



**technische import**

# SUCO Productinformatie

# Handleiding 0570



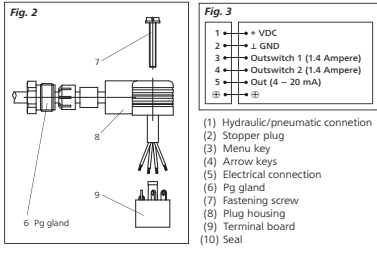
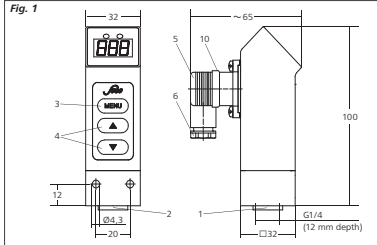
SUCO Robert Scheuffele GmbH & Co. KG

# Electronic pressure switch with ceramic measuring cell Series 0570

Installation and commissioning must be carried out in accordance with these Operating Instructions and by authorized, qualified personnel only.



## Operating controls and connections



## Installation

### Mechanical, pneumatic, hydraulic

Remove the stopper plug (2) from the pressure connection (1). Screw the electronic switch into the pressure connection provided using an open-jaw spanner of 32 AF size (as per DIN 894 etc.), with a tightening torque of approx. 45 Nm.

Apply the spanner inside the aluminium-coloured area when screwing the electronic switch into the right pressure connection, otherwise the switch might be damaged.

To seal the system, use a standard copper seal with the appropriate dimensions.

Never put mechanical strain on the electronic switch at the black housing section. **Risk of irreparable damage!**

### General

Use the connector supplied. Take care to ensure that the cable is laid in such a way that it is not: - pinched - kinked - under tension

### Connection to the connector

- Undo the fastening screw (7) and remove it completely from the head end (do not lose it).
- Remove the now released terminal board (9) (Fig. 2).
- Solder the cable (max. line cross-section 0.5 mm<sup>2</sup>) to the terminals provided for the purpose (Fig. 3).
- Slide the connection plate (9) back into the plug housing (8). Fit the fastening screw (7). Fit the appliance socket onto the electronic switch and tighten the fastening screw (7).
- Pay particular attention to the following: - cable connections as per diagram (Fig. 3) - cables routed without crushing

Ensure that the position of the seal (10) is correct and that the Pg gland (6) is properly fitted (Fig. 2), as otherwise the enclosure class IP65 cannot be achieved.

## Entry into service

After the connection to the supply voltage (12 to 30 V DC), the electronic switch starts to operate without any further key being pressed. The instantaneous value of the applied pressure is displayed after approx. 1 second. If this pressure is greater than the set point, the output will be activated and the appropriate LED will come on. If it is not the case, the outputs remain deactivated.

### Setup menu

All settings performed here (after confirmation using the menu key (3)) are saved in non-volatile manner, i.e. they remain effective even after disconnection of the electronic switch from the supply voltage and subsequent switching back on of this switch.

The following settings can be called and altered by successive pressing of the menu key (3):

- Units of pressure
- Switching point S1
- Time delay S1
- Reset point rS1
- Time delay rS1
- Switching function S1
- Switching point S2
- Time delay S2
- Reset point rS2
- Time delay rS2
- Switching function S2
- Calibration function/Zeroing of the electronic switch
- Indication of maximum pressure\*
- Indication of the number of times switching point S1 exceeded\*
- Indication of the number of times switching point S2 exceeded\*
- Return to normal mode

\* within the measuring range

An automatic transition to normal operation takes place when no key is pressed for 15 seconds during setting.

All menu items are selected by pressing the menu key (3); pressing the menu key (3) again saves the newly entered value and selects the next menu item.

Continuing development sometimes necessitates specification changes without notice.

### Key to drawings:



Pressing the menu key (3) without pressing the arrow keys (4) beforehand leaves the previous value unaffected.

