USER MANUAL

DATAVIEW

Index

General Description

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The manual readout unit DATAVIEW is a compact and light reading system, connectable to the whole range of instruments produced by SIM STRUMENTI. The DATAVIEW readout unit is equipped internally with a rechargeable battery.
The DATAVIEW is equipped with a membrane keyboard and an LCD display that visualize besides the instrument data also the maximum and minimum values.
The unit has two input channels, the HOLD and the OFFSET function and the possibility to memorize up to 14000 data with date and time, as well as a 4-digit tag for the easy identification of the performed measurement.
The unit has eight GAINS for the conversion of the data into physical units (one fixed and 7 programmable). The basic model DWS-BSE allows the reading of a single type of input (one at choice), while the advanced model allows the reading of all the types of electric input signal. The model DWS-ADV comes with a RS232 serial port for an easy setting and data transfer to the PC.

Technical Features

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Internal Power Supply	Rechargeable battery 12V 2.1Ah
External Power Supply	12V Power supply
Consumption	125 mA
Converter	40.000 points
Available Scales *	1. 2 mV/V
	2. ± 20 mV
	3. ± 200 mV
	4. ± 2 V
	5. ± 10 V
	6. 4÷20 mA
Operating Temperautre	-20 ÷ +60 °C
Dimensions	207 x 160 x 92 mm
Weight	1950 g
Protection	IP65

* In the DWS-ADV units all scales are available

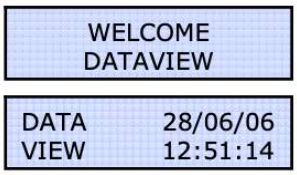
Keypad

3

Fig. 1 - DATAVIEW interface

Basic Actions

By pressing the ON/OFF button, DATAVIEW will turn on and the display will show the initialization screen and then date and time (which will be editable in the SETUP function).

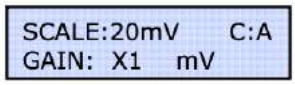


By pressing SHIFT, you can select the 2nd option on the following buttons:
P1 / P2
P3 / P4
MEM / SETUP
HOLD / OFFSET
GAIN / SCALE
ESC / A/B
Example: By pressing GAIN/SCALE, you will activate the GAIN function; by pressing SHIFT first and then GAIN/SCALE, you will activate the SCALE function.

By pressing ESC / A/B, you can leave a function or go back to the previous step.
By pressing SHIFT and then ESC / A/B, you can switch between Channel A and Channel B.

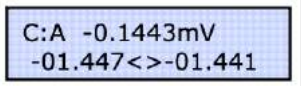
Acquisition

By pressing once ENTER, the display will show the last setting used of GAIN and SCALE. By pressing ENTER a second time, you will confirm the settings and DATAVIEW will switch to the instrument reading.



C:A – indicates the channel that being reading

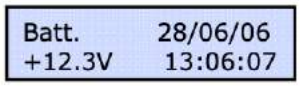
By pressing ENTER during the reading, you can reset the minimum reading (MIN) and the maximum reading (MAX).



The reading at the top – indicates the current reading with the

corresponding unit of measurement
The lower left reading – indicates the MIN reading
The lower right reading – indicates the MAX reading

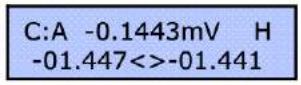
By using the **UP** and **DOWN** arrows, you can switch between showing the instrument reading or the battery status.



During the reading phase the following operations are possible:
HOLD - stop the reading on a desired data
OFFSET - remove a desired offset from the reading
MEM - data storage

HOLD

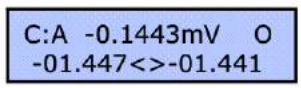
By pressing **HOLD/OFFSET** during the acquisition phase, DATAVIEW will enter the HOLD function, which allow you to stop the reading and keep the displayed data fixed.
The letter H will flash on the top right of the display.



By pressing **ESC**, you can exit the HOLD function.

OFFSET

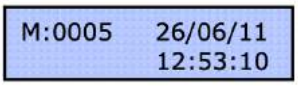
By pressing **SHIFT** first and then **HOLD/OFFSET** during the acquisition phase, DATAVIEW will enter the OFFSET function, which allow you to deduct this value just measured (TARE) from the reading.
The letter O will flash on the top right of the display.

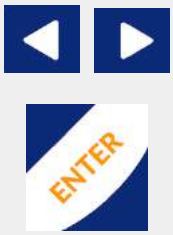


To exit and return the read value to the previous one, press **SHIFT** and **GAIN/OFFSET** again or press **ESC**.

MEM

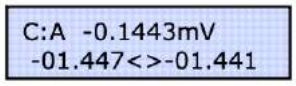
By pressing MEM/SETUP, you can store the displayed data. There are 9999 memory spots.
The display will show a data saving screen.

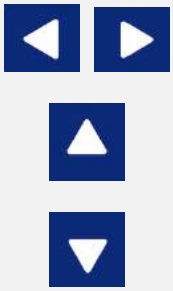




By using the LEFT and RIGHT arrows, you can choose which memory spot you want to save the displayed data. The spot will move one unit at a time.
By pressing SHIFT first and then using LEFT and RIGHT arrows, the spot will move ten by ten.
Then press ENTER to confirm the memory spot and save the data.

By using the UP and DOWN arrows, it is possible to view the other informations relating to the memory spot (channel, reading, min, max).





Once you have chosen the desired memory spot, you can enter a 4-character code (at bottom left of the display) to remember more easily the association of the instrument with the stored data.
With the LEFT and RIGHT arrows, you can move between the 4 spots, while with the UP and DOWN arrows you choose the character on each spot.
To confirm, press ENTER.
To go back in the menu press ESC.

