

# ATEQ VT520

Version 2.0 (4MT-05)



**[www.ateq.com](http://www.ateq.com)**



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## REVISION OF THE VT520 USER MANUAL

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*Due to continuing improvements, the information contained in this user manual, the features and design of this device are subject to be changed without prior notice.*

<u>Edition/Revision</u>	<u>Reference</u>	<u>Date</u> (week/year)	<u>Chapters updated</u>
First edition	UM-27200A-U	51/2005	-----
Second edition	UM-27200B-U	51/2006	Add appendix 2, for the option with the remote antenna.
Third edition	UM-27200C-U	11/2008	Up dating some functions.
Fourth edition	UM-27200D-U	18/2011	Up dating the connectors in chapter 1. Remove the device with the internal antenna.
Fifth edition	UM-27200E-U	01/2013	Update recommendations (pictograms).
Sixth edition	UM-27200G-U	35/2013	Evolution of the firmware version (4MT-05). Characteristics update. G index to be the same as French (source) version.



# Recommendations

Concerning the electromagnetic fields transmitting instruments:

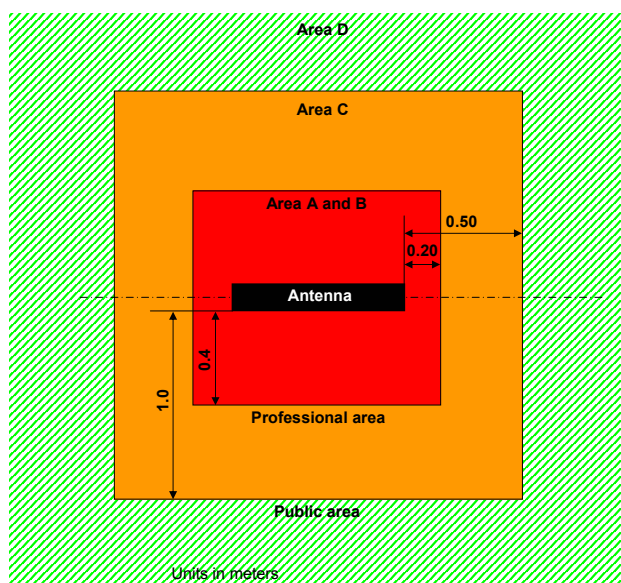


This instrument is an electromagnetic fields transmitter. Its use and its access are regulated.

When the instrument is not in transmitting mode, no electromagnetic field is produced, so there is no exposure risk during this period. **It is appropriate to limit the access (exposure areas) during emission period.**

**Exposure areas are necessary around the antenna.** There are four areas:

- Area A: Prohibited access, unless specific arrangement,
- Area B: Strictly limited access,
- Area C: Limited access,
- Area D: Free access.



## Standards and references:

In all the cases, the installation must be done with regards to the practice code and being in agreement with the French standard AFNOR UTE C99-111 (October 2002).

## Security:

In the menu of the instrument, there is a security mode to avoid any start cycle by the start key located on the front panel. It is appropriate to have this option validated.

**We would like to bring to your attention that ATEQ will not be held responsible for any accident connected to the improper use of this instrument, to the work bench or to the lack of compliance with safety rules.**



## **ATEQ, THE ASSURANCE OF A COMPETENT AFTER SALES SERVICE**

### **■ THE ATEQ AFTER SALES SERVICE IS :**

- a team of qualified technicians,
- a permanent telephone assistance,
- agencies close to you for faster reaction,
- a stock of spare parts available immediately,
- a car fleet for rapid intervention,
- a commitment to quality ...

### **■ THE OVERHAUL**

ATEQ carries out the overhaul of your instruments at interesting prices.

The overhaul corresponds to the maintenance of the instrument (checking, cleaning, replacing of used parts) as part of preventive maintenance.

Preventive maintenance is the best way to guarantee reliability and efficiency. It allows the maintenance of a group of instruments in good operational order and prevent eventual break-downs.

### **■ MAINTENANCE KITS**

The ATEQ After Sales Service proposes, two kits destined for the preventive maintenance of the pneumatic circuits of instruments.

### **■ CALIBRATION**

This may be carried out on site or in our offices.

ATEQ is attached to the COFRAC and delivers a certificate following a calibration.

### **■ TRAINING COURSES**

In the framework of partnership with our customers, ATEQ offers two types of training in order to optimise the usage and knowledge of our instruments. They are aimed at different levels of technician:

- method / control training,
- maintenance / upkeep training.

### **■ A TARGETED TECHNICAL DOCUMENTATION**

A number of technical documents are at your disposal to allow you to intervene rapidly in the event minor breakdowns:

- problem sheets describing and offering solutions to the main pneumatic and electronic problems,
- several maintenance manuals.

### **■ A QUALITY GUARANTEE**

The instruments are guaranteed for parts and labour in our offices:

- 2 years for leak detection equipment,
- 1 year for electrical tests to norms instruments,
- 1 year for the accessories.

Our After Sales Service is capable of rapidly answering all your needs and queries.

**We strongly recommend to send the instrument back to ATEQ once a year for re-calibration**





## PREFACE

Dear Customer,

You have just purchased an **ATEQ** instrument, we thank you for the trust you have placed on our brand. This instrument has been designed to ensure a long and unparalleled life expectancy, and we are convinced that it will give you complete satisfaction during many long years of operation.

In order to maximise the life expectancy and reliability of your **ATEQ** instrument, we recommend that you install this instrument on a secured workbench and advise you to consult this manual in order to familiarise yourself with the functions and capabilities of the instrument.

Our **ATEQ** After Sales Service centre can give you recommendations based on your specific operation requirements.

**ATEQ**



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# PREAMBLE

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## 1. DEFINITION OF THE ATEQ VT520

The principle of this instrument is to awaken and then retrieve data from smart sensors mounted on vehicle wheels, in order to check their identifiers.

The instrument interacts with the smart sensors without contact.

