VISIO

DATA LOGGER

CE

4670617

Software rel. 1.2.X

INSTALLATION, USE AND MAINTENANCE

LEGEND OF SYMBOLS

	= **Generic danger**
	= **Warning**

CONTENTS

This manual is an integral part of the equipment to which it refers and must accompany the equipment in case of sale or change of ownership. Keep it for any future reference; ARAG reserves the right to modify product specifications and instructions at any moment and without notice.

• MANUAL USE MODES

The section of this manual dedicated to the installation contains information for installers. For this reason we have used technical terms without providing explanations which would be necessary for end users only.
THE INSTALLATION MUST BE CARRIED OUT BY AUTHORIZED AND SKILLED PERSONNEL ONLY. ARAG IS NOT RESPONSIBLE FOR ANY OPERATION SPECIFIED IN THIS MANUAL CARRIED OUT BY UNAUTHORIZED OR UNSKILLED PERSONNEL.

• RESPONSIBILITY

The installer must carry out "workmanlike" installations and ensure to the end user the perfect operation of the whole system both with ARAG components only and other brands' components.

ARAG always recommends using its components to install control systems.
The installer will be held responsible for any malfunction if he decides to use other brands' components even without actually changing the system parts or harness.
The compatibility check with components and accessories of other manufacturers shall be carried out by the installer.
If the ARAG components installed together with other brands' components get damaged because of what stated above, no direct or indirect warranty will be provided.

1 RISKS AND PROTECTIONS

All installation works must be done with battery disconnected, using suitable tools and any individual protection equipment deemed necessary.

Use ONLY clean water for treatment tests and simulations: using chemicals during simulated treatment runs can seriously injure persons in the vicinity.

DO NOT WORK IN THE VICINITY OF THE DISTRIBUTION AREA WHILE THE SYSTEM IS OPERATING.

2 PRODUCT DESCRIPTION

VISIO Data Logger allows to record sprayed fluid pressure, spraying date and time performed by a sprayer.
It checks and demonstrates that the job on the field has been carried out in compliance with the anti-pollution regulations and pressure limits specifically defined for the application.
Properly connected to a pressure sensor, it can be fitted on all types of sprayers.

3 INTENDED USE

This device is designed to work on agricultural machinery for spraying and crop spraying applications.
The equipment is designed and built in compliance with UNI EN ISO 14982 standard (Agricultural and forestry machinery - Electromagnetic compatibility - Test methods and acceptance criteria), harmonized with EMC Directive - 2014/30/EU.

4 PRECAUTIONS

- **Do not aim water jets at the equipment.**
- **Do not use solvents or fuel to clean the case outer surface.**
- **Do not clean equipment with direct water jets.**
- **Comply with the specified power voltage (12 VDC).**
- **In case of voltaic arc welding, remove connectors from the device and disconnect the power cables.**
- **Only use ARAG genuine spare parts and accessories.**

5 PACKAGE CONTENT

Fig. 1

1 Visio Data Logger
2 Fixing kit

Power cable, sensors and cables to be connected to VISIO must be ordered separately.

6 INSTALLATION

The system enables the recording function on an already existing sprayer: therefore, the components for distribution are supplied by the machine manufacturer.

6.1 System

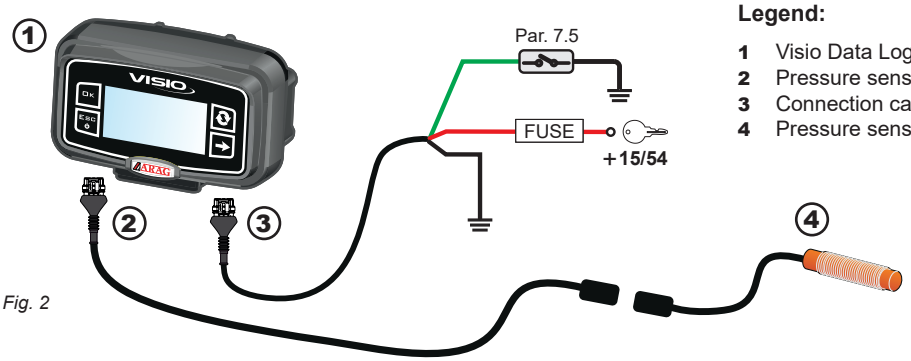


Fig. 2

Legend:

1 Visio Data Logger
2 Pressure sensor connection cable
3 Connection cable to power supply - external enabling signal
4 Pressure sensor (fluid / water)

VISIO WITH SINGLE PRESSURE SENSOR (OUTPUT FLUID)

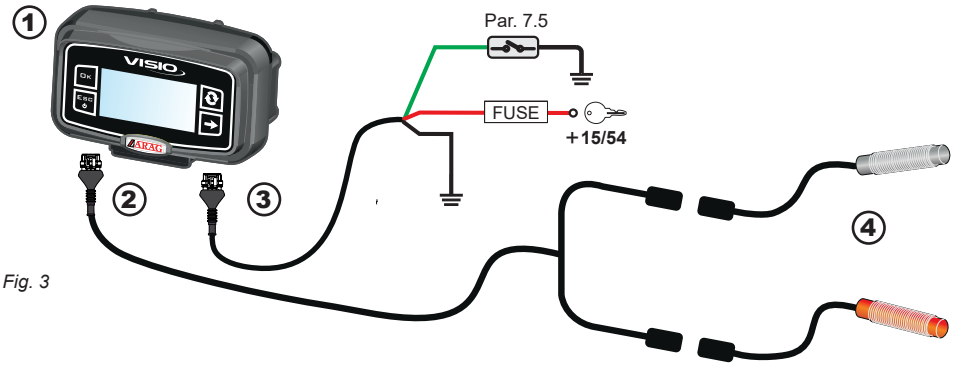


Fig. 3

VISIO WITH DOUBLE PRESSURE SENSOR (FLUID AND AIR)

