The new DPS5000 CANBus from Baker Hughes, part of the UNIK5000 family, offers integrated digital electronics to the performance level of the UNIK 5000 Pressure Sensing Platform to levels unmatched by traditional analogue sensors. It uses CANopen protocol, over which fully compensated readings of Pressure and Temperature are sent, as well as control of many functions of the device.

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

**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. It is important that you ensure that the sensor materials and performance selected are suitable for your application.

**Features**
- Ranges from 200 mbar to 700 bar
- Total accuracy to ±0.1 % FS
- Stainless steel construction
- Wide temperature range -40 °C to 125 °C
- Fast update rate 1 ms
- Customer set filter setting
- Baud rate up to 1000k bit/s
- Excellent long-term stability
DPS5000 CANBus Specifications

**Operating Pressure Ranges**

**Gauge Ranges**
Any range from 200 mbar to 100 bar (3 to 1500 psi)
Ranges up 70 bar are enabled in negative gauge to the range or a maximum of -1 bar (-15 psi)

**Absolute Ranges**
Any range from 700 mbar to 700 bar (10 to 10000 psi)
All ranges are zero based

**Wet Dry Differential**
Any range from 200 mbar to 35 bar (3 to 500 psi)
All units are bidirectional

**Wet Wet Differential**
Any range from 700 mbar to 35 bar (10 to 500 psi)
All units are bidirectional

**Ordering**
When ordering, specify maximum working pressure
The lower pressure limit will be specified inline with rules stated above

**Over Pressure**
At least 2 × Pressure range with negligible calibration change
For differential versions, the negative side must not exceed its positive side by more than
2 × Pressure range up to a maximum of 15 bar

**Containment Pressure**
4 × Pressure range for gauge ranges (200 bar (3000 psi) maximum)
200 bar (3000 psi) for absolute ranges below 100 bar (1500 psi)
1200 bar (17000 psi) for absolute ranges above 100 bar (1500 psi)
For differential versions, the negative side must not exceed its positive side by more than
2 × Pressure range up to a maximum of 15 bar

**Supply**
Voltage: 5 Vdc to 32 Vdc
Current: <30 mA

**Output/Communications**
CANopen V2.0B

**CAN Setting Options**
Node ID: Can be set to any integer between 2 and 127 (Default setting is 2)
Baud rate: Can be set to 10k, 20k, 50k, 125k, 250k, 500k, 800k, 1000k (Default setting is 250k)

**Power on Time**
500 ms to acquisition from power on

**Insulation Resistance**
>100 MΩ at 500 Vdc Performance

**Performance**

**Pressure Performance**
Accuracy over the calibrated temperature range including zero and span setting and the effects of non-linearity, hysteresis and repeatability

**Gauge/Absolute/Wet Dry Differential**
A3 Premium: ±0.1 % FS over -20 to 80 °C (-4 to 176 °F)
A2 Improved: ±0.2 % FS over -40 to 125 °C (-40 to 257 °F)

**Wet Wet Differential**
Premium: ±0.2 % FS over -20 to 80 °C (-4 to 176 °F)
Improved: ±0.4 % FS over -40 to 125 °C (-40 to 257 °F)
Increases pro-rata for pressures below 700 mbar

**Temperature Performance**
Accuracy over the calibrated temperature range ±3 °C (6 °F) with 0.1 °C (0.2 °F) Resolution

**Long Term Stability**
±0.05 % FS /year Typical
±0.1 % FS Maximum at reference conditions
Increases pro-rata below 700 mbar (10 psi)

**Line Pressure Effects (Differential sensors only)**
Zero shift: <±0.03% span/bar
Span shift: <±0.03% span/bar
Effects increase pro-rata for ranges below 700 mbar
**Physical Specifications**

**Environmental Protection**
IP67

**Operating Temperature Range**
-40 °C to 125 °C (-40 °F to 257 °F)

**Pressure Media**
Fluids compatible with Stainless Steel 316L and Hastelloy C276
Statement in accordance with the European Pressure Equipment Directive

**Electrical Connector**

<table>
<thead>
<tr>
<th>Option Code</th>
<th>Description</th>
<th>IP rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>M12x1 5-PIN</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>BAYONET MIL-C-26482</td>
<td></td>
</tr>
</tbody>
</table>