To review the stored data, just turn on the DATAVIEW and press MEM/SETUP.

SCALE

By pressing SHIFT and then GAIN/SCALE, you can choose the measurement scale you want to use.

There are up to 6 scales available*, which allow you to connect every SIM instruments.

*In the DW-BSE model, there is only 1 scale available and it must be specified when ordering

By using the **UP** and **DOWN** arrows, you can select the desired SCALE.
To confirm the selection, press **ENTER**.

GAIN

By pressing **GAIN/SCALE**, you can choose which GAIN you want to use.

For each measurement scale* (analog input type), there are 8 selectable GAINS (analog signal scaling). The first cannot be modified and it corresponds to the chosen scale. The others can be modified in the SETUP function or with the DATAVIEW software.

By using the **UP** and **DOWN** arrows, you can select the desired GAIN.
To confirm the selection, press **ENTER**.

SETUP

By pressing **SHIFT** first and then **MEM/SETUP**, you can enter the control unit setting mode, where you can change date and time and the conversion values of the GAINS.

By using the arrows, you can select the SCALE first and then the GAIN.
Within each GAIN there are the following settings to be set:

- Decimal point
- Conversion value for start of scale
- Conversion value for the full scale
- Unit of measure (4 characters)
- Associate a P key (P1, P2, P3, P4) in order to have immediate programming for the most used instruments.

P1/P2 – P3/P4

Once all the data have been set, you can easily recall the programmed P Keys.
By pressing **P1/P2** or **P3/P4**, you can recall respectively P1 or P3.
By pressing **SHIFT** first and then **P1/P2** or **P3/P4**, you can recall respectively P2 or P4.

Connections

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POWER connector

PIN 1 = + Supply 12-13,8 Vcc External Battery
PIN 2 = - Supply
PIN 3 = N.C.
PIN 4 = N.C.

SIGNAL connector

PIN 1 = INPUT + Channel A
PIN 2 = INPUT - Channel A
PIN 3 = INPUT + Channel B
PIN 4 = INPUT - Channel B
PIN 5 = Ground
PIN 6 = +5Vcc
PIN 7 = +12Vcc

Software

5

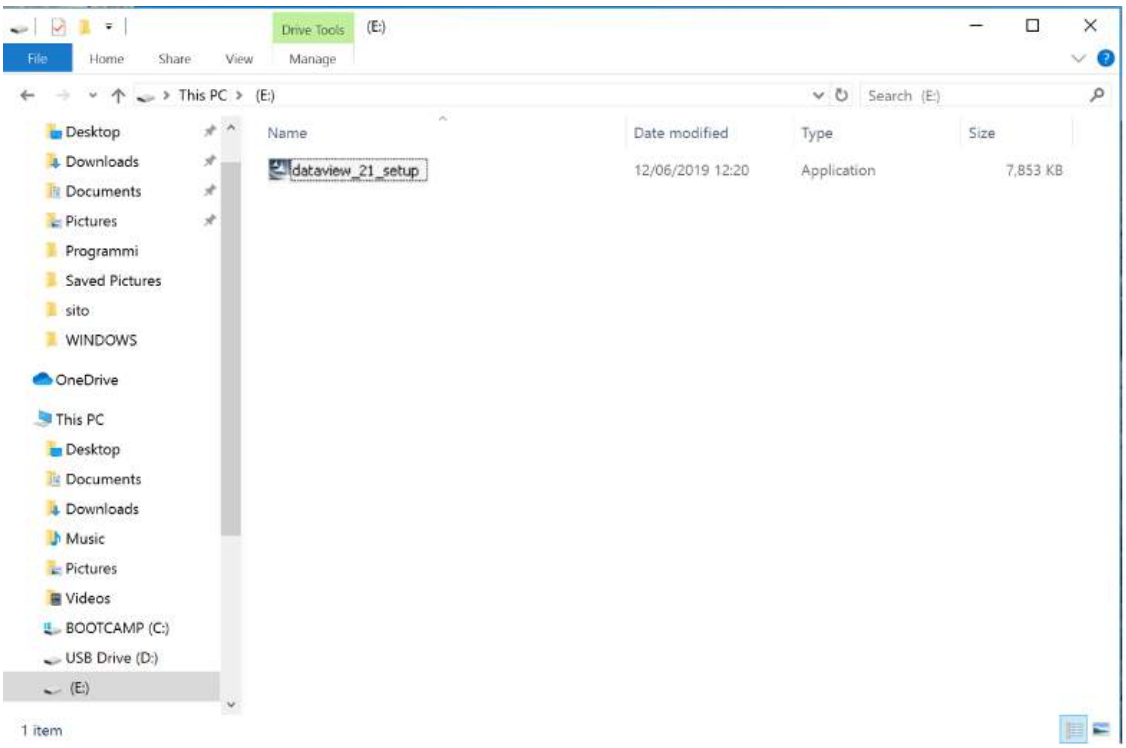
DATAVIEW software is used to setup and to download the data stored in the readout unit.

DATAVIEW software can be supplied on a USB key or it can be downloaded directly from SIM STRUMENTI website, in the downloads section:

https://www.simstrumenti.com/downloads/software/

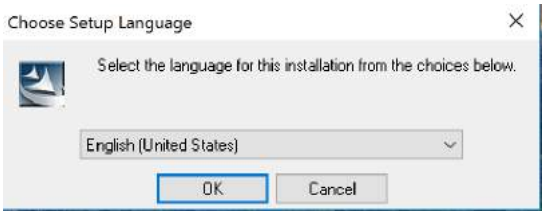
Installation

To start the installation, click twice on the icon  dataview_xxx_setup (Img.1).



