

<b>19</b>	<b><math>t_{EP}</math></b>	<b>Temperature end point</b>	Temperature numeric value expressed with the selected measure unit for the retransmission on the analogue output. <b>Default:</b> value greater than f.s. Range: 50% - 100% of the nominal temperature range expressed with the selected measure unit.
<b>20</b>	<b><math>0_{nP}</math></b>	<b>Output zero point</b>	Numeric starting value expressed in tension or current selected on parameter $0_{nR}$ . NB: Value displayed but not editable. Example: for $0_{nR} = u$ , $0_{nP} = 4.00\text{mA}$ Example 2: for $0_{nR} = u$ , $0_{nP} = 0.00\text{V}$
<b>21</b>	<b><math>0_{EP}</math></b>	<b>Output end point</b>	Numeric end value expressed in tension or current selected on parameter $0_{nR}$ . NB: Value displayed but not editable. Example: for $0_{nR} = u$ , $0_{EP} = 20.00\text{mA}$ Example 2: for $0_{nR} = u$ , $0_{EP} = 10.00\text{V}$
<b>22</b>	<b><math>d_{RR}</math></b>	<b>Damping for analogue output</b>	Low-pass filter for analogue output. Time in seconds for the output stabilisation from 10% to 90% of the variation. Example: temperature sensor 0..10 Bar, $d_{RR} = 1.00\text{s}$ : at instantaneous temperature 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. <b>Default:</b> 0.00
<b>23</b>	<b><math>d_{SR}</math></b>	<b>Display rotate</b>	Display orientation / rotation 0° (normal) or 180° $YES$
<b>24</b>	<b><math>d_{S}</math></b>	<b>Display mode</b>	Display mode defines the displayed value. $R_{c-3}$ $R_{cL}$ without the 3 less significant decimals** $R_{c-2}$ $R_{cL}$ without the 2 less significant decimals** $R_{c-1}$ $R_{cL}$ without the less significant decimal** $oFF$ Switches off display after 5 sec.

\*\*.. Among those displayed.

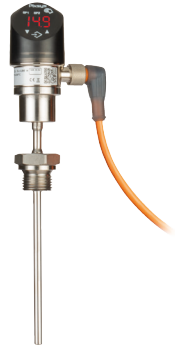
<b>25</b>	<b><math>d_{uPd}</math></b>	<b>Display update rate</b>	Display update rate, updates per second. $20$ Every 20 seconds $5$ Every 5 seconds
<b>26</b>	<b><math>d_{iR}</math></b>	<b>Diagnostic mode</b>	To activate a diagnostic mode. $on$ the sensor simulates a temperature ramp in loop, from the min. to the max. value of the temperature range, in a cycle time of approx. 5s. It is used to verify the functioning of the switching points and the analogue output. $oFF$ <b>Default</b>
<b>27</b>	<b><math>S_{t, n}</math></b>	<b>Sample time (logger)</b>	A device integrated data logger Range: steps of 0.0s up to 999.9s. 0,0 logger disabled. <b>Default</b> The logger stores values into a circular memory of 3500 points, with time selected in $S_{t, n}$ , instantaneous temperature value and the status of SP1 and SP2 at sample time. At restart the 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.
<b>28</b>	<b><math>c_{odE}</math></b>	<b>Access code definition</b>	$0000$ = no password. <b>Default</b> Password input digit by digit To modify the password press <b>SET</b> and using ▲ or ▼ select the value of each digit. Press <b>SET</b> to modify the next digit. To end the operation, press <b>SET</b> and confirm or not with <b>YES</b> or <b>NO</b> . NB: If par. $c_{odE}$ is modified with a number different from $0000$ , a new password is enabled and will be requested once (until the next restart) to modify parameters and switching points.

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



# DST100

## Temperature transmitter with display



User manual

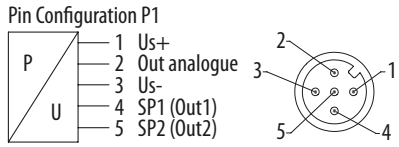
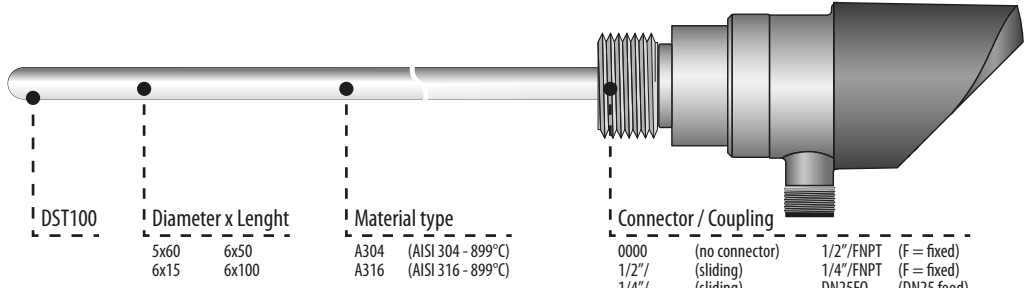


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**2300.10.283-RevA**  
Software Rev. 5.04  
300718

### 1 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	± 0,2% F.S. @25°C
Sensor type	PT1000
Vibration	4g (10..2000 Hz)
Shock	50g / 8 ms
Measuring range	- 50..150 °C
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

## 2.2 Software features





Display	4 Digits, 1..3 decimal points
Temperature unit	Selectable °C, °F, °K
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 Example of ordering codes





2000.01.002	DST100 - Range -50°+150°C / Fixed connection - 1/2" GAS EL = 100 mm
2000.01.003	DST100 - Range -50°+150°C / Fixed connection - 1/2" GAS EL = 150 mm
2000.15.002	DST100 - Range -50°+150°C / Sliding connection - 1/4" NPT EL = 100 mm
2000.15.003	DST100 - Range -50°+150°C / Sliding connection - 1/4" NPT EL = 150 mm
2000.93.002	DST100 - Range -50°+150°C / Clamp connection - C50 EL = 100 mm
2000.96.002	DST100 - Range -50°+150°C / Food connection - DN50 EL = 100 mm

For the complete list of ordering codes refer to the website.