### Coding

To safeguard the electronic switch from unauthorized access, coding is possible. When coding is activated, only the person(s) in possession of the code number can change the settings of the electronic switch. To activate the coding, the procedure is as follows:

- Disconnect the electronic switch from the voltage supply by detaching the appliance socket (5).
- Apply voltage again whilst the menu key (3) is pressed by re-attaching the appliance socket (5).
- The word „Cod“ is now displayed for about 2 seconds, then the display goes to „000“.

### Note

The electronic switch has been set in the factory to „000“. With this setting, all values can be altered as required.

- A code number between 0 and 999 can now be entered using the arrow keys.
- The input is now confirmed using the menu key (3). The electronic switch now starts to operate and the coding operation is completed. If a code is activated, the electronic switch can only be adjusted when the correct code is entered after the request „Cod“ and confirmed with the menu key (3).

Correct entry of the code is indicated by the flashing of the value to be set. When an incorrect code is entered, the menu reverts to the basic setting. If code is lost, switch on the electronic switch with pressed menu key (3). Then the electronic switch displays the actual code. If necessary, a new code can be entered now by using the arrow keys. Using the menu key (3) confirms the input.

### 1. Setting the units of pressure:

When the menu key (3) is pressed for the first time, the letter -P- appears in the display for approx. 2 s. This is followed by the last value set. The required units of pressure (bar or PSI) can now be set using the arrow keys (4). The value is confirmed and the next item in the menu is activated with the menu key (3).

### 2. Setting the switching point S1:

The characters S1 appear in the display for approx. 2 s and the left LED flashes. The value that was last set will now appear. The required value can now be set using the arrow keys (4). The value is confirmed and the next item in the menu is activated with the menu key (3). If the menu key (3) is pressed without first pressing the arrow keys (4), the previously set switching point will be unaffected. If the new switching point to be set, S1, is less than the stored reset point, rS1, this must first be corrected so that it is less than the value of the new switching point S1. The condition „S1 ≥ rS1“ must be satisfied.

### 3. Setting the time delay for S1:

The characters d1Y appear in the display for approx. 2 s and the left LED flashes. The value that was last set will now appear. The required value can now be set using the arrow keys (4). The value is confirmed and the next item in the menu is activated with the menu key (3).

### 4. Setting the reset point for rS1:

The characters rS1 appear in the display for approx. 2 s and the left LED flashes. The value that was last set will now appear. The required value can now be set using the arrow keys (4). The value is confirmed and the next item in the menu is activated with the menu key (3). If the menu key (3) is pressed without first pressing the arrow keys (4), the previously active reset point rS1 will be unaffected. If the new reset point to be set, rS1, is greater than the stored switching point, S1, this must first be corrected so that it is greater than the value of the new reset point rS1. The condition „S1 ≥ rS1“ must be satisfied.

### 5. Setting the time delay for rS1:

The characters d1Y appear in the display for approx. 2 s and the left LED flashes. The value that was last set will now appear. The required value can now be set using the arrow keys (4). The value is confirmed and the next item in the menu is activated with the menu key (3).

### 6. Setting the normally open or normally closed function for S1

The currently set state of the switching output (no or nc) appears in the display. The required value can now be set using the arrow keys (4). The value is confirmed and the next item in the menu is activated with the menu key (3).

- A load (e.g. a solenoid valve) is to be energised in the active state. An „no-“ (normally open) appears in the display.
- A load (e.g. a solenoid valve) is to be de-energised in the active state. An „nc-“ (normally closed) appears in the display.

### 7. Setting the switching point S2: Setting similar to item 2

### 8. Setting the time delay for S2: Setting similar to item 3

### 9. Setting the reset point for rS2: Setting similar to item 4

### 10. Setting the time delay for rS2: Setting similar to item 5

### 11. Setting the normally open or normally closed function for S2: Setting similar to item 6

### 12. Calibration function / Zeroing of the electronic switch:

The characters rES appear in the display for approx. 2 s and then the current system pressure is displayed. In order to set the shown digital display code to zero, please push the lower arrow key (4) and hold. In addition you must push the menu key (3). After releasing both keys the digital display code will be reset to zero. The value is confirmed and the next item in the menu is activated with the menu key (3).