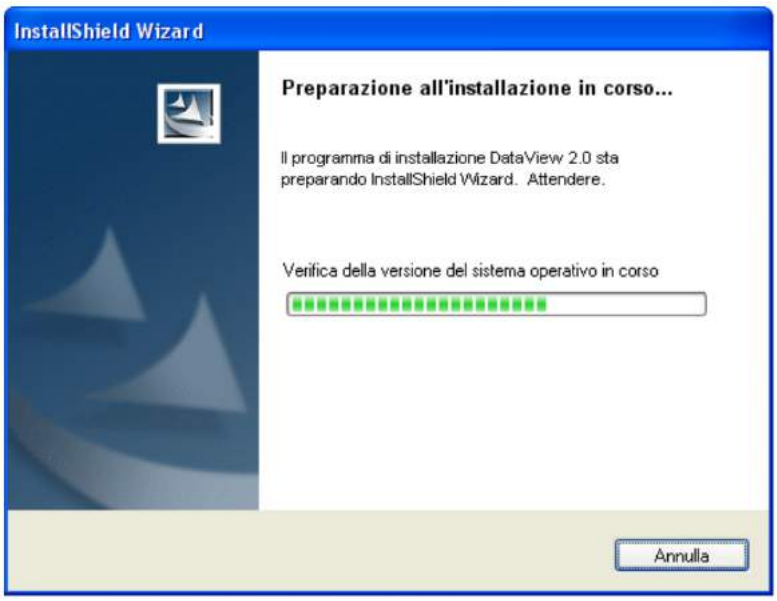
Img. 1

A communication window (Img.2) will open, and here it will be possible to select the language for the installation. Therefore, select the desired language among the available options and then click OK to move on.



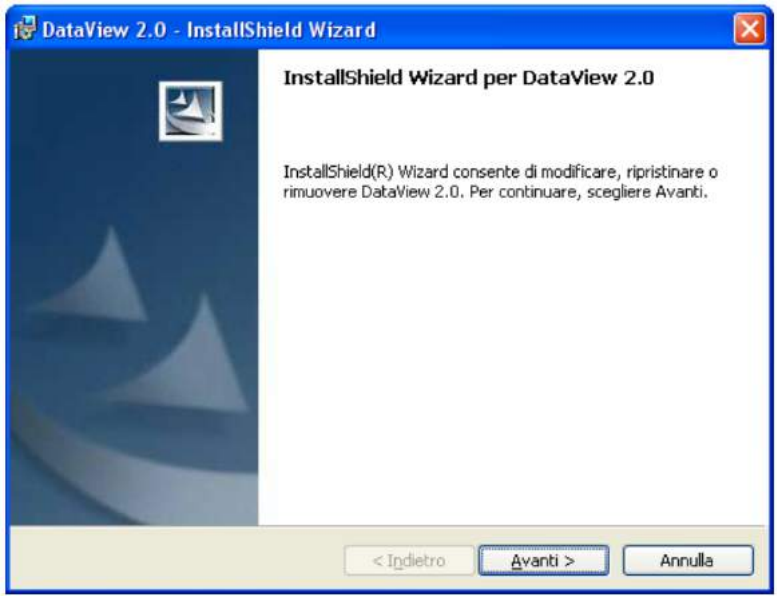
Img. 2

An installation window will open and there will be the need to wait that the *Preparing to install* will be completed (Img.3).



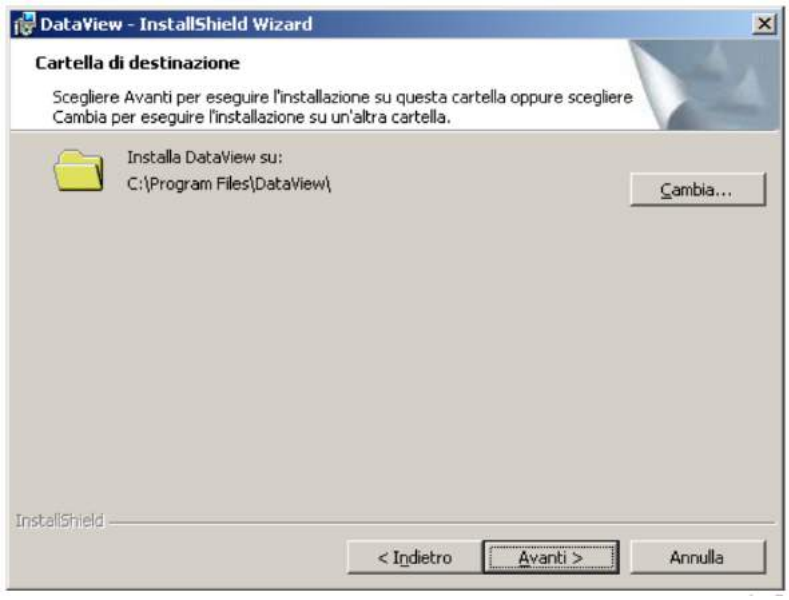
Img. 3

On the following window (Img.4), click on Next to proceed with the installation, or on Cancel to interrupt it.



