

Operating Instructions

Local Control PSC.2

for PS-AMS11 and PS-AMS12

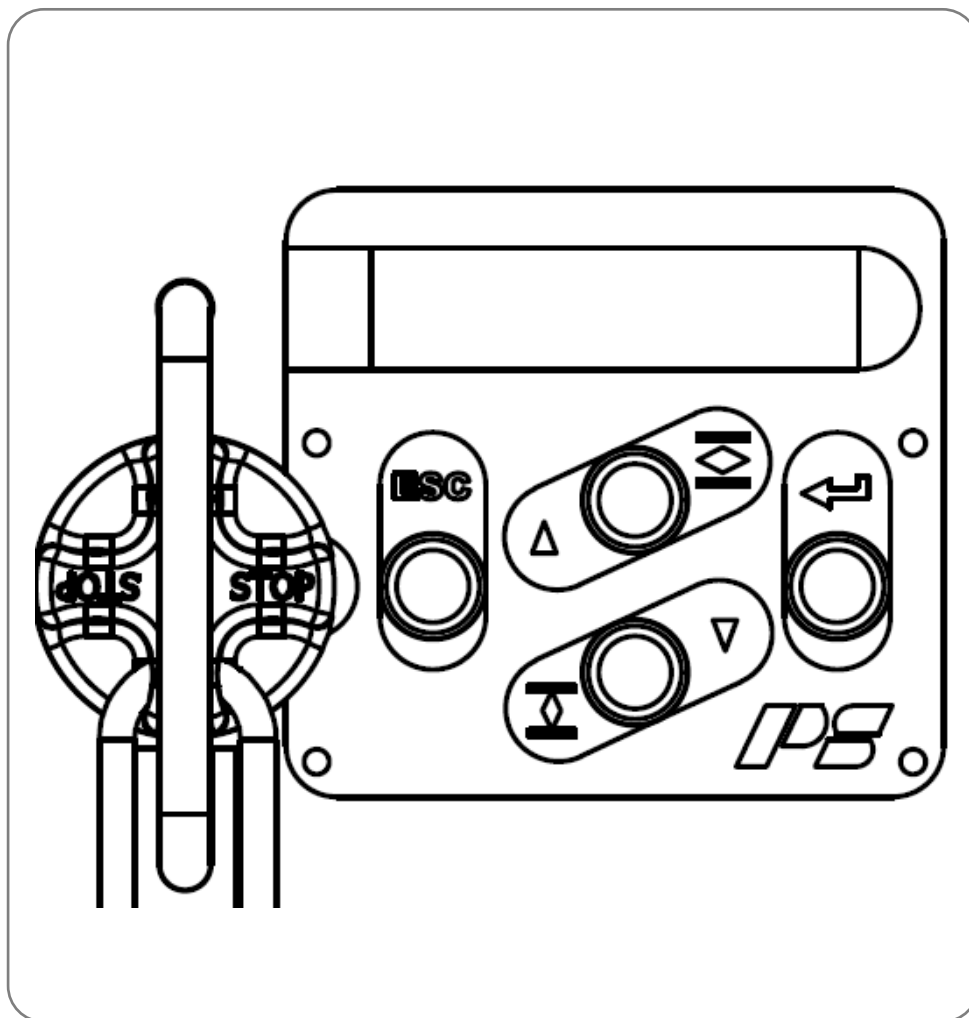


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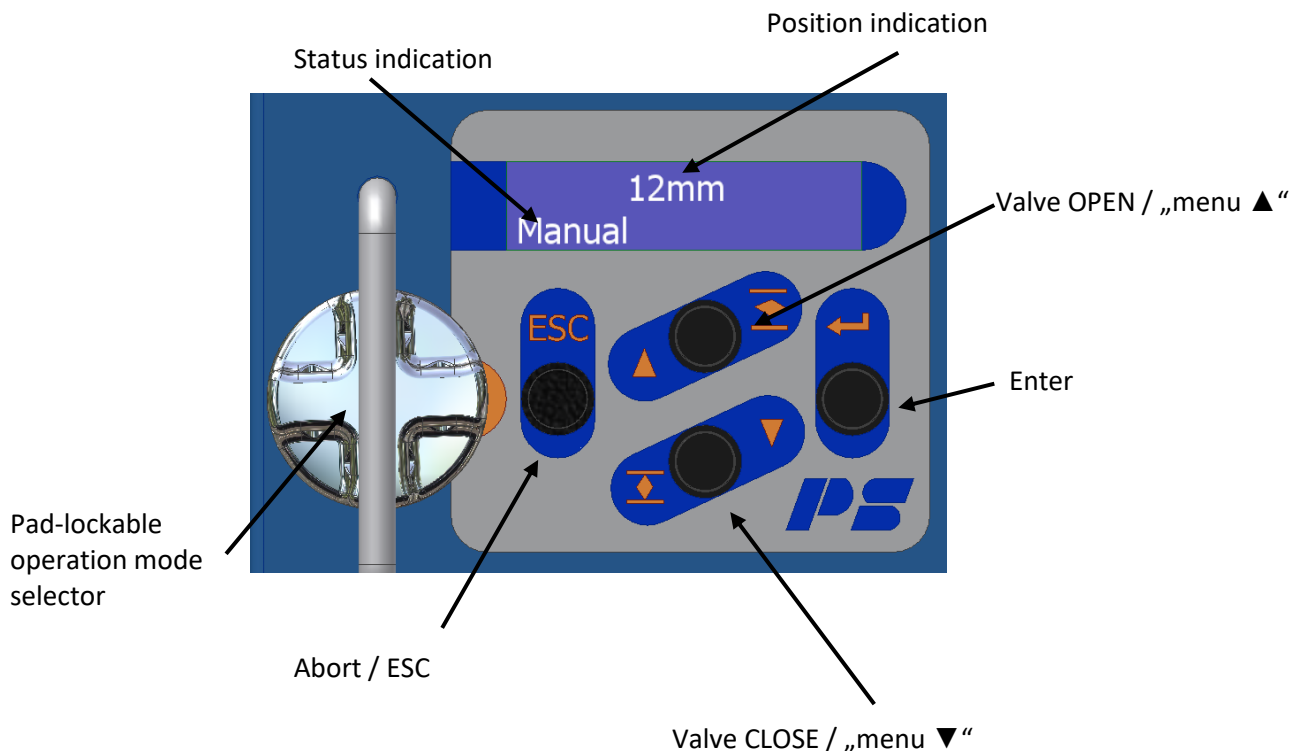
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1. Short description

The optional operating unit PSC.2 allows parameterising and operating of actuators series PS-AMS11 and PS-AMS12. It also displays the current valve position and shows the operating status of the actuator.

The PSC.2 unit consists of a back-lit blue LCD-display with 3 x 16 characters, 4 push-buttons for operation and a pad-lockable mode selector. This ensures easy handling and optimum visibility even under difficult conditions.

The interface is installed in the cover of the terminal box of the actuator. Therefore, the valve position and the operating status of the actuator are visible all time. On request, the unit is available for mounting in a separate box remotely from the actuator.



2. Local control

The mode selector allows switching between “MANUAL” and “AUTOMATIC” mode and “OFF”. This mode is displayed in the status indication line, but may be overwritten by fault messages.

2.1 MANUAL mode

In MANUAL mode, the actuator does not react on any external signal. It can be driven only via the buttons „Valve CLOSE“/„Valve OPEN“. The menu function is inactive, the display shows status and valve position.

2.2 AUTOMATIC mode

In AUTOMATIC mode, the actuator follows external set value, or binary input, or feedback from the process sensor, depending on parameterisation. The buttons and the menu function are inactive, the display shows status and valve position.

2.3 OFF mode

In OFF mode, the actuator does not follow any signal or keystroke. Valve position can only be changed by handwheel, without automatic repositioning. The menu is activated by pushing any button. Then, the display shows menu item and value respectively.

