### Design/Function

The system, consisting of pilot valve and position sensor with integral AS-Interface connection, reduces the effort for connection of a rotary actuator to a minimum. The individual components are matched to each other so that the complete connection is installed and ready to use within a short time. Coding of the plug connections eliminates the possibility of incorrect wiring.

The AS-Interface offers the option of connecting up to 31 slaves per line to the controller or the higher level bus system with a minimum of wiring at low cost (in future 62 units will be able to be connected).

Current and data supply to the system is provided simultaneously via the yellow AS-Interface bus cable.

In this way, economy in cabling can be fully realized. Nevertheless, the energy that can be transmitted over the AS-Interface line is limited and the power consumption of the system must be considered.

Through the use of a low-power pilot valve (1 Watt), the current consumption of the overall connection from the AS-Interface was able to be limited to 75 mA. Thus, for example, it is possible to supply 31 connections with an AS-Interface power supply for 2.8 A, line losses included.

Integral pre-failure checking of the valve assures a high degree of reliability for the user. For example, the short circuiting of a first few windings by the penetration of moisture can be recognized prior to complete failure of the valve through the further effects of moisture.

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### Advantages/Benefits

- Easy and safe installation, hence rapid change of actuator also possible
- Easy cabling by means of coded plug connections
- Up to 31 actuators can be connected by means of a simple two-wire circuit
- Low loading of the AS-i power supply thanks to low-power 1 Watt valve
- Pre-failure checking of valve, diagnosis message via AS-Interface

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### Applications

Networking of process valves with rotary actuators in the areas of:

- Dairies
- Bottle filling machines
- Shrink wrap machines
- Food and beverage industry
- Food milles
- Chemical and raw components for foaming industry
- Plastic and rubber manufacturing

For system integrators and end users

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* For rotary process valve actuator with standard attachment to VDI/VDE 3845 (dimensions see next page)
**Actuator Connection for AS-Interface**

**AS-Interface System 6517 Namur**

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### The Components and their Assembly

- **Double Sensor with AS-Interface Connection**
- **Flat-Cable Connection**
- **Connection-Cable between Sensor and Pilot Valve**
- **Actuator (not included)**
- **Puck**

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**Valve Type 6517 Namur**

- Exhaust ports may be fully throttled
- Simple check of functioning by red indicator pin
- 3/2 and 5/2-way function in one device, handy reversible plate to change function

**Rocker-Action Pilot Type 6106**

- Almost frictionless system guarantees long service life and reliable switching
- Low electric power consumption (1 W)
- Suitable for oily or oil-free air

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* For rotary process valve actuator with standard attachment to VDI/VDE 3845 with $A = 80$ mm, $B = 20$ mm

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**Dimension A**

**Dimension B**

**80 mm**

**20 mm**

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**Valve Type 6517 Namur**

- IP 65
- Safety position by means of mechanical spring
- Reliable switch back even after being switched on for a long time
  - The diaphragm controlled seat valve works to a large extent without dynamically loaded seals, which prevents sticking owing to temperature effects, gumming or swelling of seals
- Suitable for aggressive atmospheres (e.g. solvent vapour)
  - The housing is made of glass fibre reinforced plastic
  - The metal parts are optionally available in stainless steel
- Version for operation with auxiliary control air
- On single-action actuators, exhaust air return to the spring chamber of the actuator
Actuator Connection
for AS-Interface

AS-Interface System
6517 Namur

Double Sensor and Pilot Valve with Integral AS-Interface

Features
• Passes control signals on to solenoid valve
• Monitors position of solenoid valve
• Transmits it via a switching signal

Chief Advantages
• Complete potting of position sensor prevents condensation from changing temperature
• One sensor for all sizes of actuators without adapter plates (to VDI / VDE 3845)
• Optical signalling of valve position by the puck
• For a redundant signal with reflecting puck, a second sensor can be used.
**Allocation of Data Bits**

<table>
<thead>
<tr>
<th>Data bit</th>
<th>Type</th>
<th>Designation</th>
<th>Status / LED</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D0</td>
<td>Input</td>
<td>Switching signal</td>
<td>0 / –</td>
<td>Sensor position 1 not damped</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sensor 1</td>
<td>1 / yellow</td>
<td>Sensor position 1 damped</td>
</tr>
<tr>
<td>D1</td>
<td>Input</td>
<td>Switching signal</td>
<td>0 / –</td>
<td>Sensor position 2 not damped</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sensor 2</td>
<td>1 / yellow</td>
<td>Sensor position 2 damped</td>
</tr>
<tr>
<td>D2</td>
<td>Input</td>
<td>Error</td>
<td>0 / –</td>
<td>No error</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Actuator</td>
<td>1 / red</td>
<td>Cable breakage / Short circuit at actuator</td>
</tr>
<tr>
<td>D0</td>
<td>Output</td>
<td>Actuator</td>
<td>0 / –</td>
<td>Solenoid valve not switched</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 / yellow</td>
<td>Solenoid valve switched</td>
</tr>
</tbody>
</table>

**Ordering Chart**

<table>
<thead>
<tr>
<th>Model / Description</th>
<th>Item No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete actuator connection for rotary actuators including</td>
<td>434 180 N</td>
</tr>
<tr>
<td>• Double sensor with AS-Interface connection</td>
<td></td>
</tr>
<tr>
<td>• Puck</td>
<td></td>
</tr>
<tr>
<td>• Pilot valve</td>
<td></td>
</tr>
<tr>
<td>• Connection-cable between sensor and pilot valve</td>
<td></td>
</tr>
<tr>
<td>• Flat-cable connection</td>
<td></td>
</tr>
</tbody>
</table>