



## “PROSOFT” - Operating manual

### 1 Introduction

PROSOFT is a Datexel proprietary software developed for the programming of Datexel temperature transmitters and conditioners. It is a very easy to use program.

It is a Windows based program to set and display the measured values for the models :

DAT 1015 : Two wire smart transmitter for DIN B head mounting.

DAT 1065 : Isolated two wire smart transmitter for DIN B head mounting.

DAT 2015 : Two wire smart transmitter for DIN rail mounting.

DAT 2115 : Smart conditioner for DIN rail mounting.

DAT 4035 : Isolated two wire smart transmitter for DIN rail mounting.

DAT 4135 : Isolated smart conditioner for DIN rail mounting.

DAT 4135AC : Isolated smart conditioner for DIN rail mounting.

DAT 4235 : Isolated smart conditioner for DIN rail mounting.

DAT 1015IS : Intrinsically safe two wire smart transmitter for DIN B head mounting.

DAT 1065IS : Intrinsically safe isolated two wire smart transmitter for DIN B head mounting.

DAT 2015IS : Intrinsically safe two wire smart transmitter for DIN rail mounting.

DAT 4035IS : Intrinsically safe isolated two wire smart transmitter for DIN rail mounting.

#### 1.1 PC minimum requirements

- PC IBM or compatible with 386 processor or better.
- Microsoft Windows 95/98/NT (™).
- 8 MB RAM.
- 2 MB minimum on Hard Disk.
- Monitor VGA 640x480 or better.

#### 1.2 Set Up information

- 1) Be sure that the system is a 32 Bit Windows(™) or better and that there are not running applications.
- 2) Insert the CD-ROM “ Product Catalog – Data-sheets and Softwares ” into the driver.
- 3) Open the folder Software and select the folder Prosoft V 2.07.00E.
- 4) Execute the file setup.exe.

The installation will ask the directory where to install the program. If you choose “NEXT” without specify any directory, PROSOFT will be positioned in the default directory (C :\Programs\PROSOFT).

The message “Completed Installation” means that the installation is completed successfully.

#### 1.3 Installation Notes

Attention !!

The PROSOFT installation will place in the “C :\Windows\System” directory some additional files to allow the use of the application :

- VB5IT.DLL
- MSVBVM50.DLL
- STDOLE32.TLB
- OLEAUT32.DLL
- OLEPRO32.DLL
- ASYCFILT.DLL
- CTL3D32.DLL
- COMCAT.DLL
- COMDLG32.OCX
- MSCOMM32.OCX
- RICHTX32.OCX
- RICHED32.DLL
- COMCTL32.OCX
- COMCT232.OCX

In case “C :\Windows\System” directory already contains the above mentioned files, they will be overwritten.

### 2 Device and PC connection

Connect serial port to serial interface (connector DB9) of PRODAT-04.

Connect PRODAT-04 by the apposite cable to the device.

Switch on the power supply to the device.

Be sure that any program is using the selected communication port.

At this point, it is possible to open PROSOFT selecting it in “START” \ “PROGRAMS” Menu.

When it is set, PROSOFT gives the possibility to the user to program the device or display the measure.

### 3 Prosoft Start-Up.....

After the start-up, PROSOFT establishes a connection with the device. After that, in case some default configuration files are present (Ex. DfLt0000.D70 default file), and the configuration files have been previously saved, it will be open a window which contain the bill of these files which can be set by a double click on the file to be open.

In case of necessity to set a new configuration it is sufficient to push the button “CANCEL”. At this point it will be allowed the access to the “Main window”.

## 4 Main Window

### 4.1 Menubar

- **File:** there are indicated the main operations of opening and saving which involve the configuration files (\*.D70), and the possibility to exit from PROSOFT by "EXIT".

- **Options:** it contains the secondary menu:

COMMUNICATION PORT: It gives information concerning the used serial port and its configuration.

LANGUAGE: It gives the possibility to set Italian or English.

- **Action:**

START: It enables the programming or measure functions.

STOP: It disables the measure function.

- **Display Measure:**

FULL SCREEN: It opens a window which is shown on the whole screen. Inside this screen it will be shown the measure coming from the device ( It is enabled only if PROSOFT is in "Measure" mode).

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ON LINE GUIDE: It allows to access to help of PROSOFT ( Even pushing F1).

INFO: It shows information about PROSOFT.