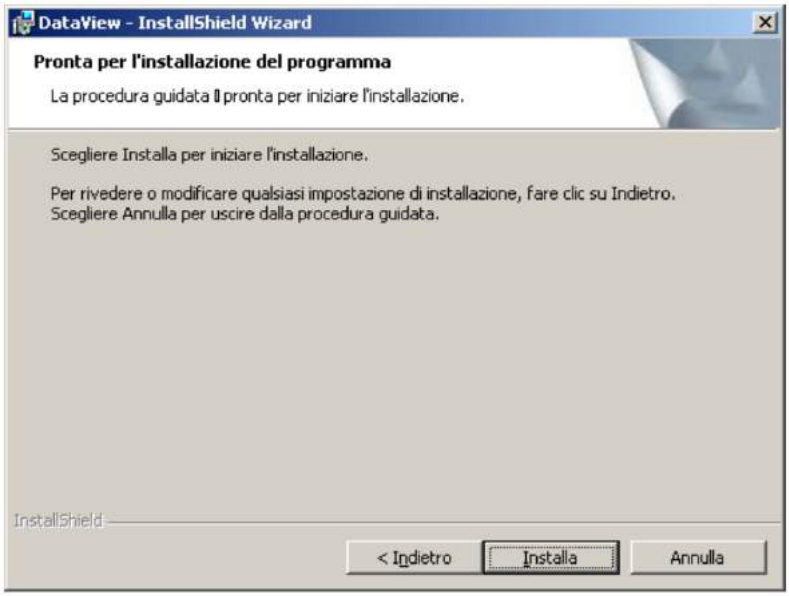
Img. 4

By continuing with the installation (Img.5) in which it will be possible to change the destination folder for the DATAVIEW software. To keep going, click on Next.



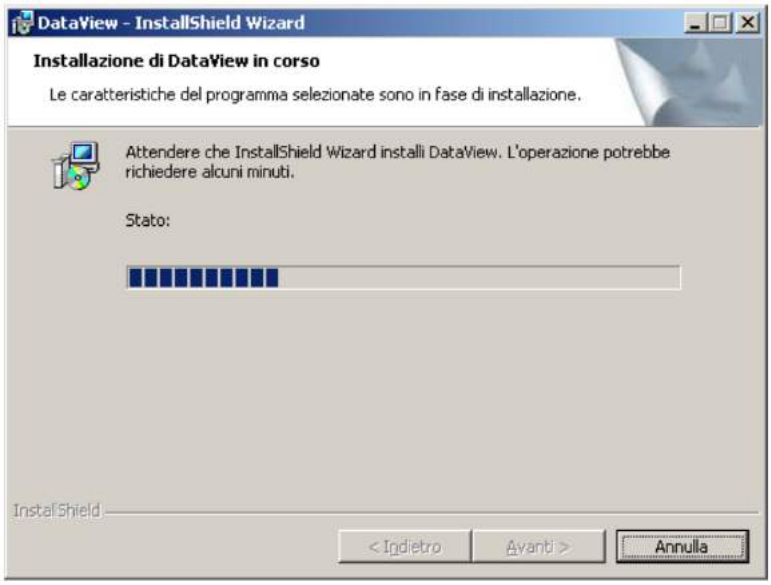
Img. 5

On the next window (Img.6) click on Install to proceed with the actual installation.



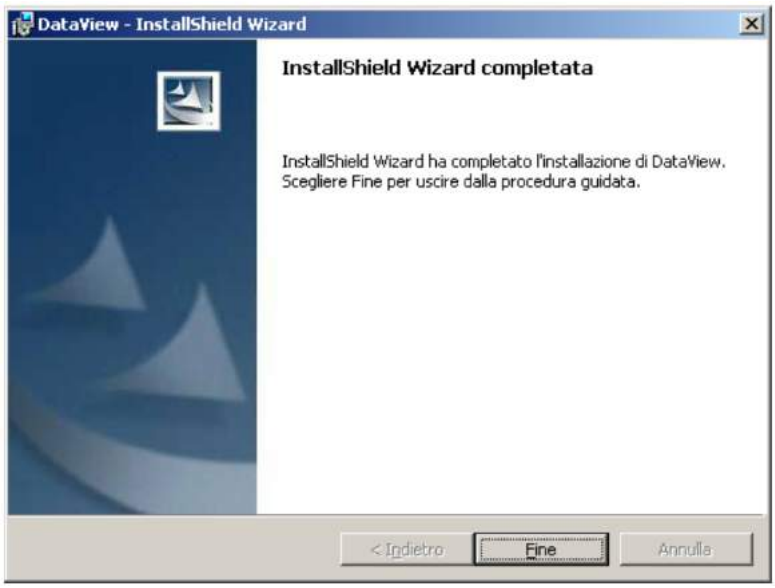
Img. 6

During the installation, a communication window (Img.7) will appear, in which it will be possible to undo the installation by clicking on Cancel.



Img. 7

At the end, another window (Img.8) will show up to confirm DATAVIEW software has been successfully installed. Click now on FINISH.



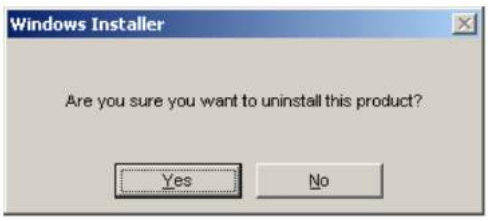
Img. 8

Uninstall

In the case there will be the need to uninstall DATAVIEW software, there is a special program called UNINSTALL DATAVIEW x.x.

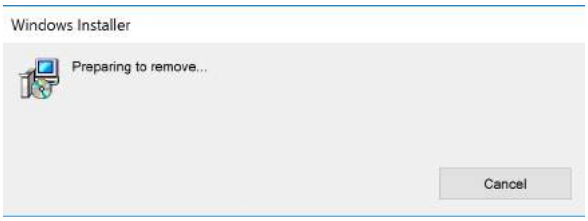
To uninstall, proceed in the following way:
START ➡ PROGRAMS ➡ DATAVIEW ➡ UNINSTALL DATAVIEW x.x

For the uninstall procedure of the software, a window will come up where there will be the need to confirm the uninstall process (Img.9). Click on YES to do so.