6.2 Size (mm) and positioning

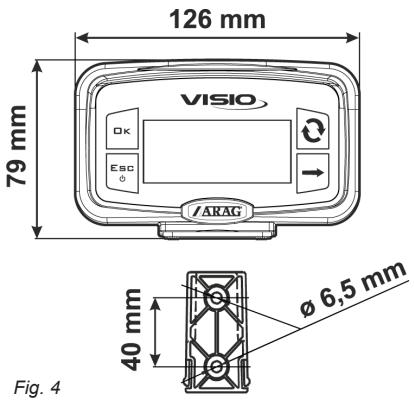


Fig. 4

Fig. 5

1 Set mounting rail in cabin and fasten it with the relevant screws (Fig. 5), in a position where VISIO can be easily seen and at hands' reach, but away from any moving organs.
2 Secure VISIO to rail and push down until locked in place.
3 Fasten harnesses so that they do not interfere with any moving parts.

7 WIRING CONNECTIONS

• Use original ARAG harnesses only.
• Take care not to break, pull, tear or cut the cables.
• Use of unsuitable cables not provided by ARAG automatically voids the warranty.
• ARAG is not liable for any damage to the equipment, persons or animals caused by failure to observe the above instructions.

7.1 General precautions for a correct harness position

• Securing the cables:
- secure the harness so that it does not interfere with moving parts;
- route the harnesses so that they cannot be damaged or broken by machine movements or twisting.

• Routing the cables to protect against water infiltrations:
- the cable branches must ALWAYS be facing down.

• Fitting the cables to the connection points:
- Do not force the connectors by pushing too hard or bending them: the contacts may be damaged and system operation may be compromised.

Use ONLY the cables and accessories indicated in the catalog, having technical features suitable for the use to be made of them.

7.2 Connection of harness to the available functions

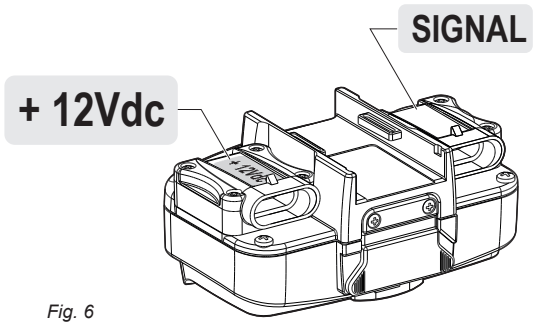


Fig. 6

CONNECTOR	CONNECTION
12 Vdc	Power supply (par. 6.1)
SIGNAL	Pressure sensor (fluid) Pressure sensors (fluid / air)

7.3 Connection of the pressure sensor

The harness cables are marked with an identification symbol to indicate their function.

• System with 1 sensor
Connect the pressure sensor (fluid) to the harness with label **Sensor 1**.

• System with 2 sensors
Connect the pressure sensor (fluid) to the harness with label **Sensor 1** and the pressure sensor (air) to the harness with label **Sensor 2**.

Make sure the device is correctly fitted and push it until locking it.

Refer to the manual relevant to your sensor.

Fig. 7

Use ARAG sensors: use of unsuitable sensors not provided by ARAG automatically voids the warranty.
ARAG is not liable for damage to the equipment, persons or animals caused by failure to observe the above instructions.

7.4 Power supply connection - REF. CABLE 3 - par. 6.1

The device is directly powered by the vehicle key: as soon as the key is activated, the system starts operating; vice versa, it is switched off when the key is disabled.

WARNING:
TO AVOID SHORT CIRCUITS, DO NOT CONNECT THE POWER CABLES TO BATTERY BEFORE THE INSTALLATION IS COMPLETED. BEFORE POWERING UP THE SYSTEM, MAKE SURE THE TRACTOR BATTERY VOLTAGE IS AS SPECIFIED (12 VDC).

Use the specific cable, to be purchased separately, to connect the device to the power supply.
The power source must be connected as indicated in Fig. 8:

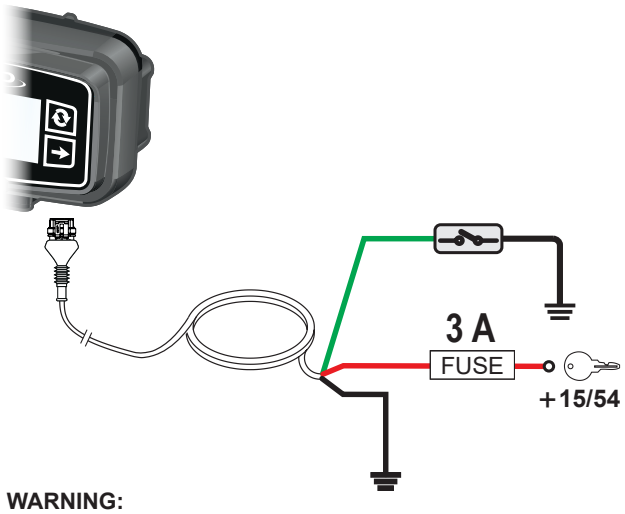


Fig. 8

IF ARC WELDING IS NEEDED, MAKE SURE THAT THE DEVICE POWER SUPPLY IS DISCONNECTED; IF NECESSARY DISCONNECT POWER CABLES.

WIRE COLOR (POWER CABLE)	CONNECTION
Red	Positive
Black	Negative

WARNING:
- **The power circuit shall ALWAYS be protected by a 3 A fuse like the ones for automotive applications.**
- **All cables connected to the key shall have a minimum cross-section of 2.5 sq. mm.**
- **Use cables with suitable terminals ensuring correct connection of all wires.**
- **Directly connect the power cable to the key-on power supply (15/54).**

7.5 Connection of external enabling signal

To allow the external enabling signal to condition the recording, no setting is required on Visio, only the wiring connection of the signal must be carried out.
If external enabling is not actually connected, Visio always considers the recording as enabled.
An additional external relay is required to properly interface the external enabling signal to Visio.

