17 P_nP Pressure zero point

Pressure numeric value expressed with the selected measure unit for the retransmission on the analogue output.
NB: Value displayed but not editable.

18 P_EP Pressure end point

Pressure numeric value expressed with the selected measure unit for the retransmission on the analogue output.
Default: value greater than f.s.
Range: 50% - 100% of the nominal pressure range expressed with the selected measure unit.

19 0_nP Output zero point

Numeric starting value expressed in tension or current selected on parameter OAnA.
NB: Value displayed but not editable.
Example: for OAnA = 4-20, 0_nP = 4.00mA
Example 2: for OAnA = 0-10, 0_nP = 0.00V

20 0_EP Output end point

Numeric end value expressed in tension or current selected on parameter OAnA.
NB: Value displayed but not editable.
Example: for OAnA = 4-20, 0_nP = 20.00mA
Example 2: for OAnA = 0-10, 0_nP = 10.00V

21 dAA Damping for analogue output

Low-pass filter for analogue output. Time in seconds for the output stabilisation from 10% to 90% of the variation.
Example: pressure sensor 0..10 Bar, dAA = 1.00s: at instantaneous pressure switch from 0 to 10Bar, the output will take approx. 1.2s. to stabilise from 4.00 to 20.00mA or from 0.00 to 10.00V
Range: 0.00..3.00. **Default**: 0.00

22 diSr Display rotate

Display orientation / rotation 0° (normal) or 180°

YES		no	**Default**

21 diS Display mode

Display mode defines the displayed value.

Ac-3	Act without the 3 less significant decimals**	hiGh	Maximum pressure value
Ac-2	Act without the 2 less significant decimals**	LoU	Minimum pressure value
Ac-1	Act without the less significant decimal**	Act	Actual pressure value. **Default**
oFF	Switches off display after 5 sec.		

** .. Among those displayed.

23 duPd Display update rate

Display update rate, updates per second.

20	Every 20 seconds	2	Every 2 seconds. **Default**
5	Every 5 seconds	1	Every 1 second

24 diA Diagnostic mode

To activate a diagnostic mode.

on	the sensor simulates a pressure ramp in loop, from the min. to the max. value of the pressure range, in a cycle time of approx. 5s. It is used to verify the functioning of the switching points and the analogue output.
oFF	**Default**

25 S.tiM Sample time *(logger)*

A device integrated data logger
Range: steps of 0.0s up to 999.9s.
0.0 logger disabled. **Default**
The logger stores values into a circular memory of 3500 points , with time selected in S.tiM, instantaneous pressure value and the status of SP1 and SP2 at sample time. At restart de old logger is deleted and a new one is overwritten. It is possible to analyze the log through a software with NFC interface both with ON or OFF device.

26 codE Access code definition

0000 = no password. **Default**
Password input digit by digit
To modify the password press **SET** and using ▲ or ▼ select the value of each digit. Press **SET** to modify the next digit. To end the operation, press **SET** and confirm or not with YES or FAIL5.
NB: If par. codE is modified with a number different from 0000, a new password is enabled and will be requested once (until the next restard) to modify parameters and switching points.

Read carefully the safety guidelines and programming instructions contained in this manual before using/connecting the device.

Prima di utilizzare il dispositivo leggere con attenzione le informazioni di sicurezza e settaggio contenute in questo manuale.

RoHS Compliant

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2300.10.270-RevB
Software Rev. 3.14
090118