Img. 9

When the next window (Img.10) will appear, wait for the cancellation of all the software files. If you want to stop the uninstall process, click on Cancel.



Img. 10

Start

To start the DATAVIEW software, proceed in the following way:
START ➡ PROGRAMS ➡ DATAVIEW ➡ DATAVIEW x.x

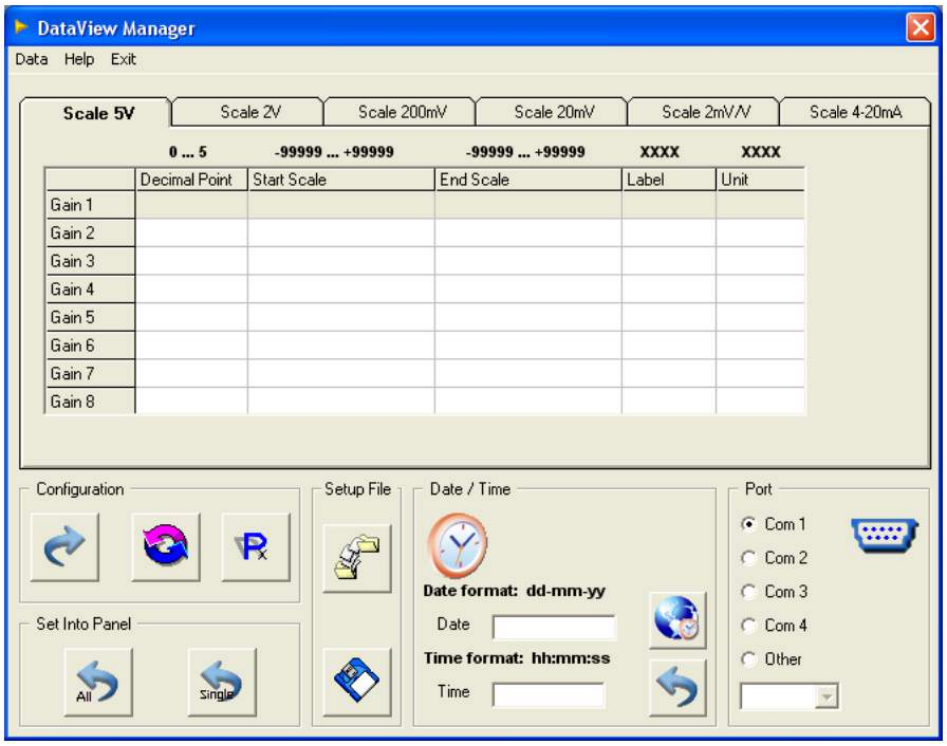
Img. 11

During the loading of the program, it will be visible the boot screen (Img.11) and after it will appear a window (Img.12) to choose the device with which you want to connect.

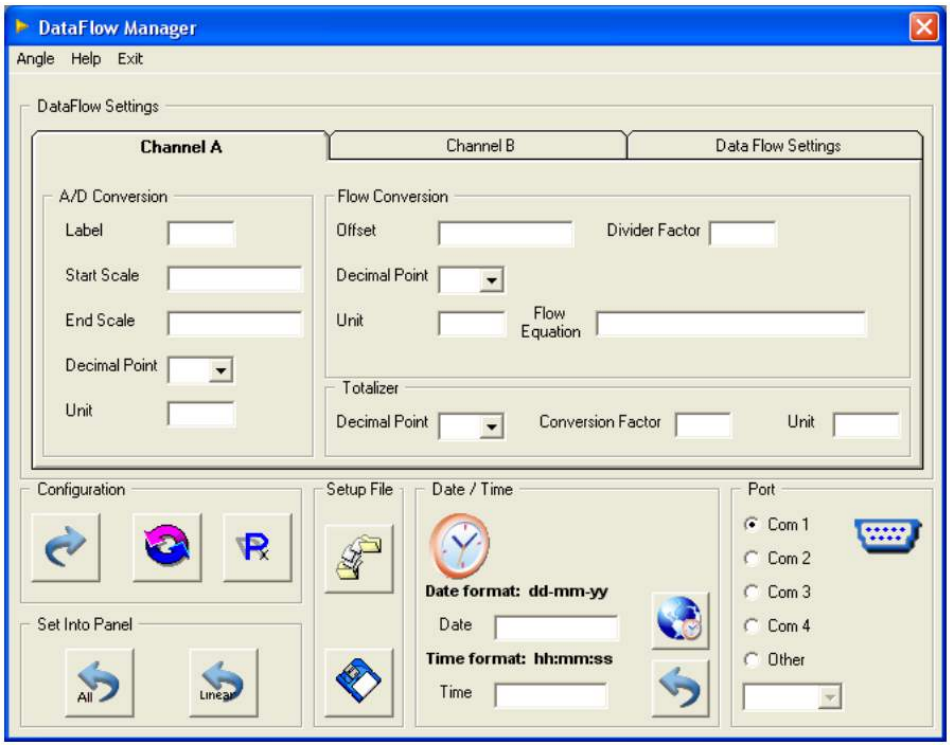
Select the device to connect with and click OK.

Img. 12

After clicking on OK, the main screen will open (Img.13, 14).


