OPTO-ELECTRONIC LEVEL SENSORS FOR HORIZONTAL AND VERTICAL INSTALLATION

Senlux' Besta
The optoelectronic Senlux Besta level switches are used for the level control of liquids. They may be installed either vertically or horizontally.

Base model OPG01
Product overview shown below

Technical Data
Operating pressure max. 10 bar
Ambient temperature -25 to 70°C;
Liquid temperature -30 to 100°C;
max. +150°C 15 during max. minutes
Measuring accuracy ± 0.5 mm
Material housing stainless steel 1.4305
Material prism quartz glass
min. distance sensor tip to reflecting wall > 10 mm
Mountig direction any
Process connections BSP3/8", M12x1 mm in 304
BSP 1/2" in Ti316
other types on request

Electrical Data
Supply voltage 12...32 VDC
Supply current max. 40 mA
Switch point number 1
Output PNP Transistor,
reverse polarity protected
Switch function close or open
Protection IP65
Indication of active output 1 LED
cable PVC, PUR
Electrical connection 3 x 0.25 mm² or plug M8,
other types on request

Operating Principle
The optoelectronic sensor contains an infrared LED and a light receiver.
Light from the LED is directed into a prism which forms the tip of the sensor. With no liquid present, light from the LED is reflected within the prism to the receiver.
When rising liquid immerses the prism, the light is refracted out into the liquid, leaving little or no light reach the receiver. Sensing this change, the receiver actuates electronic switching within the unit to operate an external alarm or control circuit.

Connection diagram

<table>
<thead>
<tr>
<th>OPG01</th>
<th>Supply voltage +12...32 VDC</th>
<th>Pin assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>brown</td>
<td>1 Supply voltage +12...32 VDC</td>
<td></td>
</tr>
<tr>
<td>white</td>
<td>3 0</td>
<td></td>
</tr>
<tr>
<td>green</td>
<td>4 Output +12...32 VDC</td>
<td></td>
</tr>
</tbody>
</table>

Pin assignment

- 1: Supply voltage +12...32 VDC
- 3: 0
- 4: Output +12...32 VDC
OPG01

Process connection
A  Connection thread BSP3/8"
B  Connection thread M12 x 1 mm, stainless steel 304
C  Fixing screw thread BSP1/2", stainless steel Ti316
X  Other types on request

Electrical connection
2P  Connection cable: 2 m PVC 3 x 0.25 mm², Standard
2U  Connection cable: 2 m PUR 3 x 0.25 mm², Standard
M8  Plug M8
X  Other types on request

Switch function
S  Closer (in medium closed, 12 - 32 VDC)
O  Opener (in medium open, 0 VDC)

Sensitivity
A  Sensitivity not adjustable (please specify the medium)
T  Sensitivity adjustable (with potentiometer)

Example: Process connection BSP3/8", 2 m PVC cable, closer, sensitivity not adjustable, medium water: OPG01-A2PSA

Characteristics
- Compact construction
- No moving parts
- Excellent price / performance ratio
- Easy to install
- Mounting direction: any
- High reliability
- Long service life
- Measuring accuracy ± 0.5 mm
- Electrical connection: cable connection or plug
- Optical switch condition check via the LED
- Output PNP
- Close or Open
- Adjustable sensitivity for any application

Areas of application
- Plant construction
- Machine tools
- Chemicals and Pharmaceuticals
- Hydraulics
- Machine construction
- Water treatment etc.

Accessories: Circular plugs M8

<table>
<thead>
<tr>
<th>Type</th>
<th>Order number</th>
<th>Design</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female plug M8 with</td>
<td>2 m PVC cable</td>
<td>K8PVC 2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>5 m PVC cable</td>
<td>K8PVC 5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2 m PUR cable</td>
<td>K8PUR 2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5 m PUR cable</td>
<td>K8PUR 5</td>
<td></td>
</tr>
<tr>
<td>Female plug M8, angle type</td>
<td>2 m PVC cable</td>
<td>W8PVC 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 m PVC cable</td>
<td>W8PVC 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 m PUR cable</td>
<td>W8PUR 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 m PUR cable</td>
<td>W8PUR 5</td>
<td></td>
</tr>
</tbody>
</table>
The optoelectronic Senlux Besta level switches are used for the level control of liquids. They may be installed either vertically or horizontally.

