Bosch Rexroth Web-Seminar

"OBED valves: Optimized operation - easy and real time"
Web-Seminar OBED - valve
Why digital electronics...

**Simplify your Design**

**Streamline your Installation**

**Maximize your Productivity**

**Minimize your Downtime**

**Open standards** keep system complexity low and do not overstrain the user

Know beforehand that it „fits“ due to built-in pressure sensor

**M12 standard**-cabling reduces the effort

Easy access to product or system status via Bluetooth

Easy to put into operation with user-friendly dialogs

Optimal parameters depending on the machine user increase productivity

Remote-View saves on-site personnel and speeds up solution finding

Order spare parts via service portal

Open standards

Digital valve with OBED

Digital valve with OBED

Digital Service Assistant
# Web-Seminar OBED - valve

## Analog Technology

<table>
<thead>
<tr>
<th>Electronic</th>
<th>On Board Electronic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical interface</td>
<td>6+ PE - connector</td>
</tr>
<tr>
<td>Active principle</td>
<td>Mechanical force control</td>
</tr>
<tr>
<td>Signal transmission</td>
<td>Command value</td>
</tr>
<tr>
<td>Parameterization</td>
<td>Not available</td>
</tr>
<tr>
<td>Open interface</td>
<td>Not available</td>
</tr>
</tbody>
</table>
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Productivity: High performance, boosts productivity

- **High volume flow** (60 l/min), flow-independent pressure control

- **Linear command value pressure characteristic curve**

 analog
digital
Valve with digital electronics and Bluetooth interface
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Valve description

- Bluetooth - Dongle
- Integrated pressure sensor
- Digital OnBoard electronic (OBED)
- IO – Link - interface
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Valve variants

Subplate mounting - variants
Sandwich plates - variants
# Web-Seminar OBED - valve

## Technical characteristics

<table>
<thead>
<tr>
<th>Valve variants</th>
<th>Subplate mounting, Sandwich plates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical connection</td>
<td>With and without digital OBE, single connection K4</td>
</tr>
<tr>
<td>Active principle</td>
<td>Controlled and regulated function</td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>350 bar</td>
</tr>
<tr>
<td>Max. volume flow</td>
<td>60 l/min</td>
</tr>
<tr>
<td>Pressure stages</td>
<td>50, 100, 200, 315 bar</td>
</tr>
<tr>
<td>Electrical interface</td>
<td>Analog interface (A1, F1)</td>
</tr>
<tr>
<td>User interface</td>
<td>Digital interface (IO-Link)</td>
</tr>
<tr>
<td>Pressure sensor</td>
<td>With integrated pressure sensor / With external pressure sensor connection</td>
</tr>
<tr>
<td>Parameterization</td>
<td>Yes</td>
</tr>
<tr>
<td>Control oil volume flow</td>
<td>0,5 l/min</td>
</tr>
<tr>
<td>Magnetic current</td>
<td>1,6 A / 800 mA (without OBE)</td>
</tr>
</tbody>
</table>
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Connectivity (I4.0): Prediction of downtimes and malfunctions

OBED Integrated, digital ELECTRONICS on the valve

DIGITAL type plate

Condition - MONITORING

APP - control

Open INTERFACES

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Advantages IO-Link

Integration in all relevant fieldbus communication systems

Simplified and error-free wiring

Each device has an electronic device description IO- Device Description (IODD) (manufacturer, type code, material number)

Digital name plate, product identification without identifiable name plate

IO-Link - „USB of automation“

Automatic parameterization of devices

Preventive maintenance by use of information on operating hours / temperature histogram

Diagnostic function, access to device information e.g. temperature / operating hours

Reduce of stock levels / variance by M12 standard connection for sensor/actuator
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Topology with IO-Link
Web-Seminar OBED - valve

IO-Link Master

4x Type A

- Supply from L+ and L- with supply voltage $U_s$
- IO-Link port: Pin 4
- Digital input: PIN 2
- Maximum current L+/L- 200mA (1.6A for a short time)