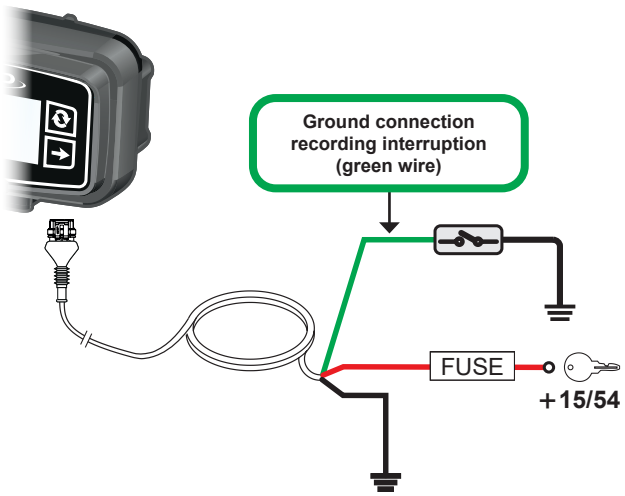


Fig. 9

When external enabling is not activated, the relay is not energized and pin 3 on the “+12V” connector remains free, thus enabling recording.
Otherwise, when external enabling is activated, the relay is energized and pin 3 on the “+12V” connector is connected to GND, thus disabling recording.

8 ACCESSORIES

8.1 Pendrive

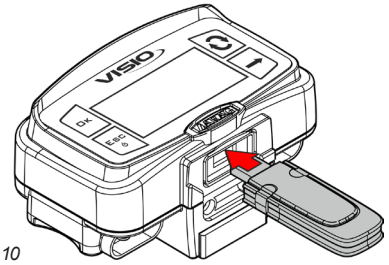


Fig. 10

The pendrive may be used to exchange data.

Before use, format the SD board in FAT 32 mode; make sure that the board is not protected and can be read by the system. Most pendrives with up to 2 Gb memory are compatible.

9 SETTING

9.1 Tests and checks before setting

Before setup, check:
- **that all components are correctly installed;**
- **the correct connection to the power source;**
- **the component connection.**

Failure to correctly connect system components or to use specified components might damage the device or its components.

9.2 Controls in the menu

Fig. 11

SELECTION AND ACCESS TO MENU ITEMS

A Press a few times to scroll through items (selected item is indicated by a black line)
B Press to open the selected menu item

The three dots under an item indicate presence of another setup menu.

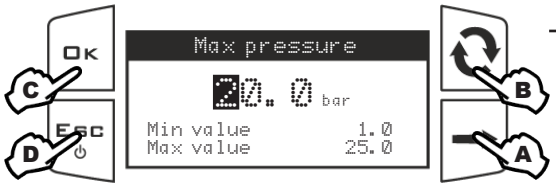


Fig. 12

EDITING A VALUE

A Press to move through digits
B Press a few times to edit the highlighted digit
C Press to confirm modification. The display goes back to previous page.
D Press to exit page without confirming modification.

Edited value must fall within the range shown.

PROGRAMMING KEYS

OK	- Access the selected menu - Confirm changes and go back to previous menu
ESC	- Go back to previous menu - Quit without confirming the changes
	Pressed in sequence: - Scroll the pages of a menu - Change a value (increase)
	Move the cursor during a change (press in sequence)

10 MENU STRUCTURE

For a correct use of the keys during setting, refer to par. 9.2.

SETUP MENU

** Menu visible ONLY with specific settings*

Sensors	Pressure sensor	Max pressure	**20.0 bar** 1.0 ÷ 25.0	
		Press. zero value		
	Air pressure	**Not connected** Connected		
	* Air pressure sens.	* Max. pressure	**20.0 bar** 1.0 ÷ 25.0	
		* Press. zero value		
Alarms	Min pressure	**OFF** 0.1 ÷ 25.0		
	Max pressure	**OFF** 1.0 ÷ 25.0		
Recording	Min. pressure REC.	**0.5 bar** 0.1 ÷ 4.0		
Options	Language	**English**	Other settable languages: English, Dutch.	
	Set date	*Wizard* Year > Month > Day	**2020** 2019 ÷ 2099	
	Set time	*Wizard* Hours > Minutes	0 ÷ 23	
	Unit of measurement	Pressure	**bar** psi	
	Display contrast	**50%** 0 ÷ 100		
	Alarm tones	OFF **ON**		
	Keytones	OFF **ON**		
Setup management	Save recording Save setup Load setup			
Diagnostics	Firmware version Hardware version Battery voltage Display test Keys test			
	Sensors	Pressure sensor * Air pressure sens.		
User access	Operator **Technician** ARAGTech			

PROGRAMMING KEYS

OK	- Access the selected menu - Confirm changes and go back to previous menu		Pressed in sequence: - Scroll the pages of a menu - Change a value (increase)
ESC	- Go back to previous menu - Quit without confirming the changes	→	Move the cursor during a change (press in sequence)

11 SETUP MENU

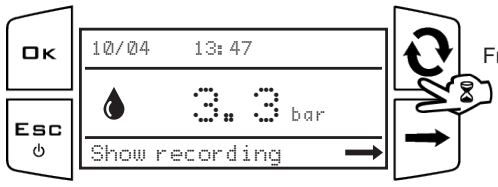


Fig. 13

From the main page, press keys at the same time **for 2 seconds** to access.

Fig. 14

Press to edit the selected menu item.

