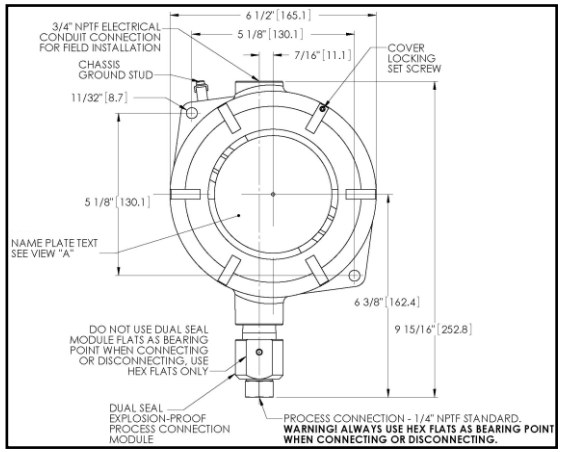
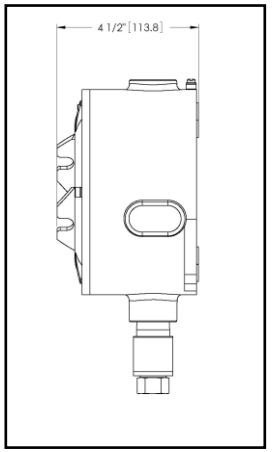
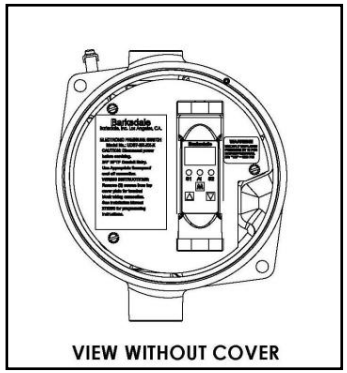
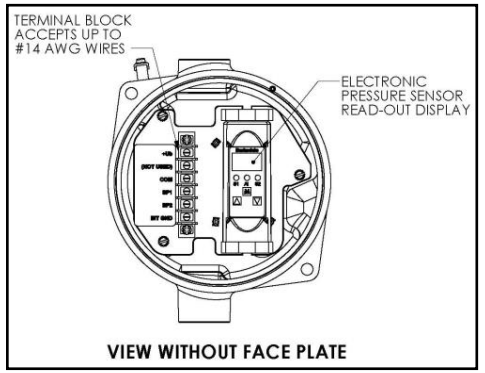
Operating Instructions Electronic Dual Switch UDS7-BX

Dimensions in [mm] UDS7-BX






VIEW WITHOUT COVER



VIEW WITHOUT FACE PLATE

1. Product description

Intended Applications

- This dual pressure switch is a device to monitor system pressure and two switching outputs.
- This instrument should 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 a pressurized system according to PED 97/23/EC.

2. Starting operations

Caution: To reduce the risk of ignition of hazardous atmospheres, disconnect the device from the supply circuit before opening. Keep assembly tightly closed when in operation.

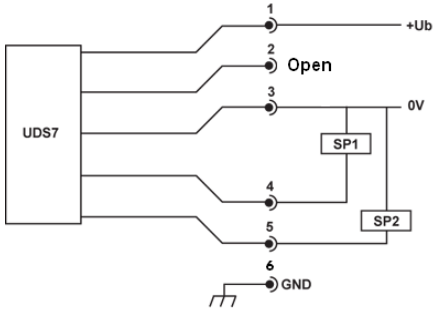
Only assemble or disassemble the device with no pressure applied!

Connecting the switch

- Mount the unit using the two 11/32 diameter holes provided, see figure for mounting / plumbing dimensions.
- Electrical connection: 3/4“ NPT female. Seal with certified junction box.
- Process connection: 1/4“ NPT female. Warning always use hex flats provided as bearing points when connecting / disconnecting.
- To access unit for programming & electrical terminal connection, loosen cover locking set screw and remove the cover electrical terminal connection on the accessible by removing the internal top plate.

