

### GENERAL DESCRIPTION

The software is developed by Datexel srl, running under Windows® and designed for the configuration and the visualization of the measure of signal converters and transmitters configurable by PC.  
To operate with the software it is necessary the connection of the proper programming interface between the PC and the device listed in the technical data-sheet of the device in use.

### MINIMUM SYSTEM REQUIREMENTS

Operative System Framework	Windows® 7/ 8/ 8.1 / 10
Hard Disk	3.5 5 MB

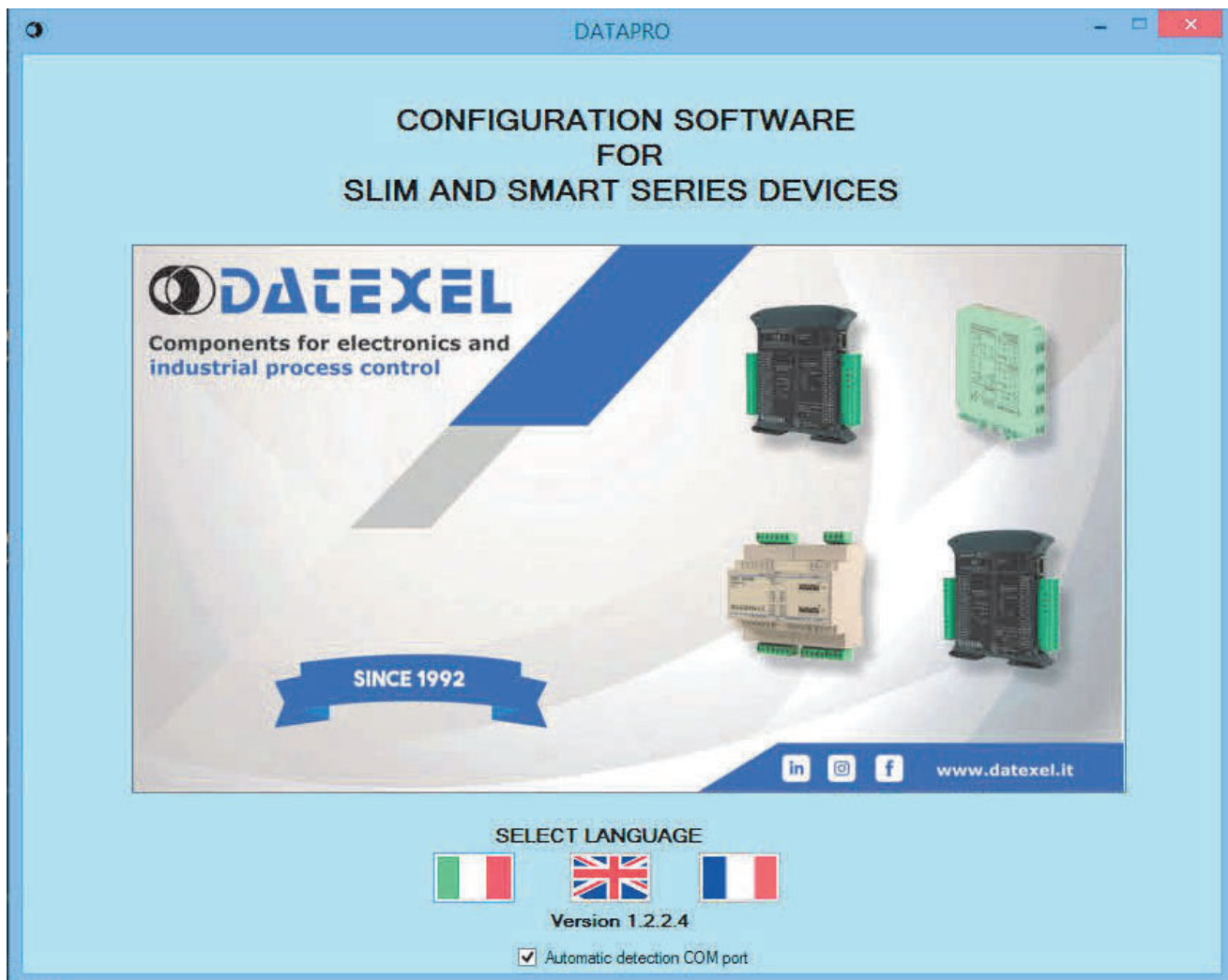
### INSTALLATION PROCEDURE

Download the installation file from the website [www.datexel.it](http://www.datexel.it), linking to the section "Download".  
Execute the Setup file "DATAPRO\_setup.exe"  
Follow the instructions of the setup wizard selecting the path of installation when required.