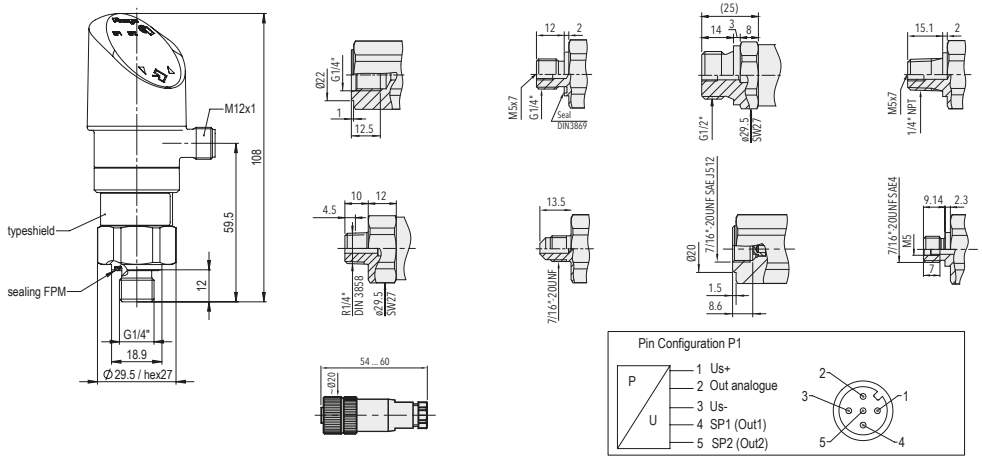
Pixsys ELECTRONICS

DST400

Pressure transmitter with display

User manual

1 Dimensions - Process Connection



2 Main features

Box	93 x 37 mm
Power supply	15..30 VDC
Power consumption	Max 0,8 W
Operating conditions	Temperature -25..+85 °C, humidity 35..95 RH% (Cable PVC 22: -5°C ... +60°C)
Material	Sensor housing steel galvanised, display housing plastic
Weight	Approx. 189 g
Sealing	IP65 - FPM, NBR, EPDM

2.1 Technical data

Accuracy	± 0,5% F.S. @25°C
Sensor type	Thick film on Ceramic (0..100 Bar) - Thin film on steel (> 100 Bar)
Sensor	Ceramic, Al2O3 (96 %)
Vibration	4g (10...2000 Hz)
Shock	50g / 8 ms
LH @ 25°C (BSL) typ.	± 0.2 % FS typ.
Measuring range	0...1 to 0...400 bar / 0...15 to 0...5000 psi
Pressure connection	G1/4"
Electrical connections	EN175301-803-A (DIN43650-A); M12x1 5 Pole
Housing orientation	Display 335° rotatable - Electrical connection 343° rotatable
Sensor working temperature	- 25..+ 85°C
2 digital outputs	Transistor PNP max 500 mA
1 analogue output	Selectable 4..20 mA / 0..10 V
Media temperature	-25°C ... +125°C / 400 bar/5000 psi: -10°C ... +125°C
Long term stability 1 year typ.	± 0.3 % FS typ.

2.2 Software features

Display	4 Digits, 1..3 decimal points
Pressure unit	Selectable Bar, Psi, MPa, kPa, m WC, mm WC
Datalogger	Ring buffer: 3518 data points - Sampling time: 0.1 ... 999.9 s, Off (0)
Quick set-up options	Programming via APP (NFC) for Android smartphones

2.3 Ordering codes

2000.42.100	DST400 - Range 0..1 Bar / Ceramic / Out 4..20 mA - 0..10 V - G1/4"
2000.42.104	DST400 - Range 0..10 Bar / Ceramic / Out 4..20 mA - 0..10 V - G1/4"
2000.42.106	DST400 - Range 0..25 Bar / Ceramic / Out 4..20 mA - 0..10 V - G1/4"
2000.42.107	DST400 - Range 0..40 Bar / Ceramic / Out 4..20 mA - 0..10 V - G1/4"
2000.42.108	DST400 - Range 0..100 Bar / Ceramic / Out 4..20 mA - 0..10 V - G1/4"
2000.42.122	DST400 - Range -1..0 Bar / Ceramic / Out 4..20 mA - 0..10 V - G1/4"
2000.43.111	DST400 - Range 0..400 Bar / Film Inox / Out 4..20 mA - 0..10 V - G1/4"

3 Enter switching point configuration

For configuration parameters see paragraph 8

	Press	Display	Do
1		At the start, display shows the process.	
2	▲ o ▼	Slide up / down through Switching Point parameters (SP1, rP1, SP2, rP2)	
3	SET	Access the parameter to be modified	NB: If on par. codE has been entered a password different from 0, the device will require this password before modifying any parameter
4	▲ o ▼	Increase or decrease selected value.	Enter the new data and press SET. To modify another parameter back to point 2.

3.1 Enter configuration parameters

For configuration parameters see paragraph 8.1.

	Press	Display	Do
5	SET + ▲ o ▼	Select par. EF from the switching points modification menu	
6	SET	Access the parameter to be modified	Enter the password (if enabled).
7	▲ o ▼	Increase or decrease selected value.	Enter the new data and press SET. To modify another parameter back to point 5.