## 2. FEATURES

### 2.1. RADIO FREQUENCIES

Awakening transmission frequency is: 125 kHz (LF).

Reception frequencies are: 433 MHz or 315 MHz (RF).

RF awakening transmission frequencies and other reception frequencies are also available upon request.

### 2.2. TYPE OF SENSORS

This instrument is designed and can be used for the measurement of any requested sensors.

### 3. DESCRIPTION OF THE TEST CYCLE



The measurement cycle consists of 1 phase:

	<b>1</b>	
Start	<b>Sensor checking</b>	Cycle end

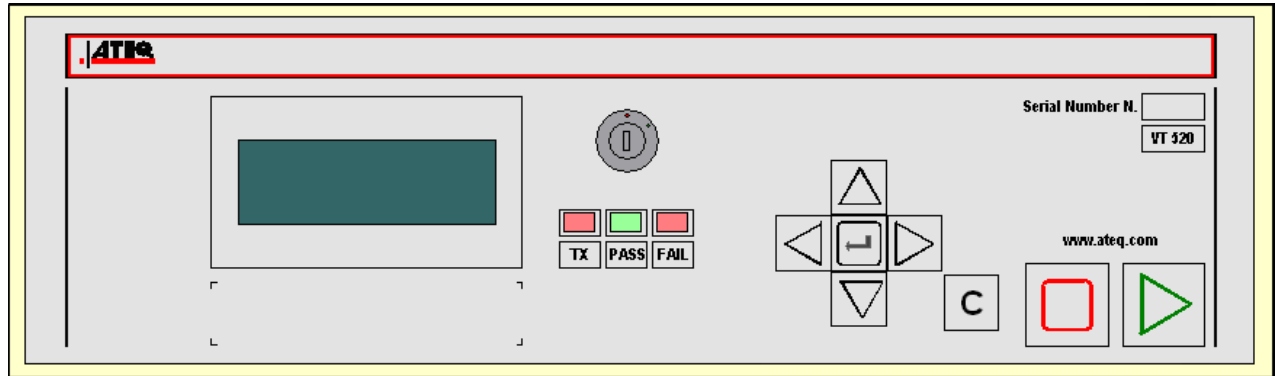
<b>Start</b>	Starting the test cycle.
<b>Sensor checking</b>	A frame is transmitted in the air and the instrument is going in receive mode to read a sensor's frame.
<b>End of Cycle</b>	The cycle stops automatically. The sensor's frame parameters are displayed. Identifier, wheel pressure, temperature, etc.

## Chapter 1

# INSTALLATION OF THE INSTRUMENT

**Note:** all the cables and connectors referred in this chapter can be supplied by ATEQ, contact ATEQ for more information.

### 1. APPEARANCE OF THE ATEQ VT520

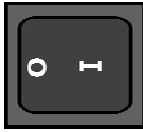


The **ATEQ VT520** is supplied in a moulded plastic case.

The upper cover is attached to the main body by six screws.

## 2. INSTALLATION OF THE INSTRUMENT

### 2.1. ON/OFF SWITCH



I: ON

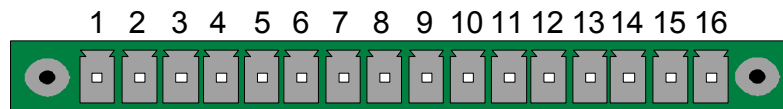
O: OFF

### 2.2. POWER SUPPLY



The **ATEQ VT520** operates under a supply of 100 to 240 V AC.

### 2.3. J3 CONNECTOR (BINARY INPUTS/OUTPUTS)



Pin	Standard mode	Compact mode	
1	Input 1 Reset	Input 1 Reset	INPUTS (Activation par 24 V DC) Common + 24 V = 0,3 A maxi
2	Common (+ 24 V)	Common (+ 24 V)	
3	Input 2 START	Input 2 START	
4	Common (+ 24 V)	Common (+ 24 V)	
5	Input 3 Program selection	Input 3 Program selection	
6	Input 4 Program selection	Input 4 Program selection	
7	Input 5 Program selection	Input 5 Program selection	
8	Input 6 Program selection	Input 6 Program selection	
9	Input 7 Program selection	Input 7 Program selection	
10	Floating common output	Floating common output	DRY CONTACT OUTPUTS 60V AC / DC Max 200mA Max
11	Output 1 Pass part	Output 1 Pass part cycle 1 (pb)	
12	Output 2 Fail part	Output 2 Fail part cycle 1 + alarm	
13	Output 3	Output 3 Pass part cycle 2	
14	Output 4 Alarm	Output 2 Fail part cycle 2 + alarm (al)	
15	Output 5 End of cycle	Output 5 End of cycle	
16	0 V	0 V	

The compact mode is a software function which is activated in the **CONFIGURATION / CHANGE I/O / OUTPUT** menu.



### 2.3.1. Activating a program from the J3 connector inputs

To activate a program from the J3 connector inputs, you have to select pins 5 to 9 (one or more). Binary weight  $n + 1$ .

**Pin combinations for program selection**

Program number	Pin 5 (Input 3)	Pin 6 (Input 4)	Pin 7 (Input 5)	Pin 8 (Input 6)
1	0	0	0	0
2	1	0	0	0
3	0	1	0	0
4	1	1	0	0
5	0	0	1	0
6	1	0	1	0
7	0	1	1	0
8	1	1	1	0
9	0	0	0	1
10	1	0	0	1
11	0	1	0	1
12	1	1	0	1
13	0	0	1	1
14	1	0	1	1
15	0	1	1	1
16	1	1	1	1