**Base model OPG02**
Product overview shown below

**Technical Data**
- Operating pressure: max. 25 bar
- Ambient temperature: -25 to 70°C
- Liquid temperature: -30 to 100°C; temporary up to max. 150°C
- Measuring accuracy: ± 0.5 mm
- Material housing: stainless steel 1.4571
- Material prism: quartz glass
- Min. distance sensor tip to reflecting wall: > 10 mm
- Mounting direction: any
- Process connections: BSPP 1/2", other types on request
- Sensor length L: min. 65 mm, max. 3000 mm

**Electrical Data**
- Supply voltage: 12...32 VDC
- Supply current max.: 40 mA
- Switch point number: 1
- Output: PNP Transistor, reverse polarity protected
- Switch function: close or open
- Protection: IP65
- Indication of active output: 1 LED
- Electrical connection: cable PVC, PUR 3 x 0.25 mm² or coupler plug or, plug M12, other types on request

**Operating Principle**
The optoelectronic sensor contains an infrared LED and a light receiver. Light from the LED is directed into a prism which forms the tip of the sensor. With no liquid present, light from the LED is reflected within the prism to the receiver. When rising liquid immerses the prism, the light is refracted out into the liquid, leaving little or no light reach the receiver. Sensing this change, the receiver actuates electronic switching within the unit to operate an external alarm or control circuit.

**Connection diagram**

<table>
<thead>
<tr>
<th>Connection Diagram</th>
<th>Pin assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPG02</td>
<td>Supply voltage +12...32 VDC</td>
</tr>
<tr>
<td></td>
<td>1 Supply voltage +12...32 VDC</td>
</tr>
<tr>
<td>brown</td>
<td>3 0</td>
</tr>
<tr>
<td>white</td>
<td>4 Output +12...32 VDC</td>
</tr>
<tr>
<td>green</td>
<td></td>
</tr>
</tbody>
</table>
Product overview / order table

OPG02

<table>
<thead>
<tr>
<th>Process connection</th>
<th>Electrical connection</th>
<th>Switch function</th>
<th>Sensitivity</th>
<th>Sensor length L</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Connection thread BSPP 1/2&quot;</td>
<td>2P Connection cable: 2 m PVC 3 x 0.25 mm², Standard</td>
<td>S Closer (in medium closed, 12 - 32 VDC)</td>
<td>A Sensitivity not adjustable (please specify the medium)</td>
<td>Dimensions in mm (length from sealing face of process connection, L min=65 mm, L max=3000 mm)</td>
</tr>
<tr>
<td>X Other types on request</td>
<td>2U Connection cable: 2 m PUR 3 x 0.25 mm², Standard</td>
<td>O Opener (in medium open, 0 VDC)</td>
<td>T Sensitivity adjustable (with potentiometer)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>W Coupler plug, DIN 43650</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M12 Plug M12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X Other types on request</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: Process connection BSPP 1/2", 2 m PVC cable, closer, sensitivity not adjustable, length 500 mm: OPG02-A2PSA500

Characteristics
- No moving parts
- Excellent price / performance ratio
- Easy to install
- Mounting direction: any
- High reliability
- Long service life
- Measuring accuracy ± 0.5 mm
- Electrical connection: cable connection or plug
- Output PNP
- Close or Open
- Adjustable sensitivity for any application (e.g. foam detection)
- Sensor length: selectable from min. 65 mm to max. 3000 mm

Areas of application
- Plant construction
- Machine tools
- Chemicals and Pharmaceutics
- Hydraulics
- Machine construction
- Water treatment etc.

Accessories: Circular plugs M12

<table>
<thead>
<tr>
<th>Type</th>
<th>Order number</th>
<th>Design</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female plug M12 with 2 m PVC cable</td>
<td>K12PVC 2</td>
<td>1</td>
<td>brown</td>
</tr>
<tr>
<td>Female plug M12 with 5 m PVC cable</td>
<td>K12PVC 5</td>
<td>3</td>
<td>blue</td>
</tr>
<tr>
<td>Female plug M12 with 2 m PUR cable</td>
<td>K12PUR 2</td>
<td>4</td>
<td>black</td>
</tr>
<tr>
<td>Female plug M12 with 5 m PUR cable</td>
<td>K12PUR 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female plug M12, angle type with 2 m PVC cable</td>
<td>W12PVC 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female plug M12, angle type with 5 m PVC cable</td>
<td>W12PVC 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female plug M12, angle type with 2 m PUR cable</td>
<td>W12PUR 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female plug M12, angle type with 5 m PUR cable</td>
<td>W12PUR 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

With reservation of the technical modifications
LSD01E/11.01

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Printed in Switzerland
The optoelectronic Senlux Besta level switches are used for the level control of liquids. They may be installed either vertically or horizontally.