*You can view the set values by scrolling the items of the **Setup menu**. Use of the keys at the bottom of the page.*

11.1 Setup menu > Sensors > Pressure sensor
Setup menu > Sensors > Air pressure sens. (visible only with sensor enabled - par. 11.2.1)

- Select the sensor to be set.
- Run the programming of the menus.
- Repeat the programming for each sensor.

11.1.1 Max pressure

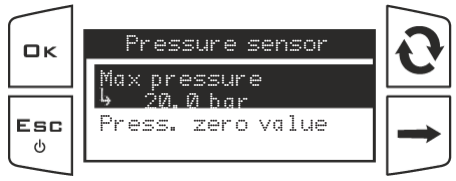


Fig. 15

Fig. 16

Access the menu.

Indicate the full scale of the pressure sensor installed on the system.

11.1.2 Press. zero value

In case a pressure value other than zero is displayed despite the absence of pressure inside the circuit, it is necessary to perform zero calibration of the sensor.

• PRESSURE SENSOR (OUTPUT FLUID)

Before carrying out any operation disable the pump by disconnecting it from the power supply.
Make sure that the pump is correctly disabled, then open the main valve and all section valves.

• PRESSURE SENSOR (AIR)

Before performing any operation, check that the air hose fan is idle, and therefore does not generate any pressure.

Fig. 17

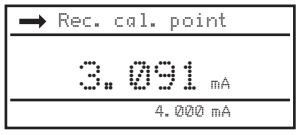


Fig. 18

Access the menu.

Press OK to reset the pressure sensor residual signal.

Check sensor!
If this alarm is displayed, faulty pressure values have been detected: check the sensor operation.
If the problem persists, check for residual pressure in the system.

11.2 Setup menu > Sensors > Air pressure

11.2.1 Air pressure sens.

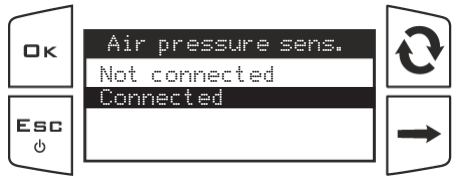


Fig. 19

Access the menu.

Enable the air pressure sensor, if available in the system.
Sensor configuration menus and reading data ARE ONLY AVAILABLE WITH THE SENSOR ENABLED.

PROGRAMMING KEYS

OK	- Access the selected menu - Confirm changes and go back to previous menu
Esc	- Go back to previous menu - Quit without confirming the changes
	Pressed in sequence: - Scroll the pages of a menu - Change a value (increase)
	Move the cursor during a change (press in sequence)

11.3 Setup menu > Alarms

11.3.1 Min pressure

11.3.2 Max pressure

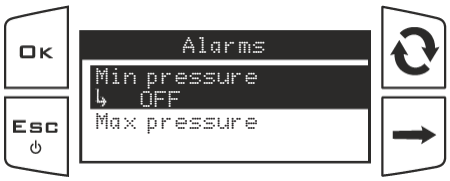


Fig. 20

Fig. 21

Press both keys to set the OFF option.
When the OFF option is active, press both keys to enable data editing.

The pressure alarms (minimum or maximum) activate when, during the spraying, the pressure detected by the sensor does not respect the set limits.

- Access the menu.
- Set the data item for each alarm.

For the procedure to be followed in case of alarms, please refer to par. 13.1.

11.4 Setup menu > Recording

11.4.1 Min. pressure REC.

Fig. 22

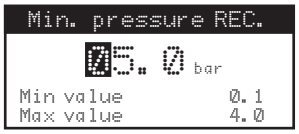


Fig. 23

Access the menu.

Set the minimum pressure value (output fluid sensor) to activate recording.

Recording will stop every time the detected pressure is lower than the set value.

11.5 Setup menu > Options

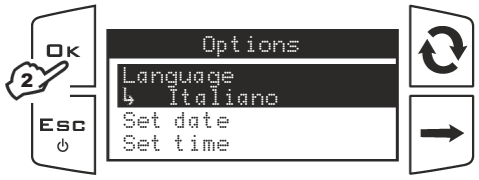


Fig. 24

1 Access the menu.

2 Press **OK** to edit the selected menu item.

The display will show the current setting below the selected item.
Use of the keys at the bottom of the page.

11.5.1 Options > Language

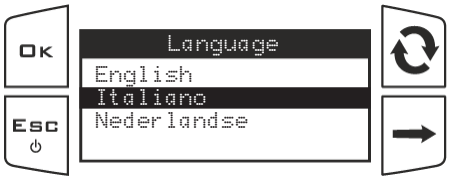


Fig. 25

Access the menu.

Set the desired language.

PROGRAMMING KEYS

OK - Access the selected menu
- Confirm changes and go back to previous menu

Esc - Go back to previous menu
- Quit without confirming the changes

Pressed in sequence:
- Scroll the pages of a menu
- Change a value (increase)

Move the cursor during a change (press in sequence)

11.5.2 Options > Set date

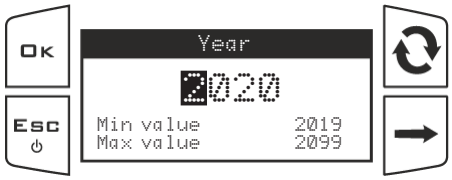


Fig. 26

Access the menu.

Set the current year: wizard **Year > Month > Day**.

The key OK goes to the next setting.

The month selection automatically defines the number of days that can be set.

11.5.3 Options > Set time

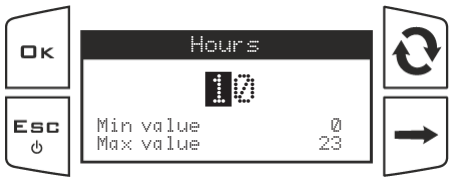


Fig. 27

Access the menu.

Set the time: wizard **Hours > Minutes**.

The key OK goes to the next setting.