### 2.3.2. J3 Connector (Binary inputs/outputs) programmable input

Input 7 (pin 9) parameters can be set in the **CONFIGURATION/CHANGE I/O** menu

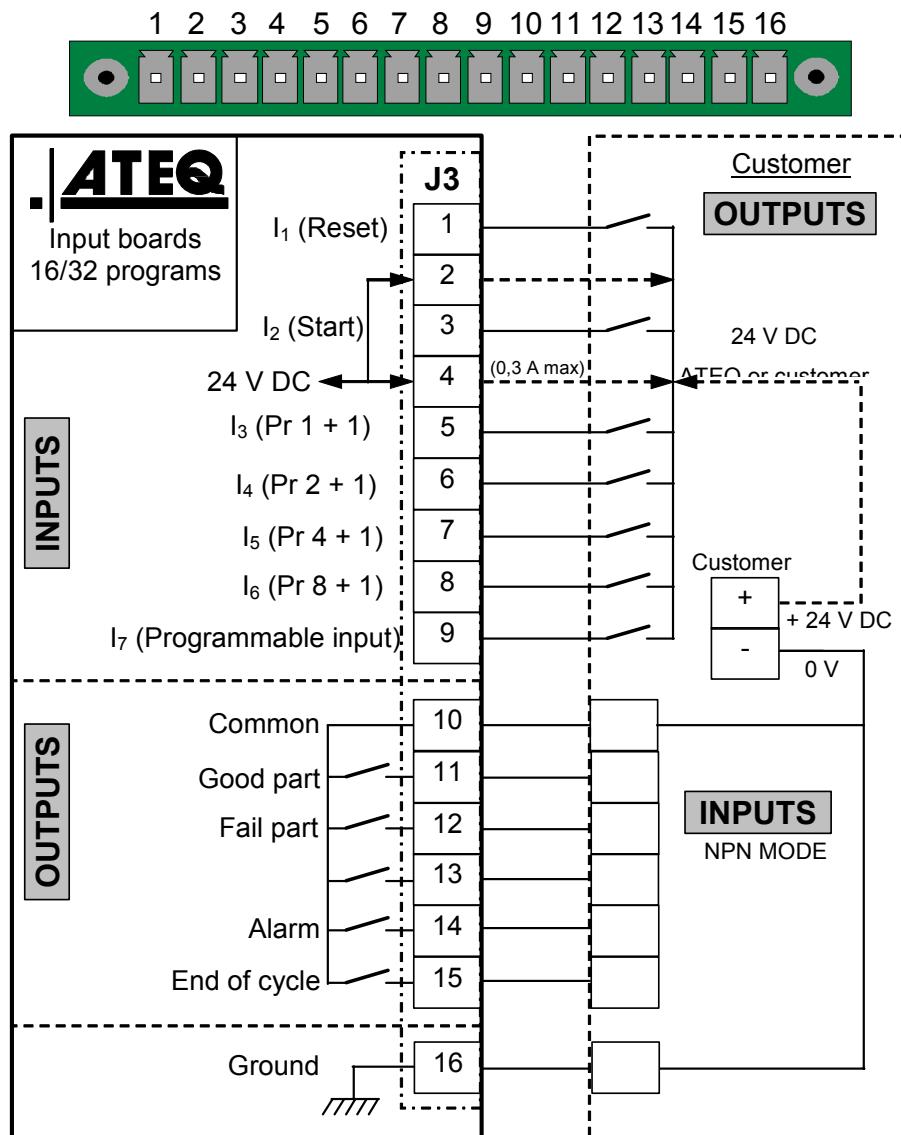
The functions which can be programmed and are available on this input are all the specials cycle:

- ✓ Program selection.
- ✓ Current.

Some possibilities appear only if the function is used.

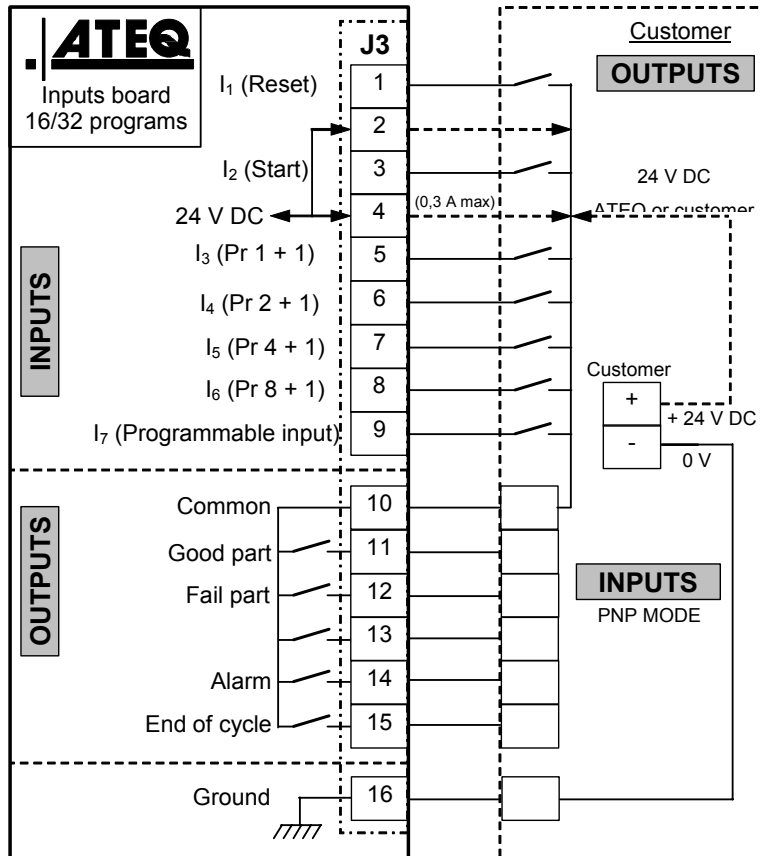
## 2.3.3. J3 Connector (binary inputs/outputs) diagram

