SPECIFICATION SHEET

TOA DKK

Dissolved Oxygen Transmitter (for Low-Concentration Measurement)

OBM-100H

Model OBM-100H is a panel mount type dissolved oxygen (DO) transmitter for low-concentration measurement that is compact and light-weight.

This product equips DC 4~20 mA transmission output signal and two alarm contacts (a-type contacts for upper-limit and lower-limit alarms), and is driven by a universal AC power supply.

Polarographic electrodes for low-concentration measurement, including type 7561. For details, see the separate detector specification sheet.

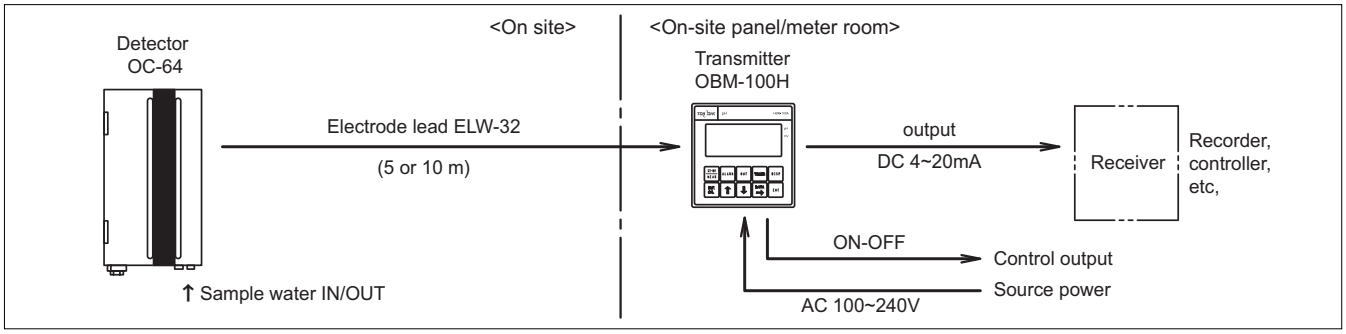
features

- Display to the second decimal place within a minimum meas. range of 0.00~50.00 µg/L
- In addition to dissolved oxygen (DO), this product can also measure and display the dissolved oxygen saturation ratio (SAT), oxygen (O_2) in gas, temperature (TEMP), and atmospheric pressure (hPa).
- Simple and reliable span calibration by ambient air using a built-in pressure sensor to eliminate the influence of variations in atmospheric pressure.
- Quick response at the start of measurement: An internal battery continually applies voltage to the electrode while the AC power is OFF (during which no measurements are made).
- Combined with OC-64 allows for accurate measurements while consuming only a small amount of sample water (100 mL/min.).
- Response to meter failures: To output a contact signal and trigger burnout (to maximize the transmission output).
- Optional RS-232 interface to data transfer to a PC.

Standard Specifications

Product name	: DO Transmitter
Model name	: OBM - 100H
Measurement ranges	: DO••••••••• 0.00 µg/L ~ 20.00mg/L SAT ••••••• 0.000 ~ 200.0% O_2 ••••••••• 0.000 ~ 25.00% TEMP••••• -5.0 ~ 100.0 ˚C Atmospheric pressure ••• 850 ~ 1150 hPa Output signal for DO only Other parameter are display only
Least displayed value	: DO••••••••• 0.01 µg/L SAT ••••••• 0.001% O_2 ••••••••• 0.001% TEMP••••• 0.1 ˚C Atmospheric pressure ••• 1 hPa
Performance	: Linearity ••• within ±0.6%FS (by equivalent input)
Temperature compensation	: Temperature compensation range -1.0 ~ 50.0 C° Temperature Compensation accuracy ± 0.5 C°