### 13. Indication of maximum pressure:

The characters OP (over pressure) appear in the display for approx. 2 s followed by the value of the pressure within the measuring range that the pressure switch has been subjected to up to now. The value is confirmed and the next item in the menu is activated with the menu key (3). This value is for information only and cannot be changed.

### 14. Indication of the number of times switching point S1 exceeded:

Interrogates the switching point counter. The characters nO1 appear in the display for approx. 2 s followed by the number of times (n) that the switching point (S1) has been exceeded since the switch was commissioned.

Counting of the switching points is carried out as follows:

Number of switching cycles:	Display:
0 to 999	steps of 1 0 to 999
from 1 000 to 9 000	steps of 1 000 1E3, 2E3, 3E3 ...
from 10 000 to 90 000	steps of 10 000 1E4, 2E4, 3E4 ...
from 100 000 to 900 000	steps of 100 000 1E5, 2E5, 3E5 ...
from 1 000 000 to 9 000 000	steps of 1 000 000 1E6, 2E6, 3E6 ...

This value is for information only and cannot be changed.

### 15. Indication of the number of times switching point S2 exceeded:

Function similar to item 14

The changeover to normal operation is now achieved by pressing the menu key (3) again. The current pressure in the system is displayed and the electronic switch is ready to operate.

## Removal

- Please bear in mind the following when removing the electronic switch:
  - Before the electronic switch is removed, the system must be depressurized.
  - All relevant safety regulations must be complied with.
  - Unscrew the electronic switch out of the pressure connection using an open-jaw spanner of 30 AF size (as per DIN 894 etc.).
  - Apply the spanner inside the aluminium-coloured area when unscrewing the electronic switch from the pressure connection.

**Caution:** Never put mechanical strain on the electronic switch at the black housing section. **Risk of irreparable damage!**

## Quick guide to setting the electronic switch (without coding):

- Setting the units of pressure**  
Press MENU → 000 → Actual value → Setting → MENU → Save / Next
- Setting the switching point S1**  
Press MENU → 000 → Actual value → Setting → MENU → Save / Next
- Setting the time delay for S1**  
Press MENU → 000 → Actual value → Setting → MENU → Save / Next
- Setting the reset point for rS1**  
Press MENU → 000 → Display → Setting → MENU → Save / Next
- Setting the time delay for rS1**  
Press MENU → 000 → Actual value → Setting → MENU → Save / Next
- Setting the normally open or closed function for S1**  
Press MENU → 000 → Actual value → Setting → MENU → Save / Next
- Setting the switching point S2**  
Press MENU → 000 → Actual value → Setting → MENU → Save / Next
- Setting the time delay for S2**  
Press MENU → 000 → Actual value → Setting → MENU → Save / Next
- Setting the reset point for rS2**  
Press MENU → 000 → Display → Setting → MENU → Save / Next
- Setting the time delay for rS2**  
Press MENU → 000 → Actual value → Setting → MENU → Save / Next
- Setting the normally open or closed function for S2**  
Press MENU → 000 → Actual value → Setting → MENU → Save / Next
- Calibrating function / Zeroing of the electronic switch**  
Press MENU → 000 → Actual value → MENU → Setting → MENU → Save / Next
- Indicating of maximum pressure**  
Press MENU → 000 → Actual value → Next
- Indicating of the number of times switching point S1 exceeded**  
Press MENU → 000 → Actual value → Next
- Indicating of the number of times switching point S2 exceeded**  
Press MENU → 000 → Actual value → Next

## Instruction to reset OP, nO1 and nO2

- Reset the indication of maximum pressure**  
Display 000 → Actual value → MENU → Setting → MENU → Save / next
- Reset the indication of the number of times switching point S1 exceeded**  
Display 000 → Actual value → MENU → Setting → MENU → Save / next
- Reset the indication of the number of times switching point S2 exceeded**  
Display 000 → Actual value → MENU → Setting → MENU → Save / next

\*Note: Note by pressing the combination of the keys that first will pressed the arrow key (4) and then the menu key (3), else the switch will change to the next menu point, without saving reset.

The reset will be shown if the menu point will restarted again.



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