User's Guide

PSW2000

Operating Instructions Dual Pressure Switch

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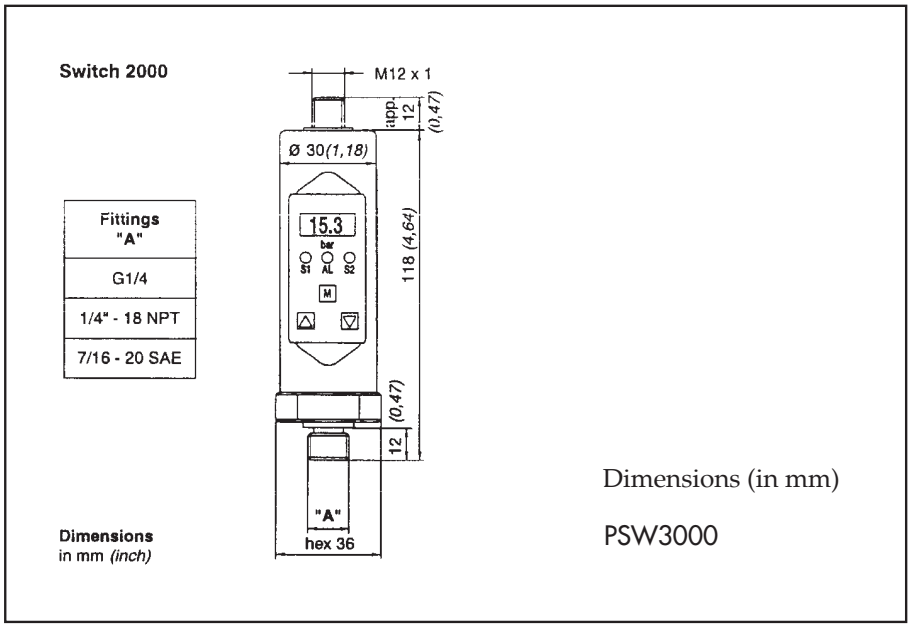
1. Product Description



Intended Applications

- The dual pressure switch monitors system pressures and has up to two switching outputs and one analog output.
- According to DESINA® standard
- The instruments must only be installed in systems where the maximum pressure Pmax is not exceeded (according to the values on the type label).
- **Attention:** This device is not designed to be used as the only safety relevant element in pressurized systems according PED 97/23/RC

2. Starting operations

Only install or uninstall the device when depressurized!

- Mount the pressure switch from bottom to the fitting with a wrench hex 36 (1/4) resp. 19 with 45 Nm torque.
- Electrical connection depends on the type of pressure switch (see type label) according to the chart below.

Electrical connections

Plug 4-pin, M12 x 1

Plug M 12 x 1, 4-pin	Model with 1 switching output	Model with 2 switching outputs (DESINA®)	Model with 1 switching output and 1 analog output
Pin 1	(15...32 V DC)	(15...32 V DC)	(15...32 V DC)
Pin 2	-	SP2 (0,5 A max.)	analog
Pin 3	0 V	0 V	0 V
Pin 4	SP1 (0,5 A max.)	SP1 (0,5 A max.)	SP1 (0,5 A max.)

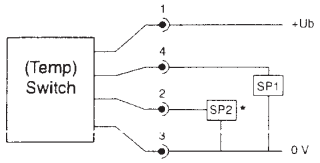
List of functions:

Dialog item	Value	Description
ACt	0 ... 400	Display of the actually measured value
S1	....	Select the display unit mbr = mbar PSX = psi x 10 hPo = hPa bor = bar PS1 = psi nPo = mPa
Und		Activation of the unit display on = unit display on (every 30 sec) oFF = no unit display
SP1	....	u in = Window technology Err = error output Std = standard evaluation
on1	0 ... xxx	Switch-on point for SP1; if the ON value is smaller than the OFF value the switching point evaluation is falling
OF1	0 ... xxx	Switch-off point for SP1
dS1	0.0 s ... 9.9 s	Switch-on delay for SP1 in seconds
dr1	0.0 s ... 9.9 s	Switch-off delay for SP1 in seconds
iu1	....	Inversion of switching output SP1 HFS = high-level-fail-save (normally open function) LFS = low-level-fail-save (normally closed function)
Only models with 2nd switching contact:		
SP2		u in = Window technology Err = error output Std = standard evaluation
on2	0 ... xxx	Switch-on point for SP2; if the ON value is smaller than the OFF value the switching point evaluation is falling
OF2	0 ... xxx	Switch-off point for SP2
dS2	0.0 s ... 9.9 s	Switch-on delay for SP2 in seconds
dr2	0.0 s ... 9.9 s	Switch-off delay for SP2 in seconds
iu2	....	Inversion of switching output SP2 HFS = high-level-fail-save (normally open function) LFS = low-level-fail-save (normally closed function)

List of functions: (continued)

Dialog item	Value	Description
Only models with analog output:		
A02	0 ... xxx	Scale the analog output - start value (e. g. 0 bar = 4 mA)
A0F	0 ... xxx	Scale the analog output - end value (e. g. 400 bar = 20 mA) (output signal start value always corresponds to the display initial value, e. g. 0 bar = 4mA) Maximum turn-down 4 : 1, i.e. at values below 25 % of the measuring range the analog output is switched off
mAX	0 ... xxx	Display of peak value "Max" (xxxx: = max. 125 % f. s.)
CLr	....	Delete the maximum value memory no = no deletion YES = delete value
Err		Error display: OK = no error mAX = exceeding pos. measuring range m in = exceeding neg. measuring range SEn = sensor error SP 1 = error switching output 1 SP2 = error switching output 2 dAt = data error (EEProm) PrC = program error CAL = calibration error ano = error analog out
Note: When changing units from psi to bar or bar to psi, the switching point values must be changed accordingly.		

Electrical connections (scheme)



***SP2 = Diagnosis output (DESINA® -version)**

Operation

The pressure switch should be installed and operated only by authorized persons. After being switched on, the PSW2000 runs through a self-text. The device is menu operated and configured with three keys on the front. With the **"**M**"** key (= mode) you change between the dialog values and the adjusted / actual values. With the keys **"**⇑**"** = up and **"**⇓**"** = down you change between the dialog values in the menu or change the values / functions in the menus (see below **"**List of functions**"**).

If the dialog is not continued within two minutes the device automatically returns to the measuring mode. When the software lock is entered, **"**LOCK**"** appears in the display when an attempt is made to change values.

Programming:

The setting menu is activated with the **mode** key. The dialog items are selected with the **"**⇑**"** and **"**⇓**"** keys. If the mode key is pressed again the corresponding value for the dialog item is shown and can be altered with the **"**⇑**"** and **"**⇓**"** keys. If the dialog with the unit is not continued within two minutes the device automatically returns to the measuring mode without accepting the new values.
To terminate programming more quickly, you can switch back to the measuring mode (primary menu) from any item in the menu by holding the **"**M**"** -key pressed for five seconds.

If the key lock has been activated, the values can be shown, but no changes made. (**"** LOH **"** appears in the display when an attempt is made to change values). The key lock is activated by pressing the **"**⇑**"** and **"**⇓**"** keys simultaneously for at least five seconds. Press again to deactivate the key lock again.

DESINA conformity:

When the switch operates in systems according to DESINA standard, switching point SP2 has to be programmed as monitoring function: Enter the value Err (error output) in programming step SP2 and the value LFS (normally closed function) in programming step Lu2 .
In case of error identification (see Err menu) a diagnosis signal is automatically actuated on the alarm display on the front panel and on switching point SP2 (pin 2).

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1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

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