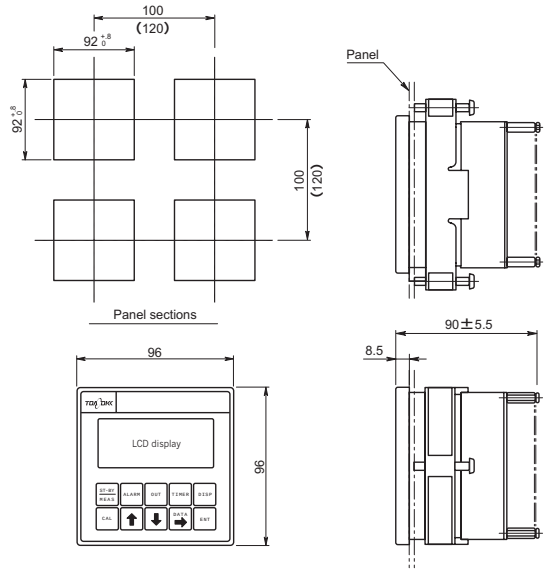
Configuration



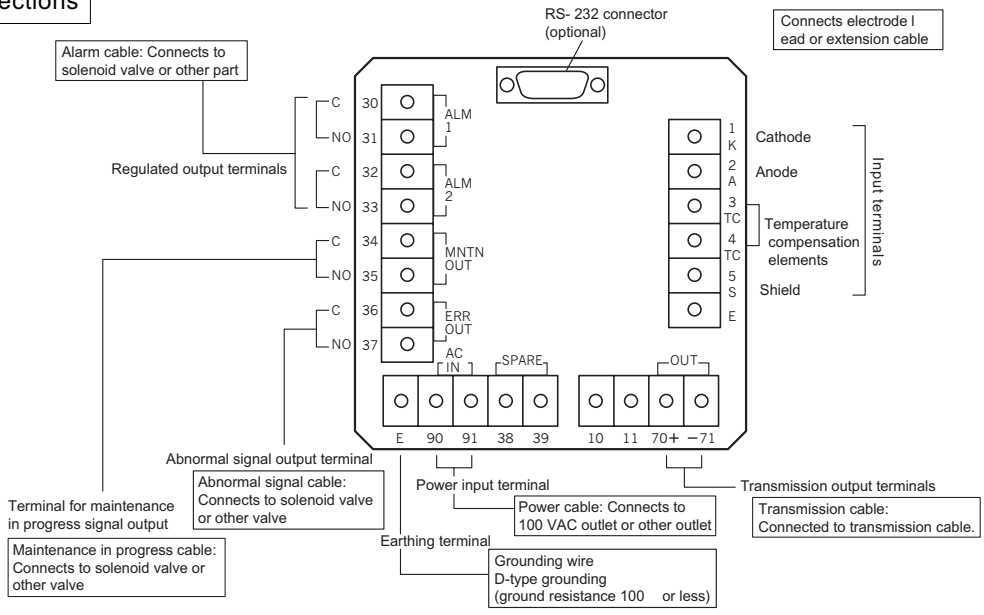
Output	: Isolated ••• DC 4 ~ 20 mA, load resistance of 650 Ω or less
Alarm outputs	: Number of contacts ••• 2 points, contact a (upper and lower limits) Maintenance in progress signal ••• 1 point contact a Abnormal signal output ••• 1 point contact a Contact capacity ••• AC 250V 3A or less, DC 30V 3A or less (resistance load)
Maintenance in progress signal output	: Closed contact signal output in maintenance mode Contact capacity ••• AC 250V 3A or less, or DC 30V 3A or less(Load resistance)
Abnormal signal output	: Closed contact signal output when the temperature of sample water exceeds the temperature compensation range. Contact capacity ••• AC 250V 3A or less, or DC 30V 3A or less (resistance load)
Calibration: Zero	: Zero ; (1) Zero electricity (2) Zero solution (automatic calibration) Span ; (1) Ambient air or air saturated water (automatic atmospheric pressure compensation, automatic/manual) (2) Registered values Atmosphere ; Manual calibration
Others	: Voltage is applied to the electrode when the meter stops.
Ambient temperature and humidity	: -10 to 50°C, 90% RH or less (non-condensing)
Power	: AC 90 ~ 264V 50/60Hz
Power consumption	: Approx. 5 VA
Structure	: Panel mounted, indoor use
Mass	: Approx. 0.5 kg
Communication	: RS- 232 (optional)

Dimensions

Unit : mm



Terminal Connections



Product code

● Converter

OBM100H-0-□□□□□

- **Power source**
  - A ····· AC 90 ~ 264V 50/60Hz
- **Transmission output**
  - 1 ····· DC 4 ~ 20mA
  - 2 ····· DC 4 ~ 20mA , RS-232 interface included
- **Measurement range*1**
  - 1 ····· 0.0 - 200.0 µg/L
  - 8 ····· specify
- **Combined electrode**
  - A ····· 7561L, 7562L
  - Z ····· Customized
- **Markings**
  - 0 ····· Standard (Japanese)
  - 1 ····· English
  - 9 ····· Customized

*1. Measurement range (Transmission output range)

0.00 ~ 50.00 µg/L•••••••••••••• Values can be specified in 10 µg/L unit (minimum value of 20 µg/L).
0.0 ~ 150.0 µg/L•••••••••••••• Values can be specified in 10 µg/L unit (minimum value of 50 µg/L).
0.0 ~ 490.0 µg/L•••••••••••••• Values can be specified in 10 µg/L unit (minimum value of 100 µg/L).
0 ~ 1000 µg/L•••••••••••••• Values can be specified in 100 µg/L unit (minimum value of 200 µg/L).
0.000 ~ 3.000 mg/L•••••••••••••• Values can be specified in 0.1 mg/L unit (minimum value of 1 mg/L).
0.000 ~ 7.500 mg/L•••••••••••••• Values can be specified in 0.1 mg/L unit (minimum value of 2 mg/L).
0.00 ~ 20.00 mg/L•••••••••••••• Values can be specified in 0.1 mg/L unit (minimum value of 2 mg/L).

