Solenoid operated spool valve with inductive switching position monitoring

**Flange construction**
- 4/2-way impulse execution, dentented
- 4/3-way with spring centered mid position
- 4/2-way with spring reset
- \( Q_{\text{max}} = 160 \, \text{l/min} \)
- \( p_{\text{max}} = 350 \, \text{bar} \)

**DESCRIPTION**
Spool valve according to data sheet 1.2-76 with additional inductive switching position monitoring. The contactless sensor transmits the spool position to a step signal.

**TYPE CODE**

<table>
<thead>
<tr>
<th>Spool valve, direct operated</th>
<th>WD M F A10 -</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slip-on coil Medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flange construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>International standard interface ISO NG10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other type designation according to type code data sheet 1.2-76</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Polarity / Signal output / Monitoring**
- PNP / NO / Single
- PNP / NC / Single
- NPN / NO / Single
- PNP / NO / Double*
- PNP / NC / Double*
- NPN / NO / Double*

*not in combination with 4/3-way (spring centred)

**Design index (subject to change)**

1.2-77
### GENERAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>1.30 kg single flange, 2.60 kg double flange</td>
</tr>
<tr>
<td><strong>Sensor Specifications:</strong></td>
<td></td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>24 VDC</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>10…30 VDC</td>
</tr>
<tr>
<td>Signal current</td>
<td>max. 200 mA</td>
</tr>
<tr>
<td>Switching frequency</td>
<td>2000 Hz</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP 68</td>
</tr>
<tr>
<td>Dimensions</td>
<td>M12 x 1</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-25…50 °C</td>
</tr>
<tr>
<td>Fastening torque</td>
<td>15 Nm</td>
</tr>
<tr>
<td>Peak pressure</td>
<td>500 bar</td>
</tr>
</tbody>
</table>

**Note:** Other specifications see data sheet 1.2-76

### ELECTRICAL CONNECTION

#### PNP, NO (Normally open)

- **Type:** PNP, NO
- **Designation:** Z603
- **Article no.:** 205.5024
- **Device receptacle:** M12, 4 pole male
- **Mating connector:** M12, 4 pole female
  - 1 = Supply voltage +
  - 2 = Reserved for extensions
  - 3 = Supply voltage 0 VDC
  - 4 = Signal
  - Plus switched

#### PNP, NC (Normally closed)

- **Type:** PNP, NC
- **Designation:** Z482
- **Article no.:** 205.5023
- **Device receptacle:** M12, 4 pole male
- **Mating connector:** M12, 4 pole female
  - 1 = Supply voltage +
  - 2 = Signal
  - 3 = Supply voltage 0 VDC
  - 4 = Reserved for extensions
  - Plus switched

#### NPN, NO (Normally open)

- **Type:** NPN, NO
- **Designation:** Z680
- **Article no.:** 205.5026
- **Device receptacle:** M12, 4 pole male
- **Mating connector:** M12, 4 pole female
  - 1 = Supply voltage +
  - 2 = Reserved for extensions
  - 3 = Supply voltage 0 VDC
  - 4 = Signal
  - Minus switched

### ACCESSORIES

- **Mating connector (plug female)**
  - straight, screw terminal: Article no. 219.2978
  - 90°, screw terminal: Article no. 219.3003

### SURFACE TREATMENT

- The valve body is painted with a two component paint
- All the other parts are zinc-nickel coated

### GENERAL SPECIFICATIONS

- **Weight:**
  - 1,30 kg single flange
  - 2,60 kg double flange

- **Sensor Specifications:**
  - Nominal voltage: 24 VDC
  - Operating voltage: 10…30 VDC
  - Signal current: max. 200 mA
  - Switching frequency: 2000 Hz
  - Protection class: IP 68
  - Dimensions: M12 x 1
  - Ambient temperature: -25…50 °C
  - Fastening torque: 15 Nm
  - Peak pressure: 500 bar

**Note:** Other specifications see data sheet 1.2-76

### SIGNAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Signal of the actuator</th>
<th>Signal of the sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NO</strong> normally open</td>
<td><strong>NC</strong> normally closed</td>
</tr>
<tr>
<td>A 1 0 1 0</td>
<td>S1 0 0 1 0</td>
</tr>
<tr>
<td>B 0 1 0 1</td>
<td>S2 1 1 0 1</td>
</tr>
<tr>
<td>*Middle position 4/3-way</td>
<td></td>
</tr>
</tbody>
</table>

**Signal characteristics**

- **Signal of the actuator:**
  - A
  - B
- **Signal of the sensor:**
  - S1
  - S2