## a) PLC in NPN mode connection



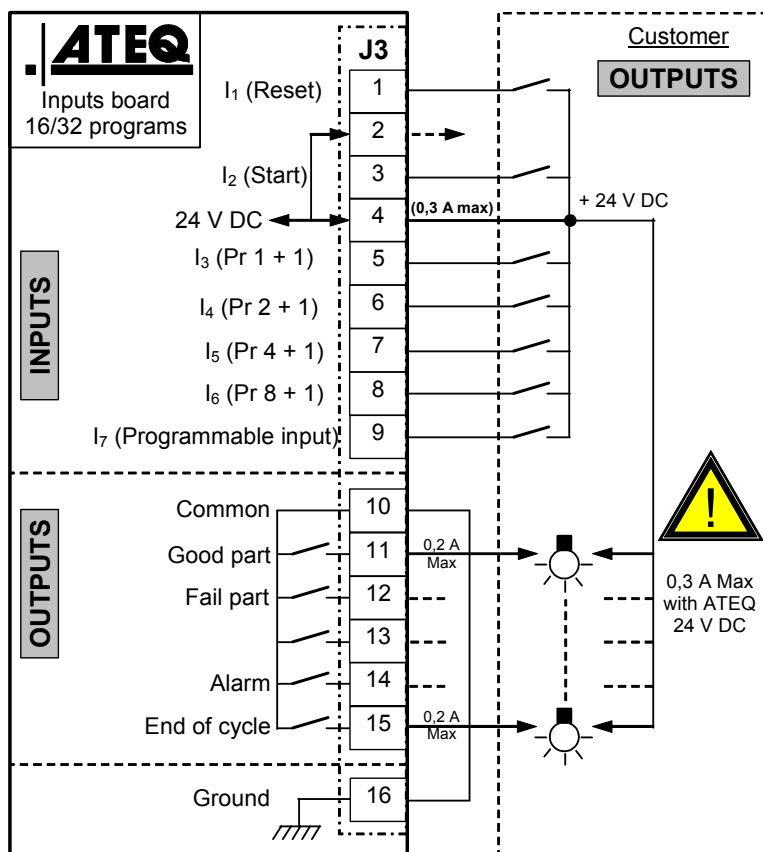
**Note:** The 24V power supply must be provided by the internal power supply of the ATEQ instrument (0,3A maximum) **OR** through an external power supply provided by the customer.

In the case of customer external supply, the ATEQ instrument can be supply by the 2 and 4 pins on the J3 connector too.

**b) PLC in PNP mode connection**

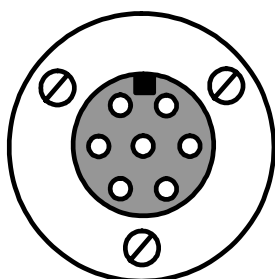
**Note:** The 24V power supply must be provided by the internal power supply of the ATEQ instrument (0,3A maximum) OR through an external power supply provided by the customer.

In the case of customer external supply, the ATEQ instrument can be supply by the 2 and 4 pins on the J3 connector too.

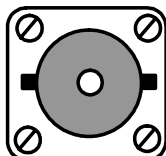
**c) Lights connection**

**Note:** The 24V power supply must be provided by the internal power supply of the ATEQ instrument (0,3A maximum) OR through an external power supply provided by the customer.

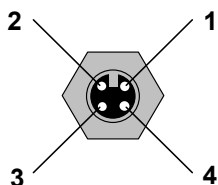
In the case of customer external supply, the ATEQ instrument can be supply by the 2 and 4 pins on the J3 connector too.

**2.3.4. Transmitting antenna connector**

The transmitting antenna connection wire is supplied with the device. (ATEQ proprietary connection, connect only this wire, don't make any change).

**2.3.4. 1) Receiving antenna connector**

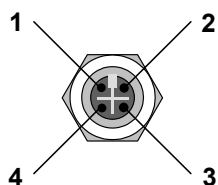
The receiving antenna connector is supplied with the device. Coaxial connector BNC type. (ATEQ proprietary connection, connect only this wire, don't make any change).

**2.3.5. J6 Input Connector (RS485 option)**

Reserved for **ATEQ** network.

Used for communication with other **ATEQ** instruments.  
(Lumberg male connector).

PIN 1	Network	PIN 3	Network
PIN 2	+ 24V Power supply	PIN 4	0V Earth

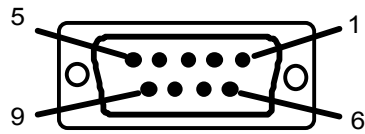
**2.3.6. J7 Output connector (RS485 option)**

Reserved for **ATEQ** network

Used for communication with other **ATEQ** instruments.  
(Lumberg female connector).

PIN 1	Network	PIN 3	Network
PIN 2	+ 24V Power supply	PIN 4	0V Earth

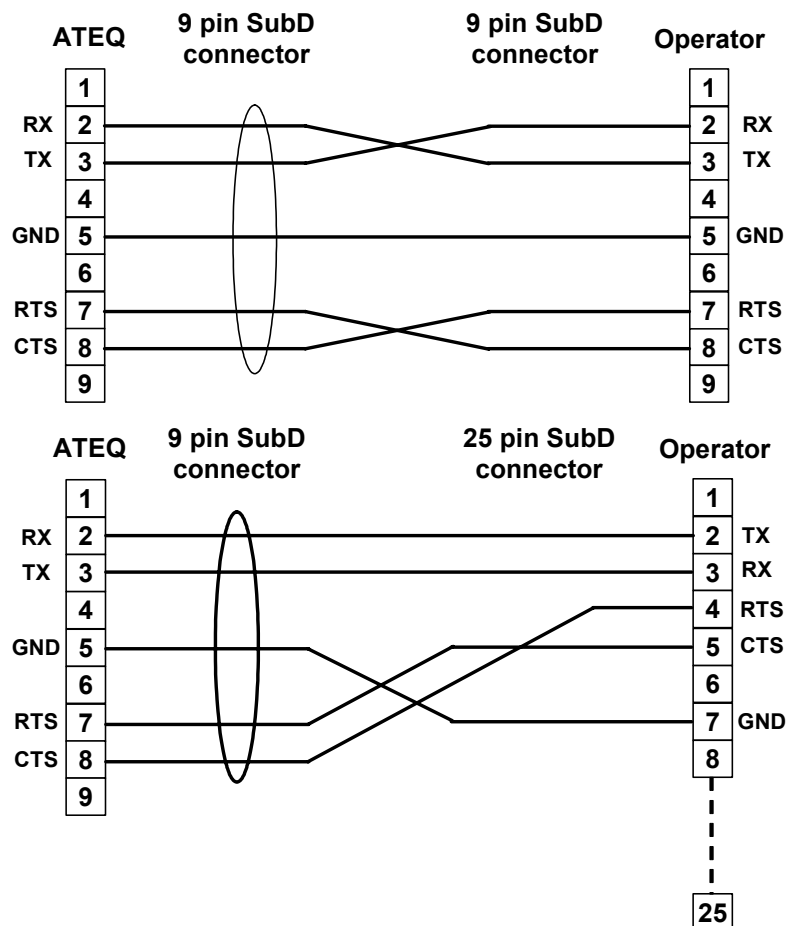
### 2.3.7. J8 connector (RS232)



