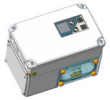
STI - Process Automation

Smart High-Performance Positioner (SHP)
Quick start guide 4059



For more information, scan the QR code to access the complete product manual on our website.

Version Control	Date of Issue	Issued by	Approved by
Rev. 03	10 October 2025	T. Stupka	R. Valoti

PNEUMATIC CONNECTION

There are two main pneumatic configurations depending on the type of actuator:

SINGLE ACTING CONNECTION

Pneumatic connections depend on the desired fail-safe position. In the event of signal loss, **port B** is pressurized while **port A is exhausted.** Ensure that pneumatic connections are made accordingly. For more information, refer to the true table below or consult: 4056 - Instruction Manual (hardware).

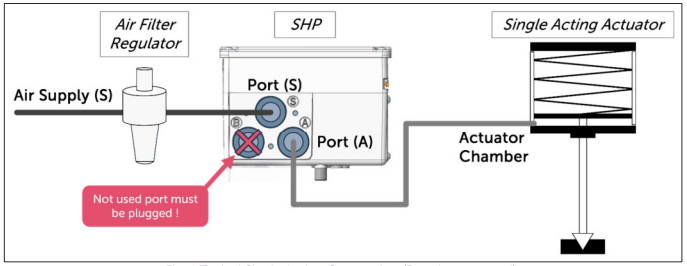


Fig. 1 Typical Single Acting Connection (Port A connected)

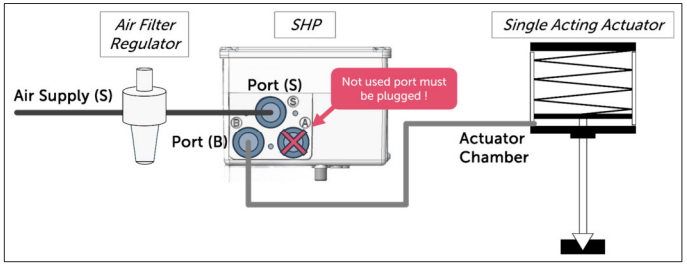
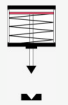
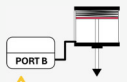
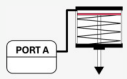
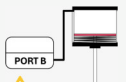


Figure 2 - Typical Single Acting Connection (Port B connected)

NOTE: For Single Acting Actuators, it is also possible to connect to port B instead of port A. If you do so, you need to specify this change while configuring the calibration wizard as follows: **Actuator Type**: Single Acting **Mode**: "Reverse" (see 4055 - Instruction Manual (software & settings) for more info)

FAILURE MODE TRUE TABLE

Line Pressure	Setpoint Signal	SPIRNG CLOSE ACTUATOR		SPRING OPEN ACTUATOR	
		PORT 'A' OR 'B' CONNECTION IS NOT RELEVANT		PORT 'A' OR 'B' CONNECTION IS NOT RELEVANT	
FAIL	ANY	 Air Fail Pos: CLOSE		 Air Fail Pos: OPEN	
		PORT 'A' CONNECTION	PORT 'B' CONNECTION	PORT 'A' CONNECTION	PORT 'B' CONNECTION
OK	FAIL	 Sig Fail Pos: CLOSE	 Sig Fail Pos: OPEN Opposite to Air Fail Pos !	 Sig Fail Pos: OPEN	 Sig Fail Pos: CLOSE Opposite to Air Fail Pos !

DOUBLE ACTING CONNECTION

In this configuration, the air supply is connected to the port S of the positioner. Ports A and B are connected to chambers A and B of the actuator, respectively.

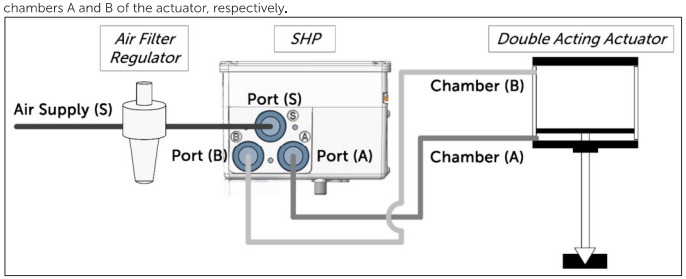
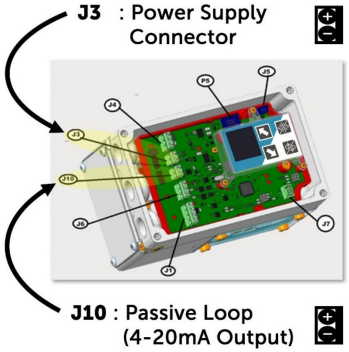


Fig. 3 Typical Double Acting Connection

WARNING:
Air Supply Quality:
The air supply quality must comply with ISO 8573-1:2010 class [3:3:3].

