelligent Dissolved Oxygen Transmitter..DC-5110(RS)

## Where to use

Online measuring, monitoring,  
controlling

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





ISO 9001:2008  
Certificate supplier

IP65

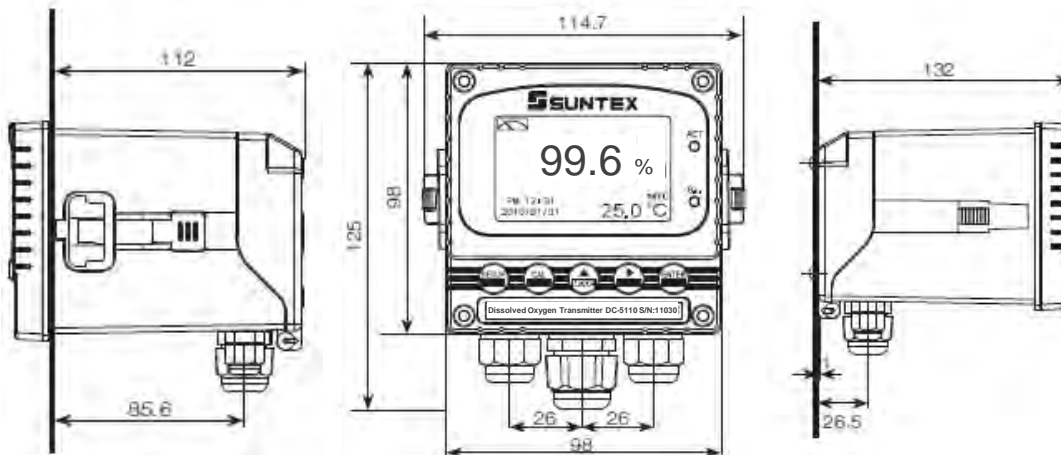
1 year  
warranty

*Leading innovation .....*

# Extraordinary Design

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

With the innovative combination of 1/4 DIN enclosure and IP65 waterproof level, it is either available for panel, wall or pipe mounting system, or supplies excellent protection against the water and dust from the field. An optional sun-shield accessory with wall / pipe mounting kit can prevent the unit from direct exposure to sunlight.

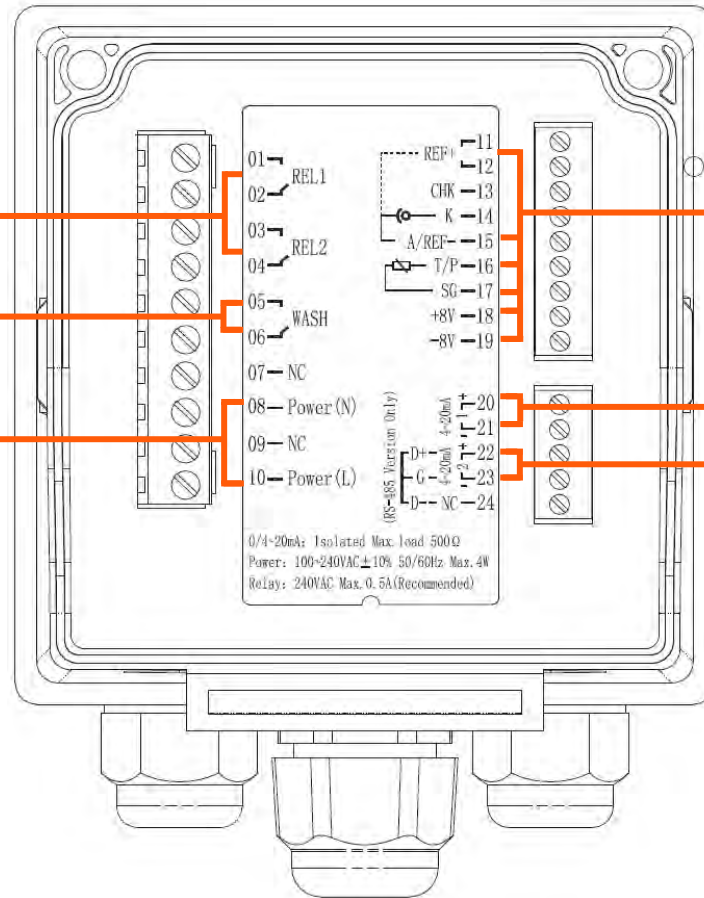


**SUNTEX**

# Intelligent Dissolved Oxygen Transmitter..DC-5110(RS)

## Wiring Illustration

- Contact output with programmable set-point & hysteresis
- Wash contact output
- 100~240 VAC power supply