Electrical connections

Terminal Connection	Description
Pin 1	Voltage (Ub) 15-32 VDC
Pin 2	Open
Pin 3	Common (-)
Pin 4	SP1: 0.4 A Max
Pin 5	SP2: 0.4 A Max
in 6	Internal Ground



3. Menu Access (Reference operating and display elements)

1		After switching on with M change to the first dialog item.
2	Change dialog item	Select the desired dialog item with ▼ or ▲ (see chap. 4).
3	Activate dialog item Value input/function selection	Activate the desired dialog item with M to change the corresponding value or the desired function.
4	Change value	Select the individual digits with M. Change the numerical value with ▼ or ▲ and acknowledge with M. If the entered value is within the permissible range, the system changes to the dialog item after input of the last digit, otherwise the 1st digit will flash again.
5	Change function	Change the function with ▼ or ▲ and acknowledge with M.
	Activate key lock	Simultaneously press ▲ + ▼ for at least 5 s. The display must not change during this time. When key lock is activated LU0 appears in the display e. g. U3.1*.
	Key lock active	Values or functions are displayed, but cannot be changed. LOH appears in the display when an attempt is made to make a change.
	Deactivate key lock	Simultaneously press ▲ + ▼ for at least 5 s. The display must not change during this time. When key lock is deactivated LU2 appears in the display e. g. U3.1*.
	Return to measuring mode	If no entry is made for 2 minutes, the switch automatically returns to the measuring mode **without** accepting the entries.
	Terminate programming	Press M for at least 5 s to change to the measuring mode.

* Software version no.

Agency Approvals:

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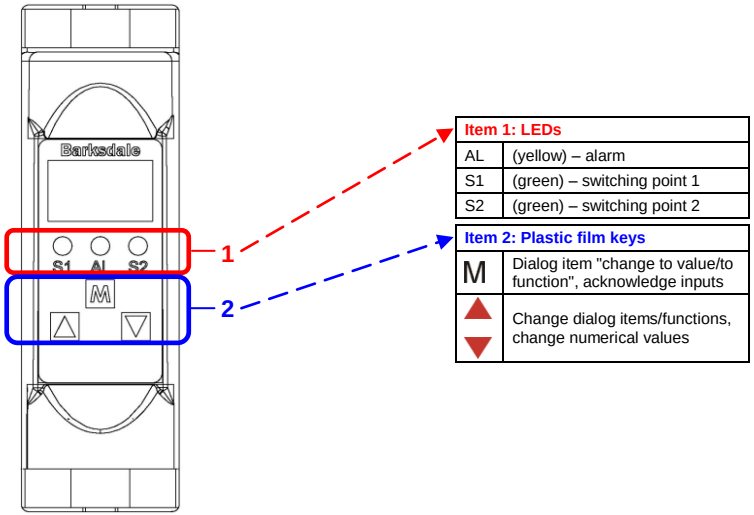
5. Operation:

The pressure switch should be installed and operated only by authorized persons.
After connecting and energizing, the UDS7-BX runs through a self-test. The device is menu operated and configured with three keys on the front. See sections 3 and 4 of these instructions.
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
If the dialog is not continued within two minutes the device automatically returns to the measuring mode. When the programming lock is entered, “LOH“ appears in the display when an attempt is made to change values.

Programming:

The programming menu is activated as described in section 3 of these instructions. 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 pressing and holding the M-key for five seconds.
If the programming lock has been activated, the values can be shown, but no changes made,

Operating and display elements



4. Programming Menu

Dialog item	Value	Function/Description
ACt	0 ... 400	Display of the actually measured value
S1**		Select the display unit nbr = mbar PSH = psi x 10 hPo = hPa bor = bar PS1 = psi nPo = mPa
Und		Activation of the unit display on = unit display on (every 30 s) 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

** Note: When changing units from psi to bar or bar to psi, the switching point values must be changed accordingly. For pressure ranges greater than 1000 psi, only the selections of “PSH” and “bar” are available. If other units are selected the measurement will default to ‘bar’ and switch point settings will require re-setting.

4. Programming Menu (continue)

Dialog item	Value	Function/Description
iu 1		Inversion of switching output SP1 HFS = high-level-fail-save (normally open function) LFS = low-level-fail-save (normally closed function)
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)

** Note: When changing units from psi to bar or bar to psi, the switching point values must be changed accordingly. For pressure ranges greater than 1000 psi, only the selections of “PSH” and ‘‘bar” are available. If other units are selected the measurement will default to “bar” and switch point settings will require re-setting.

Programming Menu Continued

Dialog item	Value	Function/Description
Only models with analog output:		
AO2 *	0 ... xxx	Scale the analog output - start value (e. g. 0 bar = 4 mA)
AOF *	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

☞	**IMPORTANT**
* Flashing of the mean segment signals a negative setting value.	

Programming Menu Continued

Dialog item	Value	Function/Description
nAH	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 nAH = exceeding pos. measuring range n 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 ono = error analog out

☞	**IMPORTANT**
* Flashing of the mean segment signals a negative setting value.	