Ullage Space Pressure Monitor
Comply with New SOLAS Regulation
Alarm Monitor to watch excessively high and/or too low pressure in tank

Ullage Space Pressure Monitor

■ OUTLINE
This is the pressure measuring system having the element constituted the provision for the prevention of the emission of volatile organic compounds being prescribed in the regulation 15 of MARPOL (International Convention for the Prevention of Pollution from Ship), Annex VI.

This is the ullage space pressure monitor corresponded to the requirement of SOLAS Regulation.
This system can continuously monitor an excessively high and/or too low pressure arising in the cargo tank during loading, unloading, oil transfer between tanks and/or due to a waving of temperature during navigation, and output a high and low pressure alarm at abnormal conditions.

The monitor is also available to use as a pressure sensor for vapor return gas corresponding to the requirement of USCG, VCS.

■ STANDARD SPECIFICATION
• Construction;
  Intrinsically Safe Explosion Proof: Ex ia II CT6
• Material exposed with gas;
  Main Body : SUS316L
  Diaphragm : Ceramic
• Measuring Range;
  Ullage Space and Gas Return line Sensor: 800 to 2000 hPa (abs)
  Atmospheric Sensor: 900 to 1100 hPa (abs)
• Accuracy; ±1% F.S

■ FEATURES
• High Everlasting;
• Easy for Calibration and Maintenance
• It is available to use as a sensor to detect inert gas pressure in tank vessel.
Pressure Monitor Series

■ COMBINATION TYPE WITH LEVEL GAUGE

SP(T)-3500 Series

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<th>SPT-3500</th>
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<th>Content</th>
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<tbody>
<tr>
<td>Construction (IP65)</td>
<td></td>
<td>Non-Explosion Proof Type</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td>Intrinsically Safe (IS) Type: Ex ia II CT6</td>
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<table>
<thead>
<tr>
<th>Fitting Number of Temperature Sensor</th>
<th>Content</th>
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<tr>
<td>1R</td>
<td>1 Point (1 Sensor)</td>
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<tr>
<td>2R</td>
<td>2 Points (2 Sensors)</td>
</tr>
<tr>
<td>3R</td>
<td>3 Points (3 Sensors)</td>
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</table>

Fitting of Pressure Sensor (T901-P01A)

| P | 800 – 2000 hPa (Absolute: abs) |

Note:
1. Safety Barrier, TZB-101 shall be used for S Type.
2. It shows that SP-3500 is without temperature sensor and SPT-3500 with temperature sensor (s).

■ STANDARD CONSTRUCTION
## INDEPENDENT TYPE

### PL3700 / PL3700ATM Pressure Transmitter

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<td>Measuring method</td>
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<tr>
<td>Measuring range</td>
<td>800 to 2000 hPa</td>
<td>900 to 1100 hPa</td>
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<td>Flange on sensor side</td>
<td>PN25 and DN25 (Welding type)</td>
<td>—</td>
</tr>
<tr>
<td>Material of terminal box</td>
<td>316L SS</td>
<td>Polyester</td>
</tr>
<tr>
<td></td>
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<td>Base plate: SUS304</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>— 25 to 70°C</td>
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</tr>
<tr>
<td>Structure</td>
<td>Sensor assembly</td>
<td>IP68</td>
</tr>
<tr>
<td></td>
<td>Box</td>
<td>IP66</td>
</tr>
</tbody>
</table>

## CONSTRUCTION

### Ullage Space Pressure Sensor / Vapor Gas Pressure Sensor

PL3700 (4-20mA)

- **Specifications**
  - **Material of diaphragm**: Ceramics
  - **Measuring method**: Absolute pressure
  - **Measuring range**: 800 to 2000 hPa
  - **Flange on sensor side**: PN25 and DN25 (Welding type)
  - **Material of terminal box**: 316L SS
  - **Operating temperature range**: — 25 to 70°C
  - **Structure**: Sensor assembly, Box

### Atmospheric Pressure Sensor

PL3700ATM

- **Specifications**
  - **Material of diaphragm**: Ceramics
  - **Measuring method**: Absolute pressure
  - **Measuring range**: 500 to 3500 hPa for Vapor Return line
  - **Flange on sensor side**: PN25 and DN25 (Welding type)
  - **Material of terminal box**: 316L SS
  - **Operating temperature range**: — 25 to 70°C
  - **Structure**: Sensor assembly, Box
OTHER INSTRUMENTS FOR MARINE APPLICATION

Besides SPT-3500, the following level gauges and relevant instruments for marine applications are available from Tokyo Keiso.

- **SP-1200**: Flow Magnet Type Level Gauge
- **SP-7200**: Magnet Float Type Level Gauge with using Contact less Hall IC
- **PL3700**: Pressure Sensor using for Ullage Space in Tank and/or Gas Return Line
- **MIA-LIDEC**: Acoustic Type High level, Overfill Alarm and/or Dryness Sensor
- **FP-7091S-T**: Float Type High and Overfill Alarm
- **FB-5000, FB-7000**: Float Type Bilge Level Alarm

*Specification is subject to change without notice.*