- Compatible with Pre-amplifier or Polarographic DO sensor
- Isolated DC 0/4~20mA corresponding to O<sub>2</sub>, max. load 500Ω
- Second analog output or RS-485 MODBUS Interface (DC-5110-RS)

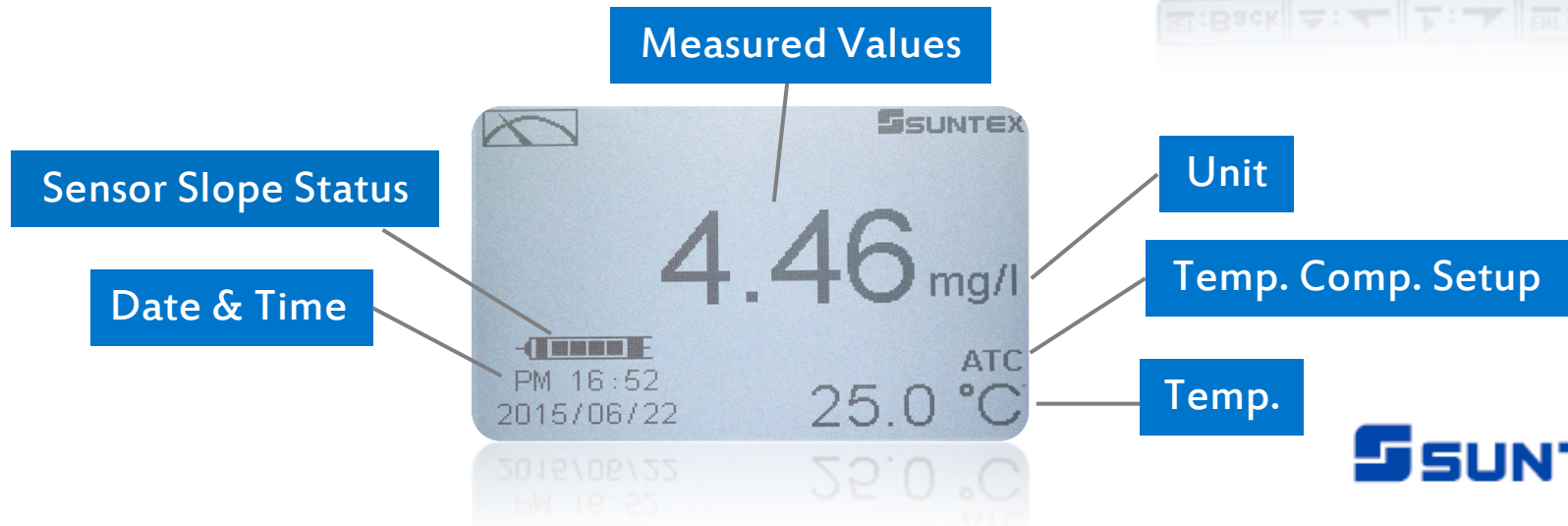
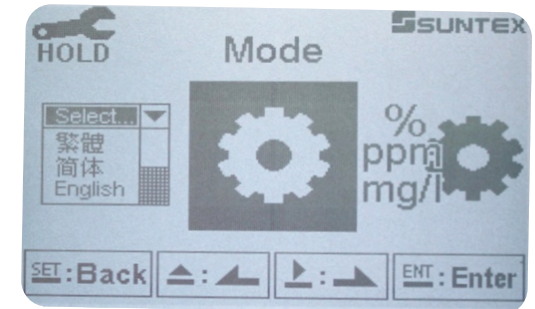
# Intelligent Dissolved Oxygen Transmitter..DC-5110(RS)

*Clear at a glance.....*

## Informative Display

*.....leading 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 pH/ORP Transmitter..PC-3110(RS)