Enables the connection of a printer, bar code reader, PC and memory module.

PIN 1	Not used
PIN 2	RXD data input
PIN 3	TXD data output
PIN 4	Not used
PIN 5	Earth/Ground
PIN 6	Not used
PIN 7	RTS request to send
PIN 8	CTS clear to send
PIN 9	Not used

### 2.3.8. Examples of RS232 cables

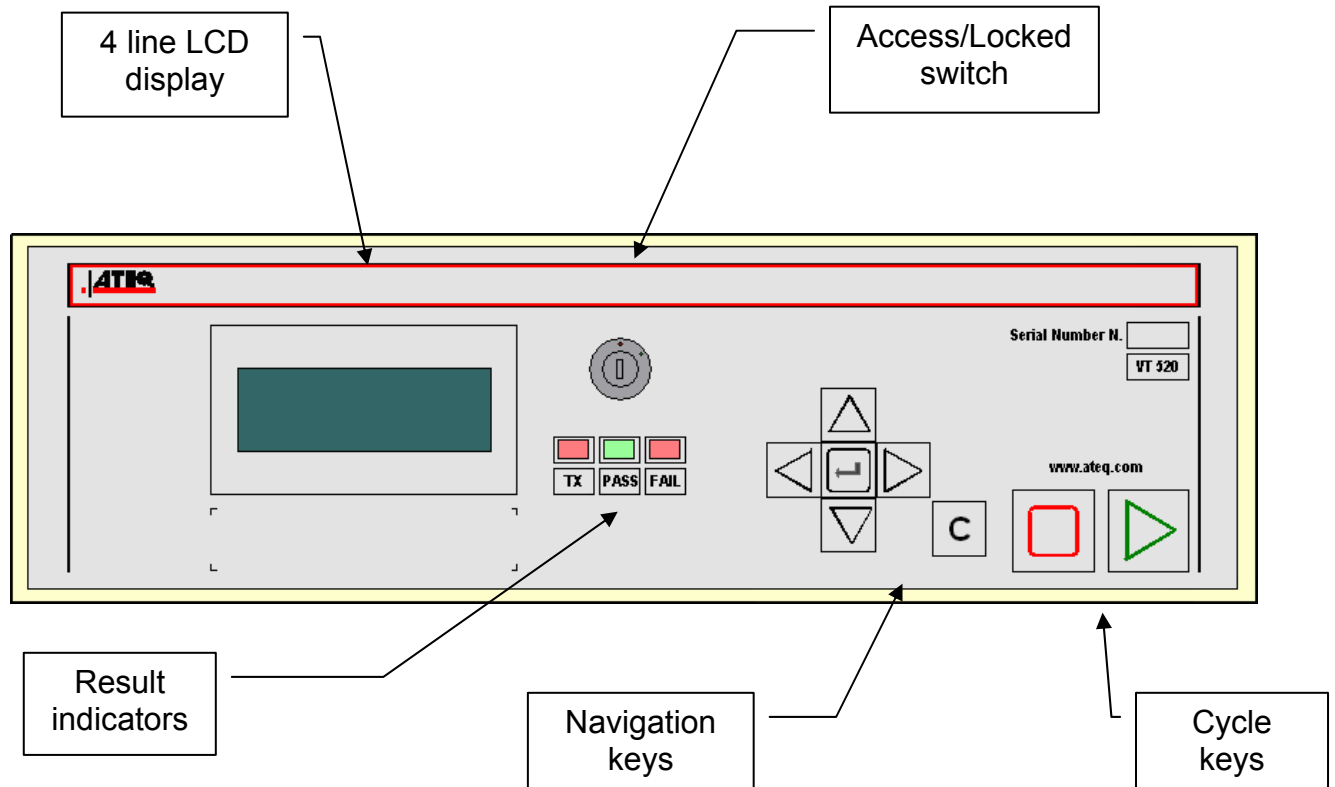




## Chapter 2

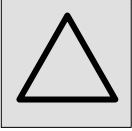
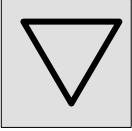
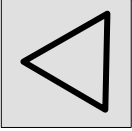
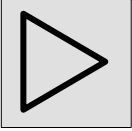
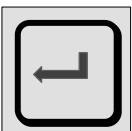
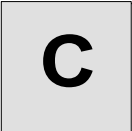
# USER INTERFACES

### 1. APPEARANCE OF VT520 FRONT PANEL

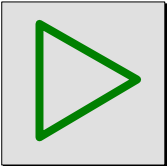
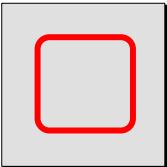


## 2. DESCRIPTION OF THE KEYBOARD KEYS

### 2.1. NAVIGATION KEYS

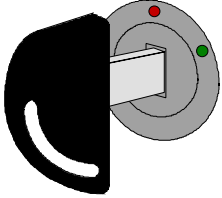
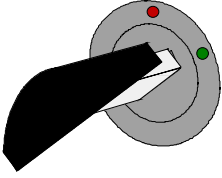
KEY	FUNCTION
	Scroll up or increase numerical values
	Scroll down or decrease numerical values
	Not used
	Not used
	<b>ENTER</b> key Opening a menu Entering a parameter Confirmation of a parameter
	« <b>C</b> » for <b>CANCEL</b> Return to the previous menu or function Escape without modifying a parameter

### 2.2. CYCLE KEYS

KEY	FUNCTION
	<b>START</b> key Starts a measurement cycle
	<b>RESET</b> key Stops a cycle in progress



**2.3. LOCKABLE SWITCH**

POSITION	FUNCTION
	<b>LOCKED</b> position. Access to adjustable parameters not possible.
	<b>ACCESS</b> position. Adjustable parameters may be accessed.

