ACCESSORIES

SH-BT65-F31K2
- Protective housing for actuator series BT65-F31K2...
- Impact and U/V resistant plastic material
- Captive screws in stainless steel
- Standard size 30 mm x 80 mm for mounting on the actuator

SH-P12K2
- Protective cover for T12K2 in stainless steel
- Optimized for outdoor use – high temperature, U/V, and salt water resistant
- High impact protection
- Easy mounting

MH-BT01...: MOUNTS TO MANUAL VALVES USING APPROPRIATE BRACKETS
- Rugged stainless steel holder and Vietnam plate
- Easy mounting
- Easy to adjust
- Conforms to standards ISO5211-DIN3337
- Sizes F03 to F07, lock nuts M6 to MB

FACTOR AUTOMATION – SENSING YOUR NEEDS

Pepperl+Fuchs sets the standard in quality and innovative technology for the world of automation. Our expertise, dedication, and heritage of innovation have driven us to develop the largest and most versatile line of industrial sensor technologies and interface components in the world. With our global presence, reliable service and flexible production facilities, Pepperl+Fuchs delivers complete solutions for your automation requirements – whenever you need them.

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WEATHERING THE STORM

VALVE POSITION SENSING
WITH A GLOBAL VIEW

FACTOR AUTOMATION
The release of Pepperl+Fuchs’ new F31K2 valve position sensor completes the family of the most contemporary direct-mount, open solution products available. These dual inductive sensor models include our F25 series for smaller pneumatic actuators and manual valves, our F31 series for small or medium actuators with expanded electrical versions, and our F31K2. The new F31K2 is the most flexible, ruggedized and weatherproof model yet. An extended temperature range along with numerous options for electrical connections are just some of the features inherent in a sensor designed for today’s valve automation and communication requirements.

Direct mount valve position sensors minimize space requirements, maintain assured sensing distance, and offer simplicity and sophistication in monitoring and reliability. Designed to meet the requirements of the process valve market, our dual sensors mount directly onto the actuator, and targets mount directly to the actuator stem.

The SOluTIOn for everY requiremeNT – valve POSiTiON SeNSOr SOluTIOn for STaNDarD PNeumaTic acTuaTOrs

**F25 BASIC SERIES**

- Dual sensor with two active zones
- Adjustment-free mounting: maintains accurate sensing distance
- Cable or plug connection

**SENSOR TARGETS**

- Sensor direct mounts to manual or automated rotary valves using M10x1 30 mm screw mounting holes

**FEATURES**

- Actuator target for positive monitoring applications
- SAFE: Finger-safe design prevents object obstruction.

**DISPLAY**

- Visual position indicator

**UNIVERSAL**

- 90° clockwise or counterclockwise rotation
- With four actuating elements (fixed at 90° offset)
- Also available with reversed working direction

**FOR MANUALLY OPERATED VALVES AS WELL AS SMALL AND MEDIUM-SIZED ACTUATORS**

The F21 sensor series is an effective solution for valve positioning. They combine two sensing elements in one device inside one enclosure, reducing installation and maintenance costs considerably. The F21 sensors are suitable for both the switch box enclosure as well as for direct mount onto the actuator.

**FOR STANDARD 30 mm x 80 mm actuator top plate mounting**
- For shaft heights of 10 mm and 30 mm (Spacers included in delivery package)
- For shaft diameters up to 50 mm
- For clockwise and counterclockwise rotating drives with 90° and 180° rotational movement
- With four actuating elements (fixed at 90° offset)
- Also available with reversed working direction

**FOR STANDARD 30 mm x 130 mm actuator top plate mounting**
- For shaft heights of 30 mm and 50 mm (Spacers included in delivery package)
- For shaft diameters up to 90 mm
- For clockwise and counterclockwise rotating drives with 90° and 180° rotational movement
- With four actuating elements (fixed at 90° offset)
- Also available with reversed working direction

**FOR NON-CONTACT**

- For standard 30 mm x 80 mm actuator top plate mounting
- For shaft heights of 10 mm and 30 mm (Spacers included in delivery package)
- For shaft diameters up to 90 mm
- For clockwise and counterclockwise rotating drives with 90° and 180° rotational movement
- With four actuating elements (fixed at 90° offset)
- Also available with reversed working direction

