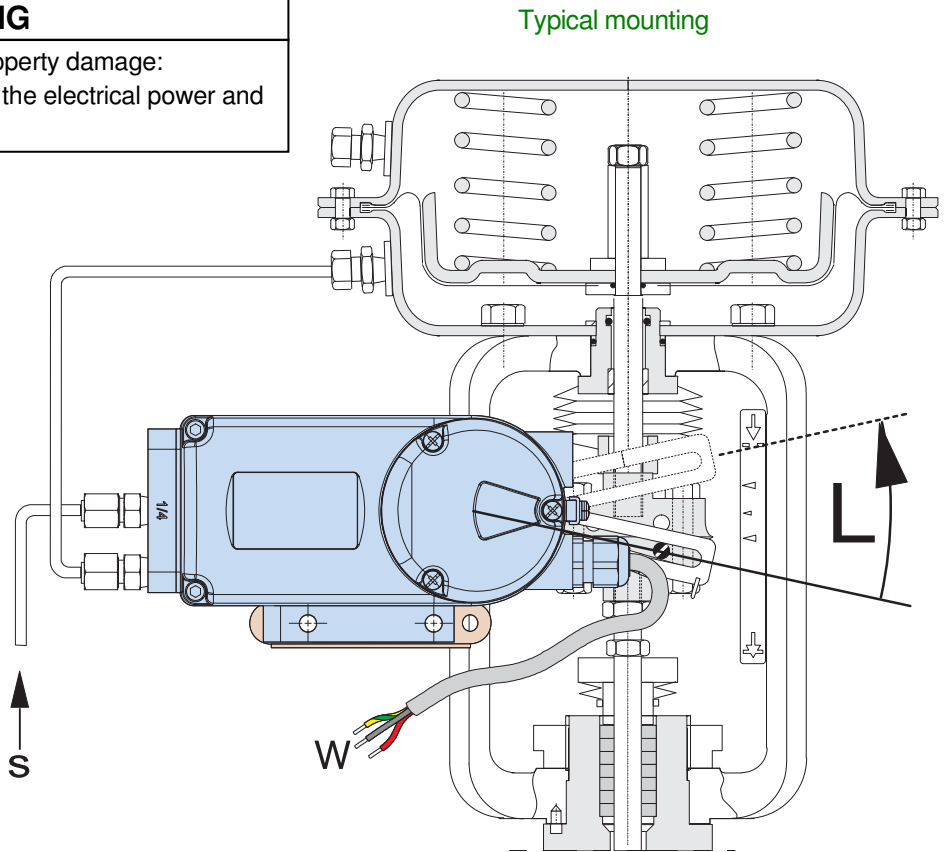


SRD998 Intelligent Positioner with HART Communication

These instructions are to be used as a guide for quick start-up. For more detailed information please refer to the standard documents “Master Instructions” and “Product Specification Sheet”. These can be found on our Website.