In any position of the mode selector the actuator may be interrogated and parameterised via the communication software PSCS.

CAUTION: After switching to AUTOMATIC mode the actuator may drive immediately, as it will follow the external signals then!

3. Operating

In MANUAL and OFF mode, pressing „Menu ▲“ or „Menu ▼“ scrolls through the present menu. Going to a deeper menu level is confirmed by pressing the “ENTER”-key. Aborting or leaving a menu is confirmed by pressing the “Abort/ESC”-key.

Changing parameters is confirmed by the “ENTER”-key. Pressing the “Abort/ESC”-key rejects the change and returns to the previous menu.

The recent position of the cursor and the selected menu position are indicated by an arrow at the left side of the display.

Note: If a key is pressed longer than 2 seconds, the input or value will be automatically scrolled.

4. Position indication

Display in „mm“ (at PSL-AMS) or „°“ (degree, at PSQ-AMS) is the default mode of the position indication, after switch-on or when no key has been pressed for 2 minutes (except in MANUAL mode). The display can be changed to „%“ (percentage), but it will reset automatically to „mm“ or „°“ (degree) after switching the power supply off and on again.

The character height is increased to 2 lines to ensure proper visibility from a longer distance. The third line shows operation and fault status of the actuator, as required.

5. Parameterisation

This menu is used to adjust the function of the actuator and the display.

In MANUAL and OFF mode, pressing „Menu ▲“ or „Menu ▼“ scrolls through the present menu. Going to a deeper menu level is confirmed by pressing the “ENTER”-key. Aborting or leaving a menu is confirmed by pressing the “Abort/ESC”-key.