**Note:** whatever position the key is in (**LOCKED** or **ACCESS**), test cycles can be started and stopped


### 3. DISPLAY AND LIGHTS

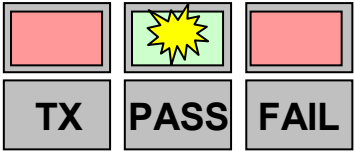
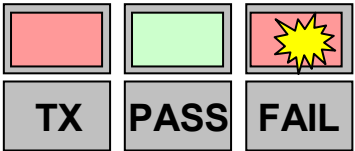
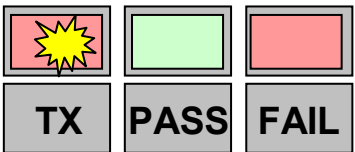
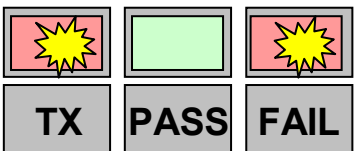
#### 3.1. 4 LINE LCD DISPLAY



Used to display measurements and adjustable parameters. In the example opposite, XX.XXi represents the program version for the instrument.

#### 3.2. FUNCTIONS OF THE INDICATOR LIGHTS

The  symbol represents an indicator which is lit.

Test part PASS indicator.	
Test Part FAIL indicator.	
Transmission indicator.	
Warning.	

## Chapter 3


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# START-UP AND SETTINGS

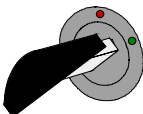
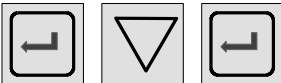
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### 1. POWERING-UP THE ATEQ VT520

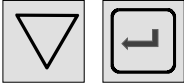
Supply the apparatus with 110 ~ 240 V AC. Switch Power ON. When powered up the instrument:

- Displays version ...		
...then displays the main menu.		

## 2. CREATION OF A TEST PROGRAM

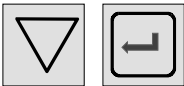
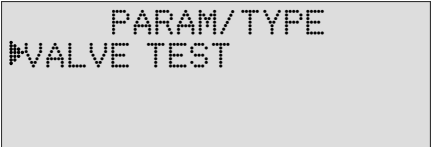
<p>To modify the parameters, turn the key to the <b>ACCESS</b> position.</p>		<pre> RUN/Pr: 001  READY </pre>
<p>To access the main menu, press <b>ENTER</b>. In the main menu, place the cursor in front of the <b>PARAMETERS</b> menu. Confirm with the <b>ENTER</b> key.</p>		<pre> MAIN MENU RUN PROG. : --- PARAMETERS SPE CYCLE : none </pre>
<p>The <b>PARAMETERS</b> menu is used to manage test programs.</p> <p>☞ If the various programs to be created have different parameters, they must be created one by one.</p> <p>☞ If the programs have identical parameters, a base program can be created and then the Copy-Paste function can be used to duplicate the program as many times as is necessary.</p>		<pre> PARAMETERS Copy-Paste Pr : 001 ----- Pr : 002 ----- </pre>

### 2.1. CHOICE OF THE PROGRAM NUMBER

<p>Position the cursor in front of the chosen program number and confirm with the <b>ENTER</b> key.</p>		<pre> PARAMETERS Copy-Paste Pr : 001 ----- Pr : 002 ----- </pre>
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## 2.2. TEST TYPE SELECTION

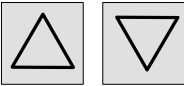


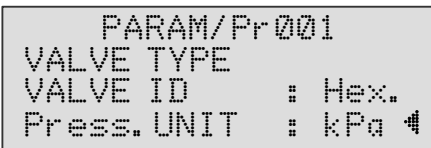
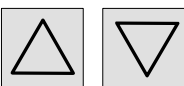
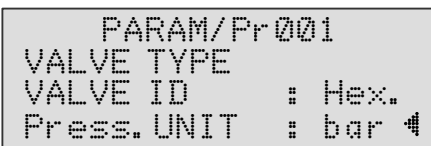

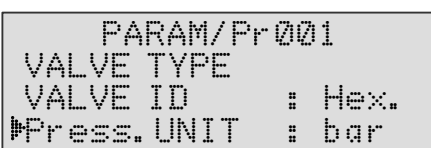
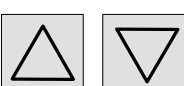
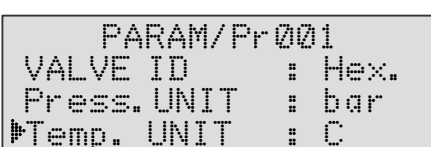

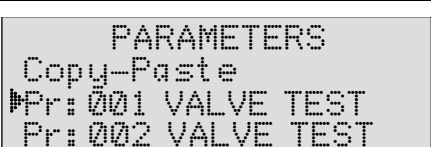
One type of test is available.

<p>The <b>PARAMETERS</b> menu gives access to one possible type of test: <b>VALVE TEST</b>; see the following paragraph for explanations.</p> <p>Put the cursor in front of the test type and confirm with the <b>ENTER</b> key.</p>		
--	---	--

## 2.3. PARAMETERS SETTINGS

Once the test type is chosen, the test cycle parameters must be set.