**FOR ACTUATOR ROTARY**

- For standard 30 mm x 80 mm actuator top plate mounting
- For shaft heights of 10 mm and 30 mm (Spacers included in delivery package)
- For shaft diameters up to 90 mm
- For clockwise and counterclockwise rotating drives with 90° and 180° rotational movement
- With four actuating elements (fixed at 90° offset)
- Also available with reversed working direction

**B3145**

- Valve position indicator, OPEN/CLOSE in signal colors with high visibility and impact-resistant plastic housing SH-F31K2
- With two sensor targets in stainless steel, adjustable in 5° increments
- Standard size of 30 mm x 80 mm for mounting on the pneumatic actuator
- For shaft heights of 20 mm and 30 mm (spacers included)
- For shaft diameters of up to 60 mm
- For clockwise or counterclockwise rotation

**B3255**

- For standard 30 mm x 130 mm actuator top plate mounting
- For shaft heights of 30 mm and 50 mm (Spacers included in delivery package)
- For shaft diameters of up to 90 mm
- For clockwise or counterclockwise rotation
- With four actuating elements (fixed at 90° offset)
- Also available with reversed working direction

<table>
<thead>
<tr>
<th>Actuator target</th>
<th>M10x1 30 mm</th>
<th>M10x1 50 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>90° clockwise</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>180° clockwise</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>90° counterclockwise</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>180° counterclockwise</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>
**FOR DIRECT MOUNTING ON ACTUATORS IN INDOOR AND OUTDOOR AREAS**

The standard series F31/F31K are best suited for position feedback that enables direct, stable, and durable mounting of the sensor and actuator. The variable dual sensors are suitable for all normal actuators and are easy to mount.

### FEATURES
- Small sensing face ensures no pinch point hazard between sensor and jack
- Round mounting holes in the sensor housing ensure that no adjustment is necessary when installing the sensor
- Choices include cable connection, plug and socket, and terminal compartment
- Clear LED indication of switch status, supply voltage, and solenoid activation

### VARIABLES
- Only two target sizes needed to fit all standard pneumatic actuators
- Fixed: Pre-engineered spacing for optimal sensing and preventing object obstruction
- Universal: 90° clockwise or counterclockwise rotation

### FLEXIBILITY
- Direct mounting to existing NAMUR mounting holes
  - 30 mm x 80 mm or 30 mm x 130 mm
  - Actuator top plate drilling

### HOUSING
- Low-profile housing

### ELECTRONICS
- NAMUR: DC, 2-wire A, 2-wire B
- AC/DC: 2-wire A, 2-wire B, 3-wire A

### TEMP RANGE
- -25 to +70 °C

### IP PROTECTION
- IP 67

### APPLICATIONS
- Oil and gas industry
- Chemical and petrochemical industry
- Offshore and marine
- Food industry
- Water treatment and wastewater industry
- Pulp and paper industry
- Pharmaceutical industry
- Metal and mining industry

---

**STANDARD SERIES F31/F31K**

- **PREMIUM**
  - **Sensors**
  - **Series F31K2**

- **BASIC**
  - **Series F25**
  - **Series F31**
  - **Series F31K**

### HIGHLIGHTS
- Dual sensor
- Direct mount to all standard pneumatic actuators
- For use with manual valves

### APPLICATION RANGE
- For manually operated valves as well as small and medium-sized actuators
- For direct mounting on actuators in indoor and outdoor areas

### DESIGN
- Very compact design
- Compact design
- Compact design with terminal compartment

### HOUSING MATERIAL
- Plastics (PBT)
- Plastics (PBT)
- Translucent plastics (PC), aluminium

### CONNECTIVITY (Mech. and Elect.)
- Cables
- Cables
- Plug and socket
- Terminal block
- Cable glands or conduit connections
- Metric or inch threads

### TEMPERATURE RANGE
- -25 to +70 °C
- -25 to +70 °C
- 40 to +75 °C

---

**IT’S YOUR CHOICE**

### TYPICAL APPLICATIONS
- Oil and gas industry
- Chemical and petrochemical industry
- Offshore and marine
- Food industry
- Water treatment and wastewater industry
- Pulp and paper industry
- Pharmaceutical industry
- Metal and mining industry

---

**WEATHERING THE STORM
VALUE POSITION SENSING WITH A GLOBAL VIEW**
The standard series F31/F31K are best suited for position feedback that enables direct, stable, and durable mounting of the sensor and actuator. The variable dual sensors are suitable for all normal actuators and are easy to mount.