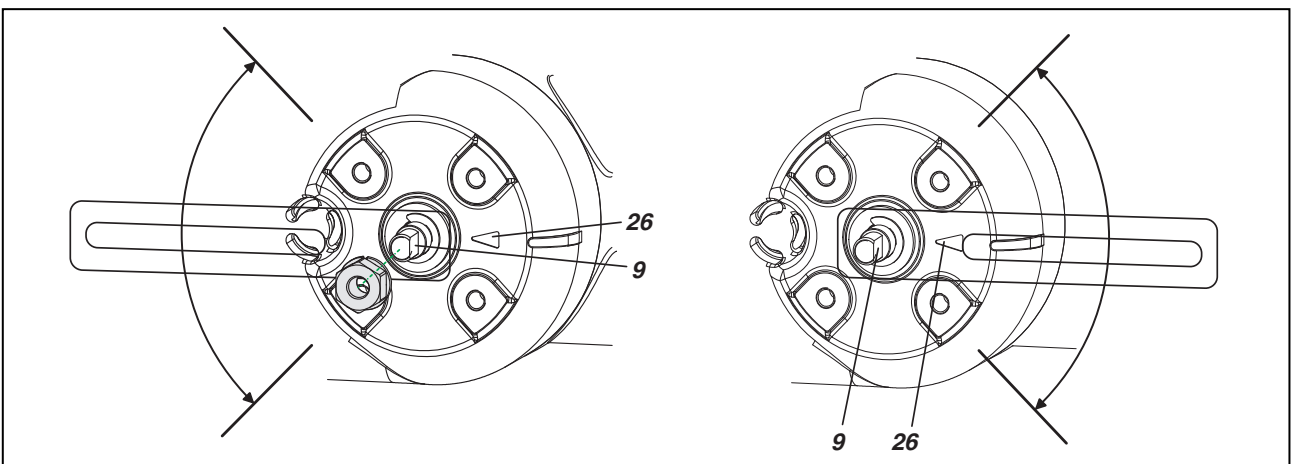
▲ WARNING

To avoid any personal injury or property damage:
During installation work, switch off the electrical power and the supply air!



1. MOUNTING TO ACTUATORS

During operation, the flat side of the spindle **9** on the back of the positioner shall **always** point towards the arrow **26**. The working angle around this position is $\pm 45^\circ$.



Equipment should be installed, operated, serviced, and maintained only by qualified personnel.
No responsibility is assumed by Schneider Electric for any consequences arising from the use of this material.

Important Information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

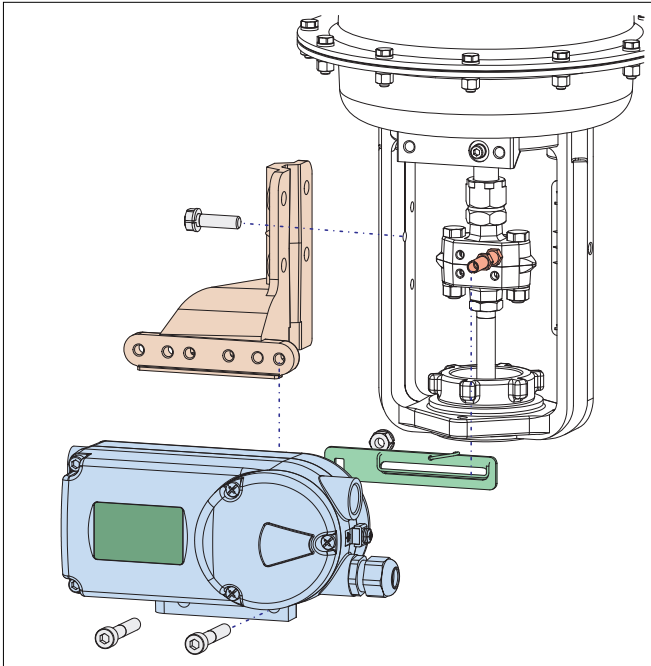
Please Note

Electrical equipment should be installed, operated, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

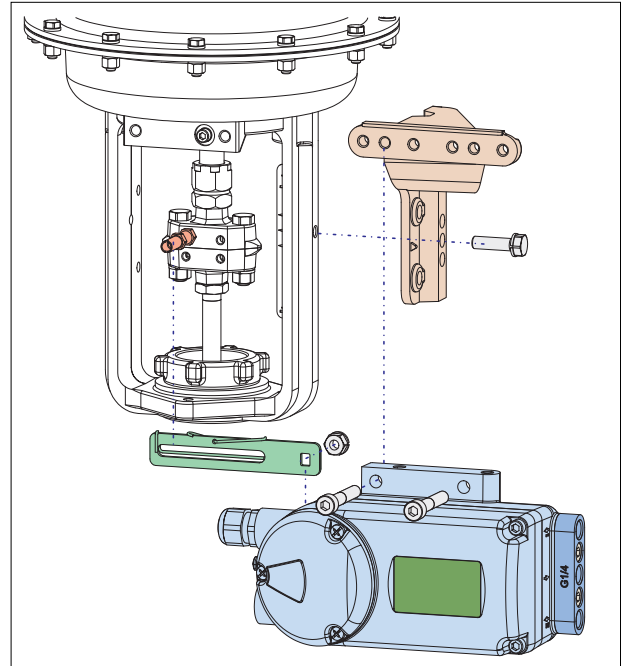
A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

MOUNTING TO LINEAR ACTUATORS

NAMUR Mounting - left hand -

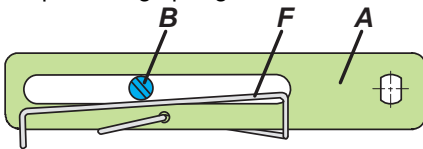


NAMUR Mounting - right hand -



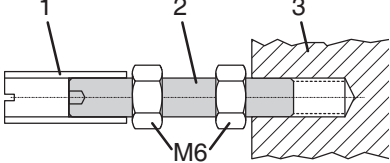
Feedback lever for linear actuators:

The carrier bolt **B** is in the slot of the feedback lever **A** and the compensating spring **F** touches the carrier bolt.

