FEATURES

- Rigid aluminium enclosure with free angle mounting
- Built-in microprocessor offering numerous benefits including ease-of-use, free-range setting, auto-calibration, electrode diagnostics etc.
- Front operation and front wiring access
- Intrinsically safe with IEC (Ex) approval.

SPECIFICATIONS

Product Name: Dissolved Oxygen Analyzer/Transmitter
Model Nos.: DCP-21T
SCDCP-21T (intrinsically safe version)
Measurement Object: Dissolved Oxygen (DO)
Measurement Method: Poralographic Method
Measurement Ranges:
  - DO: 0~2000µg/L
  - O₂: 0~25%
  - **SAT**: 0~100%
  - Temp.: 0~100°C
*SAT (Saturation Ratio) is expressed as percent value of actual dissolved oxygen content in sample versus saturated dissolved oxygen content at a given sample temperature.
Display: LCD digital indication
Minimum displayed value:
  - DO: 0.1µg/L
  - O₂: 0.1%
  - SAT: 0.1%
  - Temperature: 0.1°C
Output Signal: 2-wire system, 4~20mA DC, isolated
Output range:
  - DO: 0~20/50/100/200/500/1000/2000 µg/L selectable
  - O₂: None
  - SAT: None, display only
  - Temperature: None
Max. Load Resistance:
  - 750Ω for power supply voltage 24V DC
  - (Max. Load Resistance (Ω)= 50 x "Power Supply Voltage" – 450)
Power Supply: 24V DC (Operative in a range of 9–30 V DC depending on load resistance.)
Power Consumption:
  - Max.: 0.6VA
Repeatability:
  - Within ±0.8% FS or Within ±0.4 g/L for 0~20µg/L, Within ±0.8µg/L for 0~50, (by equivalent input).
Linearity:
  - Within ±1% FS or within ±5µg/L for 0~20µg/L range,
  - Within ±1µg/L for 0~50µg/L range (by equivalent input.)
Temperature Compensation Range: 0~45°C

SPECIAL FUNCTIONS

DO adjusting function:
Ability to adjust to laboratory test value and to compensate measurement value for saline solutions.
Burn-out function (Alarm annunciation):
When the sample temperature is outside 0~50°C range, the measurement is stopped. When any abnormal memory data is detected, the output signal is shifted to the lower or upper limit to annunciate abnormal conditions.
Measure/maintenance mode Selection:
When in maintenance mode, the display indicates the real-time measured value but the output signal will be held at pre-set dummy value or a through value.
Notes:
For using extension cable (model EC-10) and junction box (Model FC-4) for long distances between the electrode and the transmitter.

SYSTEM CONFIGURATION

Model: DCP-21T - Trace DO Transmitter - Issue: DCP-21T-0401-R1
**TERMINAL LAYOUT**

Cable entry (spare)

Power/Transmission cable entry

Electrode lead wire or Extension cable entry

**WIRING DIAGRAM**

<Direct electrode connection>

Electrode leadwire

DCP-21T Transmitter

Output signal DC 4~20mA

Sensor

<Use of junction box and extension cable>

**INSTALLATION**

**DIMENSIONS**  Unit: mm
### Product Code

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Markings</th>
<th>Mounting</th>
<th>Hood</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCP21T-0</td>
<td>Standard</td>
<td>50A pipe mount</td>
<td>Nil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>Wall mount</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Output Signal Range
- 0~500µg/L *1
- Inspection certificate, specified range *2
- Adapter for cable port *3
- Standard (cable gland for ø6~ø12)
- NPT1/2
- G1/2 (PF1/2) SUS304
- Electrode lead wire
- Electrode lead direct connection
- Special cable (FC-4)
- Mounting
- A
- 50A pipe mount
- B
- Wall mount

#### Additional Notes:

- **Note 1:**
  Temperature compensation resistance of applicable DO electrode is 10KΩ (at 25°C)

- **Note 2:**
  Measurement ranges are:
  - DO: 2000µg/L (0~20, 50, 100, 200, 500, 1000, 2000µg/L)
  - O₂: 0~25%
  - SAT: 0~100% display only
  - Temp.: 0~100°C

- **Minimum indications are:**
  - DO: 0.1µg/L
  - O₂: 0.1%
  - SAT: 0.1%
  - Temp.: 0.1°C

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### Product Code Notes:

- **1)** If factory testing certificate is required please specify “other range” even if 0~500µg/L range is required.