DataView Manager
Data Help Exit
Scale 5V
Scale 2V
Scale 200mV
Scale 20mV
Scale 2mV/V
Scale 4-20mA
0 ... 5
-99999 ... +99999
-99999 ... +99999
XXXX
XXXX
Decimal Point
Start Scale
End Scale
Label
Unit
Gain 1
Gain 2
Gain 3
Gain 4
Gain 5
Gain 6
Gain 7
Gain 8
Configuration
Setup File
Date / Time
Port
Set Into Panel
All
Single
Date format: dd-mm-yy
Date
Time format: hh:mm:ss
Time
Com 1
Com 2
Com 3
Com 4
Other

Img. 13


DataFlow Manager
Angle Help Exit
DataFlow Settings
Channel A
Channel B
Data Flow Settings
A/D Conversion
Label
Start Scale
End Scale
Decimal Point
Unit
Flow Conversion
Offset
Divider Factor
Decimal Point
Unit
Flow Equation
Totalizer
Decimal Point
Conversion Factor
Unit
Configuration
Setup File
Date / Time
Port
Set Into Panel
All
Linear
Date format: dd-mm-yy
Date
Time format: hh:mm:ss
Time
Com 1
Com 2
Com 3
Com 4
Other

Img. 14

Main screen sections	
DATAVIEW	**DATAFLOW**
Menu bar	Menu bar
Data grids (one tab for each scale)	Setting tabs
Buttons to set and receive data from the unit	Buttons to set and receive data from the unit

Menu bar	
DATAVIEW	**DATAFLOW**

• Data
  ○ Transfer
• Help
  ○ Help
  ○ About
• Exit
  ○ Exit
	• Angle
	  ○ Degrees
	  ○ Radians
	• Help
	  ○ Help
	  ○ About
	• Exit
	  ○ Exit

Buttons	
	For getting the configuration from the readout unit.
	Loading the default data into the grids.
	Opens the window for setting the programmable keypads P1, P2, P3, P4.
	Sets the readout unit with the data inserted in the grids.
	Sets the readout unit with the data inserted in the selected grid.
	Opens a configuration file.
	Saves a configuration file.
	Insert in the relative text boxes the system date and time.
	Sets the date and time in the readout unit.

Communication Port

In the right lower part of the screen, there is a frame where it is possible, if needed, to change the communication port.

Date & Time

By clicking on the button  , the date and time of the system will appear in the text boxes. To change the date and time of the device, it is possible to insert the data manually or using the time of the pc. Click the button  to send the data into the device.

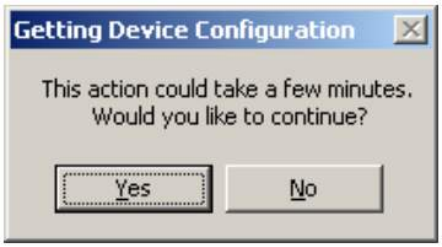
Configuration

This section is dedicated to set the parameters stored in the device.

Getting

By pressing the button  it will activate the procedure of receiving all data stored in the DATAVIEW/DATAFLOW.

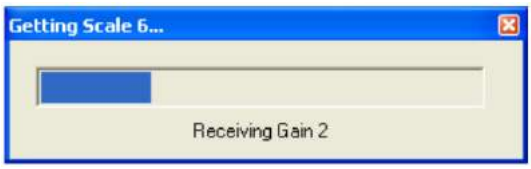
In case of a connection to a DATAVIEW, a communication window will appear (Img.15), asking if you want to continue receiving the stored data. Click Yes to confirm.



Img. 15

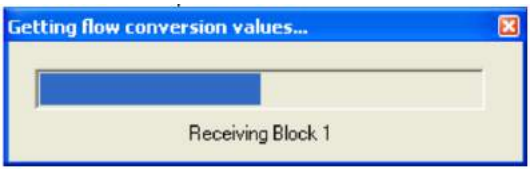
A window will appear (Img.16, 17), which will display the progress of the communication.

DATAVIEW



Img. 16

DATAFLOW



Img. 17

Once the procedure is finished, it will be possible to change the data.

In order to change the data, the value inside the box must be cancelled first, by pressing the BACKSPACE button on the keyboard.

! DATAVIEW
The Gain 1 in each scale is displayed with a grey background because it has default values that cannot be changed.

Editable Data in DATAVIEW	
Decimal Point	Shows the number of digits after the point. It is possible to insert a value between 0 and 5.
Start Scale	Displays the conversion value for the beginning of the measured scale. It is possible to insert a value between –99999 and +99999.
End Scale	Displays the conversion value for the end of the measured scale. It is possible to insert a value between –99999 and +99999.
Unit	Shows the unit of measure. It is possible to insert up to 4 alphanumeric digits.
Label	Show the label connected to the gain for an easy way of recognition. It is possible to insert up to 4 alphanumeric digits.

Editable Data in DATAFLOW	
A/D Conversion	
Label	Show the label connected to the gain for an easy way of recognition. It is possible to insert up to 4 alphanumeric digits.
Start Scale	Displays the conversion value for the beginning of the measured scale. It is possible to insert a value between –99999 and +99999.
End Scale	Displays the conversion value for the end of the measured scale. It is possible to insert a value between –99999 and +99999.

Decimal Point	Shows the number of digits after the point. It is possible to insert a value between 0 and 5.
Unit	Shows the unit of measure. It is possible to insert up to 4 alphanumeric digits.
Flow Conversion	
Offset	Displays the value to offset the converted measurement. It is possible to insert a value between –99999 and +99999.
Divider Factor	Shows the value of dividing the converted measurement. It is possible to insert a value between 1 and 99.
Decimal Point	Shows the number of digits after the point. It is possible to insert a value between 0 and 5.
Unit	Shows the unit of measure. It is possible to insert up to 4 alphanumeric digits.
Flow Equation	Shows the formula for converting the measurement into flow. The variable X stands for the measurement. It is possible to insert in addition other variables as wished.
Totalizer	
Decimal Point	Shows the number of digits after the point. It is possible to insert a value between 0 and 5.
Conversion Factor	Shows the conversion value of the totalizer. It is possible to insert a value between –99999 and +99999.
Unit	Shows the unit of measure. It is possible to insert up to 4 alphanumeric digits.