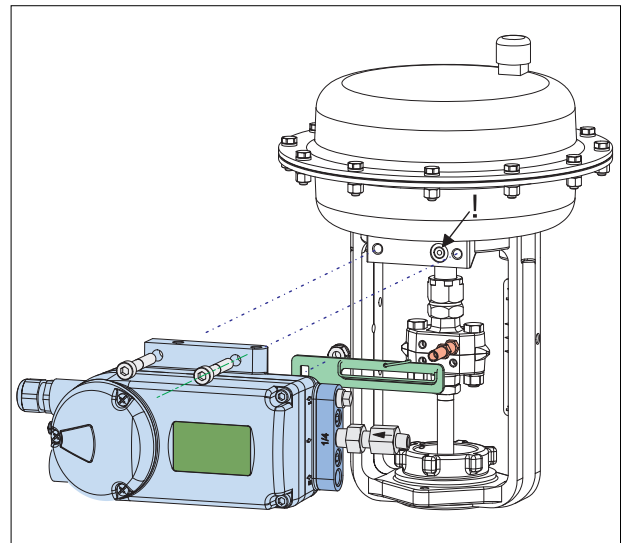


Carrier bolt B:

1 threaded sleeve 2 Stud 3 coupling piece

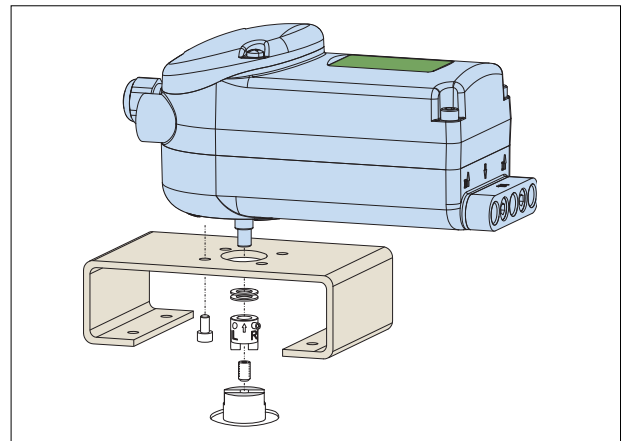


Direct Mounting

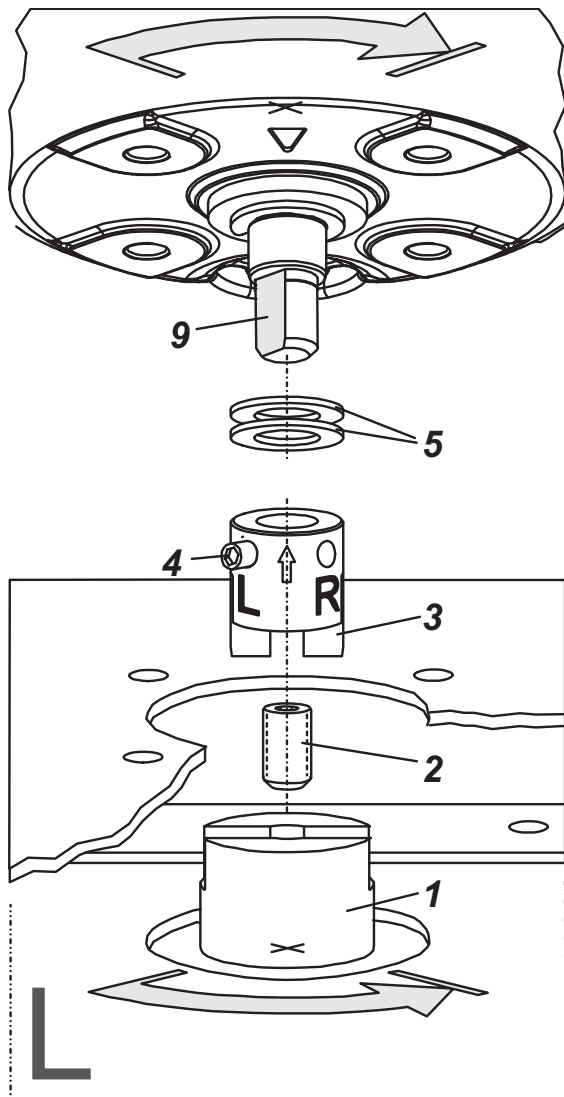


MOUNTING TO ROTARY ACTUATORS

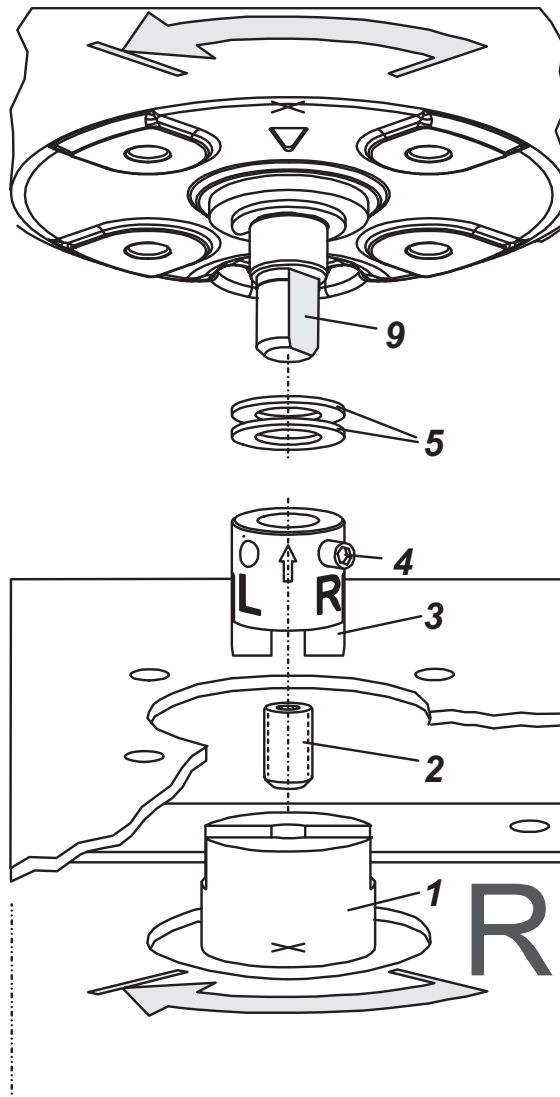
- Do not tighten grub screw **4** against the thread of spindle **9**!
- When in use the flat side of the spindle **9** shall move (0 → 100%) in front of the arrow **26**.
- When the product temperature rises, the drive shaft **1** increases in length. Therefore, the rotary adapter **3** shall be mounted 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.



Actuator, left turning



Actuator, right turning



2. CONNECTIONS

Check before mounting fittings and cable glands if threads are matching, otherwise housing can be damaged. NPT thread is marked at connection block.

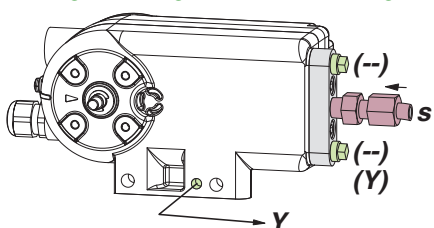
Ground

Connect earth cable to screw 4 (see next page) inside or outside of the electrical compartment.

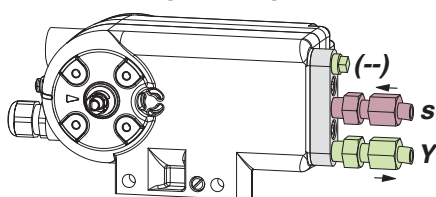
PNEUMATIC CONNECTIONS

Air supply (s): 1.4 to 6 bar (but not more than the max. pressure of actuator), free of oil, dust and water!