**Base model OPG03**
Product overview shown below

**Technical Data**
- Operating pressure: max. 25 bar
- Ambient temperature: -30 to 70°C
- Liquid temperature: -30 to 100°C; temporarily up to max. +150°C
- Accuracy: ± 0.5 mm
- Mounting direction: any
- Min. distance sensor tip to any reflecting surface: > 10 mm
- Prism material: quartz glass
- Process connections: BSPP 1/2", 1.4571, other types on request
- Sensor tube: Ø 13 mm, 1.4571
- Sensor length L: min. 65 mm, max. 3000 mm

**Electrical Data**
- Supply voltage: 230 VAC
- Switch points: 1
- Output: 250 VAC / 6A
- Life cycles: > 10^7
- Function: change-over switch
- Protection rating: IP65
- Connection box: Aluminium 75 x 80 x 57 mm, other types on request

**Operating Principle**
The optoelectronic sensor contains an infrared LED and a light receiver. Light from the LED is directed into a prism which forms the tip of the sensor. With no liquid present, light from the LED is reflected within the prism to the receiver. When rising liquid immerses the prism, the light is refracted by the liquid, leaving little or no light reaching the receiver. Sensing this change, the receiver initiates a switching process.

**Connection diagram**
- OPG03
- Relay
  - W 1: Relay output change-over switch
  - W 2: 250 VAC / 6A
  - W 3: 230 VAC Supply voltage
Product overview / order table

**OPG03**

**Process connection**
- A  Connection thread BSPP1/2”
- X  other types on request

**Connection box**
- B  Aluminium case 75 x 80 x 57 mm, IP65
- X  other types on request

**Sensitivity**
- A  Sensitivity not adjustable (please specify the medium)
- T  Sensitivity adjustable (with potentiometer)

**Sensor length L**
Dimensions in mm (length from sealing face of process connection, L min. = 65 mm, L max. = 3000 mm)

Example: Process connection BSPP1/2", aluminium case, sensitivity not adjustable, length 500 mm: OPG03-ABA0500

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**Characteristics**
- No moving parts
- Excellent price / performance ratio
- Easy to install
- Mounting direction: any
- High reliability
- Long service life
- Measuring accuracy ± 0.5 mm
- Electrical connection box
- Relay output 250 VAC / 6A
- Change-over switch
- Adjustable sensitivity for any application (e.g. foam detection)
- Sensor length selectable from min. 65 mm to max. 3000 mm

**Areas of application**
- Plant construction
- Machine tools
- Chemical and Pharmaceutical
- Hydraulics
- Machine construction
- Water treatment, etc.

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With reservation of technical modifications

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Printed in Switzerland
The optoelectronic Senlux Besta level switches are used for the level control of liquids. They may be installed either vertically or horizontally.

Base model OPG04
Product overview shown below

Technical Data
Operating pressure
Ambient temperature
Liquid temperature
Accuracy
Material housing
Prism material
min. distance sensor tip to any opposite wall
Mounting direction
Process connections

Electrical Data
Supply voltage
Supply current max.
Switch points
Output
Function
Protection rating
Indication of active output
Electrical connection

Operating Principle
The optoelectronic sensor contains an infrared LED and a light receiver.

Light from the LED is directed into a prism which forms the tip of the sensor. With no liquid present, light from the LED is reflected within the prism to the receiver.

When rising liquid immerses the prism, the light is refracted by the liquid, leaving little or no light reaching the receiver. Sensing this change, the receiver initiates a switching process.

