SRD991- Z
Intelligent Positioner stainless steel (316L)

These instructions are to be used as a guide for quick start-up.

1. MOUNTING TO ACTUATORS
During operation the flat side of the spindle 9 on the back of the positioner must always point towards the arrow 26. The working angle around this position is ±45°.
Feedback lever for linear actuators:
The carrier bolt B is in the slot of the feedback lever A and the compensating spring F touches the carrier bolt.

Carrier bolt B:
1 threaded sleeve  2 Stud  3 coupling piece

Mounting to rotary actuators
• Do not tighten grub screw 4 against the thread of spindle 9!
• When in use the flat side of the spindle 9 must move (0 % - 100%) in front of the arrow 26.
• When the product temperature rises, the drive shaft 1 increases in length. Therefore, the rotary adapter 3 must be mounted so that approx. 1 mm (0.04 in.) of clearance results between the drive shaft 1 and the rotary adapter 3. This is achieved by placing an appropriate number of washers 5, on the feedback spindle 9, before attaching the rotary adapter. Two washers should result in a clearance of 1 mm.
2. CONNECTIONS

On the housing the pneumatic connections are always in G¼ “.

Mise à la terre. Ground
Connect earth cable to screw #1 or screw #2 (in the electrical connection compartment).

2.1 Pneumatic Connections
Air supply (s): 1.4 to 7 bar (but not more than the max. pressure of actuator), free of oil, dust and water !
3. ELECTRICAL CONNECTIONS

The safety requirements of document EX EVE0001 as well as the requirements of PSS EVE0105 and MI EVE0105 for SRD991 must be observed!

3.1 Setpoint

3.1.1 SRD991-xD (w/o communication)
   SRD991-xH (HART)
   SRD991-xE (FoxCom it1)

3.1.2 SRD991-xF (FoxCom it2)

3.1.3 SRD991-xP (PROFIBUS PA)
   SRD991-xQ (FIELDBUS FF)

3.2 Option Board

3.2.1 Two binary outputs (SRD991-xxP)
   Two-wire system, acc. to DIN 19234 or switched output.

3.2.2 Two binary inputs (SRD991-xxB)
   Binary inputs with internal supply for connection of sensors or switches (switch closed for a normal operation!)

3.2.3 Position feedback 4 to 20 mA and 1 Alarm
   (SRD991-xxQ ou SRD991-xxF)
   Analog output 4 to 20 mA and Binary output Two-wire system acc. to DIN 19234 or switched.

3.2.4 Two binary in-/outputs (SRD991-xxE)
   Two-wire system acc. to DIN 19234 or switched in-/output.

* For intrinsically safe circuits please refer to certificate / data label for max. operating voltages etc.
4. **START UP** (Setting by means of local keys and LCD / LEDs)

After mounting the positioner on the actuator, air and electrical input connected, you can start-up the SRD. The SRD991 can be adjusted by means of a local key-pad and LCD/LED display.

**Attention:** Do not touch behind the positioner housing while operating the keys! **DANGER OF INJURIES!**

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**Description of display**

**Process variable**

![Display Image]

**Process variable and diagnostics**

![Display Image]

**At configuration: Main menu**

![Main Menu Image]

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**Configuration and operation with push buttons and LCD:**

An already configured device may show the following display:

![Display Image]

For configuration press (M) and main menu appears.

If the SRD wasn’t configured yet, the Main menu*) appears automatically after power-up:

![Main Menu Image]

In menu 1 you can select the type of mounting.

*) On delivery the menu language in the display is English.

The menu language can be changed over to another stored language. For this select 9.8.2 [german] or 9.8.3 [as ordered] and confirm with keys (UP)+(DOWN) (simultaneously).

Leave menu by repeated pressing of (M) key.

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...and **LCD:**

...and **LED display:**

An already configured device is **IN OPERATION** after power up, and all LEDs are off.

![LED Display Image]

For configuration press (M), and LEDs ‘M/F’ and ‘1’ flash (= menu 1 is offered).

If the SRD wasn’t configured yet, menu 1 is offered automatically after power-up:

![LED Display Image]

In menu 1 you can select the type of mounting.
Press keys (UP)+(DOWN) simultaneously to enter menu ‘Type of mounting’. Select the ‘Type of mounting’ by pressing (UP) or (DOWN).

(Further menus with (UP) key.)

Press keys (UP)+(DOWN) simultaneously to confirm and save. The SRD moves back to menu level 1 and is in main menu again.

Different Autostart options are available:

2.1 Endpoints
Determines only the mechanical stops of actuator/valve

2.2 Standard
Autostart recommended for standard application.

2.3 Enhanced
Enhanced Autostart. Optimized control behaviour compared to Standard Autostart.

2.4 Smooth resp.
Extended Autostart. Dampened control behaviour for e.g. smaller actuators.

2.5 Fast resp.
Extended Autostart. Undampened control behaviour for e.g. larger actuators.

Press keys (UP)+(DOWN) simultaneously to confirm and to launch Autostart.