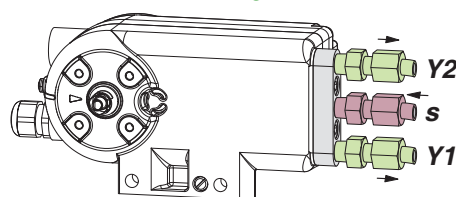
Single acting, Direct mounting



Single acting



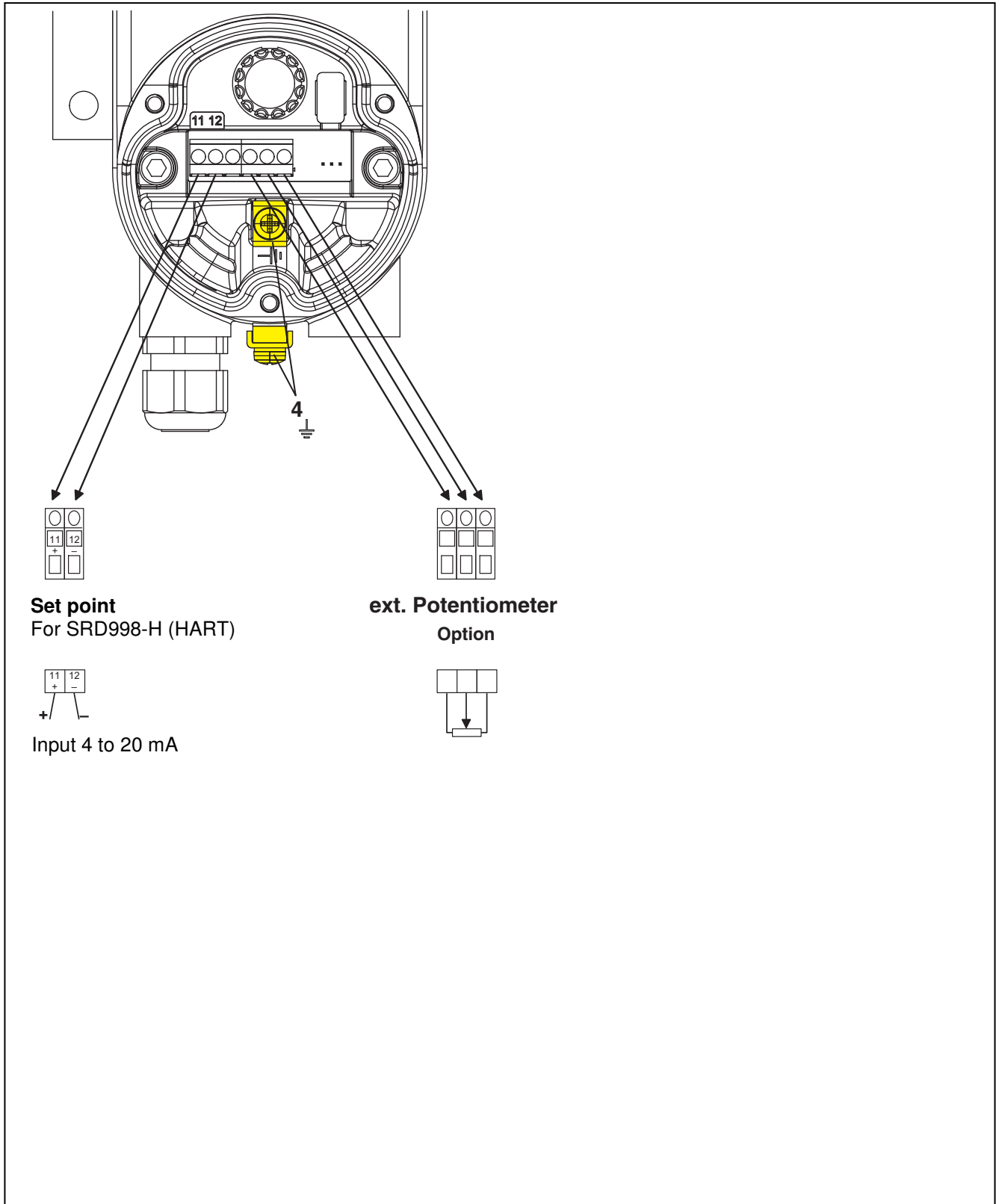
Double acting



s: supply Y=Y1=I, Y2=II: pneumatic outputs (--) : closed

3. ELECTRICAL CONNECTIONS

⚠ DANGER
The safety requirements of document EX EVE0108 as well as the requirements of PSS EVE0108 and MI EVE0108 for SRD998 shall be observed!