### RUN PROSOFT\_DATESOFT

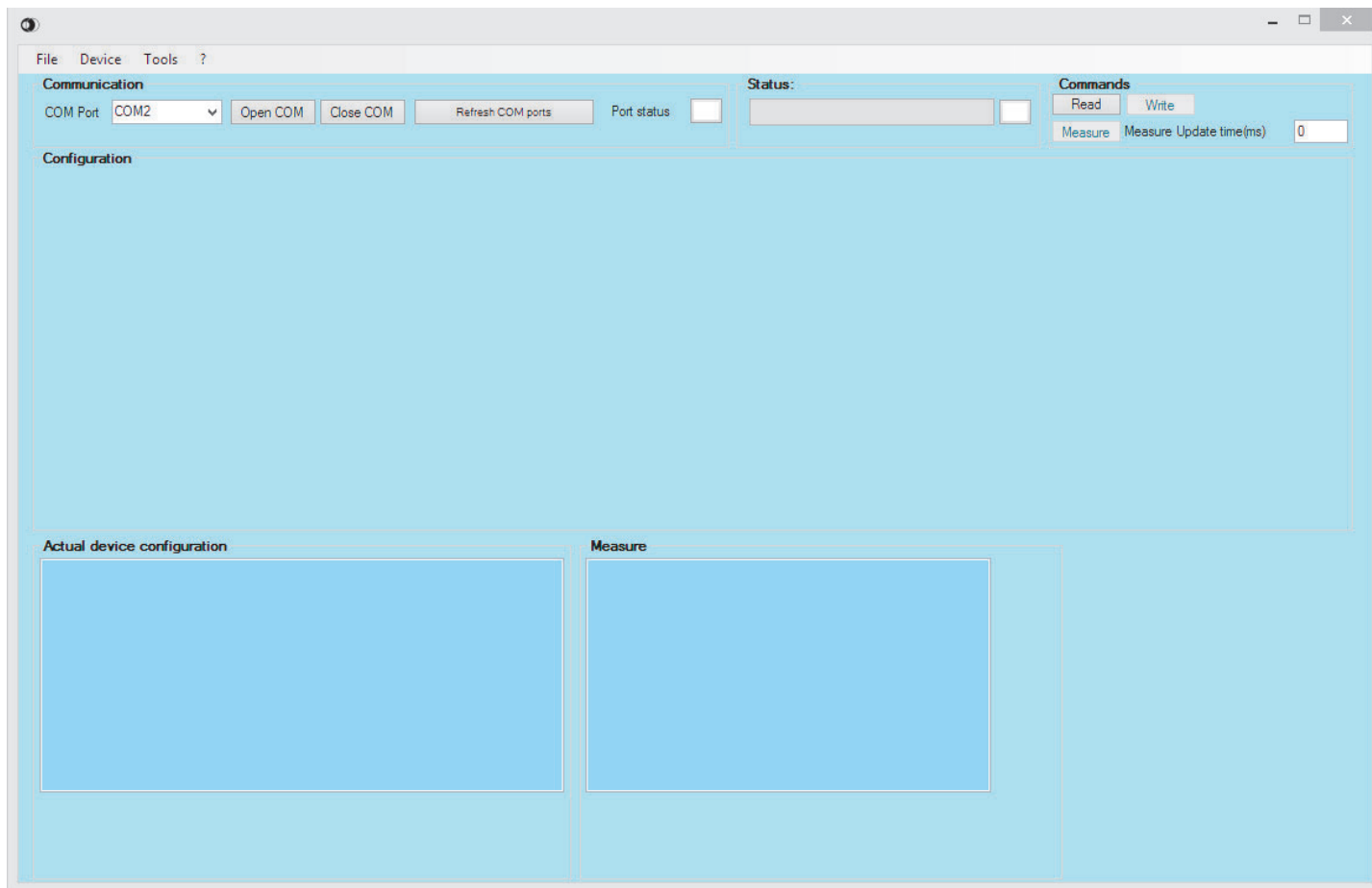
Connect the programming interface to the USB port.  
In "Control Panel", "Device Manager" verify the number of the COM port assigned by Windows® to it. In the case of the programming interface is not automatically detected, install the proper installation drivers downloadable from the website [www.datexel.it](http://www.datexel.it), linking to the section "Download".  
Verify that the communication port selected won't be used by other software.

Run the software clicking the icon "DATAPRO" on Desktop. The following window will appear.