11.5.4 Options > Units of measurem.

Fig. 28

Access the menu.

Set the unit of measurement used for pressure data.

11.5.5 Options > Display contrast

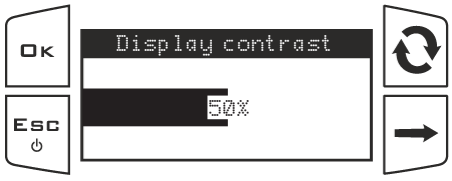


Fig. 29

Access the menu.

Set display contrast:

Increase by 5%.

Decrease by 5%.

11.5.6 Options > Alarm tones

Fig. 30

Access the menu.

Enable/disable the alarm tones.

11.5.7 Options > Keytones

Fig. 31

Access the menu.

Enable/disable keytones.

PROGRAMMING KEYS

OK
- Access the selected menu
- Confirm changes and go back to previous menu

Esc
- Go back to previous menu
- Quit without confirming the changes

Pressed in sequence:
- Scroll the pages of a menu
- Change a value (increase)

Move the cursor during a change (press in sequence)

11.6 Setup menu > Setup management.

To be able to use the following functions it is necessary to plug a USB* pendrive in the relevant port at the bottom of Visio Data Logger.

**USB pendrive not included in the kit; the USB must be formatted in FAT32 mode.*

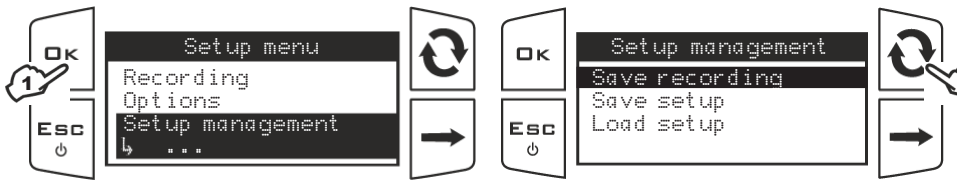


Fig. 32

1 Access the menu.
2 Select the desired control.

Use of the keys at the bottom of the page.

11.6.1 Setup management > Save recording (WITH RECORDING OFF ONLY)

Fig. 33

It allows saving the data recording file (**PRESSLOG.CSV**) in the USB pendrive.

If a PRESSLOG.CSV file is already present in the USB pendrive root directory, the file will be overwritten.

VISIO WITH SINGLE SENSOR

PRESSLOG.CSV	03/03/2020	12:55:18		
		MIN:	8,9	Bar
		MAX:	10,0	Bar
INDEX	DATE	TIME	PRESSURE	M.U.
1080	02/03/2020	15:41:32	9,9	Bar
1079	02/03/2020	15:41:22	9,9	Bar
1078	02/03/2020	15:41:12	9,9	Bar
1077	02/03/2020	15:41:02	9,9	Bar
...				

VISIO WITH DOUBLE SENSOR

PRESSLOG.CSV	01/04/2020	07:17:15				
		MIN:	8,9	Bar	0,7	Bar
		MAX:	10,0	Bar	1,3	Bar
INDEX	DATE	TIME	PRESSURE	M.U.	AIR PRESS.	M.U.
1080	31/03/2020	21:34:29	9,3	Bar	0,7	Bar
1079	31/03/2020	21:34:19	9,2	Bar	0,8	Bar
1078	31/03/2020	21:34:09	9,2	Bar	0,9	Bar
1077	31/03/2020	21:33:59	9,1	Bar	1,0	Bar
...						

The minimum and maximum recorded values are indicated at the beginning of the file.
All the recording samples are sorted in sequence from the newest (index 1080) to the oldest (index 1).
Each sample is saved every 10 seconds on a separate line.

The maximum recording time is 3 hours, corresponding to 1080 samples: after this time, recording continues but the oldest samples are lost:
- Every new sample will be considered as the latest and saved in position 1080;
- All previous samples will be moved by one lower position (back in the past);
- The old sample with position 1 will be lost.

11.6.2 Setup management > Save setup - SETUP.BIN

The Visio Data Logger settings can be loaded or saved in a USB pendrive so as to reconfigure the device if necessary, solve problems or configure another Visio without repeating all operations manually.

Once installation is completed, and you have checked Visio Data Logger correct operation, we recommend storing the whole configuration onto USB pendrive.

Fig. 34

It allows saving Visio Data Logger configuration file (**SETUP.BIN**) on the USB pen drive: it will be possible to load it again any time the same settings need to be retrieved.

If a SETUP.BIN file is already present in the USB pendrive root directory, the file will be overwritten.

11.6.3 Setup management > Load setup - SETUP.BIN

Fig. 35

It allows selecting a configuration file saved in the USB pendrive and to set Visio Data Logger again.

WARNING

By loading the SETUP.BIN file contained in the USB pendrive on Visio Data Logger, all current settings will be lost. The SETUP.BIN file can be loaded only if it is saved in the USB pendrive root directory.

PROGRAMMING KEYS

OK	- Access the selected menu - Confirm changes and go back to previous menu
Esc	- Go back to previous menu - Quit without confirming the changes
	Pressed in sequence: - Scroll the pages of a menu - Change a value (increase)
	Move the cursor during a change (press in sequence)

11.7 Setup menu > Diagnostics

This menu allows user to view some data and carry out an operation test of VISIO.

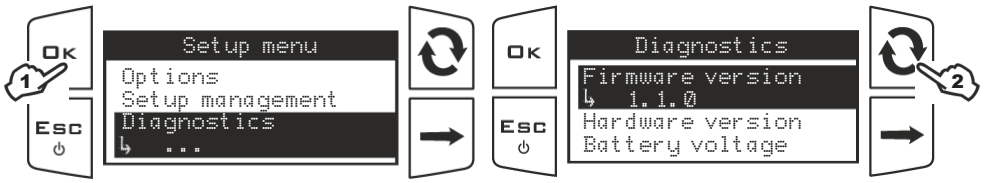


Fig. 36

1 Access the menu.
2 Press the key on the side to scroll the items.

The display will show the current setting below the selected item.
Use of the keys at the bottom of the page.