4x Type B

- Supply from L+ and L- with supply voltage $U_s$
- IO-Link port: Pin 4
- Supply from +24 and GND with supply voltage $U_A$
- Maximum current L+/L- 200mA (1.6A for a short time)
- Maximum current +24/GND 2.0A
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**IO-Link Master**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Signal</th>
<th>Interface „L1“</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L+</td>
<td>Voltage supply IO-Link</td>
</tr>
<tr>
<td>2</td>
<td>P24</td>
<td>24 V voltage supply for valve electronics, pressure sensor, Bluetooth dongle (incl. LEDs etc.) and power section of max. 1.6 A continuous current and up to 2 A as making current. Potential is galvanically separated from supply L+ and L-.</td>
</tr>
<tr>
<td>3</td>
<td>L-</td>
<td>Reference potential pin 1</td>
</tr>
<tr>
<td>4</td>
<td>C/Q</td>
<td>Data line IO-Link (SDCI)</td>
</tr>
<tr>
<td>5</td>
<td>N24</td>
<td>Reference potential pin (galvanically separated from supply L+ and L-)</td>
</tr>
</tbody>
</table>
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**App - Name**
- easy2connect

**Operating system**
- iOS, Android
Web-Seminar OBED - Ventile „easy2connect - App"
Web-Seminar OBED - Ventile

Summary product highlights

Simplify your DESIGN

- Consistent product portfolio for the realization of a solution tailored to customer needs
- OnBoard elektronic, digital
- Compact design (integrated pressure sensor technology)
- External pressure sensor connection
- Customer-specific & open interfaces
- IO-Link – point-to-point connection
- Bluetooth – app – control

Streamline your INSTALLATION

- Reduction of commissioning time through predefined parameter sets
- Application-specific parameter sets can be stored
- Fast and easy commissioning through open interfaces (IO-Link, Bluetooth)
- Digital name plate
- Digital and analog interfaces

Minimize your DOWNTIME

- Feedback of diagnosis & status information of process variables
- Robust and reliable, fulfilling protection class IP65
- With a simple click system the Bluetooth dongle can be retrofitted by the customer at any time

Maximize your PRODUCTIVITY

- Longer lifetime through condition monitoring
- Predefined & customer-specific parameter sets can be switched
- Fast & easy analysis, structural adjustments through app
- Analog interface switchable between current & voltage signal
- With integrated and external pressure sensor
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## Overview IO-Link / BT - products

<table>
<thead>
<tr>
<th>IO-Link Devices</th>
<th>4WRPEH...3X..L1</th>
<th>4WRLE...4X..L1</th>
<th>4WRPE10...3X..L1</th>
<th>4WRPEH10...3X..L1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rx 29121</td>
<td>Rx 29123</td>
<td>Rx 29122</td>
<td>Rx 29038</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Devices</th>
<th>S67E-PN-IOL8</th>
<th>S67E-S3-IOL8</th>
<th>HEDE12-1X</th>
<th>HEDE10-3X</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R911174436</td>
<td>R911174437</td>
<td>(Pressure switch)</td>
<td>(Pressure switch)</td>
</tr>
</tbody>
</table>

(Z)3DRE(E)(A)...2X..L1...B
Rx 29283

Pressure switch

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OBED - digitalization valve portfolio

proportional pressure valves

- target portfolio: ALL proportional pressure valves

proportional directional valves

- target portfolio: WRAE, WRZE, 3DREPE

high response directional valves

- target portfolio: WRPE(H), WRLE, WRTE, WRC, WRTE, WRREH, WRVE

electro-hydraulic control systems

- target portfolio: SYDFE

Analog cmd interface

- IO Link interface

- Bluetooth interface

- Multi-Ethernet / Fieldbus

- Motion functionality
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Further Information

OBED Valves: Increase Productivity via slider

Operating OBED valves via Smartphone and Bluetooth