Failure Position and Tubing Connections:
The failure position and tubing connections depend on the application!

ELECTRICAL CONNECTION

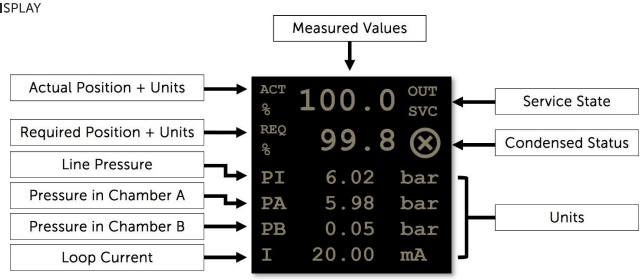


1. Connect the **4-20mA power supply** to the positioner's **J3 connector**, ensuring the correct polarity. You can use a multimeter as a power supply for the initial test. Ensure the **input voltage does not** exceed **30V.**
2. Power the SHP positioner. If everything is functioning correctly, the local user interface should activate **within 2 seconds.** If not, review the wiring and the connection polarity.
3. Optionally, connect a second multimeter to the **J10 connector** to monitor the Passive Loop (**4-20mA Output**).

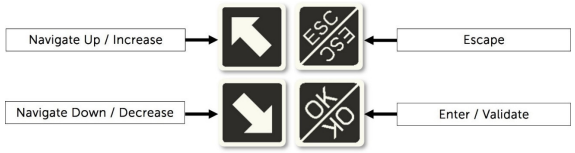
WARNING:
The setpoint is a **4-20mA signal not a fixed voltage** !
For detailed information, please check the full product manual on our website.

LOCAL USER INTERFACE AND CONTROLS

DISPLAY



CONTROL BUTTONS



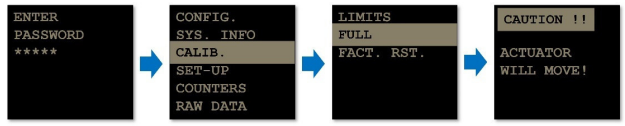
QUICK SETUP PROCEDURE

It is possible to setup the SHP positioner using the **Local User Interface.** Please follow the following steps to complete the initial configuration.

1. Press "OK" and type the following **5-digit pin code** sequence to access the menus:

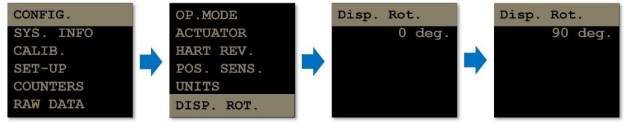
WARNING:
Do not type the pin too fast otherwise the key might not be detected!

Using the "UP" and "DOWN" keys navigate to **CALIBRATION** and press "OK", then select **FULL** and press "OK" again to initiate the system calibration. A wizard will guide you through the setup process for the positioner.



NOTE:
If the **CALIBRATION** menu is not accessible, ensure the device is set to **'OUT OF SERVICE'.** To change the **OPERATION MODE**, follow this path: **'CONFIG.' -> 'OP. MODE' -> 'Mode' -> 'OutSv'.**

2. If the orientation of the Local User Interface needs to be adjusted, navigate to the following menu.



3. Ensure the positioner is responding correctly to input commands by **varying the 4-20mA input signal.**

ADVANCED SETUP OPTIONS

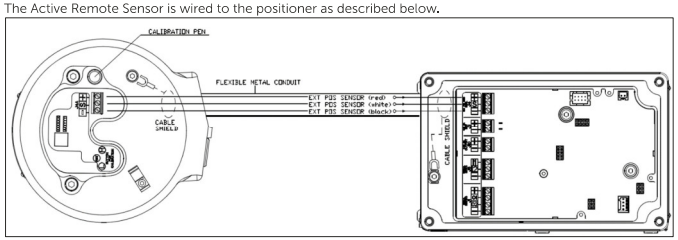
For advanced configurations you can use **High-speed data transfer USB cable** or a certified **HART Modem** to connect the positioner to a **PC.** You can download the official **Remote Control software** on our website (see QR code). The **High-speed data transfer USB cable** is available upon request. Please contact our sales team to place an order.