## 3 Enter switching point configuration

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

### 3.1 Enter configuration parameters

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

## 4 Table of Switching point

<b>1</b> <i>SP1</i> <b>Switching point SP1</b>
Window function*: functioning according to parameter <i>Uu1</i> . Range: depending %..100% of full-scale, the decimal point depends on the sensor f.s. <b>Default:</b> 75% f.s. on the selected measure unit. <b>Attention:</b> if par. 10 is selected as "window", par. <i>SP1</i> switches to <i>FH1</i> .
<b>2</b> <i>rP1</i> <b>Reset point rP1</b>
Window function*: functioning according to parameter <i>Uu1</i> . Range: depending on temperature range 0%..99% of full-scale, the decimal point depends on the sensor f.s. <b>Default:</b> 25% f.s. on the selected measure unit. <b>Attention:</b> if par. 10 is selected as "window", par. <i>rP1</i> switches to <i>FL1</i> .
<b>3</b> <i>SP2</i> <b>Switching point SP2</b>
Window function*: functioning according to parameter <i>Uu2</i> . Range: depending on temperature range 1%..100% of full-scale, the decimal point depends on the sensor f.s. <b>Default:</b> 75% f.s. on the selected measure unit. <b>Attention:</b> if par. 11 is selected as "window", par. <i>SP2</i> switches to <i>FH2</i> .

<b>4</b> <i>rP2</i> <b>Reset point rP2</b>		
Window function*: functioning according to parameter <i>Uu2</i> . Range: depending on temperature range 0%..99% of full-scale, the decimal point depends on the sensor f.s. <b>Default:</b> 25% f.s. on the selected measure unit. <b>Attention:</b> if par. 11 is selected as "window", par. <i>rP2</i> switches to <i>FL2</i> .		
<b>5</b> <b>Table of complete configuration parameters (<i>EF</i> menu)</b>		
<b>5</b> <i>rE5</i> <b>Reset</b>		
Restore default parameters	<i>no</i>	
<b>6</b> <i>tCor</i> <b>Temperature Correction</b>		
Displayed temperature calibration Range: ± 5 °C. <b>Default:</b> 0		
<b>7</b> <i>dS1</i> <b>SP1 Delay Switch</b>		
Switching delay ON, output SP1, valid for <i>SP1</i> Range: 0.00..99.99 s. 0 = not active. <b>Default:</b> 0		
<b>8</b> <i>dr1</i> <b>SP1 Delay Reset</b>		
Switching delay OFF, output SP1, valid for <i>rP1</i> Range: 0.00..99.99 s. 0 = not active. <b>Default:</b> 0		
<b>9</b> <i>dS2</i> <b>SP2 Delay Switch</b>		
Switching delay ON, output SP2, valid for <i>SP2</i> Range: 0.00..99.99 s. 0 = not active. <b>Default:</b> 0		
<b>10</b> <i>dr2</i> <b>SP2 Delay Reset</b>		
Switching delay OFF, output SP2, valid for <i>rP2</i> Range: 0.00..99.99 s. 0 = not active. <b>Default:</b> 0		
<b>11</b> <i>Uu1</i> <b>Output SP1 function</b>		
H = Hysteresis, F = Window* <i>Fno</i> Out1 ON when process is out of range FH1 / FL1 <i>Fna</i> Out1 ON when process is in range FH1 / FL1 <i>Hnc</i> Out1 OFF = process reaches SP1, ON = process returns to rP1. <b>Default</b>	<i>no</i>	Out1 ON = process reaches SP1, OFF = process returns to rP1. <b>Default</b>
<b>12</b> <i>Uu2</i> <b>Output SP2 function</b>		
H = Hysteresis, F = Window* <i>Fno</i> Out2 ON when process is out of range FH2 / FL2 <i>Fna</i> Out2 ON when process is in range FH2 / FL2 <i>Hnc</i> Out2 OFF = process reaches SP2, ON = process returns to rP2	<i>no</i>	Out2 ON = process reaches SP2, OFF = process returns to rP2. <b>Default</b>
<b>13</b> <i>un1</i> <b>Temperature Unit</b>		
<i>°C</i> Centigrade <i>°F</i> Fahrenheit <i>°C</i> Celsius		
<b>14</b> <i>Lo</i> <b>Lowest temperature</b>		
Lowest temperature value detected by the sensor with the current measure unit.		
<b>15</b> <i>Hi</i> <b>Highest temperature</b>		
Highest temperature value detected by the sensor with the current measure unit.		
<b>16</b> <i>HLrE</i> <b>Highest Lowest Reset</b>		
Reset of par. <i>Hi</i> and <i>Lo</i> to the actual temperature value. <i>YES</i>	<i>no</i>	<b>Default</b>
<b>17</b> <i>QAnA</i> <b>Analogue output type</b>		
<i>OFF</i> Output not active (0V / 0mA in output) <i>u</i> Voltage 0..10V	<i>!</i>	Current 4..20mA. <b>Default</b>
At each output type modification, the content of par. <i>UuP</i> and <i>UuEP</i> changes according to the physical size of the output type.		
<b>18</b> <i>t_nP</i> <b>Temperature zero point</b>		
Temperature numeric value expressed with the selected measure unit for the retransmission on the analogue output. NB: Value displayed but not editable.		

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