If enabled, the flag "Automatic detection COM port", will allow the software to detect the active COM ports available in the system.  
If disabled, the software will notice by a Message Box the loading of a generic list of COM ports.  
Click the button with the flag of the language desired to access the main configuration window of the software.

## MAIN CONFIGURATION WINDOW AFTER THE CLICK ON LANGUAGE BUTTON



### Description of menus :

#### Menu File

- Open XML: when a device is selected, it allows to open a configuration file previously saved in XML format.
- Save XML: allows to save the parameters of communication in a file in XML format.
- Import file .D70: allows to import configuration files saved in the format .D70 with previous versions of the software Prosoft.
- Exit: closes the software.

#### Menu Device

Allows to choose the device of which execute the configuration and / or measure.

- SLIM Series: allows to choose among one of the devices of SLIM series.
- SMART Series: allows to choose among one of the devices of SMART series.
- TRIP AMPLIFIERS Series: allows to choose among one of the devices of TRIP AMPLIFIERS series.

#### Menu Tools

It allows, when foreseen, to set additional features for the device.

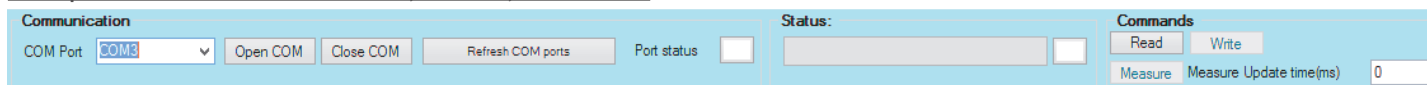
#### Menu Switch

It allows, when foreseen, to set and / or visualize the state of the configuration via dip-switches of the devices.

#### Menu ?

Contains information about the Release of the software and includes a link to this User Guide.

### Description of sections "Communication", "Status", "Commands"



#### Section Communication

- **COM Port:** allows to set the communication port to which the programming interface is connected to.
- **Open COM:** allows to open the communication port to which the programming interface is connected to.
- **Close COM:** allows to close the communication port to which the programming interface is connected to.
- **Refresh COM ports:** allows to check the COM ports available in the system. The field "COM Port" will be updated at every click event on this button.

#### Section Status

- **Port status:** visualizes the status of communication port:
  - Red: COM Port closed;
  - Green: COM Port opened;
  - Gray: no operations executed.
- **Status:** visualizes the status of communication between the PC and the device:
  - Not connected: communication doesn't take place or interrupted (led red).
  - Connect: the process of reading data has succeeded (led green).
  - Read EEPROM: reading data from the device in progress (led orange).
  - Download configuration: writing data to the device in progress (led orange).
  - measure in progress...: measure data from the device in progress (led orange).

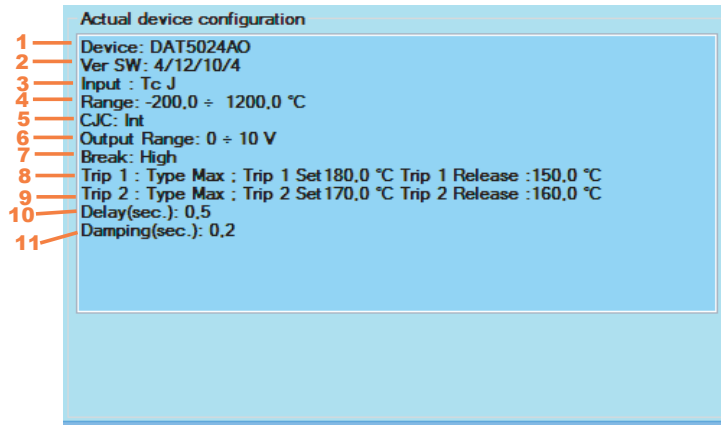
#### Section Commands. These commands are enabled when it has been selected the correct device.

- **Read:** allows to read the configuration from the device.
- **Write:** allows to set the configuration into the device.
- **Measure:** allows to start the measure from the device. Notice, during this operation the devices must be always powered.
- **Measure update time(ms):** allows to adapt the time of measurement in function of the velocity of the PC in use.

## MAIN PROGRAM'S WINDOW SECTIONS

### Actual device configuration:

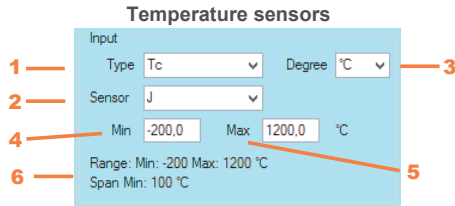
This section is compiled when the data are read from the device and shows the following information.