4 Table of Switching point

1 SP1 Switching point SP1

Window function*: functioning according to parameter Ou1.
Range: depending %..100% of full-scale, the decimal point depends on the sensor f.s. **Default**: 75% f.s. on the selected measure unit. **Attention**: if par. 10 is selected as "window", par. SP1 switches to FH1.

2 rP1 Reset point rP1

Window function*: functioning according to parameter Ou1.
Range: depending on pressure range 0%..99% of full-scale, the decimal point depends on the sensor f.s. **Default**: 25% f.s. on the selected measure unit. **Attention**: if par. 10 is selected as "window", par. rP1 switches to FL1.

* *Window mode = within this range the output is activated / deactivated according to parameters 10 / 11.*

3 SP2 Switching point SP2

Window function*: functioning according to parameter Ou2.
Range: depending on pressure range 1%..100% of full-scale, the decimal point depends on the sensor f.s. **Default**: 75% f.s. on the selected measure unit. **Attention**: if par. 11 is selected as "window", par. SP2 switches to FH2.

4 rP2 Reset point rP2

Window function*: functioning according to parameter Ou2.
Range: depending on pressure range 0%..99% of full-scale, the decimal point depends on the sensor f.s. **Default**: 25% f.s. on the selected measure unit. **Attention**: if par. 11 is selected as "window", par. rP2 switches to FL2.

5 Table of complete configuration parameters (EF menu)

5 rES Reset

Restore default parameters

YES		no	

6 dS1 SP1 Delay Switch

Switching delay ON, output SP1, valid for SP1
Range: 0.00..99.99 s. 0 = not active. **Default**: 0

7 dr1 SP1 Delay Reset

Switching delay OFF, output SP1, valid for rP1
Range: 0.00..99.99 s. 0 = not active. **Default**: 0

8 dS2 SP2 Delay Switch

Switching delay ON, output SP2, valid for SP2
Range: 0.00..99.99 s. 0 = not active. **Default**: 0

9 dr2 SP2 Delay Reset

Switching delay OFF, output SP2, valid for rP2
Range: 0.00..99.99 s. 0 = not active. **Default**: 0

10 Ou1 Output SP1 function

H = Hysteresis, F = Window*

Fnc	Out1 ON when process is out of range FH1 / FL1		returns to rP1
Fno	Out1 ON when process is in range FH1 / FL1	Hno	Out1 ON = process reaches SP1, OFF = process returns to rP1. **Default**
Hnc	Out1 OFF = process reaches SP1, ON = process		

11 Ou2 Output SP2 function

H = Hysteresis, F = Window*

Fnc	Out2 ON when process is out of range FH2 / FL2		returns to rP2
Fno	Out2 ON when process is in range FH2 / FL2	Hno	Out2 ON = process reaches SP2, OFF = process returns to rP2. **Default**
Hnc	Out2 OFF = process reaches SP2, ON = process		

12 un1 Pressure Unit

un.5	mmWg	MPA	Megapascal
un.4	KPa	bAr	**Default**
PS1	Psi	%	% value according to full-scale of selected sensor
muC	Metres of water column		

The units are dynamics: where it's not possible to visualize a reading in 4 digits, the relevant unit is hidden.
At each measure unit modification, the device re-initializes the switching points with SP1, SP2, rP1 and rP2 default values.
Example: with sensor 0..10 Bar and value visualized in PSI, when the measure unit switches from PSI to Bar, SP1 and SP2 will be re-initialized to 7.50 Bar while RP1 and RP2 to 2.50 Bar. Any other SP1, SP2 and RP1, RP2 stored value will be lost.

13 Lo Lowest pressure

Lowest pressure value detected by the sensor with the current measure unit.

14 Hi Highest pressure

Highest pressure value detected by the sensor with the current measure unit.

15 HLrE Highest Lowest Reset

Reset of par. Hi and Lo to the actual pressure value.

YES		no	**Default**

16 OAnA Analogue output type

OFF	Output not active (0V / 0mA in output)	I	Current 4..20mA. **Default**
U	Voltage 0..10V		

At each output type modification, the content of par. O_nP and O_EP changes according to the physical size of the output type.