### 4.2 Toolbar

- **Open :** It allows to open a configuration file with the extension (\*.D70).
- **Save :** It allows to save the actual set configuration.
- **Start :** see "Actions" of 4.1
- **Stop :** see "Actions" of 4.1
- **Full screen :** see "Display" of 4.1
- **TxRx :** It allows to re-connect the PC to the device in case of interruption (interruption of serial connection, failure of the power supply etc.).
- **Wizard :** it is a guided path for easy use of PROSOFT
- **Exit :** It allows to exit from PROSOFT.

### 4.3 The Model Indication

It is read at the start-up of PROSOFT, and it identifies the model of the connected device ( see **Introduction 1**)

### 4.4 The led indication

**Permanent red:** there is not communication with the device.

**Flashing:** it indicates during the measuring phase the acknowledgement of the measure.

### 4.5 The measure indication

It displays in real time the measure supplied by the device.

### 4.6 The output indication

It displays in real time the output from the device.

### 4.7 Mode Indication

**Measure:** It sets PROSOFT in the measure phase. Pushing "START" the procedure is activated.

**Programming :** It sets PROSOFT in the programming phase. In this situation it become possible to operate the selection of the following parameters :

- Type of input interface
- Type of output interface
- Presence/Absence of the cold junction compensation ( only for thermocouples)

- Linearization (only for thermocouples and thermoresistances )
- Max. and min. limit of the scale extension
- Max. and min. limit of the scale extension
- Zero and span adjustments
- Signal output: Direct / reverse.
- Sensor burnout
- Custom option
- Filter option

### 4.8 Programming information

It displays the programming data of the device(see 4.7).

### 4.9 "Start" button

Refer to "Actions" of 4.1

### 4.10 "Stop" button

Refer to "Actions" of 4.1

### 4.11 Options

#### Centigrade degrees/Fahreneith degrees

It modifies the operating measure system.

#### Sensor burnout (Up/Down)

It operates when the inputs are disconnected, for some unknown reason ; it push to the maximum value (Up burnout) or to the minimum value (Low burnout) the output current.

#### Signal Output: Direct / Reverse

The output signal of the device follows directly the variation of the input, or it can be reversed.

#### 4.12 Input

In this area are indicated all the kinds of inputs which can be managed by the device and which can be selected by the user:

TC sensor	Min. Temp.	Max. Temp.	Min. Span.
K	-200°C	+1370 °C	2 mV
J	-200°C	+1200 °C	2 mV
S	-50°C	+1760 °C	2 mV
R	-50°C	+1760 °C	2 mV
B	400°C	+1820 °C	2 mV
E	-200°C	+1000 °C	2 mV
T	-200°C	+400 °C	2 mV
N	-200°C	+1300 °C	2 mV

RTD sensor	Min. Temp.	Max. Temp.	Max. Temp.
Pt100	-200°C	+850 °C	50 °C
Pt1000	-200°C	+200 °C	50 °C
Ni100	-60°C	+180 °C	50 °C
Ni1000	-60°C	+150 °C	50 °C

Potentiometer	% Min	% Max	Minimum Span
20Ω to 200Ω	0%	100%	10%
200Ω to 500Ω	0%	100%	10%
(*) 0,5KΩ to 50KΩ	0%	100%	10%
(**) 0,5KΩ to 2KΩ	0%	100%	10%

Voltage	Minimum Voltage	Maximum Voltage	Minimum Span
Low Range	-100 mV	+700 mV	2 mV
Medium Range (*)	-400 mV	+400 mV	2 mV
High Range (*)	-10 V	+10 V	500 mV

Current (*)	Minimum Current	Maximum Current	Minimum Span
-----	-10 mA	+24 mA	2 mA

Resistance	Min. Resistance	Max. Resistance	Min. Span
Low Range	20 Ohm	300 Ohm	10 Ohm
High Range	300 Ohm	2 Kohm	200 Ohm

Note : (\*) Only for DAT 4035, DAT4135, DAT 4135AC, DAT 4235, DAT2015, DAT2115, DAT 4035IS, DAT 2015IS .

(\*\*) Only for DAT 1065, DAT1015, DAT 1065IS, DAT1015IS.

#### 4.13 Cold Junction Compensation

This operation can be performed either internally to the device or externally.

The selection of this option activates the internal compensation.

#### 4.14 Custom

The activation of "custom" involves the opening of a window in which it is possible to make the custom linearization with a maximum of 29 couples of points, plus 7 couples of points for the cold junction compensation (if applicable). See Example 6.2.