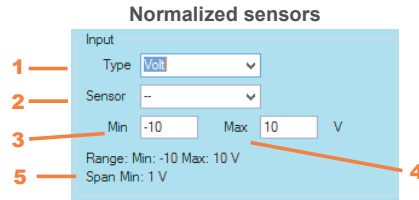
- 1) Device. Indicates the device connected.
- 2) Ver SW. Indicates the unique software version of the device connected.
- 3) Input. Indicates the input type configured.
- 4) Range. Indicates the input range configured.
- 5) Options: indicates the configured options (CJC setting, number of wires for RTD, standard linearisation, high speed, etc...)
- 6) Output Range. Indicates the output range configured.
- 7) Break: Indicates the type of break (input sensor interrupted) set as high or low.
- 8) Trip 1 (when foreseen) indicates the values of set and release for trip 1.
- 9) Trip 2 (when foreseen) indicates the values of set and release for trip 2.
- 10) Delay (when foreseen) indicates the values of the delay for trips.
- 11) Damping (when foreseen) indicates the delay time configured for output variations.

## Programming

### Input type configuration:



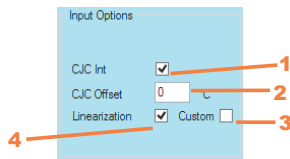
- 1) Field to set the input type.
- 2) Field to set the input sensor.
- 3) Field to set the unit degree °C / °F.
- 4) Minimum value set for the input range.
- 5) Maximum value set for the input range.
- 6) Visualization of the limits set for the type and sensor of input.



- 1) Field to set of the input type.
- 2) Field to set of the input sensor; when not foreseen it is indicated "--"
- 3) Minimum value set for the input range.
- 4) Maximum value set for the input range.
- 5) Visualization of the limits set for the type and sensor of input.

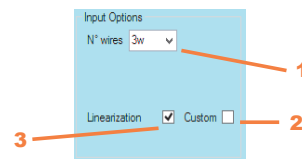
### Input option configuration:

#### Thermocouple



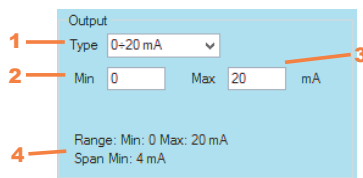
- 1) Flag to enable/disable the CJC.
- 2) Offset CJC valued expressed as per the unit of degree set.
- 3) Flag to enable/disable Custom (when foreseen)
- 4) Flag to enable/disable Linearisation (when foreseen)

#### RTD/Resistance



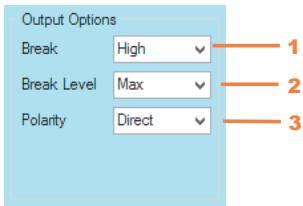
- 1) Field to set the number of wires.
- 2) Flag to enable/disable Custom (when foreseen).
- 3) Flag to enable/disable Linearisation (when foreseen).

### Output type configuration:



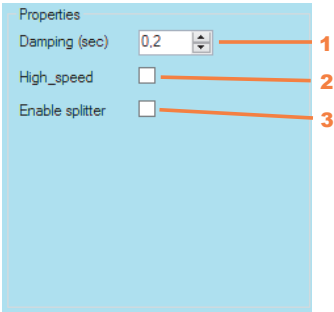
- 1) Field to set the output type available for the device.
- 2) Minimum value set for the output range.
- 3) Maximum value set for the output range.
- 4) Visualization of the limits set for the output type selected.

**Output option configuration:**



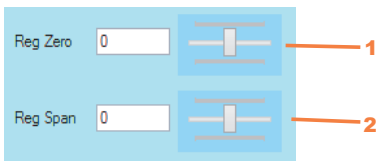
- 1) Field to set the break type (value to which the output goes in case of interruption of input sensor wiring) as high (value higher than the maximum value of output) or low (value lower than the minimum value of output)
- 2) Field to set the break level; in function of the model it can be displayed as Max and Min or as percentage.
- 3) Field to set the output polarity.

**Output Properties configuration:**



- 1) Field to set the value of damping for the output signal expressed as tenth of second.
- 2) Flag to enable (when foreseen) the option "High speed".
- 3) Flag to enable (when foreseen) the option of signal splitter.