● Detector

OC64-1-□□□□□□

- **Main material of wetted part *1**
  - A ····· Measurement cell: Heat-resistant PVC Piping: Nylon tube (standard)
  - B ····· All SUS316
- **Sample flow water*2**
  - 0 ····· Not provided
  - 1 ····· Provided (200 mL/min FS) when wetted part is made of standard resin
  - 2 ····· Provided (1L/min FS) when the wetted part is made of SUS
- **Sample water flow control valve*3**
  - 0 ····· Not provided
  - 1 ····· Provided (SUS316)
- **Structure of case**
  - A ····· Simplified spray-proof (standard)
  - B ····· Splash-proof, dust-proof (equivalent to IP54)*4
- **Mounting**
  - A ····· Wall or rack mount
  - B ····· Pole-mount (with 50A pole saddle)
- **Markings**
  - 0 ····· Standard (Japanese)
  - 1 ····· English

*1 Standard (heat-resistant PVC and nylon tube) is for boiler water.
Select "All SUS316" for ultra pure/ultra low concentration water for semi-conductor plant, etc.

*2 A small flow meter is installed at the measurement cell outlet in the case. When the wetted part material is resin for boiler water measurement, etc., select 200mL/min FS (set at 100mL/min).

*3 Stainless needle valve is installed at the sample inlet the lower surface of the case. So, when the sample flow adjusting valve is "Provided", the sample inlet makes "IN" side (Rc 1/4) of the needle valve.

*4 Case and cover are sealed with rubber packing, and the door is provided with stainless lock.

Note 1 : Separately order one of the leadless type DO electrode for low concentration from the table below.

Product code	Material of Sensing Pole	Material of Body	Merits	Applications
EL7561L−0−Y	Ag (silver)	PP	Hardly affected by hydrogen / carbon dioxide	Boiler water for power plant
EL7562L−0−Y		SUS316	in water .	Nuclear power plant
EL7563L−0−Y	Au (gold)	PP	Quick and stable measure't at very low	Ultra pure water for semi-conductor
EL7564L−0−Y		SUS316	concentration	plant

Note 2 : Electrode lead ELW-32 (length: 1 ~ 10m; out. dia.: 8mm) is needed (separate order). For extension of the lead cable, separately order connector box FC-4 and extension cable EC-22

■ Combined Detector OC-64

- ○ Suitable for measurement of boiler water in power plants and pure water in semiconductor plants.
- ○ Trace sample water consumption
- ○ Combined electrodes: 7561L/7562L, electrode lead ELW-32

Sample conditions	: Temperature ••• 0 ~ 45°C Flow rate ••• Constant flow rate within 100 ~ 300 mL/min Pressure ••• Inlet pressure ; 0.05 MPa or less Outlet pressure ; Open to atmospheric pressure
Inlet	: Rc1/4 (Both sample inlet and outlet)
Ambient temperature and humidity	: 0 ~ 40°C, Max.90% RH
Dimension	: Approx. 4 kg
External dimensions	: 220 (W) X 400 (H) X 80 (D) mm
Mounting	: Wall mount, or 50A pipe mount
Materials	: Case ••• PVC coated SPCC Measurement cell ••• Heat-resistant PVC Tubing ••• Nylon
Construction	: Rain proof type (JIS C 0920)
Surface color	: Metallic silver and blue

■ Low-Concentration Dissolved Oxygen Electrodes 7561L/7562L

- ○ Polarographic-membrane type dissolved oxygen electrode for low-concentration DO measurements.
- ○ Use of dual cathode structure for low-to-high concentration measurements allows for quicker response.
- ○ Not susceptible to interference gases, such as hydrogen and carbon dioxide that dissolved during low-concentration measurements.
- ○ Use of cartridge-type diaphragm allows for easier maintenance (easier replacement of inner solution).
- ○ Environment-conscious design. Polarographic membrane type eliminates the use of lead within the internal electrode, as well as the use of strong acidic and alkaline reagents.

Measurement method	: Polarographic-diaphragm type
Operational temperature range	: 0 ~ 45°C
Operational pressure range	: 0.5 MPa or less
Measurement range	: 0 µg/L ~ 20 mg/L
Minimum limit of detection	: 0.1 µg/L
Output	: Approx. 9µA (at saturation in atmosphere)
Response time	: 90% of all responses made within 15 seconds (from atmosphere to zero liquid at 25°C)
Flow	: 100 ~ 300 mL/min. (OC-64 embedded flow cell used)
Repeatability	: ± 2% F.S. or less

7561L 7562L

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⚠ CAUTION Do not operate producuts before consulting instruction manual.

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