More detailed technical specifications see PSS EVE0108.
For intrinsically safe circuits please refer to certificate / data label for max. operating voltages etc.

4. START UP

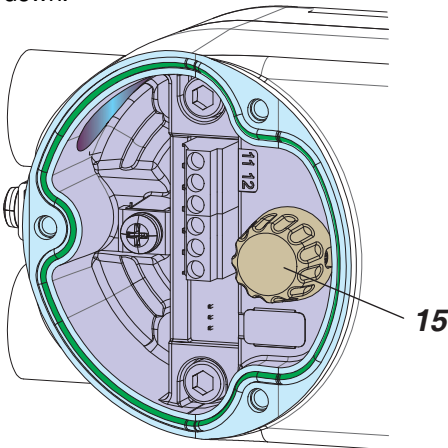
After mounting the positioner on the actuator, air and electrical input connected, you can start-up the SRD. Configuration of SRD can be carried out via PC, HART communication and FDT/DTM software, or local with the Rotary Selector **15** and LCD. This is described on the following pages.

⚠ WARNING

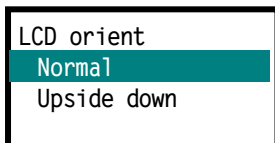
To avoid any personal injury or property damage at any time:
Do not put your finger or other part at any time inside the valve or in any moving part of the actuator or in the feedback lever mechanism.
Do not touch the rear part of the positioner at any time.

Setting by means of Rotary Selector and LCD

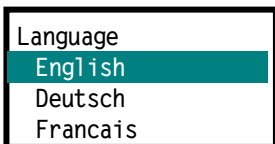
The SRD can be adjusted when the cover is removed. To configure the various items, select the relevant menu by turning the Rotary Selector **15** and confirm by pushing it down.



After power ON, the SRD goes to configuration, if no Autostart has already been done. First select the display orientation...



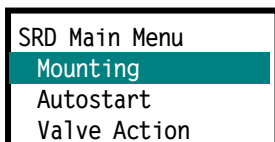
Select with Rotary selector and confirm by pushing it down. ... then the LCD text language is selected ...



(default is: English)

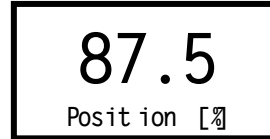
Select with Rotary selector and confirm by pushing it down. To exit this menu, turn Rotary selector until "Exit" appears, then confirm by pushing it down.

... then automatically continued to configuration

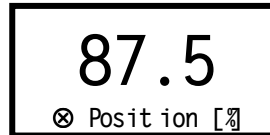


To leave any menu, select "Exit" and confirm by pushing down the Rotary Selector **15**.

Display at IN OPERATION



Process variable



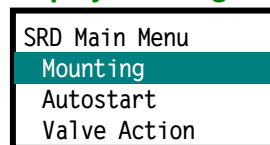
Process variable and diagnostics

By *turning* the Rotary Selector, further information of process will be displayed.

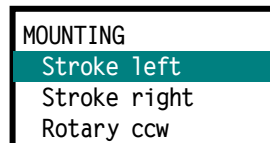
By *pushing down* the Rotary Selector, the configuration menus will be displayed.

At configuration, the selected item is displayed with dark background.

Display at configuration: Main menu



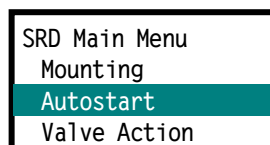
In menu 1 you can select the type of mounting:



Stroke actuator, left-hand mounted
Stroke actuator, right-hand mounted etc.

Select, confirm and "Exit" to Main menu.

Now turn Rotary Selector to select Autostart:



Push Rotary Selector, and different Autostart options are available:

Endpoints	Determines only the mechanical stops of actuator/valve
Standard	Recommended for standard application
Enhanced ¹⁾	Optimized control behaviour compared to Standard Autostart
Smooth resp. ¹⁾	Damped control behaviour for smaller actuators
Fast resp. ¹⁾	Undamped control behaviour for larger actuators.