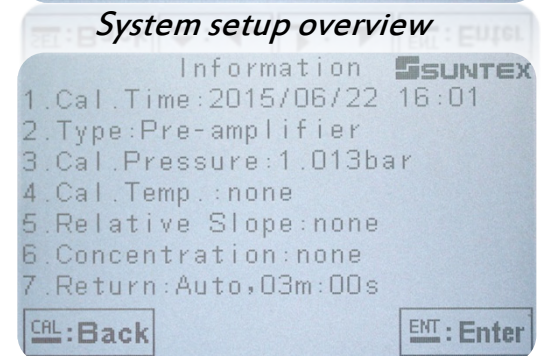
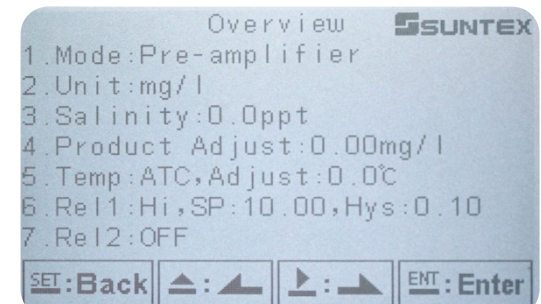
*Easy to understand ....*

## Informative Display

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

**Overview of setting** allows users no need to check every function one by one. Saving much more operation time and thus leads efficiency. Thanks to its superior design , all setting can be confirmed easily & safely.

Besides, the built-in two-level password protection allows setting & calibration controlled by authorized personnel and having separate calibration password for specific operators.



*Last calibration record*



# Intelligent Dissolved Oxygen Transmitter..DC-5110-RS

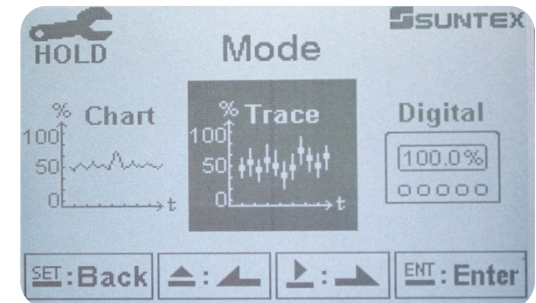
*Advanced graphic curve display .....*

## Trace & Real-Time Chart Display

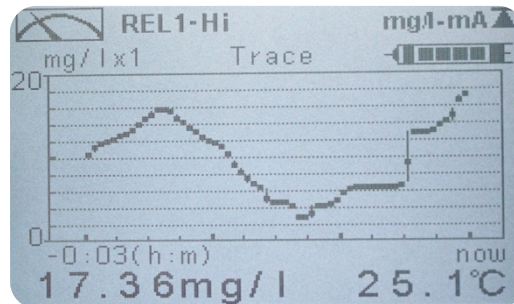
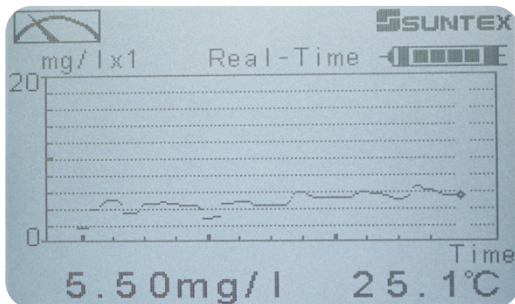
*.....offering recordable or updating trend*



The DC-5110-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



# Intelligent Dissolved Oxygen Transmitter..DC-5110(RS)

*Indispensable.....*

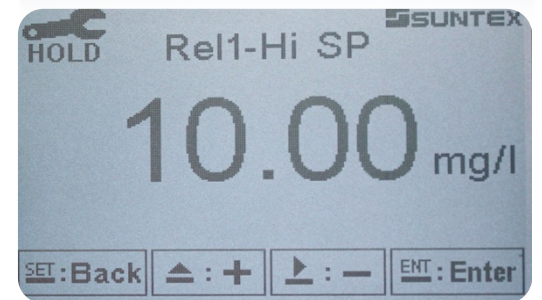
## Programmable Relay

*.....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 to ensure appropriate timing for activation of the external devices such as pumps or valves avoid frequently activating pump or solenoid valves. An additional clean timer relay is prepared for external clean devices, or can be used as a timer alarm.