**FEATURES**

- Small sensing face ensures no pinch point hazard between sensor and pack
- Round mounting holes in the sensor housing ensure that no adjustment is necessary when installing the sensor
- Choices include cable connection, plug and socket, and terminal compartment
- Clear LED indication of switch status, supply voltage, and solenoid activation

**APPLICATION RANGE**

- For manually operated valves as well as small and medium-sized actuators
- For direct mounting on actuators in indoor and outdoor areas
- Optimised solution for outdoor use

**DESIGN**

- Very compact design
- Compact design
- Compact design with terminal compartment

**HOUSING MATERIAL**

- Plastics (PBT)
- Aluminium

**CONNECTIVITY**

- Cables
- Plug and socket
- Terminal blocks
- Cable glands
- Plug-in terminal block
- Cable glands or conduit connections
- Metric or inch threads

**TEMPERATURE RANGE**

- -25 … +70 °C
- -25 … +70 °C
- -40 … +75 °C

**IP PROTECTION**

- IP 67
- IP 67
- IP 66, 67, 69K

**ELECTRONICS**

- NAMUR
- Safety NAMUR, SIL3

**SOLENOID OUTPUTS**

- none
- 1 or 2 outputs
- 1 or 2 outputs

**TYPICAL APPLICATIONS**

- Oil and gas industry
- Chemical and petrochemical industry
- Offshore and marine
- Food industry
- Water treatment and wastewater industry
- Pulp and paper industry
- Pharmaceutical industry
- Metal and mining industry
Optimized Solution for Outdoor Use

The sensor series F31K2 is designed for uncompromised use in outdoor areas. The F31K2’s unique double housing construction provides double mechanical protection and impermeability. The construction materials provide high U/V, elevated temperature, and corrosion resistance. Due to the open solution and the translucent housing, the integrated beacon is highly visible and customized versions are available. Convince yourself:

- Direct mounting onto standard actuators
- Optional beacon in weatherproof housing
- Ruggedized modular housing – works with standard target
- Optimized for outdoor use – high temperature, U/V, and salt water resistant

Highlights at a Glance

- Practical: Plug-in screw or cage clamps
- Bright: LED for sensor output and control of solenoid valve
- Fully Encapsulated: Sensor Housing. Noncontact sensing
- Practical: Large terminal space simplifies wiring

Temperature Resistant

U/V Resistant

Waterproof

Features

- Inductive dual sensor with extended sensing range
- Electronic amplifiers with Ex approval
- Plug-in screw or cage clamps
- Connections for cable or conduit fittings with long screw threads
- Connection of 1 or 2 solenoid valves
- Direct installation on NAMUR actuator holes 30 x 80 mm, 30 x 130 mm

F31K2 Premium Series

The sensor series F31K2 is designed for uncompromised use in outdoor areas. The F31K2’s unique double housing construction provides double mechanical protection and impermeability. The construction materials provide high U/V, elevated temperature, and corrosion resistance. Due to the open solution and the translucent housing, the integrated beacon is highly visible and customized versions are available. Convince yourself:
The sensor series F31K2 is designed for uncompromised use in outdoor areas. The F31K2’s unique double housing construction provides double mechanical protection and impermeability. The construction materials provide high U/V, elevated temperature, and corrosion resistance. Due to the open solution and the translucent housing, the integrated beacon is highly visible and customized versions are available. Convince yourself:

- **Plug-in screw or cage clamps**
- **Fully encapsulated sensor housing**
- **Noncontact sensing**
- **Impact and U/V resistant polyamide (PA) or rugged aluminum housing with protective coating inside and outside**
- **Flexible and modular housing**
- **Large terminal space simplifies wiring**
- **Practical connection of 1 or 2 solenoid valves**
- **Direct installation on NAMUR actuator holes 30 x 80 mm, 30 x 130 mm**

**HIGHLIGHTS AT A GLANCE**
- Direct mounting onto standard actuators
- Optional beacon in weatherproof housing
- Ruggedized modular housing — works with standard target
- Optimized for outdoor use — high temperature, U/V, and salt-water resistant
OPTIMIZED SOLUTION FOR OUTDOOR USE

The sensor series F31K2 is designed for uncompromised use in outdoor areas. The F31K2’s unique double housing construction provides double mechanical protection and impermeability. The construction materials provide high U/V, elevated temperature, and corrosion resistance. Due to the open solution and the translucent housing, the integrated beacon is highly visible and customized versions are available. Convince yourself:

- Direct mounting onto standard actuators
- Optional beacon in weatherproof housing
- Ruggedized modular housing – works with standard target
- Optimized for outdoor use – high temperature, U/V, and salt water resistant

**Highlights at a Glance**

- **Practical:** Plug-in screw or cage clamps
- **Bright:** LED for sensor output and control of solenoid valve
- **Fully Encapsulated:** Sensor housing. Noncontact sensing
- **Practical:** Large terminal space simplifies wiring
- **Rugged:** Flexible and modular housing
- **Impact and U/V Resistant:** Polycarbonate (PC) or rugged aluminum housing with protective coating inside and outside
- **Temperature Resistant:** High temperature, U/V resistant, WaterProof

**Features**

- Inductive dual sensor with extended sensing range
- Electronic amplifiers with Ex approval
- Plug-in screw or cage clamps
- Connections for cable or conduit fittings with long screw threads
- Connection of 1 or 2 solenoid valves
- Direct installation on NAMUR actuator holes 30 x 80 mm, 30 x 130 mm

**Practical**

- **Mounting:** Mounts directly on standard actuators

**Optimized for outdoor use**

- Mounts directly on standard actuators
- Optional beacon in weatherproof housing
- Ruggedized modular housing – works with standard target
- Optimized for outdoor use – high temperature, U/V, and salt water resistant

**BEST VIEW**

- Highly visible beacon

**Temperature Resistant**

- High temperature, U/V resistant, WaterProof
F31K2 Premium – Solution for Outdoor Use

**Weathering the Storm**

Valve Position Sensing with a Global View

---

**For Direct Mounting on Actuators in Indoor and Outdoor Areas**

The standard series F31/F31K are best suited for position feedback that enables direct, stable, and durable mounting of the sensor and actuator. The variable dual sensors are suitable for all normal actuators and are easy to mount.

---

**It’s Your Choice**

<table>
<thead>
<tr>
<th>Feature</th>
<th>BASIC</th>
<th>STANDARD</th>
<th>PREMIUM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sensors</strong></td>
<td>Series F25</td>
<td>Series F71</td>
<td>Series F31K</td>
</tr>
<tr>
<td><strong>Series</strong></td>
<td>25 mm 2-wire</td>
<td>40 mm 2-wire</td>
<td>40 mm 2-wire</td>
</tr>
<tr>
<td><strong>Applications</strong></td>
<td>For direct mounting on actuators in indoor and outdoor areas</td>
<td>For direct mounting on actuators in indoor and outdoor areas</td>
<td>For direct mounting on actuators in indoor and outdoor areas</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td>Very compact design</td>
<td>Compact design with terminal compartment</td>
<td>Modular, robust “dual housing” design with large terminal compartment</td>
</tr>
<tr>
<td><strong>Housing Material</strong></td>
<td>Plastics (PBT)</td>
<td>Plastics (PBT)</td>
<td>Translucent plastics (PC), aluminium</td>
</tr>
<tr>
<td><strong>Connectivity</strong></td>
<td>Cables</td>
<td>Plug and socket</td>
<td>Cables, Terminal block, Cable glands</td>
</tr>
<tr>
<td><strong>Current Density</strong></td>
<td>1 or 2 outputs</td>
<td>1 or 2 outputs</td>
<td>1 or 2 outputs</td>
</tr>
<tr>
<td><strong>Temperature Range</strong></td>
<td>-40 … +75 °C</td>
<td>-40 … +75 °C</td>
<td>-40 … +75 °C</td>
</tr>
<tr>
<td><strong>IP Protection</strong></td>
<td>IP 67</td>
<td>IP 67</td>
<td>IP 66, 67, 69K</td>
</tr>
<tr>
<td><strong>Electronics</strong></td>
<td>NAMUR, SIL3</td>
<td>DC 2-wire, DC 3-wire</td>
<td>NAMUR, DC 2-wire, DC 3-wire</td>
</tr>
<tr>
<td><strong>Solenoid Outputs</strong></td>
<td>None</td>
<td>1 or 2 outputs</td>
<td>1 or 2 outputs</td>
</tr>
</tbody>
</table>