The procedure to follow for setting the test parameters is identical in each case.  
Example: Pressure unit.

<p>First, position the cursor in front of the chosen parameter using the navigation keys (here, VALVE).</p>		
<p>Then, confirm with the <b>ENTER</b> key. The cursor will move to the right of the display.</p>		
<p>Modify the value using the navigation keys.</p>		
<p>Once the value is modified, confirm with the <b>ENTER</b> key.</p>		
<p>To move on to the next parameter, use the navigation keys.</p>		
<p>To exit from the menu, use the <b>CANCEL</b> key.</p>		

### 2.3.1. Valve type

Set the type of sensor the instrument is going to test.

The different sensor types depend of the manufacturer.

☞ Set this parameter using the method described in § 2.3.

### 2.3.2. Learn mode (Trigger activation)

Each sensor has different mode or status. Set the test mode.

The different trigger types are in function of the sensor depending of the manufacturer.

☞ Set this parameter using the method described in § 2.3.

### 2.3.3. Frequency

Set the receiving frequency among: 315 MHz, 433.92 MHz and 434.42 MHz.

☞ Set this parameter using the method described in § 2.3.

### 2.3.4. Time out

Time allow to the sensor to answer. Over this time, if the device has not receiving any frame, the message "**NO RESPONSE**" is displayed.

☞ Set this parameter using the method described in § 2.3.

### 2.3.5. Power

Set the emitting power. All sensors don't have the same sensitivity so the emitting power can be adjust. The power can also be adjust in order to limit the emission range of the instrument. Adjustment: 0 % to 100 %, step 1 %.

☞ Set this parameter using the method described in § 2.3.

### 2.3.6. LF output

This mode selects one or several transmitting antennas and her transmitting mode. The various modes are: **A + B** the two antennas are transmitting together, **A** or **B** antenna only, **A<>B** antennas **A** and **B** alternatively (the **A1**, **A2**, **B1** et **B2** modes are not available in this version).

The transmitting power is modulated by the **H** letter: example **A + B : H**. "**H**" = full power and "**h**" half power.

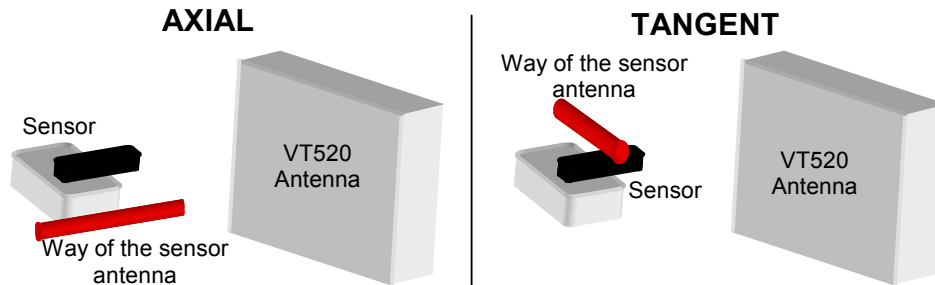
The power is adjusted in the "**Power**" parameter.

Example: if the configured power is **60%** then, if "**H**" is selected we will transmit with **60%** power else, if "**h**" is selected we will have **30%** power.

☞ Set this parameter using the method described in § 2.3.

### 2.3.7. LF type

This parameter allows selecting the type of status of the antenna (polarization) in the sensor: **AXIAL** (the antenna of the sensor is perpendicular to the plane of the VT antenna) or **TANGENT** (the antenna of the sensor is parallel to the plane of the VT antenna).



☞ Set this parameter using the method described in § 2.3.

### 2.3.8. Valve ID

The sensor identifier (ID) can be displayed in hexadecimal or decimal.

☞ Set this parameter using the method described in § 2.3.

### 2.3.9. Pressure units

The different units are bar, mbar, PSI, Pa, kPa, MPa.

☞ Set this parameter using the method described in § 2.3.

### 2.3.10. Temperature units

The different units are Celsius (C) or Fahrenheit (F) degrees.

☞ Set this parameter using the method described in § 2.3.

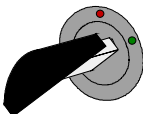














### 2.3.11. Functions

The **FUNCTION** menu gives access to additional parameters which must first be activated in the **CONFIGURATION** menu and then the **EXTENDED MENU**.

If no additional parameters are confirmed in the **EXTENDED MENUS**, the **FUNCTION** menu will be empty when selected.

For the activation of these parameters, please refer to chapter 4 § 2.

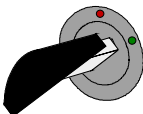
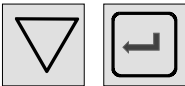






## 3. DUPLICATION OF A TEST PROGRAM

To modify the parameters, turn the key to the <b>ACCESS</b> position.		
Starting from the main menu, position the cursor in front of the <b>PARAMETERS</b> function.	 	<pre> MAIN MENU RUN PROG.   : 01 PARAMETERS SPE CYCLE : none </pre>
Confirm with the <b>ENTER</b> key. Select the Copy-Paste function. Confirm the function again using the <b>ENTER</b> key.	 	<pre> PARAMETERS Copy-Paste Pr: 001 VALVE A Pr: 002 VALVE B </pre>
Next, confirm the <b>COPY</b> function.		<pre> PARAM/Copy-Paste COPY      : Pr --- PASTE     : Pr --- </pre>
Display the number of the program to be copied using the navigation keys. (In this case, program no.1).	 	<pre> PARAM/Copy-Paste COPY      : Pr 001 PASTE     : Pr --- </pre>
Confirm using the <b>ENTER</b> key.		<pre> PARAM/Copy-Paste COPY      : Pr 001 PASTE     : Pr --- </pre>
Placer the cursor in front of the <b>PASTE</b> function.	 	<pre> PARAM/Copy-Paste COPY      : Pr 001 PASTE     : Pr --- </pre>
Confirm with the <b>ENTER</b> key. Assign a number to this new program using the navigation keys (For example no.3).	  	<pre> PARAM/Copy-Paste COPY      : Pr 001 PASTE     : Pr 003 </pre>
Confirm with the <b>ENTER</b> key, the display confirms that the program has been copied.		<pre> COPY IN PROGRESS </pre>
The program 1 parameters are copied into program 3. In this example program 3 and 1 are identical.		<pre> PARAM/Copy-Paste COPY      : Pr 001 PASTE     : Pr 003 </pre>

Press the **CANCEL** key  twice to return to the main menu.