Individual Hi/Lo programmable relay



Set-point setup

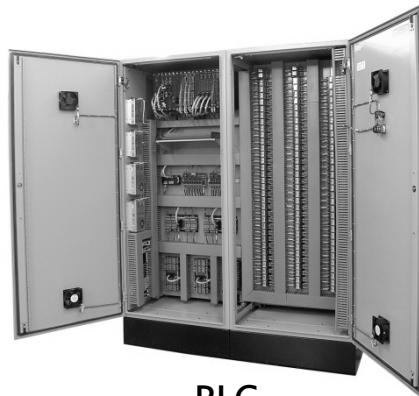
# Intelligent Dissolved Oxygen Transmitter..DC-5110(RS)

*Flexible & reversible.....*

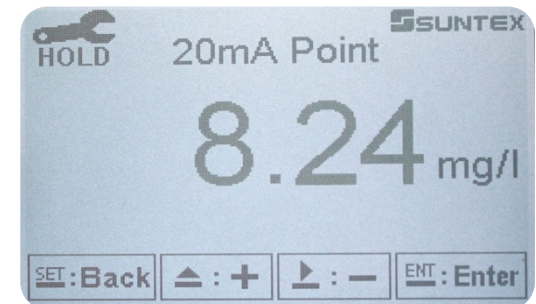
## Analog Output

*.....for PLC communication or recorder*

**Analog communication** is a common form used for signal transmission among all units. The D.O. transmitter DC-5110(RS) can output a 0/4~20mA signal which is corresponding to the main measurement value (mg/L, ppm or %). Programmable setting with a desired range, furthermore, enhances the output resolution.



PLC



Setting 20mA output to desired value

# Intelligent Dissolved Oxygen Transmitter..DC-5110-RS

*Digital communication.....*

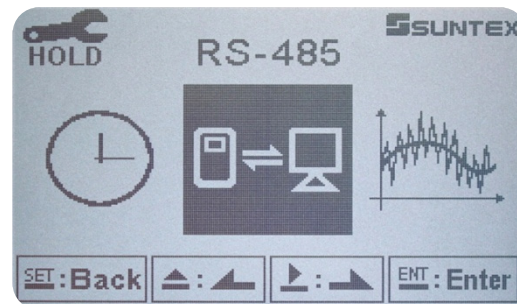
## **MODBUS RS-485 Interface**

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



The DC-5110-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.



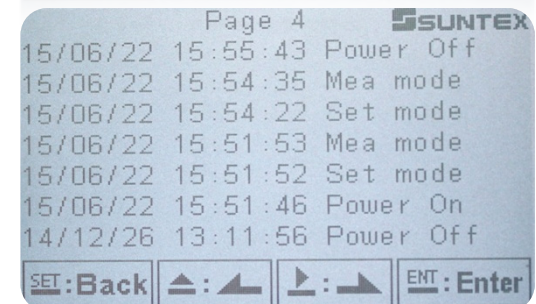
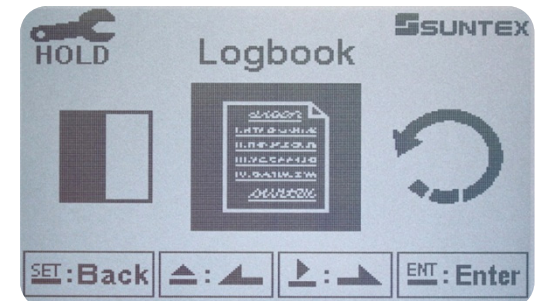
# Intelligent Dissolved Oxygen Transmitter..DC-5110-RS

*All-inclusive events.....*

## Events History Logbook

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

**The event logbook** is available in the DC-5110-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.





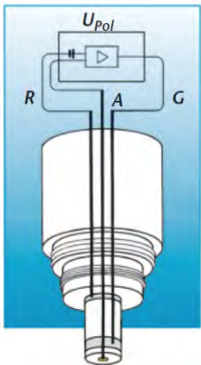
# Intelligent Dissolved Oxygen Transmitter..DC-5110(RS)

*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. Comparing to conventional membrane sensor equipped with 2-electrode, there is another non-current reference system supplying constant potential against measuring signal; this leads to greatly enhanced sensor signal stability and accuracy.



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



**SUNTEX**

# Intelligent Dissolved Oxygen Transmitter..DC-5110(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 ensuring free of maintenance in contrast to conventional membrane type sensor, which in this case greatly saves much operation 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. Thus, the DO sensor has been applied in a range of demanding applications.

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



# Intelligent Dissolved Oxygen Transmitter..DC-5110(RS)

*High process reliability guaranteed.....*

## **Polarographic Dissolved Oxygen Sensor**

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

**Apart from** matching the D.O. sensor from wastewater application, the DC-5110(RS) is also allowed to be compatible with Polarographic D.O. 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-5110 & DC-5110-RS

*Intelligent Dissolved Oxygen Transmitter*



**SUNTEX**