**Wiring Details**

<table>
<thead>
<tr>
<th>Electrical Connector</th>
<th>Pin</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>M12x1 (5-PIN)</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>+ VE Supply</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>- VE Supply/CAN OV</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>CAN Hi</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>CAN Lo</td>
</tr>
<tr>
<td>BAYONET (MIL-C-26482)</td>
<td>A</td>
<td>+ VE Supply</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>CAN Hi</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>CAN Lo</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>- VE Supply</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>CAN OV</td>
</tr>
</tbody>
</table>

**Enclosure Materials**
Stainless Steel 316L (body)

**Pressure Connectors**
- PA G1/4 female
- PB G1/4 male flat
- PE 1/4 NPT female
- PF 1/4 NPT male
- PJ M14×1.5 60° Int Cone
- PZ M10×1 80° Int Cone
Other connectors may be available. Contact Baker Hughes to discuss your requirement.

**General Certifications**
RoHS 2002/95/EC
CRN Certified OF 13650.513467890YTN for pressure ranges up to and including 100 bar

**CE Conformity**
Pressure Equipment Directive 97/23/EC: Sound Engineering Practice

**EMC Directive 2004/108/EC**
BS EN 61326-1:2013
BS EN 61000-6-1: 2007
BS EN 61000-6-3: 2007 + A1:2011
## Ordering Information

### 1) Select part number

**Main Product Family**

- **DPS** Digital Output Transducer

| 5 | 5000 Series |

**Diameter and Material**

- 0: 25mm Stainless Steel

**Electrical Connection**

- G: M2x1 5 Pin
- 6: MIL-C-26482

**Electronics Option**

- C: CANBus

**Compensated Temperature Range**

- **TB:** -20 to 80 °C (See Note 2)
- **TD:** -40 to 125 °C (See Note 3)

**Accuracy**

- A2: Improved
- A3: Premium

**Calibration**

- CC: Full Thermal

**Hazardous Area Certification**

- H0: None

**Pressure Connector**

- PA: G1/4 Female (See Note 1)
- PB: G1/4 Male Flat
- PE: 1/4 NPT Female (See Note 1)
- PF: 1/4 NPT Male
- PJ: M14x1.5 60° Int Cone
- PZ: M10x1 80° Int Cone

**Typical Order Examples**

- DPS 50GC - TB - A3 - CC - H0 - PZ   700 mbar gauge Node id - 2, Baud rate - 250k
- DPS 50GC - TD - A2 - CC - H0 - PA   300 mbar wet dry differential Node id - 2, Baud rate - 500k

### 2) Specify maximum working pressure unit and reference. Available units are:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bar</td>
<td>pressure unit</td>
</tr>
<tr>
<td>mbar</td>
<td>millbar</td>
</tr>
<tr>
<td>psi</td>
<td>pounds/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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</table>

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>mmH2O</td>
<td>millimeters water</td>
</tr>
<tr>
<td>cmH2O</td>
<td>centimeters water</td>
</tr>
<tr>
<td>mH2O</td>
<td>meters water</td>
</tr>
<tr>
<td>inH2O</td>
<td>inches water</td>
</tr>
<tr>
<td>ftH2O</td>
<td>feet water</td>
</tr>
<tr>
<td>mmHg</td>
<td>millimeters mercury</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>inHg</td>
<td>inches mercury</td>
</tr>
<tr>
<td>Kg/cm²</td>
<td>Kilograms/centimeters square</td>
</tr>
<tr>
<td>atm</td>
<td>atmosphere</td>
</tr>
<tr>
<td>Torr</td>
<td>torr</td>
</tr>
</tbody>
</table>

### 3) Specify node id and baud rate (Default: node id-2, baud rate-250k).

**Notes:**

1. Choose this pressure connector for range over 100 bar (1500 psi).
2. Choose A3-Premium accuracy with this option.
3. Choose A2-improved accuracy with this option.
Mechanical Drawings

Pressure >100 bar

Pressure ≤ 100 bar
Absolute version

Pressure ≤ 100 bar
Gauge version

Differential version

Note: All dimensions in millimetres.
Pressure Connectors

CODE PH: G1/4 MALE

CODE P7: M10x1 80° INT CONE

CODE PA: G1/4 FEMALE

CODE PA & PE (HIGH PRESSURE > 100bar): G1/4 FEMALE AND 1/4 NPT RESPECTIVELY

CODE PE: 1/4 NPT FEMALE

CODE PJ: M14x1.5 60° INT CONE

CODE PF: 1/4 NPT MALE

Note: All dimensions in millimetres.