B.LV5
Bioanalytical applications a flow-through sensor
A product of Jobst Technologies

Benefits & Characteristics

- Enzyme-based amperometric measurement
- Excellent long-term stability
- Stable in continuous monitoring and analyzer mode
- Reference, counter and blank electrodes on-chip
- Integrated flow cell (various volumes)
- For industrial applications
- Suitable for multiparametric measurements
- Outstanding reliability
- Fast response time
- Gamma and beta sterilization compatible
- Suitable for flow-through applications

Illustration

1) For actual size, see dimensions.

Technical Data

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chip (L x W x H in mm)</td>
<td>10 x 4 x 0.4 (1.23 mm with flow cell)</td>
</tr>
<tr>
<td>Flow cell (VINTERNAL)</td>
<td>0.3 μL to 1 μL ~ 8 mm x 600 μm (0.15, 0.5 mm tubes)</td>
</tr>
<tr>
<td>Fluid connection (ØINNER)</td>
<td>0.5 mm (0.15 mm available upon request)</td>
</tr>
<tr>
<td>Working electrode</td>
<td>Platinum covered with enzyme membrane</td>
</tr>
<tr>
<td>Blank electrode</td>
<td>For background compensation</td>
</tr>
<tr>
<td>Reference electrode</td>
<td>Silver / silver chloride</td>
</tr>
<tr>
<td>Counter electrode</td>
<td>Platinum</td>
</tr>
<tr>
<td>Measurable analytes</td>
<td>Glucose, Lactate, Glutamine, Glutamate</td>
</tr>
<tr>
<td>Operating measurement range at +25 °C (for extended measurement ranges please contact IST AG)</td>
<td>Glucose: 0.05 mM to 25 mM / 0.01 to 4.5 g/l, Lactate: 0.02 mM to 15 mM / 0.002 to 1.5 g/l, Glutamine: 0.04 mM to 20 mM / 0.006 to 3 g/l, Glutamate: 0.04 mM to 10 mM / 0.006 to 1.5 g/l</td>
</tr>
</tbody>
</table>
Sterilization: Beta or gamma sterilization is possible (25 kGy typical) Sensitivity increases upon radiation; lactate sensors life time is reduced Initial bioburden < 1 cfu per sensor

| Time to first measurement after storage at +37 °C: | ~ 15 min |
| Time response (t₉₀, %) at +37 °C²: | < 25 s |
| Temperature influence: | ~ 3.5 %/°C |
| Storage conditions: | +4 °C to +35 °C, desiccated |
| Shelf life: | > 6 months (at recommended storage conditions) |
| Operational life time⁶: | > 2 weeks continuous operation > 4 weeks in analyzer mode |
| Flow cell pressure drop: | ~ 700 µl/min/bar (with a 1 µl flow cell) |

2) All performance data was obtained using an acetate buffer. For more information about medium composition please contact IST AG
3) Larger cell volumes available upon request
4) Upon request
5) Parameters may vary depending on the medium type
6) Limited by lactate sensor; may decrease by higher analyte concentration and/or less dissolved oxygen in medium

**Pin Assignment⁷**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counter</td>
<td>Reference</td>
<td>Lactate 2</td>
<td>Glucose 2</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Blank 2</td>
<td>Lactate 1</td>
<td>Glucose 1</td>
<td>Blank 1</td>
</tr>
</tbody>
</table>

⁷) Customer specific pin assignment upon request
Packaged Sensor

Innovative Sensor Technology IST AG offers a highly robust packaged version of the LV5 sensor for easy mounting and testing.

**Electrical connection:**
Card connector compatible with MEC6-RA connectors (40 pins in two rows, pitch: 0.635 mm)

**Fluidic connection:**
1 x female luer lock, 1 x male luer lock

### Order Information - Sensor only

- **Order code:** B.LV5.F.GL.FC
- **Order number:** 390.00129

### Order Information - Packaged Sensor

- **Order code:** B.LV5.F.GL.FC.S
- **Order number:** 390.00154

### Disclaimer

*Not for medical, diagnostics and use on humans. For evaluation use only. For more information contact IST AG.*