**Output adjustments (for SMART series):**

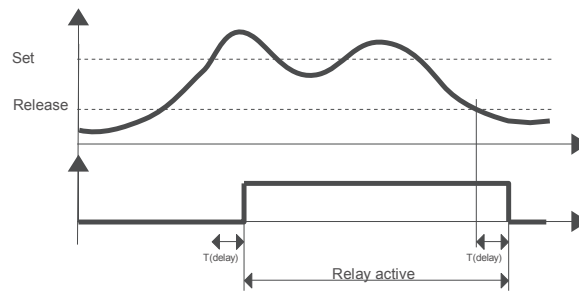


- 1) Field to set, by inserting data or acting on slider, the value of correction for the minimum output value (Zero) expressed as percentage .
  - 2) Field to set, by inserting data or acting on slider, the value of correction for the maximum output value (Span) expressed as percentage .
- These adjustment act only after the configuration of the device.

**THRESHOLDS**

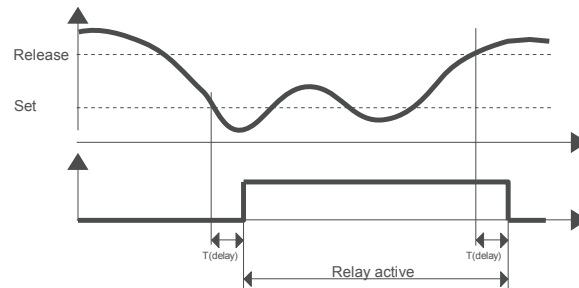
**Working of the high threshold**

The high threshold activates the relay when the input signal goes over the value preset ("Set Value"). The relay is deactivated only if the input signal goes under the value of Release or when it reaches the minimum value of the input range.

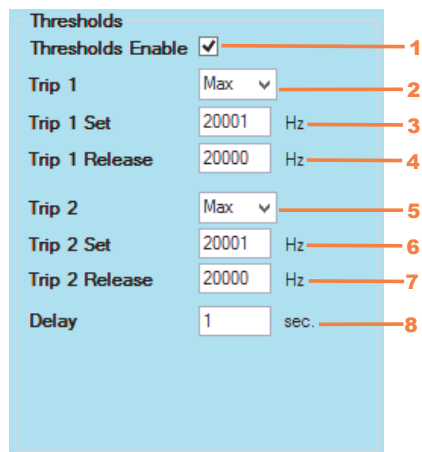


**Working of the low threshold**

The low threshold activates the relay when the input signal goes under the value preset ("Set Value"). The relay is deactivated only if the input signal goes over the value of Release or when it reaches the maximum value of the input range.



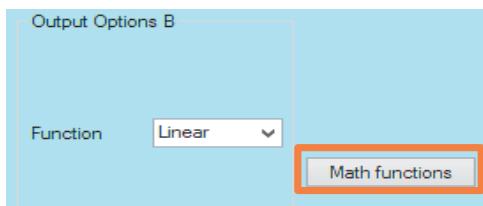
**Programming:**



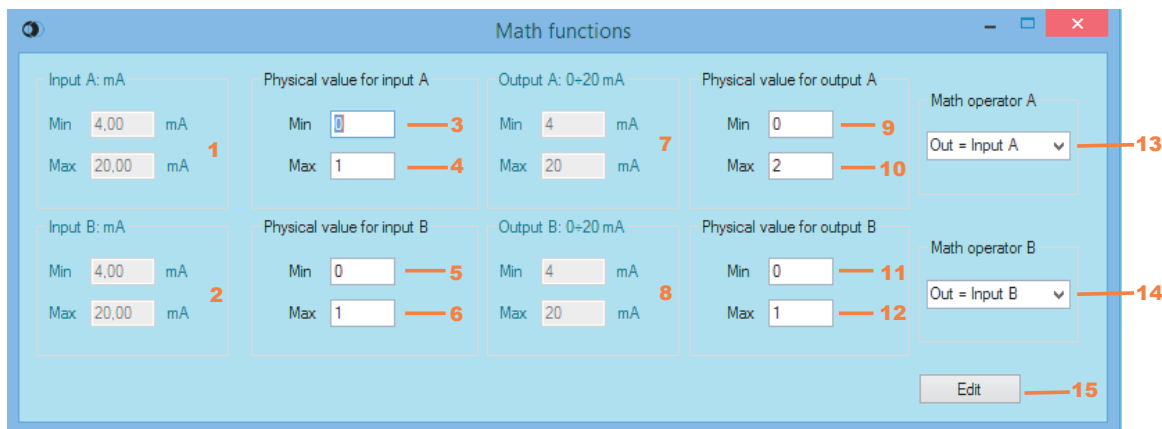
- 1) Flag to enable (when foreseen) the control of the values inserted.
- 2) Field to set the type of trip 1 as low or high.
- 3) Value of Set for trip 1.
- 4) Value of Release for trip 1.
- 5) Field to set the type of trip 2 as low or high (when foreseen)
- 6) Value of Set for trip 2 (when foreseen).
- 7) Value of Release for trip 2 (when foreseen).
- 8) Value to set the delay time for the set and the release of trips.