Changing parameters is confirmed by the “ENTER”-key. Pressing the “Abort/ESC”-key rejects the change and returns to the previous menu.

5.1. Set value

Set value allows adjustment of the signal types and ranges. Select by “activate” or “active” in the menus.

5.1.1. Current

Current selects analogue set value by a current in the range of 0 mA to 20 mA.

5.1.1.1 Set value CLOSED

Set value closed is the lower limit of the analogue set value, by a current in the range of 0 mA to 20 mA.

5.1.1.2 Set value OPEN

Set value open is the upper limit of the analogue set value, by a current in the range of 0 mA to 20 mA.

5.1.2 Voltage

Voltage selects analogue set value by a voltage in the range of 0 V to 10 V.

5.1.2.1 Set value CLOSED

Set value closed is the lower limit of the analogue set value, by a voltage in the range of 0 V to 10 V.

5.1.2.2 Set value OPEN

Set value open is the upper limit of the analogue set value, by a voltage in the range of 0 V to 10 V.

5.1.3 Binary OPEN/CLOSE

Binary open/close selects 3-point service (Open/Stop/Close). Movement follows the binary inputs.

5.1.4 Digital

Digital selects a fixed value control, where the set value is set in the range of 0% to 100%.

5.2. Position feedback

Position feedback allows parameterisation of the active feedback value. Select by “activate” or “active” in the menus.

5.2.1 Current

Current selects active position feedback by a current in the range of 0 mA to 20 mA.

5.2.1.1 Actual value CLOSED

Actual value closed is the lower limit of the active position feedback, by a current in the range of 0 mA to 20 mA.

5.2.1.2 Actual value OPEN

Actual value open is the upper limit of the active position feedback, by a current in the range of 0 mA to 20 mA.

5.2.2 Voltage

Voltage selects active position feedback by a voltage in the range of 0 V to 10 V.

5.2.2.1 Actual value CLOSED

Actual value closed is the lower limit of the active position feedback, by a voltage in the range of 0 V to 10 V.

5.2.2.2 Actual value OPEN

Actual value open is the upper limit of the active position feedback, by a voltage in the range of 0 V to 10 V.

5.3 Valve adaption

5.3.1 Valve shaft to close

Valve (shaft) to close is depending on the movement principle of the actuator (linear actuator PSL or quarter-turn actuator PSQ) and can be set to retract/clockwise or extend/counter-clockwise.

5.3.2 Actuator stop valve open

Actuator stop valve open allows selection of the mode of cut-off in the valve's end positions. It can be set to be depending either on the desired closing position (“Position”), or on the applied force/torque (“Force/Torque”).

5.3.3 Actuator stop valve closed

Actuator stop valve closed allows selection of the mode of cut-off in the valve's end positions. It can be set to be depending either on the desired closing position (“Position”), or on the applied force/torque (“Force/Torque”).

5.3.4 Stroke/angle

Stroke/angle has to be entered when one of the cut-offs is selected to be by “Position”, stroke in mm, angle in degrees.

CAUTION: When both cut-offs are selected to be by “Force/Torque”, the stroke/angle will be calculated from the value found during the automatic commissioning run. If this value is manually overwritten later on, a failure notice or malfunction in operation will be the result.

5.3.5 Maximum velocity

Maximum velocity allows a reduction down to 50%.

5.3.6 Maximum force/torque

Maximum force/torque allows a reduction down to 50%.

5.4. Commissioning

This menu is dependent on the selected mode of cut-offs.

5.4.1 Automatic

Automatic will appear if at least one cut-off is set to be by “Force/Torque”. After confirming with the “ENTER”-key the actuator starts the commissioning run and moves automatically to each end position.

5.4.2 Manual

Manual will appear if both cut-offs are set to be by “Position”. Procedure is as follows:

- Apply set value for closed position (as parameterised)
- Confirm by pushing the “ENTER”-key
- The actuator position in % of the maximum possible actuator stroke/angle is displayed
- Approach the desired closed position of the valve using the keys „Menu ▲“ resp. „Menu ▼“ and confirm by the “ENTER”-key.
- Finally leave the menu with the “Abort/ESC”-key.

5.5. Info

Info shows the version of the firmware of the PSC, and the serial number of the actuator.

5.6. Display

5.6.1 Stroke display

Stroke display allows to select the presentation of the valve position in „%“ (percentage) or in mm (at PSL-AMS) or in „°“ (degree, at PSQ-AMS). After disconnecting the power supply it is automatically set to „%“ (percentage).

5.7 Language

Language allows to select the language displayed, English or German (“Deutsch”).

6. Diagnostics

Diagnostics displays the recent diagnostic data of the actuator:

- Total number of starts
- Total number of starts at critical temperature
- Total time the actuator was in operation, in hours
- Running time of the motor, in minutes
- Running time of the motor at critical temperature, in seconds

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