Connection diagram

<table>
<thead>
<tr>
<th>Pin assignment M8</th>
<th>Supply voltage 12...32 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Supply voltage 12...32 VDC</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Output 12...32 VDC</td>
</tr>
</tbody>
</table>
Product overview / order table

**OPG04**

**Process connection**
- A  Connection thread BSPP1/2"
- X  Other types on request

**Electrical connection**
- 2P  Connection cable: 2 m PVC 3 x 0.25 mm², Standard
- 2U  Connection cable: 2 m PUR 3 x 0.25 mm², Standard

**Other cable length: dimensions in m**

**M8  Plug M8**
- X  Other types on request

**Switch function**
- S  Closer (in medium closed, 12 - 32 VDC)
- O  Opener (in medium open, 0 VDC)

**Sensitivity**
- A  Sensitivity not adjustable (please specify the medium)
- T  Sensitivity adjustable (with potentiometer)

Example: Process connection BSPP1/2", 2 m PVC cable, closer, sensitivity not adjustable, medium water: OPG04-A2PSA

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**Characteristics**
- Small and compact
- No moving parts
- Excellent price / performance ratio
- Easy to install
- Mounting direction: any
- High reliability
- Long service life
- Measuring accuracy ± 0.5 mm
- Electrical connection: cable connection or plug
- Optical switch condition check via the LED
- Output PNP
- Pressure 40 bar, optional also higher pressure
- Adjustable sensitivity for any application
- Glass fused in the steel body (without seal)

**Areas of application**
- The optoelectronic level switch OPG04 is used for monitoring the level of liquids in refrigeration applications.

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**Accessories: Circular plugs M8**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order number</th>
<th>Design</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female plug M8 with 2 m PVC cable</td>
<td>K8PVC 2</td>
<td></td>
<td>1 brown</td>
</tr>
<tr>
<td></td>
<td>K8PVC 5</td>
<td></td>
<td>3 blue</td>
</tr>
<tr>
<td></td>
<td>K8PUR 2</td>
<td></td>
<td>4 black</td>
</tr>
<tr>
<td></td>
<td>K8PUR 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female plug M8, angle type with 2 m PVC cable</td>
<td>W8PVC 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>W8PVC 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>W8PUR 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>W8PUR 5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The optoelectronic Senlux Besta level switches are used for the level control of liquids. They may be installed either vertically or horizontally.

**Base model OPG05**
Product overview shown below

**Technical Data**
- Operating pressure: max. 25 bar
- Ambient temperature: -25°C bis +80°C
- Liquid temperature: -30°C to +175°C
- Accuracy: ± 0.5 mm
- Material housing: stainless steel 1.4305
- Prism material: quartz glass
- min. distance sensor tip to reflecting wall: > 10 mm
- Mounting direction: any
- Process connections: BSPP 1/2", other types on request

**Electrical Data**
- Supply voltage: 12...32 VDC
- Supply current max.: 40 mA
- Switch points: 1
- Output: PNP Transistor, reverse polarity protected
- Function: close or open
- Protection rating: IP65
- Indication of active output: 1 LED
- Electrical connection: cable PVC, PUR, 3 x 0.25 mm² or plug M12, angular plug, other types on request

**Operating Principle**
The optoelectronic sensor contains an infrared LED and a light receiver. Light from the LED is directed into a prism which forms the tip of the sensor. With no liquid present, light from the LED is reflected within the prism to the receiver. When rising liquid immerses the prism, the light is refracted by the liquid, leaving little or no light reaching the receiver. Sensing this change, the receiver initiates a switching process.

**Connection diagram**

<table>
<thead>
<tr>
<th>Pin assignment M12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Angular Plug DIN 43650</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
</tbody>
</table>
Product overview / order table

**OPG05**

**Process connection**
- A  Connection thread BSPP1/2"
- X  Other types on request

**Electrical connection**
- 2P  Connection cable: 2 m PVC 3 x 0.25 mm², Standard
- 2U  other cable length: dimensions in m
- W  Angular plug DIN 43650
- M12  Plug M12
- X  Other types on request

**Switch function**
- S  Closer (in medium closed, 12 - 32 VDC)
- O  Opener (in medium open, 0 VDC)

**Sensitivity**
- A  Sensitivity not adjustable (please specify the medium)
- T  Sensitivity adjustable (with potentiometer)

Example: Process connection BSPP1/2", 2 m PVC cable, closer, sensitivity not adjustable, medium water: OPG05-A2PSA

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**Characteristics**
- Small and compact
- Excellent price / performance ratio
- Liquid temperature up to +175°C
- Max. Pressure 25 bar
- Mounting direction: any
- High reliability
- Measuring accuracy ± 0.5 mm
- Electrical connection: cable connection, plug M12 or angular plug
- Output PNP
- Close or Open
- Adjustable sensitivity for any application

**Areas of application**
- Plant construction
- Machine tools
- Chemicals and Pharmaceutics
- Hydraulics
- Machine construction
- Water treatment etc.

