The new UNIK 5600/5700 carries marine certification for most zones on-board ship, as well as Intrinsically Safe certifications. Marine approval means UNIK 5000 complies with International standards, regulations and Marine Law. The use of Druck silicon technology and analogue circuitry enables best in class performance for stability, low power and high frequency response. The platform enables you to build up your own sensor to match your precise needs. This high performance, configurable solution to pressure measurement employs modular design and lean manufacturing techniques to offer:

**High Quality**

With 40 years of pressure measurement experience, our field-proven Druck silicon technology is at the heart of the new platform, resulting in a range of high quality, high stability pressure sensors.

**Bespoke as Standard**

Custom-built from standard components, manufacturing sensors to your requirement is fast and simple; each UNIK 5000 is a “bespoke” pressure sensing solution, but with the short lead times and competitive pricing you would expect from standard products.

**Expertise**

We have the people and the knowledge to support your needs for accurate and reliable product performance; our team of experts can help you make the right sensor selection, guiding you and providing the help and tools you need.

**Features**

• Ranges from 70 mbar (1 psi) to 700 bar (10,000 psi) (Depending on material option)
• Accuracy to ±0.04% Full Scale (FS) Best Straight Line (BSL)
• Stainless Steel 316L and Titanium construction options
• Frequency response to 3.5 kHz
• High over pressure capability
• Intrinsically Safe Hazardous Area certification
• 4-20 mA output
• Multiple pressure connector options
• DIN 43650 or fully submersible electrical connection
• Operating temperature ranges from –40 to 80°C (-40 to 176°F)
5600/5700 Specifications

Measurement

Operating Pressure Ranges

Gauge ranges
Any zero based range between 70 mbar and 70 bar (1 to 1,000 psi) (values in psi are approximate)

Sealed Gauge Ranges
Any zero based range between 10 and 700 bar (145 to 10,000 psi) (Titanium option limited to 70 bar)

Absolute Ranges
Any zero based range between 100 mbar and 700 bar (1.5 to 10,000 psi)
(Titanium option limited to 70 bar)

Differential Ranges (Stainless Steel option only)

Wet/Dry
Uni-directional or bi-directional 70 mbar to 35 bar
(1 to 500 psi)

Wet/Wet
Uni-directional or bi-directional 350 mbar to 35 bar
(5 to 500 psi)
Line pressure: 70 bar max (1,000 psi)

Barometric Ranges
Barometric ranges are available with a minimum span of 350 mbar (5.1 psi)

Non Zero Based Ranges
Non zero based ranges are available. Please contact Druck to discuss your requirements

Over Pressure

• 10 × FS for ranges up to 150 mbar (2 psi)
• 6 × FS for ranges up to 700 mbar (10 psi)
• 2 × FS for barometric ranges
• 4 × FS for all other ranges (up to 200 bar for ranges ≤70 bar and up to 1,200 bar for ranges >70 bar)

For differential versions the negative side must not exceed the positive side by more than:
• 6 × FS for ranges up to 150 mbar (2 psi)
• 4 × FS for ranges up to 700 mbar (10 psi)
• 2 × FS for all other ranges up to a maximum of 15 bar (200 psi)

Containment Pressure
Ranges up to 150 mbar (2 psi) gauge 10 × FS
Ranges up to 70 bar (1,000 psi) gauge 6 × FS
200 bar (2,900 psi) max
Ranges up to 70 bar (1,000 psi) absolute
200 bar (2,900 psi)
Ranges above 70 bar (1,000 psi)
1,200 bar (17,400 psi)

Differential (-ve port) must not exceed positive port by more than 6 × FS (15 bar (200 psi) maximum)

Supply Voltage
7 to 32 Vdc (7 to 28 Vdc in hazardous area operation)

Output
4-20 mA

Power-Up Time
10 ms

Insulation
• 500 Vdc: 100 MΩ
• 500 Vac: ≤ 5 mA leakage current

Performance Specifications

There are two grades of performance specification: Improved and Premium

Accuracy
Combined effects of non-linearity, hysteresis and repeatability:
Improved: ±0.1% FS BSL
Premium: ±0.04% FS BSL

Note: For the barometric pressure range, accuracy is of span, not full scale.

Note: Accuracy is specified for each direction separately for bi-directional ranges.