The automatic adaptation to the valve is composed of a sequence of steps, explained on the LCD or indicated by the LEDs.

Following the last step the device is IN OPERATION.-
# Menu Structure for SRD991/SRD960 with LCD

### Menu Structure

<table>
<thead>
<tr>
<th>Menu</th>
<th>Factory Configuration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRD Main Menu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Mounting</td>
<td>✓</td>
<td>Linear actuator, left-hand or direct mounting</td>
</tr>
<tr>
<td></td>
<td>✓</td>
<td>Linear actuator, right-hand mounting</td>
</tr>
<tr>
<td></td>
<td>✓</td>
<td>Rotary actuator, opening counter-clockwise</td>
</tr>
<tr>
<td></td>
<td>✓</td>
<td>Rotary actuator, opening clockwise</td>
</tr>
<tr>
<td>2 Autostart</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>adaptation of the mechanical stops only</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Autostart recommended for standard application</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enhanced Autostart. Optimized control behaviour compared to Standard Autostart</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extended Autostart. Dampened control behaviour for e.g. smaller actuators</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extended Autostart. Undampened control behaviour for e.g. larger actuators</td>
</tr>
<tr>
<td>3 Valve Action</td>
<td>✓</td>
<td>Valve opens with increasing setpoint value</td>
</tr>
<tr>
<td></td>
<td>✓</td>
<td>Valve closes with increasing setpoint value</td>
</tr>
<tr>
<td></td>
<td>✓</td>
<td>Increasing Current with increasing valve position</td>
</tr>
<tr>
<td></td>
<td>✓</td>
<td>Decreasing Current with increasing valve position</td>
</tr>
<tr>
<td>4 Character</td>
<td>✓</td>
<td>Linear characteristic</td>
</tr>
<tr>
<td></td>
<td>✓</td>
<td>Equal percentage characteristic 1:50</td>
</tr>
<tr>
<td></td>
<td>✓</td>
<td>Inverse equal percentage characteristic 1:50 (quick opening)</td>
</tr>
<tr>
<td></td>
<td>✓</td>
<td>Custom characteristic</td>
</tr>
<tr>
<td></td>
<td>✓</td>
<td>Not locally available with LED versions of communication FF and Profinbus</td>
</tr>
<tr>
<td>5 Limits/alarms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Parameters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Setpoint</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued on the next page...
9 Workbench

9.1 Reset Config
9.2 Calib. 4 mA
9.3 Calib. 20 mA
9.4 Calib. -45°
9.5 Calib. +45°
9.6 Reset all 1
9.7 Reset all 2
9.8 Go Online
9.9 Menu Lang
  9.9.1 English
  9.9.2 Deutsch
  9.9.3 Français
9.10 LCD orient
  9.10.1 Normal
  9.10.2 Flipped
9.11 Cal. Feedbk
  9.11.1 Cal 4mA
  9.11.2 Cal. 20mA

10 Profibus PA - Bus Address
10.1 Address LSB
10.2 Address MSB
10.3 Address

10 FOUNDATION Fieldbus H1
10.1 Simulate
  ... Disabled
  ... Enabled
10.2 Profile
  ... Link Master
  ... Basic Device

Resetting of configuration to setting “ex factory”
Calibrate input current to 4 mA
Calibrate input current to 20 mA
Calibrate position measuring value to –45°
Calibrate position measuring value to +45°
Resetting of configuration and Calibration (!) to “ex factory” setting for
single-acting output
Resetting of configuration and Calibration (!) to “ex factory” setting for
double-acting output
Setting position into mode Online
✓ Standard
✓ Preselected / Freely Defiable
✓ Normal orientation of writing on LCD
✓ Reverse orientation of writing on LCD
Calibration of output current of position transmitter
Calibration of 0% at 4mA
Calibration of 100% at 20mA
Ratio from Dec. 0 / Hex 00 to Dec. 15 / Hex 0F
Ration from Dec. 0 / Hex 00 to Dec. 112 / Hex 70
Display of Bus Address from Dec. 1 to 127 (Hex 00 to 7F)
✓ Simulate disabled
✓ Simulate enabled
✓ Link Master active
Link Master de-activated

Additional Documentation for this product:

Technical Information of Attachment Kits for Positioners
TI EVE0011 A Overview of Attachment Kits of all positioners on actuators/valves of different manufacturers

Quick Guide
QG EVE0105 A Extract of Master Instruction for an easy to use, easy understandable and fast start-up. This document highlights the most important.

Master Instructions:
MI EVE0105 E SRD991 -all versions-

Technical Information for Fieldbus-Communication:
TI EVE0105 P SRD991/960 -PROFIBUS-PA
TI EVE0105 Q SRD991/960 -FOUNDATION Fieldbus H1

Master Instruction for HART-Communication:
MI EVE0105 B HART with Hand-Held Terminal