- `Firmware version`: the display shows the firmware version installed.
- `Hardware version`: hardware version of Visio.
- `Battery voltage`: the display shows the supply voltage of the device.
- `Display test`: the display test checks the device display correct operation.
- `Keys test`: the keys test checks the device keys correct operation.
- `Sensors`: the sensors test checks correct operation of the pressure sensors connected to the device.

The item `Air pressure sens.` is displayed in this menu only if it is enabled by the `Sensors` menu (par. 11.2.1).

11.7.1 Diagnostics > Display test

Fig. 37

Access the menu.

All pixels are turned on when the display operates correctly.

11.7.2 Diagnostics > Keys test

Fig. 38

Access the menu.

Press any key and the corresponding display area will turn on.

Press **ESC** to quit: after the corresponding display area has been turned on, the device will go back to the previous screen.

11.7.3 Diagnostics > Sensors

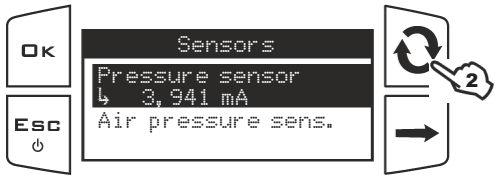


Fig. 39

Access the menu.

The display will show the value currently measured below the selected item.

PROGRAMMING KEYS

OK	- Access the selected menu - Confirm changes and go back to previous menu		Pressed in sequence: - Scroll the pages of a menu - Change a value (increase)
ESC	- Go back to previous menu - Quit without confirming the changes		Move the cursor during a change (press in sequence)

11.8 Setup menu > User access

Fig. 40

Access the menu.
Set the user access level to the control parameters.

The preset access mode is Technician.

Operator: user access level and minimum parameter number (simplified menu structure).
Technician: maximum access level; access to all control parameters.
ARAGTech: for ARAG staff only (assistance). It requires an access PIN number.

ENTERING THE PIN NUMBER

ONLY **Technician** users can set an access PIN number, as follows:

Fig. 41

1 Select the access mode to enter the PIN number.
*Example: select "**Technician**" to enter the "**Technician**"* level PIN number.
2 Hold the key ⟶ pressed to display the PIN number entry screen.

Fig. 42 *Use of the keys at the bottom of the page.*

3 Enter the PIN number and press OK. **Confirm PIN**: enter it again and confirm.
4 Restart the device.
Upon switching on, the system starts operating with the first user level without PIN number.
*Example: if a PIN number for the **Technician** level has been set, the system starts operating as **Manager**.*

CANCELING THE PIN NUMBER

Fig. 43

1 Select the access mode. Enter the PIN number.
2 Hold key ⟶ pressed.

Fig. 44 *Use of the keys at the bottom of the page.*

3 Enter PIN **00000** and press OK. **Confirm PIN**: enter it again and confirm.
Now the level is unlocked and can be viewed by everybody.

12 USE

The device is directly powered by the vehicle key: as soon as the key is activated, the system starts operating; vice versa, it is switched off when the key is disabled. The maximum recording duration is 3 hours.

Before starting spraying, set the minimum recording pressure (par. 11.4.1).
If Visio shows the display page (par. 12.2), press Esc to go to the recording page.

Visio automatically starts /interrupts pressure recording, according to the following conditions:

• Standard recording

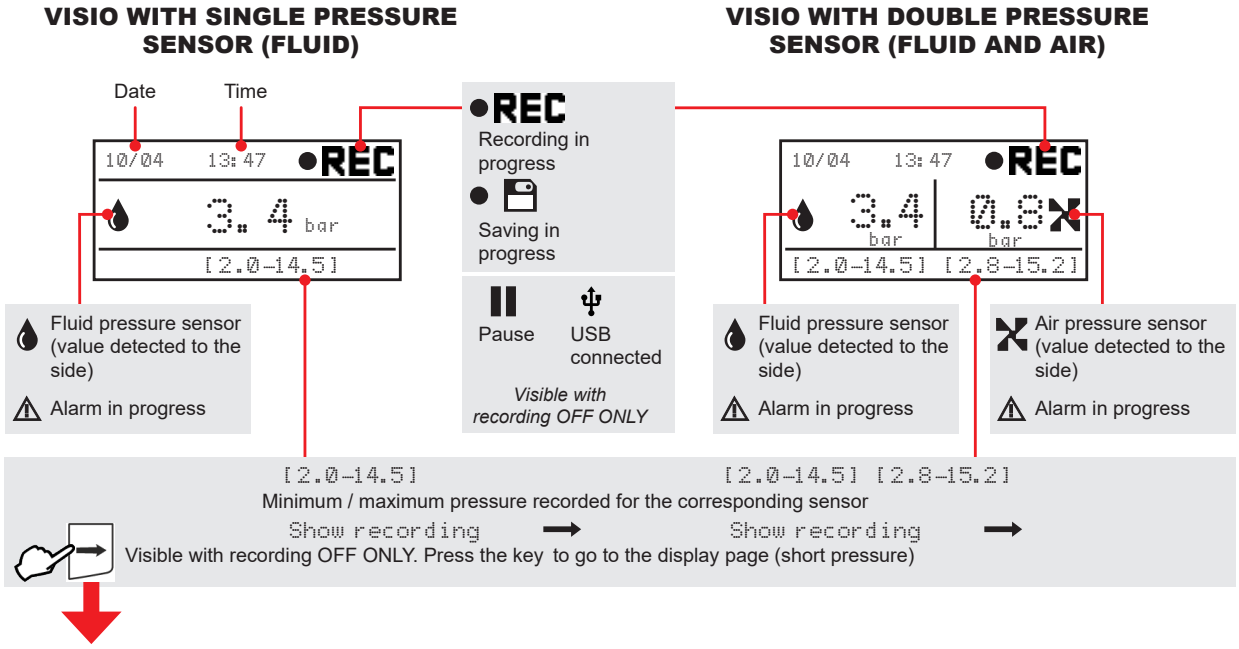
Dot blinking	●REC	**Recording ON**	• Pressure detected greater than minimum recording pressure.	*Recording automatically switches from ON to OFF when pressure drops below the set limit.*
--	*no symbol*	**Recording OFF**	• Pressure detected lower than minimum recording pressure.	
It replaces REC during saving	● 💾	**Saving in progress**	• Automatic saving every 10 seconds.	