**WINDOW OF CONFIGURATION FOR MATHEMATICAL MODULE**

For the device DAT4632D it is foreseen a dedicated window of configuration that can be opened clicking the button “Math functions”.



It will appear the following window.



- 1) Summary field for the input range of channel A set in the main window of configuration.
- 2) Summary field for the input range of channel B set in the main window of configuration.
- 3) Minimum physical value, used in calculation, that will be related to the minimum input value of channel A.
- 4) Maximum physical value, used in calculation, that will be related to the maximum input value of channel A.
- 5) Minimum physical value, used in calculation, that will be related to the minimum input value of channel B.
- 6) Maximum physical value, used in calculation, that will be related to the maximum input value of channel B.
- 7) Summary field for the output range of channel A set in the main window of configuration.
- 8) Summary field for the output range of channel B set in the main window of configuration.
- 9) Minimum physical value, used in calculation, that will be related to the minimum output value of channel A.
- 10) Maximum physical value, used in calculation, that will be related to the maximum output value of channel A.
- 11) Minimum physical value, used in calculation, that will be related to the minimum output value of channel B.
- 12) Maximum physical value, used in calculation, that will be related to the maximum output value of channel B.
- 13) Field to select the mathematical operator of channel A that will take as reference the minimum and maximum values of input and output of the channel.
- 14) Field to select the mathematical operator of channel B that will take as reference the minimum and maximum values of input and output of the channel.
- 15) Button to edit the data. At click the data will be saved and will be possible to return to the main window.

## CUSTOM LINEARISATION WINDOW

When foreseen it is possible to execute a customized linearisation per points creating dedicated curves with the purpose to acquire sensors not included into the ones of the device. To view the tables for linearisation click the flag "Custom" (1) and after the button "Set Table" (2).

Input Options

CJC Int

CJC Offset  °C

Linearization  Custom  1

2

**Table "Custom Linearisation"**

Custom Linearization Tc E

Physical Function			CJC Function		
N° points	Meas. Lin.	Meas. In.	N° points	Meas. Lin.	Meas. In.
1	<input type="text"/>	<input type="text"/>	16	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>	17	<input type="text"/>	<input type="text"/>
3	<input type="text"/>	<input type="text"/>	18	<input type="text"/>	<input type="text"/>
4	<input type="text"/>	<input type="text"/>	19	<input type="text"/>	<input type="text"/>
5	<input type="text"/>	<input type="text"/>	20	<input type="text"/>	<input type="text"/>
6	<input type="text"/>	<input type="text"/>	21	<input type="text"/>	<input type="text"/>
7	<input type="text"/>	<input type="text"/>	22	<input type="text"/>	<input type="text"/>
8	<input type="text"/>	<input type="text"/>	23	<input type="text"/>	<input type="text"/>
9	<input type="text"/>	<input type="text"/>	24	<input type="text"/>	<input type="text"/>
10	<input type="text"/>	<input type="text"/>	25	<input type="text"/>	<input type="text"/>
11	<input type="text"/>	<input type="text"/>	26	<input type="text"/>	<input type="text"/>
12	<input type="text"/>	<input type="text"/>	27	<input type="text"/>	<input type="text"/>
13	<input type="text"/>	<input type="text"/>	28	<input type="text"/>	<input type="text"/>
14	<input type="text"/>	<input type="text"/>	29	<input type="text"/>	<input type="text"/>
15	<input type="text"/>	<input type="text"/>			

N° points  7

N° points  8

9
 10

1) Table "Physical function": the table is structured in two columns: in the column on the left "Meas.Lin" (2) write the physical value of input (°C, ohm, ..) that is the value that will be linearised, in the column on the right "Meas.In." (3) write the corresponding electrical value that will be applied on input ( mV for TC, ohm for RTD,...).

The values must be in increasing order; the decimal point must be the one set in Windows®. If the input sensor is not a Thermocouple with internal Cold Junction Compensation, click OK to confirm the values and return back to the main window.

If the input sensor is a Thermocouple with internal Cold Junction Compensation, fill the table "CJC Function".

4) Table "CJC Function"; the table is structured in two columns: in the column on the left "Meas.Lin." (5) write the value of the temperature, in the column on the right "Meas.In." (6) write the corresponding value in millivolt. Click OK to confirm the values and return back to the main window.