Default

By pressing the button  , the default values for each scale and gain will be inserted in the grid and in the relative text boxes.

Sending

In the lower left frame named SET INTO PANEL, are placed the buttons needed to set the values into the device.

DATAVIEW	
	By pressing this button, you can send only the scale that is displayed. It will appear a communication window with a progress bar (Img.16).
	By pressing this button, you can send all the scales. It will appear a communication window with a progress bar (Img.16).

DATAFLOW	
	By pressing this button, you can set in the DATAFLOW the entire setup of A and B Channels with the Totalizer values. It will appear a communication window with a progress bar (Img.17).
	By pressing this button, the linearization values can be sent into the device (flow conversion).

Px

By pressing the button  , you can set the programmable keypad buttons P1, P2, P3, P4. In the *Keypad Setup* window (Img.18) there are 3 columns for 48 rows.

Each row is associated to a specific SCALE/GAIN combination. There are 6 scales and 8 gain for each one of them.

Example:
In order to set the keypad P1 with the scale ***5V*** *and the gain* ***25mm****, you have to insert the row number of the chosen value in the Keypad P1 text field, that in this case it will be the row* ***no. 2****.*
For the other Keypads, it should be followed the same procedure.

Click the button  , to send the new configuration to the device.

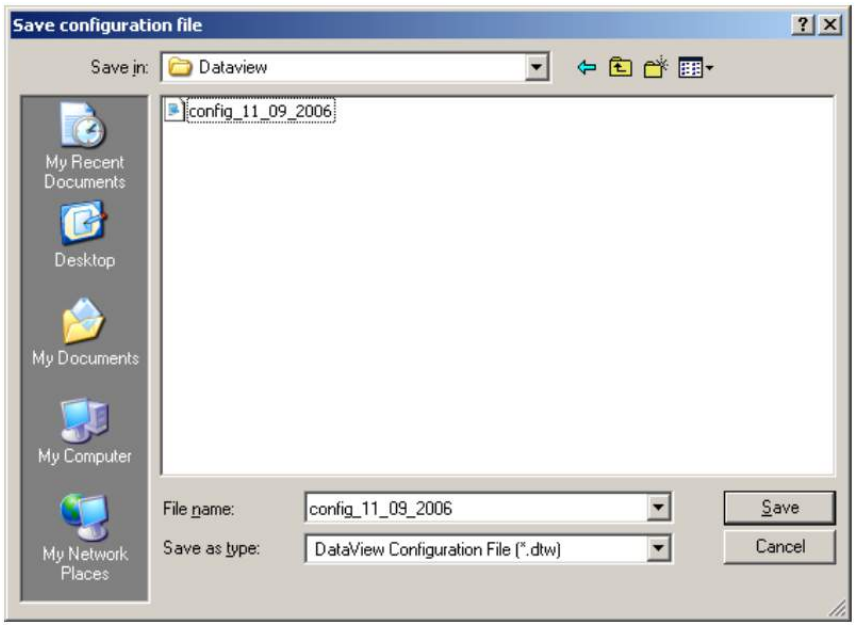
No.	Scale	Label/Unit	No.	Scale	Label/Unit
1	5V	V	25	20mV	mV
2	5V	25mm	26	20mV	10Ton
3	5V	50mm	27	20mV	25Ton
4	5V	100mm	28	20mV	50Ton
5	5V	200mm	29	20mV	100Ton
6	5V	1deg	30	20mV	150Ton
7	5V	14.5deg	31	20mV	200Ton
8	5V	30deg	32	20mV	300Ton
9	2V	V	33	2mV/V	mV/V
10	2V	0.5deg	34	2mV/V	GN 2mV/V
11	2V	1deg	35	2mV/V	GN 3mV/V
12	2V	GN 4V	36	2mV/V	GN 4mV/V
13	2V	GN 5V	37	2mV/V	GN 5mV/V
14	2V	GN 6V	38	2mV/V	GN 6mV/V
15	2V	GN 7V	39	2mV/V	GN 7mV/V
16	2V	GN 8V	40	2mV/V	GN 8mV/V
17	200mV	mV	41	4-20mA	mA
18	200mV	10deg	42	4-20mA	100Ton
19	200mV	GN 3mV	43	4-20mA	200Ton
20	200mV	GN 4mV	44	4-20mA	25mm
21	200mV	GN 5mV	45	4-20mA	50mm
22	200mV	GN 6mV	46	4-20mA	GN 6mA
23	200mV	GN 7mV	47	4-20mA	GN 7mA
24	200mV	GN 8mV	48	4-20mA	GN 8mA