ALTERNATIVE CONNECTIVITY

Remote Control	High-speed data transfer USB cable	HART Modem
		

ACTIVE REMOTE

The Active Remote Sensor is wired to the positioner as described below.



Using the calibration pen (magnet) located inside the Active Remote Sensor enclosure, calibrate sensor by following the steps below:

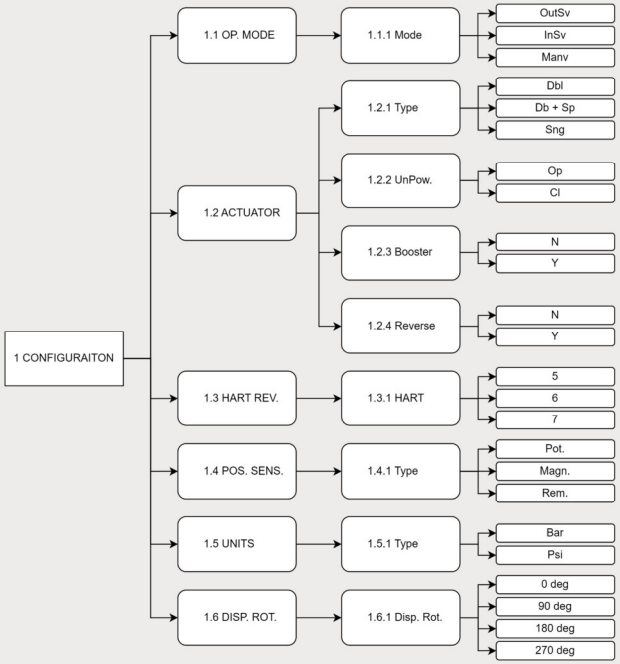
1	Reset Limits	Place the calibration pen on "RST" label for 15s.
2	Set Lower Hard Limit	Move valve to lower hard limit. Place the pen on the "L" label for 5s.
3	Set Upper Hard Limit	Move valve to upper hard limit. Place the pen on the "H" label for 5s.

MENU MAP

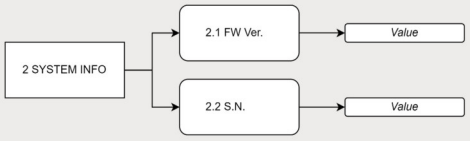
1	CONFIGURATION
2	SYSTEM INFO
3	CALIBRATION
4	SET-UP
5	COUNTERS
6	RAW DATA
7	PST

The Local User Interface is organized into seven main menus. The detailed map of each main menu is provided below.