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**Accessories: Circular plugs M12**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order number</th>
<th>Design</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female plug M12 with</td>
<td>2 m PVC cable</td>
<td>K12PVC 2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>5 m PVC cable</td>
<td>K12PVC 5</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2 m PUR cable</td>
<td>K12PUR 2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>5 m PUR cable</td>
<td>K12PUR 5</td>
<td></td>
</tr>
<tr>
<td>Female plug M12, angle type with</td>
<td>2 m PVC cable</td>
<td>W12PVC 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 m PVC cable</td>
<td>W12PVC 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 m PUR cable</td>
<td>W12PUR 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 m PUR cable</td>
<td>W12PUR 5</td>
<td></td>
</tr>
</tbody>
</table>

With reservation of technical modifications

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info@besta.ch, www.bestach
Level limit switch in stainless steel 1.4404 for hygiene applications with variable probe length

Base model OPG06
Product overview shown below

Technical Data
- Operating pressure: max. 25 bar
- Ambient temperature: -25 to 70°C
- Operating temperature: -30 to 100°C temporary up to max. +125°C
- Measuring accuracy: ± 0.5 mm
- Material housing: stainless steel 1.4404
- Material prism: quartz glass
- Mounting direction: any
- Min. distance sensor tip to any opposite wall: > 10 mm
- Process connections: BSPP 1½" clamp, 2" clamp, other types on request
- Sensor tube: ø 13 mm, 1.4404
- Sensor length L: min. 65 mm max. 1000 mm

Electrical Data
- Supply voltage: 12...32 VDC
- Supply current max.: 40 mA
- Switch point number: 1
- Output: Protective DC PNP (200 mA)
- Switch function: closer or opener
- Protection class: IP65
- Electrical connection: cable PVC and PUR 3 x 0.25 mm² or plug M12, other types on request

Operating Principle
The electro-optic sensor contains an infrared LED and a light receiver. Light from the LED is directed into a prism which forms the tip of the sensor. With no liquid present, light from the LED is reflected within the prism to the receiver.
When rising liquid immerses the prism, the light is refracted out into the liquid, leaving little or no light reach the receiver. Sensing this change, the receiver actuates electronic switching within the unit to operate an external alarm or control circuit.

Connection diagram

<table>
<thead>
<tr>
<th>OPG06</th>
<th>Supply voltage +12...32 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>brown</td>
<td>0</td>
</tr>
<tr>
<td>white</td>
<td>Output +12...32 / 0 VDC</td>
</tr>
</tbody>
</table>

Pin assignment M12
- 1 Supply voltage +12...32 VDC
- 3 0
- 4 Output +12...32 VDC
# Product overview / order table

**OPG06**

**Process connection**
- A clamp 1½"
- B clamp 2"
- X Other types on request

**Electrical connection**
- 2P Connection cable: 2 m PVC 3 x 0.25 mm², Standard
- 2U Connection cable: 2 m PUR 3 x 0.25 mm², Standard
- M12 Plug M12
- X Other types on request

**Switch function**
- S Closer (in medium closed, 12 - 32 VDC)
- O Opener (in medium open, 0 VDC)

**Sensitivity**
- A Sensitivity not adjustable (please specify the medium)
- T Sensitivity adjustable (with potentiometer)

**Sensor length L**
- Dimensions in mm
- (length from sealing face of process connection, L min.=65 mm, L max.=1000 mm)

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**Example:** Process connection clamp 2", 2 m PVC cable, closer, sensitivity not adjustable, Length 500 mm: OPG06-B2PSA0500

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## Characteristics
- No moving parts
- Wetted parts 1.4404
- Easy mounting
- Mounting direction: any
- High reliability
- High life expectancy
- Measuring accuracy ± 0.5 mm
- Electrical connection: cable connection, plug M12 or angular plug
- Output PNP
- Close or Open
- Adjustable sensitivity for any application
- Variable sensor length: min 65 mm, max. 1000 mm

## Areas of application
- Food
- Pharmaceutical

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### Accessories: Circular plugs M12