Img. 18

File

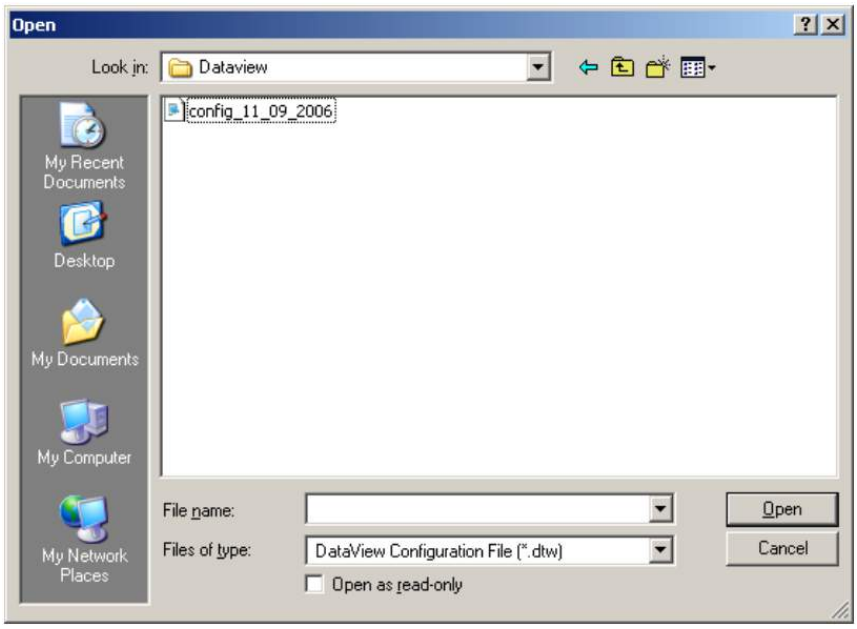
The software allows to save the configuration data inserted, in order to provide a backup and an easy restore of the device.

To save the data, press the button  .
A communication window will appear (Img.19) asking for the location and the file name.



Img. 19

By pressing the button  , a window will appear (Img.20) asking for the location and the file to load.



Img. 20

Data

As explained before, DATAVIEW and DATAFLOW devices can store up to 9999 readings. The software allows to access this data extremely easy, creating a textual file.

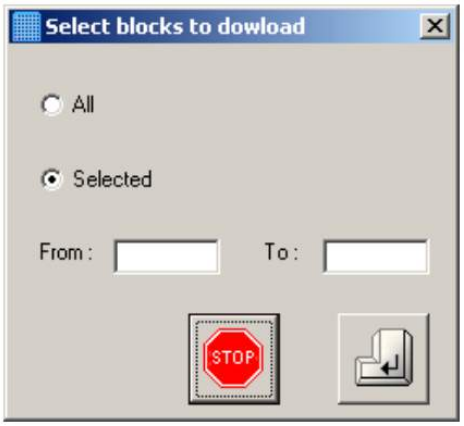
DATAVIEW

Click **Data** ➡ **Transfer** in the menu bar of the main screen.

DATAFLOW

Click on the button 

placed in the **DataFlow Settings** tab.
A window will be displayed (Img.21), which allows to insert the number of memory blocks that you want to be downloaded from the device.



Img. 21

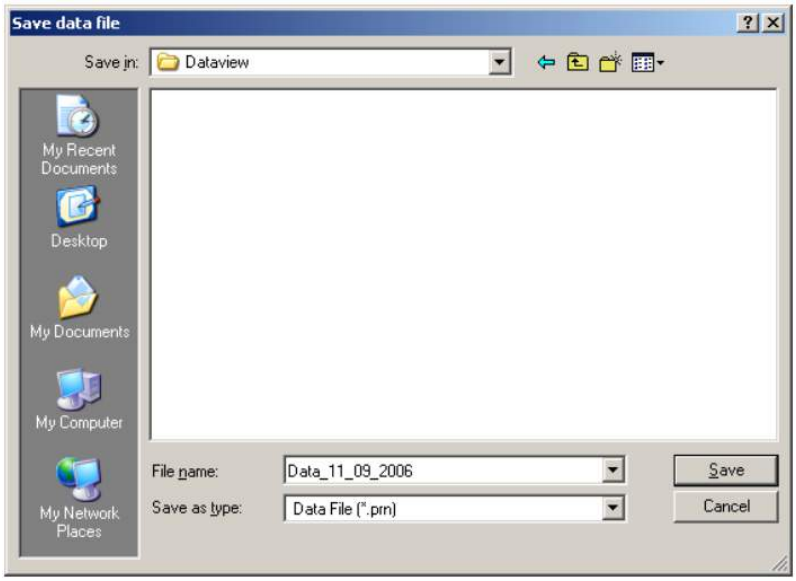
In the *Select blocks to download* window you can:

- Check **All**, if you want to download all the data already recorded.
- Check **Selected**, if you want to decide which values to be downloaded. Insert the first (From) and the last (**To**) value you want to download.
  (If **From** and **To** text fields remain blank, by default you will download all the data already recorded)

By pressing the button 

, you can stop the download procedure.

Click the button  to confirm the selection and proceed with the download.
A window will appear (Img.22) requesting the location and the file name.



Img. 22

Help

Click **Help** on the menu bar to open the below popup:

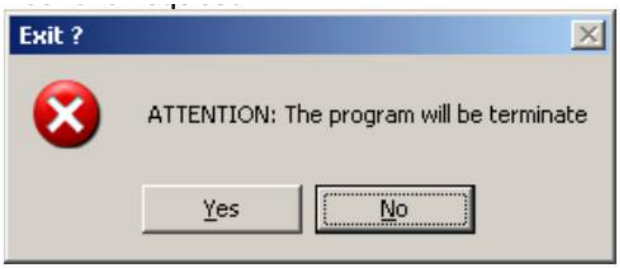
- Contents
- About

Click **Contents**, if you want to see the software and hardware user manual.
Click **About**, if you want to see the informations about this software version (Img.23).

Img. 23

Exit

Click **Exit** to terminate the program.
A confirmation window will appear (Img.24). Click **Yes** to end the program or **No** to cancel the request.



Img. 24

NOTES

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