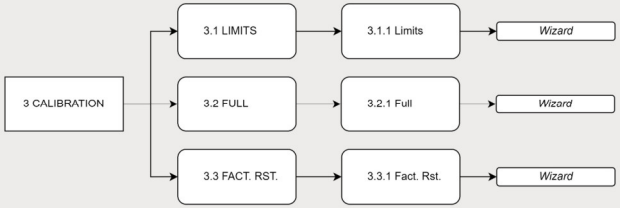
1 CONFIGURATION



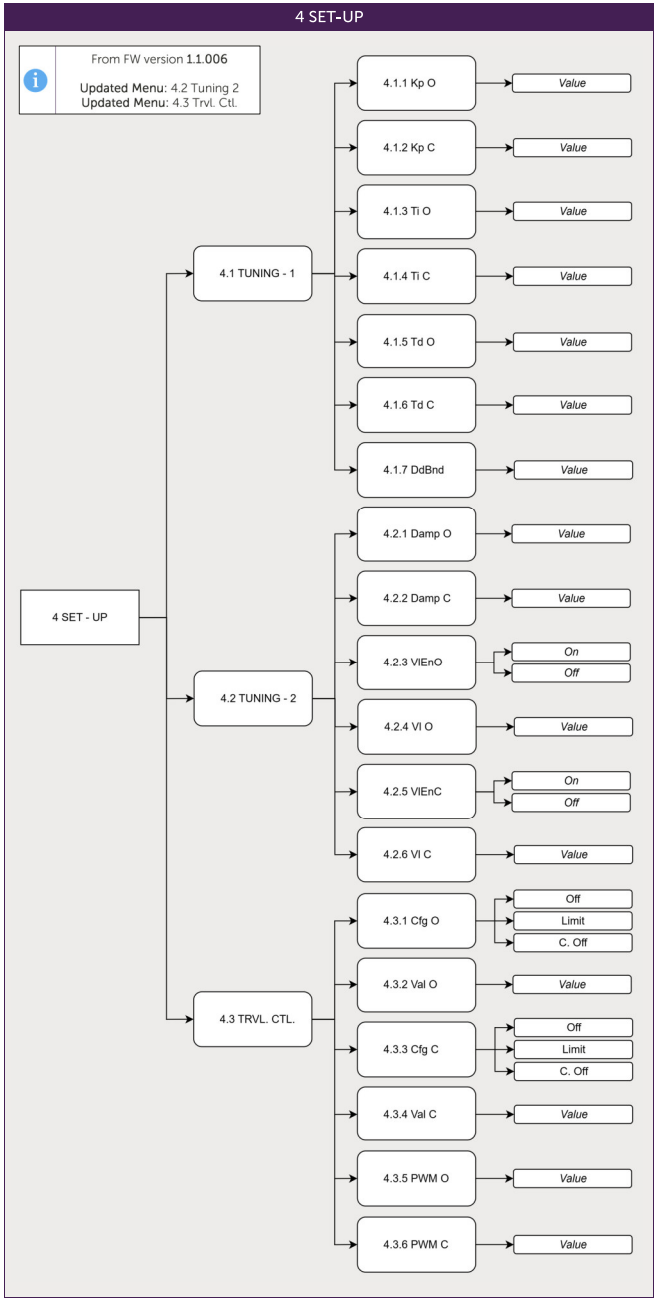
2 SYSTEM INFO



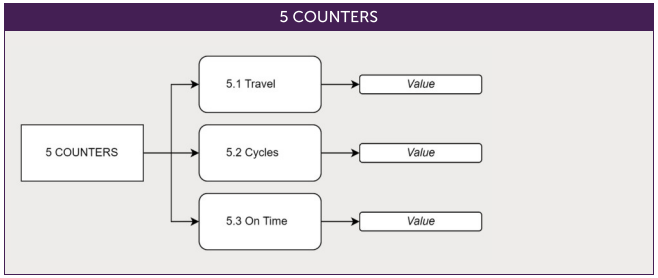
3 CALIBRATION



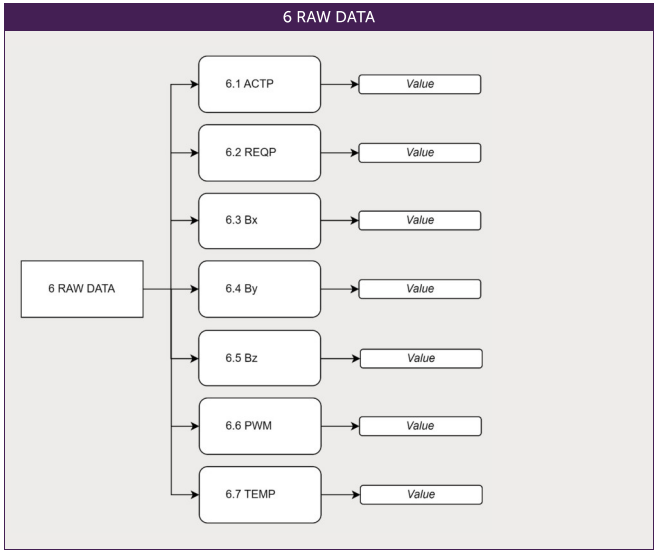
4 SET-UP



5 COUNTERS



6 RAW DATA



7 PST