• Recording with external enabling signal (e.g.: spray enabling signal)

Dot blinking	●REC	**Recording ON**	• Pressure detected greater than minimum recording pressure. • External enabling signal NOT ACTIVE.	*Recording automatically switches from ON to OFF when pressure drops below the set limit.*
--	⏸	**Pause**	• External enabling signal ACTIVE.	
--	*no symbol*	**Recording OFF**	• Pressure detected lower than minimum recording pressure. • External enabling signal NOT ACTIVE.	
It replaces REC during saving	● 💾	**Saving in progress**	• Automatic saving every 10 seconds.	

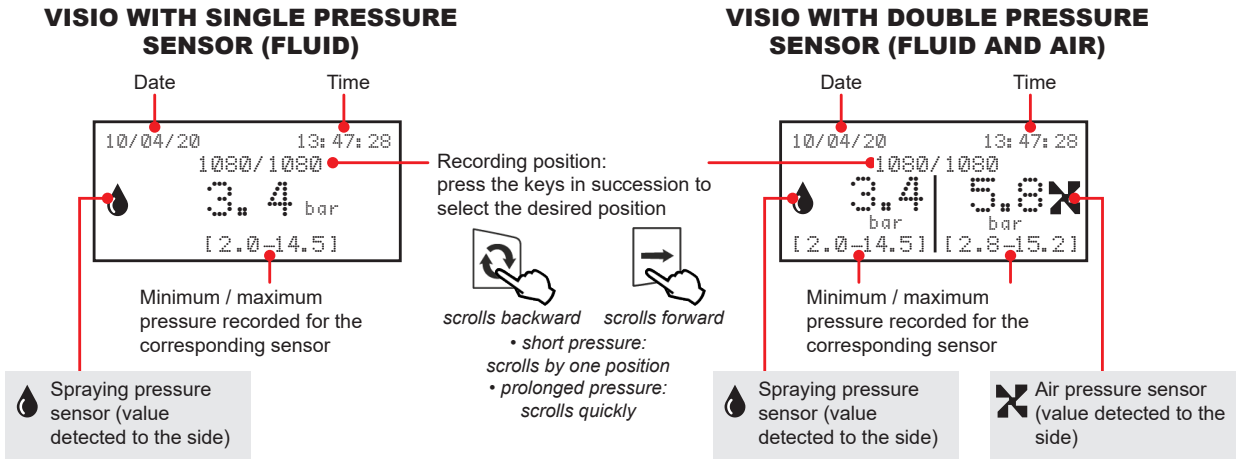
12.1 Recording page

- It displays the actual pressure value (of fluid and/or air); any other operation (settings, displays) IS BLOCKED.



12.2 Display page
(WITH RECORDING OFF ONLY: Visio automatically quits this page if recording restarts)

- It displays data of the latest recording saved.
- It scrolls recordings backward / forward.



PROGRAMMING KEYS

OK	- Access the selected menu - Confirm changes and go back to previous menu
ESC	- Go back to previous menu - Quit without confirming the changes
	Pressed in sequence: - Scroll the pages of a menu - Change a value (increase)
	Move the cursor during a change (press in sequence)

13 MAINTENANCE / DIAGNOSTICS / REPAIRS

- **Clean only with a soft wet cloth.**
- **Do not use aggressive detergents or products.**
- **Do not clean equipment with direct water jets.**

13.1 Error messages / Troubleshooting

If an error occurs, a suitable message (with acoustic signal) is displayed in the recording page (par. 12.1).
In some cases, recording is immediately interrupted; in these cases, stop spraying, solve the problem and resume spraying: recording automatically resumes.

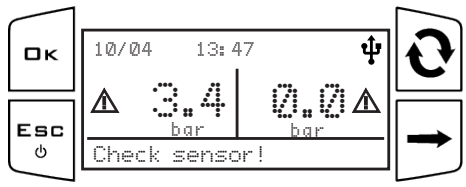


Fig. 45

In case of errors detected by VISIO, the display shows a message in the lower part.
An alarm symbol ⚠ blinks near the sensor in question.

PROBLEM	DISPLAYED ERROR	CAUSE	SOLUTION
The display does not switch on	--	No power supply	• Check power supply connection
The air pressure sensor is connected, but the display does not show its value	--	Programming error	• Check that the air sensor is enabled in the proper menu (par. 11.2.1)
The output pressure is sufficient to start recording, but recording does not continue (the icon ⏸ PAUSE is displayed)	--	The digital input that switches recording to "PAUSE" status is active	• Remove the active status of external digital input
The display shows a wrong (output or air) pressure value	--	Programming error: the connected (output or air) pressure sensor is other than the programmed one	• Correctly program the sensors in the proper menu (par. 11.1)
--	Check sensor! (RECORDING IS IMMEDIATELY INTERRUPTED)	The sensor is not properly connected or is damaged	• Check connections of the sensor corresponding to the alarm and the connection cable status • Check proper operation of the sensor in **Setup menu > Diagnostics > Sensors**: the values must be between 3.5 mA and 20.5 mA for each sensor connected
	Too high pressure!	The measured pressure exceeds the maximum value set in **Setup menu > Alarms**	• Reduce pressure to a correct value
	Too low pressure!	The measured pressure is lower than the minimum value set in **Setup menu > Alarms**	• Increase pressure to a correct value
	ERR. Ext. memory	Possible device hardware problem.	• Carry out one of the following reset procedures: **1** Press OK for at least 2 seconds. **2** Press keys ↻ + OK for at least 2 seconds. ⚠ **This operation resets all parameters to the default values: the device must be set up again.** • If the problem persists, contact the Service Center.
	ERR. RealTime Clock		