- **2)** Please specify range from the following: 0~20, 50, 100, 200, 500, 1000, 2000µg/L

- **3)** The instrument will ship with standard cable gland installed even if other cable-entry type has been selected. The standard cable glands act as dust seals during shipment and storage. The following cable entry options are available:
  - Standard: Cable gland (Ø6~Ø12), 2 ports. Additional cable entry (NPT1/2"), 1 port.
  - NPT1/2 inch: remove the cable gland or dust seal of conduit piping entry and use NPT1/2 inch threaded entry.
  - G1/2 inch: remove the cable gland or dust seal of the conduit piping entry and insert the G1/2 inch adapter included.

Cable entry ports that do not have conduit attached should be left with factory installed glands which will act as seal protection for the unused cable entries.
**RELATED EQUIPMENT**

Power units and combined meter-relays/power units are available from DKK-TOA. To be specified on order placement.

- **Power unit**
  - **Model**: PA-24
  - **Output Voltage Rating**: 24VDC ±3V, -1V
  - **Output Current Rating**: 2~22mA (Not suitable for parallel connection of two instruments)
  - **Power Requirements**: 100V AC ±10%, 50/60Hz
  - **Ambient Temperature**: -5~55°C
  - **Construction**: Indoor use, plug-in type
  - **Weight**: Approx. 300g

*4~20mA DC output signal is available from the terminal block.

- **Bargraph Meter-relay with 24V power Supply**
  - **Model**: BMR-24
  - **Output Voltage**: 24V DC ±1V
  - **Alarms**: Four contacts, High-high, High, Low and Low-low limits.
  - **Alarm Contact rating**: 125V, 0.5A
  - **Scale**: Client to specify their requirements
  - **Scale Length**: 100mm
  - **Indication element**: Red colour LED, 101 dots
  - **Power Requirements**: 85~264V AC, 50/60Hz
  - **Power Consumption**: Approx. 5VA
  - **Ambient Conditions**: 0~45°C, 40~80%RH
  - **Weight**: Approx. 450g

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**DIMENSIONS**

Unit: mm

**PA-24**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>24V output (6+, 5-)</td>
<td>52</td>
</tr>
<tr>
<td>Output (3+, 4+)</td>
<td>110</td>
</tr>
<tr>
<td>2-64.5 (Mounting hole)</td>
<td>50</td>
</tr>
<tr>
<td>Power (7, 8)</td>
<td>80</td>
</tr>
<tr>
<td>AC 100V 50/60Hz</td>
<td>20</td>
</tr>
</tbody>
</table>

**BMR-24**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name plate (Top and bottom)</td>
<td>160</td>
</tr>
<tr>
<td>100 (Scale length)</td>
<td>160</td>
</tr>
<tr>
<td>Panel cutout</td>
<td>125.5</td>
</tr>
</tbody>
</table>

General tolerance ±5mm
• Suitable for measurement of boiler water in power plants.
• Flow-out enables accurate measurement
• Trace sample
• OC-65 is equipped with the sample cut-off detector.

FEATURES

STANDARD SPECIFICATIONS

<table>
<thead>
<tr>
<th>Product Name</th>
<th>DO sensor for pure water measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No</td>
<td>OC-64</td>
</tr>
<tr>
<td>Sample Conditions</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>0–45°C</td>
</tr>
<tr>
<td>Flow rate</td>
<td>Constant flow rate within 100–300mL/min.</td>
</tr>
<tr>
<td>Pressure</td>
<td>Inlet pressure; 0.05MPa or less</td>
</tr>
<tr>
<td>Outlet pressure</td>
<td>Open to atmospheric pressure</td>
</tr>
<tr>
<td>Connection Ports</td>
<td>Rc/1” (Both sample inlet and outlet)</td>
</tr>
<tr>
<td>Applicable Electrode</td>
<td>7535L, lead wire ELW-21</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>0–40°C</td>
</tr>
<tr>
<td>Ambient Humidity</td>
<td>Max. 90%RH</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Approx. 4kg, refer to dimensions drawing.</td>
</tr>
</tbody>
</table>

DIMENSIONS

units: mm

Mounting: Wall mount, or 2” pipe mount
Materials:
- Case: PVC coated SPCC
- Measurement cell: Heat resistant PVC
- Tubing: Nylon
- Construction: Rain proof type (JIS C 0920)
- Surface colour: Metallic silver and blue

DKK-TOA CORPORATION

International Operations:
DKK-TOA Corporation
29-10, 1-Chome, Takadanobaba, Shinjuku-ku, Tokyo 169-8648 Japan
Tel: +81-3-3202-0225 Fax: +81-3-3202-5685

Representative Office (Europe):
DKK-TOA European Representative
St. Johns Innovation Centre, Cowley Rd., Cambridge CB4 0WS UK
Tel: +44 (0) 1223 709239 Fax: +44 (0) 1223 709239

http://www.toadkk.co.jp

CAUTION
Do not operate products before consulting instruction manual.

Information and specifications are for a typical system and are subject to change without notice.