Zero Offset and Span Setting
Demountable electrical connector allows access to potentiometers that give at least ±5% FS adjustment
(DIN connector, Demountable Depth Cable only)

Factory set to:
DIN Connector ±0.2% FS
Depth Cable ±1.0% FS
Demountable Depth Cable ±0.2% FS

Long Term Stability
±0.05% FS typical (±0.1% FS maximum) per year increasing pro-rata for pressure ranges below 350 mbar

Temperature Effects
-10 to +50 °C (14 to +122 °F): ±0.5% FS
Temperature error band (TEB)
-20 to +80 °C (-4 to 176 °F): ±1.0% FS TEB
-40 to +80 °C (-40 to 176 °F): ±1.5% FS TEB

Temperature effects increase pro-rata for pressure ranges below 350 mbar (5 psi) and are doubled for barometric ranges.

Line Pressure Effects (Differential Version Only)
Zero shift: <±0.03% span/bar of line pressure
Span shift: <±0.03% span/bar of line pressure
Effects increase pro-rata for differential pressure ranges below 700 mbar (10 psi).
Physical Specifications

Environmental Protection
• See Electrical Connector section
• Hyperbaric Pressure:
  1. 20 bar (300 psi) maximum for Depth Cable
  2. 10 bar (150 psi) maximum for Demountable Depth Cable

Operating Temperature Range
-40 to 80°C (-40 to 176°F)
DNV Approval Temperature Class
-25 to 70°C (-13 to 158°F)

Pressure Media
(Stainless Steel 316L Option)
Fluids compatible with Stainless Steel 316L and Hastelloy C276.
For the wet/dry differential version, negative pressure port: fluid compatible with stainless steel 316L, stainless steel 304, pyrex, silicon and structural adhesive.
(Titanium Option)
Fluids compatible with Grade 2 and 4 Titanium.

Enclosure Materials
Stainless steel or titanium (body – material option), glass filled nylon (DIN connector assembly) with rubber seals (nitrile o-rings and silicone gaskets), PTFE (depth cone, vent filter), PVDF (cable sheath and depth cone -- depth cable assembly), and TPE-U (cable sheath and depth cone -- depth cable assembly).

Pressure Connector
Available options are
• G1/4 Female*
• G1/4 Male Flat
• G1/2 Male via Adaptor*
• 1/4 NPT Male
• 1/2 NPT Male via Adaptor*
• M20 X 1.5 Male
• Depth Cone (G1/4 female open face)

Choose connectors marked * for pressure ranges over 70 bar.
Other pressure connectors may be available.
Contact Druck to discuss your requirement.

Electrical Connector

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max Operating temp range</th>
<th>IP</th>
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<td>°F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>DIN 43650 Form A Demountable</td>
<td>-40 to +80</td>
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<td>Y</td>
<td></td>
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<tr>
<td>N</td>
<td>Kynar Depth Cable</td>
<td>-40 to +80</td>
<td>68</td>
<td>N</td>
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<td>P</td>
<td>Demountable Kynar Cable</td>
<td>-40 to +80</td>
<td>68</td>
<td>Y</td>
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<td>U</td>
<td>TPE-U Depth Cable</td>
<td>-40 to +80</td>
<td>68</td>
<td>N</td>
<td></td>
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<tr>
<td>V</td>
<td>Demountable TPE-U Cable</td>
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Wiring Details

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<td>DIN 43650 Form A Demountable</td>
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<tr>
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<td>-ve supply</td>
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<td>P</td>
<td>Demountable Kynar Depth Cable</td>
<td>+ve supply</td>
</tr>
<tr>
<td></td>
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<td>-ve supply</td>
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<tr>
<td>U</td>
<td>TPE-U Depth Cable</td>
<td>+ve supply</td>
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<tr>
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<td></td>
<td>-ve supply</td>
</tr>
<tr>
<td>V</td>
<td>Demountable TPE-U Depth Cable</td>
<td>+ve supply</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-ve supply</td>
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</table>
CE Conformity
RoHS 2011/65/EU
Pressure Equipment Directive 2014/68/EU
ATEX 2014/34/EU (Optional)
  EN 60079-0: 2012+A11: 2013
  EN 60079-11: 2007
  EN 50303: 2000
EMC Directive 2014/30/EU
  BS EN 61000-6-1: 2007  Susceptibility - Light Industrial
  BS EN 61000-6-2: 2005  Susceptibility - Heavy Industrial
  BS EN 61000-6-4: 2007+A1: 2011  Emissions - Heavy Industrial
  BS EN 61326-1: 2013  Electrical Equipment for Measurement, Control and Laboratory Use
  BS EN 61326-2-3: 2013  Particular requirements for pressure transducers