<table>
<thead>
<tr>
<th>Type</th>
<th>Order n°</th>
<th>Design</th>
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</tr>
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<tbody>
<tr>
<td>Female plug M12 with 2 m PVC cable</td>
<td>K12PVC 2</td>
<td></td>
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<td>5 m PVC cable</td>
<td>K12PVC 5</td>
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<td>3 blue</td>
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<td>2 m PUR cable</td>
<td>K12PUR 2</td>
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<td>5 m PUR cable</td>
<td>K12PUR 5</td>
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<tr>
<td>Female plug M12, angle type with 2 m PVC cable</td>
<td>W12PVC 2</td>
<td></td>
<td>4 black</td>
</tr>
<tr>
<td>5 m PVC cable</td>
<td>W12PVC 5</td>
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<tr>
<td>2 m PUR cable</td>
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<td>W12PUR 5</td>
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With reservation of technical modifications

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Printed in Switzerland

LSD006E / 11.01
Limit Switch in stainless steel 1.4404/1.4571 for hygiene applications, high temperature version.

**Base model OPG061**
Product overview shown below

**Technical Data**
- Operating pressure: max. 25 bar
- Ambient temperature: -30 to 80°C
- Operating temperature: -30 to 175°C
- Material prism: quartz glass
- Measuring accuracy: ± 0.5 mm
- Min. distance sensor tip to any opposite wall: > 10 mm
- Mounting direction: any
- Process connections: 1½" Clamp, 1.4404
  2" Clamp, 1.4404
  other types on request
- Material housing: parts contacting the medium: in stainless steel 1.4404
  parts out of medium: 1.4571

**Electrical Data**
- Supply voltage: 12…32 V DC
- Supply current max.: 40 mA
- Switch point number: 1
- Switch function: closer or opener
- Output: Protective
  DC PNP (200 mA)
- Protection class: IP65
- Electrical connection: PVC or PUR cable
  3 x 0.25 mm², coupler plug or plug M8, other types on request

**Operating Principle**
The opto-electronic sensor contains an infrared LED and a light receiver.
Light from the LED is directed into a prism which forms the tip of the sensor. With no liquid present, light from the LED is reflected within the prism to the receiver.
When rising liquid immerses the prism, the light is refracted out into the liquid, leaving little or no light reach the receiver. Sensing this change, the receiver actuates electronic switching within the unit to operate an external alarm or control circuit.

**Connection diagram**
- **OPG061**
  - brown: Supply voltage +12…32 V DC
  - white: 0
  - green: Output +12…32 / 0 VDC

**Pin assignment M8**
- 1: Supply voltage +12…32 V DC
- 3: 0
- 4: Output +12…32 / 0 VDC

**Coupler plug DIN 43650**
- 1: Supply voltage +12…32 V DC
- 2: 0
- 3: Output +12…32 / 0 VDC
OPG061  Process connection
A  Clamp 1½"
B  Clamp 2"
X  Other types on request

Electrical connection
2P  Connection cable: 2 m PVC 3 x 0.25 mm²,
2U  Standard other cable length: dimensions in m
M8  Plug M8
W  Coupler plug DIN 43650
X  Other types on request

Switch function
S  Closer (in medium closed, 12 – 32 V DC)
O  Opener (in medium opened, 0 V DC)

Sensitivity
A  Sensitivity not adjustable (please specify the medium)
T  Sensitivity adjustable (with poti)

Example: Process connection clamp 2", 2 m PVC cable, closer, sensitivity not adjustable: OPG061-B2PSA

Characteristics
• No moving parts
• Operating temperature: +175°C
• Simple to install
• Mounting direction: any
• Parts contacted with the medium are made of 1.4404
• Long service life
• High reliability
• Measuring accuracy ± 0.5 mm
• Electrical connection: cable connection or plug
• Output PNP
• Closer or Opener
• Adjustable sensitivity for any application
  (e.g. foam detection)

Areas of application
• Food industry
• Pharmaceuticals

Accessories: Circular plugs M8

<table>
<thead>
<tr>
<th>Type</th>
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<th>Design</th>
<th>Colour</th>
</tr>
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<tbody>
<tr>
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<td>2 m PVC cable</td>
<td>K8PVC 2</td>
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</tr>
<tr>
<td></td>
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