Continue as for the standard configuration.

7) Number of points Physical function: allows to set the number of points for the table to realize the linearisation; the rows of the table, corresponding to the number of points inserted, will be enabled writing the value and pushing the key "Enter" on the keyboard, the maximum number of points available depends on the device connected.

8) Number of points CJC Function: allows to set the number of points for the table that will define the characteristic of the Cold Junction Compensation (limits: -20 ÷ 70 °C or -4 ÷ 158 °F); the rows of the table, corresponding to the number of points inserted, will be enabled writing the value and pushing the key "Enter" on the keyboard, the maximum number of points available is 6.

## DIP-SWITCH WINDOW

For the devices that, in addition to the configuration via PC foreseen also the configuration via dip-switch, it is available this window that allows to visualize and set the programming via dip-switches and read the actual setting made on the device.

- 1) Field to select the input sensor.
- 2) Field to select the input table. This option is available only for the device DAT4535.
- 3) Field to select the options for the input sensor.
- 4) Button that allows to set the visualization as °C or °F for the temperature sensors.
- 5) Button that allows to read the dip-switches setting made on the device.
- 6) Field to select the minimum value of input.
- 7) Field to select the maximum value of input.
- 8) Summary field for the unit of temperature set for temperature sensors.

- 9) Graphical field simulating the dip-switches.
- 10) Field to select the output signal for the channel A (when foreseen)
- 11) Field to select the output signal for the channel B (when foreseen)

**PRESET DIP-SWITCH DAT5024AO / DAT5024P WINDOW**

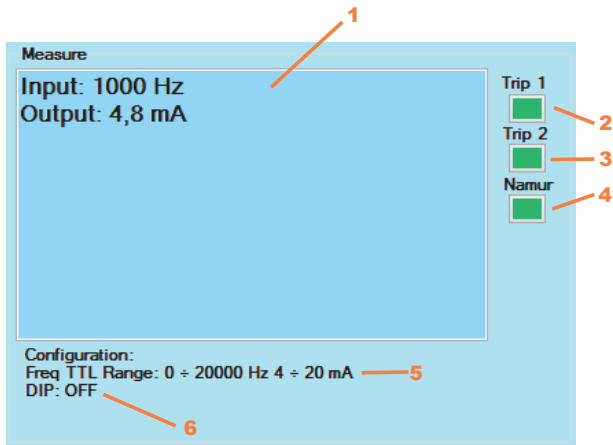
For the devices DAT5024AO, DAT5024P it is available the following window that is loaded from the menu Tools. Here it is possible to define for each one of the sensors available the minimum and maximum values of the range inside which it will be controlled the state of the threshold. It is possible to act on this configuration in order to increase the accuracy of action for the thresholds, setting up a smaller range of input.



- 1) Field "Set". 24 fields are available, one per sensor configurable for the device. Inside this field it is made the definition of the minimum and maximum values of input range inside which it will be controlled the state of the threshold.
- 2) Button that allows to read the configuration set from the device.
- 3) Button that allows to write the default configuration to the device.
- 4) Button that allows to write the configuration to the device.

**MEASURE**

The visualization in real time of the measure is activated clicking the button "Measure". When activated it is possible to visualize the following information.



- 1) Field to visualize the actual measure of input and output. When foreseen, if the input measure goes to the out of scale value, the border of the window will be highlighted in orange with related indication.
  - 2) Visualization of the state of the threshold 1 (when foreseen).
  - 3) Visualization of the state of the threshold 2 (when foreseen).
  - 4) Visualization of the state of the threshold Namur (when foreseen).
  - 5) Summary field for the input range set
  - 6) Summary field for the dip-switches setting active (when foreseen)
- State of thresholds: green: alarm not active; yellow: alarm in changing condition; red: alarm active.