14 TECHNICAL DATA

14.1 Display

Graphic	LCD, 128 x 64 pixels, backlit
Unit of measurement	EU (bar) / US (psi)
Real-time clock battery duration	18 years

14.2 Electrical features

Power supply voltage	9÷16 Vdc
Maximum power input (with no sensors connected)	160 mA
Protection against polarity inversion	Yes
Protection against short-circuit	Yes
Analog inputs	4 ÷ 20 mA

14.3 Memory and data exchange

Internal memory (for data recording)	16 Kbytes
USB slot to save recording on USB support	USB 2.0 Type A

14.4 Environmental features

Operating temperature	-20°C ÷ +70°C / -4°F ÷ +158°F
Storage temperature	-30°C ÷ +80°C / -22°F ÷ +176°F

14.5 Physical features

Weight	245 g
Size	126 x 79 x 66 mm

14.6 Materials

Body	ABS
Keyboard	Polycarbonate

14.7 Connector pin-out

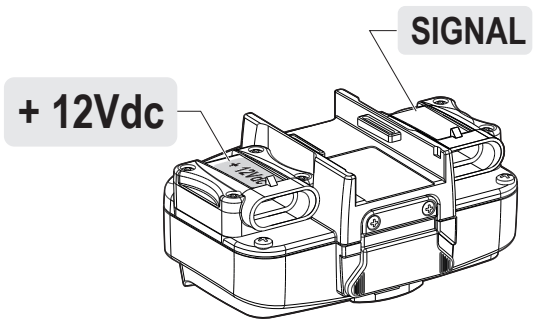
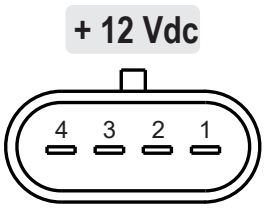
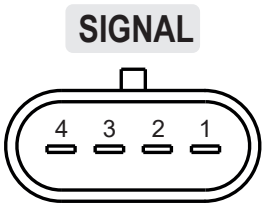


Fig. 46



PIN	Signal
1	GND
2	+ 12 VDC
3	External enabling signal
4	Not used



PIN	Signal
1	GND
2	+12 VDC
3	Pressure sensor signal (4 ÷ 20mA), green wire
4	Air pressure sensor signal (4 ÷ 20mA), yellow wire

15 END-OF-LIFE DISPOSAL

Dispose of the system in compliance with the established legislation in the country of use.

16 GUARANTEE TERMS

1. ARAG s.r.l. guarantees this apparatus for a period of 360 days (1 year) from the date of sale to the client user (date of the goods delivery note).
   The components of the apparatus, that in the unappealable opinion of ARAG are faulty due to an original defect in the material or production process, will be repaired or replaced free of charge at the nearest Assistance Center operating at the moment the request for intervention is made. The following costs are excluded:
- disassembly and reassembly of the apparatus from the original system;
- transport of the apparatus to the Assistance Center.
2. The following are not covered by the guarantee:
- damage caused by transport (scratches, dents and similar);
- damage due to incorrect installation or to faults originating from insufficient or inadequate characteristics of the electrical system, or to alterations resulting from environmental, climatic or other conditions;
- damage due to the use of unsuitable chemical products, for spraying, watering, weedkilling or any other crop treatment, that may damage the apparatus;
- malfunctioning caused by negligence, mishandling, lack of know how, repairs or modifications carried out by unauthorized personnel;
- incorrect installation and regulation;
- damage or malfunction caused by the lack of ordinary maintenance, such as cleaning of filters, nozzles, etc.;
- anything that can be considered to be normal wear and tear;
3. Repairing the apparatus will be carried out within time limits compatible with the organizational needs of the Assistance Center.
   No guarantee conditions will be recognized for those units or components that have not been previously washed and cleaned to remove residue of the products used;
4. Repairs carried out under guarantee are guaranteed for one year (360 days) from the replacement or repair date.
5. ARAG will not recognize any further expressed or intended guarantees, apart from those listed here.
   No representative or retailer is authorized to take on any other responsibility relative to ARAG products.
   The period of the guarantees recognized by law, including the commercial guarantees and allowances for special purposes are limited, in length of time, to the validities given here.
   In no case will ARAG recognize loss of profits, either direct, indirect, special or subsequent to any damage.
6. The parts replaced under guarantee remain the property of ARAG.
7. All safety information present in the sales documents regarding limits in use, performance and product characteristics must be transferred to the end user as a responsibility of the purchaser.
8. Any controversy must be presented to the Reggio Emilia Law Court.

17 EU DECLARATION OF CONFORMITY

The declaration of conformity is available at the website www.aragnet.com, in the relevant section.

Only use genuine ARAG accessories or spare parts to make sure manufacturer guaranteed safety conditions are maintained in time.
Always refer to the Internet address www.aragnet.com

D20439_GB-m00 05/2020

42048 RUBIERA (Reggio Emilia) - ITALY
Via Palladio, 5/A

Tel. +39 0522 622011
Fax +39 0522 628944

http://www.aragnet.com
info@aragnet.com