Select and confirm to launch Autostart.

1) After running one of these Autostart options, the SRD branches to Menu 6.11 Position tuning at Stroke actuators.

After "Exit" the device is IN OPERATION.

Menu structure for SRD998

SRD Main Menu

Menu	Factory configuration	Description	07.2016
1 Mounting			
1.1 Stroke left	✓	Stroke actuator, left-hand or direct mounting	
1.2 Stroke right		Stroke actuator, right-hand mounting	
1.3 Rotary ccw		Rotary actuator, opening counter-clockwise	
1.4 Rotary clockw		Rotary actuator, opening clockwise	
1.5 Linear Pot.		Mounting with external linear potentiometer	
2 Autostart			
2.1 Endpoints		Adaptation of the mechanical stops only	
2.2 Standard		Autostart recommended for standard application	
2.3 Extended		Enhanced Autostart. Optimized control behaviour compared to Standard Autostart	
2.4 Smooth response		Extended Autostart. Damped control behaviour for smaller actuators	
2.5 Fast response		Extended Autostart. Undamped control behaviour for larger actuators	
3 Action menu			
3.1 Valve action		Action of Positioner:	
3.1.1 Direct	✓	Valve opens with increasing setpoint value	
3.1.2 Reverse		Valve closes with increasing setpoint value	
3.2 Feedback action		Action of Feedback unit:	
3.2.1 Direct	✓	Increasing Current with increasing valve position	
3.2.2 Reverse		Decreasing Current with increasing valve position	
4 Accessories			
4.1 None		No accessories mounted	
4.2 Booster		Booster mounted	
5 Valve character			
5.1 Linear	✓	Linear characteristic	
5.2 Equal % 1:50		Equal percentage characteristic 1:50	
5.3 Quick open		Inverse equal percentage characteristic 1:50 (quick opening)	
5.4 Custom		Custom characteristic (configuration via DTM)	
6 Limits/Alarms			
6.1 Lower limit	0 %	Closing limit is set to input value	
6.2 Cutoff low	1 %	0%-tight sealing point is set to input value	
6.3 Cutoff high	100 %	100%-tight sealing point is set to input value	
6.4 Upper limit	100 %	Opening limit is set to input value	
6.5 Split-range 0 %	4 mA	Split range 0 %: input value corresponds to 0 %	
6.6 Split-rng 100 %	20 mA	Split range 100 %: input value corresponds to 100 %	
6.7 Lower Alarm	-10 %	Lower position alarm on output 1 is set to input value	
6.8 Upper Alarm	110 %	Upper position alarm on output 2 is set to input value	
6.9 Valve 0 %	4 mA	Configuration of rated-stroke of 0% at 4 mA	
6.10 Valve 100%	20 mA	Configuration of rated-stroke of 100% at 20 mA	
6.11 Pos Tuning		Tuning of position for mounting adaption	
6.12 Stroke	x° / 20mm	Configuration of nominal travel	

7 Tuning		10.2018
7.1	P closing	15
7.2	P opening	2
7.3	I closing	7.5
7.4	I opening	2.4
7.5	D closing	0.35
7.6	D opening	0.35
7.7	Trav time close	
7.8	Trav time open	
7.9	Deadband	0.1
7.10	Booster tuning	
8 Output		
9 Setpoint		
9.1	12.5 % Steps	
9.2	1 % Steps	
9.3	Start PST	
10 Workbench		
10.1	Reset to fact	
10.2	Go in operation	
10.3	Language	
10.3.1	English	✓
10.3.2	Deutsch	
10.3.3	Français	
10.3...	& more	
10.4	LCD orient	
10.4.1	Normal	✓
10.4.2	Upside down	
10.5	LCD contrast	
10.6	Units	
10.6.1	SI (metric)	✓
10.6.2	Imperial (US)	
11 not with HART		
11 Profibus PA - Bus address		
11.1	Address LSB	
11.2	Address MSB	
11.3	Address	126
11 FOUNDATION Fieldbus H1		
11.1	Simulate	
	Disabled	✓
	Enabled	
11.2	Profile	
	Link Master	✓
	Basic Device	

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