#### 4.15 Linearization

The device is capable to linearize by the software the Thermocouple and Thermoresistance sensors by selecting the option "LINEARIZATION".

#### 4.16 Filter

The activation of this option involves a software filter for small variations of input signal.

#### 4.17 Adjustments

It is possible to compensate eventual system errors by means of the following commands :

**Zero :**

Zero adjustment: +/-2% max. of span.

**Span :**

Span adjustment: +/-2% max. of span.

#### 4.18 Input Range

**Max :** It indicates the input requested value corresponding to the value of the Max. output range.

**Min :** It indicates the input requested value corresponding to the value of the Min. output range.

Note : You can select any value but taking in consideration that the Max and Min range values and the minimum span value must observe the values indicated in the last line.

#### 4.19 Output

**Max :** It indicates the maximum value of the output signal.

**Min :** It indicates the minimum value of the output signal.

#### 4.20 Type of Output

It indicates the possible options:

**Current:** It gives an output current signal.

(For DAT4035, DAT4135, DAT4135AC, DAT4235, DAT2015, DAT2115, DAT1065, DAT1015, DAT4035IS, DAT2015IS, DAT1065IS, DAT1015IS).

**Voltage:** It gives an output voltage signal.

(For DAT4135, DAT4135AC, DAT4235 and DAT2115 only).

## 4.21 Output Range

In the two windows which are below the Output Range window, the Max. and min. values of the selected output range are indicated together with the Min. Span value.

For **DAT4035**, **DAT2015**, **DAT1065** and **DAT1015** and IS models:

Min. Value	Max. Value	Min. Span
4 mA	20 mA	10 mA

For **DAT4135**, **DAT4135AC**, **DAT4235** and **DAT2115**:

Min. Value	Max. Value	Min. Span
0 mA	20 mA	10 mA
0 V	10 V	4 V

You can select any value within the above defined limits.

## 5 Error Messages

### 5.1 Communication Error

This message appears when one of three events happen :

- disconnection of the serial cable
- power supply failure of the device
- noises on the serial communication line

Solve the problem and then push the button "RETRY".

In case it is not possible to find the failure, push the button "CANCEL" and the device will result disconnected from the PC .To recover the normal running of the transmitter push the button "TxRx" on the toolbar.

### 5.2 Communication Port Not Available

It advises the user that it is not possible to exchange information with the device because a serial communication port to be used exclusively with PROSOFT is not available on the PC.

The reasons of this error could be :

- No serial port is installed on the PC
- Other programs are engaging all the installed serial ports on the PC.

### 5.3 Out of Range Value

It indicates that in the section of the scale range have been inserted values not included in the allowed limits.

### 5.4 Invalid Format

It is part of "CUSTOM" Window and it advises that the inserted parameters are not in the correct format.

## 6 Examples

### 6.1 Standard Programming

6.1.1 Ex. : Input : thermocouple

Type : "J"

Range : from -100 to +200°C

Linearization : ON

Cold Junction Compensation : internal

Output : 4 to 20mA

Burnout: Up.

- Select the input type Thermocouple in the "INPUT" section.
- Indicate the type "J" in the underlying box.
- Specify the measuring range in the "Input Range" section.
- Select "Signal output: DIRECT" and "BURNOUT UP" in the "OPTIONS" section.
- Select "INTERNAL " in the "Cold Junction Compensation ".
- Enable the "LINEARIZATION".
- Select "Programming" in the "MODE" section.
- Push the "START" button.

Then to make the measure:

- Select "MEASURE" in the "MODE" section.
- Push "START" button.

## 6.2 Custom Programming

- Indicate, as shown in 4.12 section, the "INPUT" type but don't define, in case of thermocouple or Rtd, the sensor type.
- In case of thermoresistance or resistance, specify the number of wires.
- In case of thermocouple select internal cold junction compensation if applicable.
- Select the "Custom" box . The "Custom" window will be opened illustrating where to put the values choosen for linearization.
- Select the number of point (max 29 points)
- Indicate in the "TEMP" column the temperature value.
- Indicate in the "mV" column the millivolt value of the corresponding voltage.
- At the end of this operation select "Junction Compensation".
- Select the number of point (max 7 points).
- Indicate in the "TEMP" column the temperature value.
- Indicate in the "mV" column the millivolt value of the corresponding voltage.
- At the end of this operation push on 'OK' button.
- Continue as in the standard programming.

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