Hazardous Area Approvals (optional)
IECEEx/ATEX Intrinsically Safe ‘ia’ Group IIC
For full certification details, refer to the type-examination certificates (or approval listings) and Hazardous Area Installation Instructions.

Marine Approvals

Det Norske Veritas (DNV) Approvals: TAA000000JY

<table>
<thead>
<tr>
<th>Location</th>
<th>Class</th>
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<tbody>
<tr>
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<td>Humidity</td>
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<tr>
<td>Vibration</td>
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<tr>
<td>EMC</td>
<td>B</td>
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<td>C (IP56)</td>
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<tr>
<td>(Depth Cable)</td>
<td>D (IP68 -200 mH,O)</td>
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<tr>
<td>(Demountable Depth Cable)</td>
<td>D (IP68 -100 mH,O)</td>
</tr>
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</table>

China Classification Society (CCS) Approvals: NJ16T00162

The pressure transmitter is suitable for use in the following applications:

1. Trim control
   By moving fuel, cargo, and ballast around, the trim of the ship is maintained

2. A ship can be considered as an industrial site with engines and machines which have numerous pressure point measurement requirements.
Ordering Information
See the online configuration tool at www.unik5000.com

(1) Select model number

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
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<tbody>
<tr>
<td>bar</td>
<td>bar</td>
</tr>
<tr>
<td>mbar</td>
<td>millibar</td>
</tr>
<tr>
<td>psi</td>
<td>pounds/sq inch</td>
</tr>
<tr>
<td>Pa</td>
<td>Pascal</td>
</tr>
<tr>
<td>hPa</td>
<td>hecto Pascal</td>
</tr>
<tr>
<td>kPa</td>
<td>kilo Pascal</td>
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<td>MPa</td>
<td>Mega Pascal</td>
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<td>mm water</td>
</tr>
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<td>atm</td>
<td>atmosphere</td>
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<tr>
<td>Torr</td>
<td>Torr</td>
</tr>
</tbody>
</table>

3) State Pressure reference: e.g. gauge

Reference options are:
- gauge
- absolute
- barometric
- sealed gauge
- wet/dry differential
- wet/wet differential

4) State cable length and units: Integer values only, e.g., 1 m cable, 8 ft. cable. Minimum length 1 m (3 ft.) (only required on certain electrical connections). Maximum cable length 100 m (300 ft.).

Typical order examples:
- PTX5672-TA-A2-CA-HD-PA, 0 to 3500 psi, absolute
- PTX57N2-TA-A2-CA-HD-PA, 0-20 mH₂O, gauge, 30 m cable
Mechanical Drawings

MALE PRESSURE CONNECTION

HIGH PRESSURE CONSTRUCTION

7 (0.27)

15 (0.59)

72 (2.80)

Ø25 (0.98)

DN 43650 FROM A DE-MOUNTABLE

32 A/F (0.86)

15.5 (0.61)

69.8 (2.75)

Ø25 (0.98)

25 TYP (0.98)

OPTIONAL PRESSURE ADAPTOR

LOW PRESSURE CONSTRUCTION

Ø25 (0.98)

15.5 (0.61)

69.8 (2.75)

Ø25 (0.98)

WET WET & WET WET/DIFFERENTIAL CONSTRUCTION

16 (0.62)

72 (2.83)

Ø25 (0.98)

15.5 (0.61)

69.8 (2.75)

Ø25 (0.98)

NOTES:
[1] ALL DIMENSIONS ARE IN MILLIMETRES (INCHES)
[2] HIGH PRESSURE IS >70 BAR

DIN 43650 FROM A DE-MOUNTABLE

KYNAR CABLE (DEPTH)
TPE-U CABLE (DEPTH)

DEMOUNTABLE KYNAR CABLE (DEPTH)
DEMOUNTABLE TPE-U CABLE (DEPTH)