## ERROR MESSAGES

ERROR MESSAGE	CAUSES	POSSIBLE SOLUTIONS
"Warning: it will be loaded a generic list of COM port; connect an active COM port or close the software using the port, then click the button Refresh COM ports"	This message appears at the software start-up. If available COM ports are not present, this condition will be signalled by the system.	Close the software using the COM port in use or create a new communication port.
"Select device"	This message appears when the user tries to execute a command without having previously selected a device.	Select the device to configure.
"Open COM port"	This message appears when the user tries to execute a command without having previously opened a COM port.	Open the COM port.
"COM port not available or already in use; connect to a not used COM port or close the software using the port selected, then click the button Refresh COM ports"	This message appears when the user tries to open a COM port that is available but used by another application.	Close the software using the COM port selected or change the communication port.
"The device has not been correctly identified. Check the matching between the device selected and the one connected and repeat the connection."	This message appears when the user tries to establish a communication with a device that doesn't correspond to the one selected.	Select the device to configure.
"File saved for device .... :select the correct device "	This message appears when the user tries to load a file saved for a device that doesn't correspond to the one selected.	Select the device to configure.
"It is not possible establishing the communication with the device"	This message appears when the user tries to establish a communication with the device but there is not response.	Check the connection to the device and repeat the commands.
"Damping must be within 0 and 30 s"	This message appears if in the field Damping the user writes a value outside the limits.	Write a value within the limits for the field "Damping".
"CJC offset must be included between -12.5 °C and 12.5 °C"	This message appears if in the field Offset CJC the user writes a value outside the limits.	Write a value within the limits for the field "Offset CJC".
"Threshold Delay must be included between 0.2 and 25 seconds"	This message appears if in the field Delay the user writes a value outside the limits.	Write a value within the limits for the field "Delay".
- "Wrong device selected; select DAT4235IS and then import the file again" - "Wrong device selected; select a device with voltage output and then import the file again" - "Wrong device selected; select a device with voltage / current output (converter) and then import the file again" - "Wrong device selected; select a device with thermocouple input and then import the file again" - "Wrong device selected; select a device with current input and then import the file again" - "Wrong device selected; select a device with ± 10 V voltage input and then import the file again"	These messages appear if the user tries to open or import a file previously saved for a device that doesn't correspond or that has different properties of the one selected.	Select the device to configure.
"Compiling error, check fields. "	These messages appear if during the programming not correct values are inserted in the fields indicated. The fields containing the wrong data will be highlighted in yellow	Write the correct values in the highlighted fields and repeat the procedure of configuration
- "Compiling error, check fields. Trip1: the value of set must be higher than the value of release" - "Compiling error, check fields. Trip2: the value of set must be higher than the value of release" - "Compiling error, check fields. Trip1: the value of set must be lower than the value of release" - "Compiling error, check fields. Trip2: the value of set must be lower than the value of release"	These messages appear if during the programming not correct values are inserted in the fields indicated. The fields containing the wrong data will be highlighted in yellow	Write the correct values in the highlighted fields and repeat the procedure of configuration

## ERROR MESSAGES

ERROR MESSAGE	CAUSES	POSSIBLE SOLUTIONS
<ul style="list-style-type: none"> <li>- "Compiling error, check fields. Trip1: the value of set must be higher then the minimum value foreseen for the sensor"</li> <li>- "Compiling error, check fields. Trip1: the value of set must be lower then the maximum value foreseen for the sensor"</li> <li>- "Compiling error, check fields. Trip2: the value of set must be higher then the minimum value foreseen for the sensor"</li> <li>- "Compiling error, check fields. Trip2: the value of set must be lower then the maximum value foreseen for the sensor"</li> <li>- "Compiling error, check fields. Trip1: the value of release must be higher then the minimum value foreseen for the sensor"</li> <li>- "Compiling error, check fields. Trip1: the value of release must be lower then the maximum value foreseen for the sensor"</li> <li>- "Compiling error, check fields. Trip2: the value of release must be higher then the minimum value foreseen for the sensor"</li> <li>- "Compiling error, check fields. Trip2: the value of release must be lower then the maximum value foreseen for the sensor"</li> </ul>	<p>These messages appear if during the programming not correct values are inserted in the fields indicated. The fields containing the wrong data will be highlighted in yellow</p>	<p>Write the correct values in the highlighted fields and repeat the procedure of configuration</p>
<ul style="list-style-type: none"> <li>- "Value not valid"</li> <li>- "The value must be an Integer"</li> <li>- "The textbox must contain a numeric value"</li> <li>- "The value written is not a number"</li> </ul>	<p>These messages appear if during the programming the format of the value inserted is not the one expected for the field indicated. The field containing the wrong data will be highlighted in yellow</p>	<p>Write the correct values in the highlighted fields and repeat the procedure of configuration</p>
<ul style="list-style-type: none"> <li>- "Wrong dip-switch setting detected"</li> <li>- "Input type selected as EEPROM. To set up this configuration it is necessary to set all of the switches to OFF"</li> <li>- "DIP configuration error"</li> </ul>	<p>These messages appear during the phase of measure or programming if a not correct setting of dip-switches is set or detected</p>	<p>Set a valid dip-switches setting</p>