---

**Features**

- Small sensing face ensures no pinch point hazard between sensor and jack
- Round mounting holes in the sensor housing ensure that no adjustment is necessary when installing the sensor
- Choices include cable connection, plug and socket, and terminal compartment
- Clear LED indication of switch status, supply voltage, and solenoid activation

---

**Typical Applications**

- Oil and gas industry
- Chemical and petrochemical industry
- Offshore and marine
- Food industry
- Water treatment and wastewater industry
- Pulp and paper industry
- Pharmaceutical industry
- Metal and mining industry

---

**Variables**

- Only two target sizes needed to fit all standard pneumatic actuators
- Fixed: Pre-engineered spacing for optimal sensing and preventing object obstruction
- Universal: 90° clockwise or counterclockwise rotation

---

**Design**

- Low-profile housing
- Direct mounting
- Universal: 90° clockwise or counterclockwise rotation
Pepperl+Fuchs – your trusted partner

The release of Pepperl+Fuchs’ new F31K2 valve position sensor completes the family of the most contemporary direct-mount, open solution products available. These dual inductive sensor models include our F25 series for smaller pneumatic actuators and manual valves, our F31 series for small or medium actuators with expanded electrical version, and our F31K2. The new F31K2 is the most flexible, ruggedized and weatherproof model yet. An extended temperature range along with numerous options for electrical connections are just some of the features inherent in a sensor designed for today’s valve automation and communication requirements.

Direct mount valve position sensors minimize space requirements, maintain assured sensing distance, and offer simplicity and sophistication in monitoring and reliability. Designed to meet the requirements of the process valve market, our dual sensors mount directly onto the actuator, and targets mount directly to the actuator stem.

**Features**
- Dual sensor with two active zones
- Adjustment-free mounting: maintains accurate sensing distance
- Cable or plug connection
- Sensor direct mounts to manual or automated rotary valves using M12 30-mm-spaced mounting holes

**CONTACT**
- Actuator target for position monitoring applications

**SAFE**
- Finger-safe design prevents object obstruction

**DISPLACEMENT**
- Visual position indicator

**SENSOR TARGETS**
- SH-F31K2
  - For standard 30 mm x 80 mm actuator top plate mounting
  - For shaft heights of 20 mm and 30 mm (spacers included in delivery package)
  - For shaft diameters up to 30 mm
  - For clockwise and counterclockwise rotating drives with 90° and 180° rotational movement
  - With four actuating elements (fixed at 90° offset)
  - Also available with reversed working direction

**BT15A**
- For standard 30 mm x 130 mm actuator top plate mounting
- For shaft heights of 30 mm and 50 mm (spacers included in delivery package)
- For shaft diameters up to 90 mm
- For clockwise and counterclockwise rotating drives with 90° and 180° rotational movement
- With four actuating elements (fixed at 90° offset)
- Also available with reversed working direction

**B15F-P31K2-RD**
- Valve position indicator, OPEN/CLOSE in signal colors with high visibility and impact-resistant plastic housing SH-F31K2
- With two sensor targets in stainless steel, adjustable in 5° increments
- Standard size of 30 mm x 80 mm for mounting on the pneumatic actuator
- For shaft heights of 20 mm and 30 mm (spacers included)
- For shaft diameters of up to 60 mm
- For clockwise or counterclockwise rotation

**B31K2**
- For standard 30 mm x 80 mm actuator top plate mounting
- For shaft heights of 20 mm and 30 mm (spacers included in delivery package)
- For shaft diameters up to 50 mm
- For clockwise and counterclockwise rotating drives with 90° and 180° rotational movement
- With four actuating elements (fixed at 90° offset)
- Also available with reversed working direction
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ACCESSORIES

SH-BT65-F31K2
- Protective housing for actuator series BT65-F31K2
- Impact and U/V resistant plastic material
- Captive screws in stainless steel
- Standard size 30 mm x 80 mm for mounting on the actuator

SH-F31K2
- Protective cover for F31K2 in stainless steel
- Optimized for outdoor use – high temperature, U/V, and salt water resistant
- High impact protection
- Easy mounting

MWB-07-F03...-F07 mounts to manual Valves using appropriate brackets
- Rugged stainless steel holder and vestibule plate
- Easy mounting
- Easy to adjust
- Conforms to standards ISO5211, DIN3337
- Serves F03 to F07, lock nuts M6 to M8

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Factory automation
Weathering the storm
Valve position sensing
With a global view

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