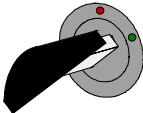
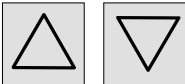

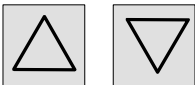

## 4. DELETING A PROGRAM OR A PROGRAM NAME

To modify the parameters, turn the key to the <b>ACCESS</b> position.		
Position the cursor in front of <b>PARAMETERS</b> function. Confirm with the <b>ENTER</b> key.		<pre> MAIN MENU RUN PROG.   : 01 PARAMETERS SPE CYCLE : none </pre>
Position the cursor in front of the program number or the program name to be deleted.		<pre> PARAMETERS Copy-Paste Pr001 VALVE A Pr002 VALVE B </pre>
Confirm once to enter the program.		<pre> PARAM/pr001 TYPE : VALVE TEST LEAR 315 SNIFFING </pre>
Confirm a second time to gain access to the delete menu. There are two possibilities: delete the program name or delete the whole program.		<pre> M/Pr001/TEST TYPE Delete name Reset program Delete custom name </pre>
1°) Confirm a third time. The name of the program is deleted.		<pre> PARAMETERS Copy-Paste Pr: 001 ----- Pr: 002 VALVE B </pre>
2°) Place the cursor in front of Program reset.		<pre> PARAM/Pr001/TEST TY Delete name Reset program Delete custom name </pre>
Confirm with the <b>ENTER</b> key. The program is then deleted.		<pre> PARAMETERS Copy-Paste Pr: 001 ----- Pr: 002 VALVE B </pre>


**Note:** if the "Delete a program" operation is done first, then the program name is also deleted.

## 5. STARTING A CYCLE

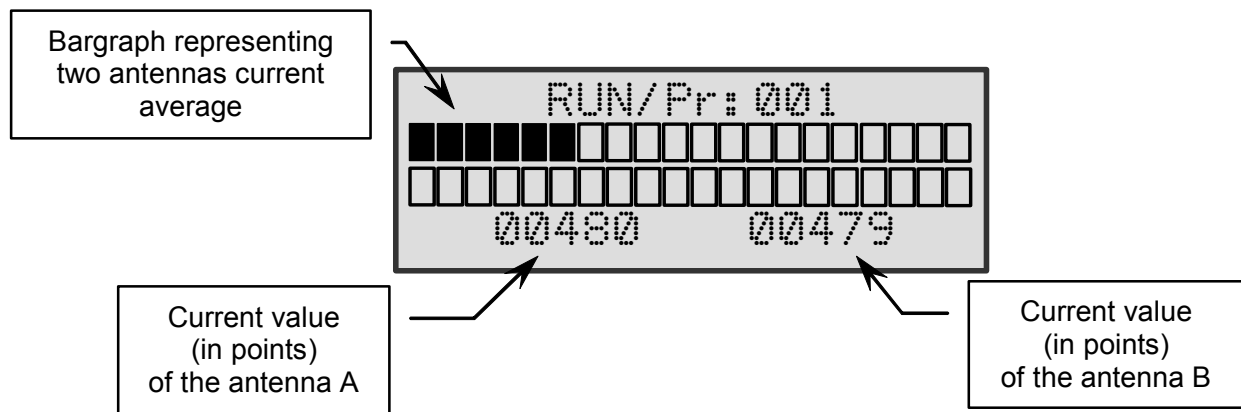
### 5.1. CHOICE OF THE PROGRAM TO BE RUN

Position the key in the <b>ACCESS</b> position.		
Starting from the main menu, place the cursor in front of the <b>RUN PROG.</b> function.		<pre> MAIN MENU ▶RUN PROG.    : 01 PARAMETERS SPE CYCLE : none           </pre>
Confirm with the <b>ENTER</b> key. The cursor will move to the right of the display.		<pre> MAIN MENU RUN PROG.    : 01  ◀ PARAMETERS SPE CYCLE : none           </pre>
Display the number of the program required by scrolling through the numbers with the navigation keys.		<pre> MAIN MENU RUN PROG.    : 04  ◀ PARAMETERS SPE CYCLE : none           </pre>
Confirm your choice with the <b>ENTER</b> key.		<pre> MAIN MENU ▶RUN PROG.    : 04 PARAMETERS SPE CYCLE : none           </pre>

## 6. STARTING A MEASUREMENT CYCLE

Press the <b>START</b> key to start a measurement cycle.		<pre> RUN/Pr: 001 LEAR 315 LF CODE 3 READY </pre>
The cycle phase is displayed on the LCD window: <b>CYCLING</b>		<pre> RUN/Pr: 001 LEAR 315 LF CODE 3 CYCLING </pre>

### 6.1. CURRENT DISPLAY DESCRIPTION (OPTION)



Up scale: one case of the graph fits to 80 points.


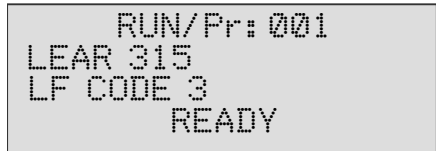
Down scale: one case of the graph fits to 740 points.

The maximum current value in points for the antennas is 16000 that fitting to 100 % (0 point = 0 %).

It must try to obtain the maximum value (in points) for each antenna (rising to 16000). Thus the bar graph (average of the two antennas) will drift to its maximum.



**7. STOPPING A CYCLE**

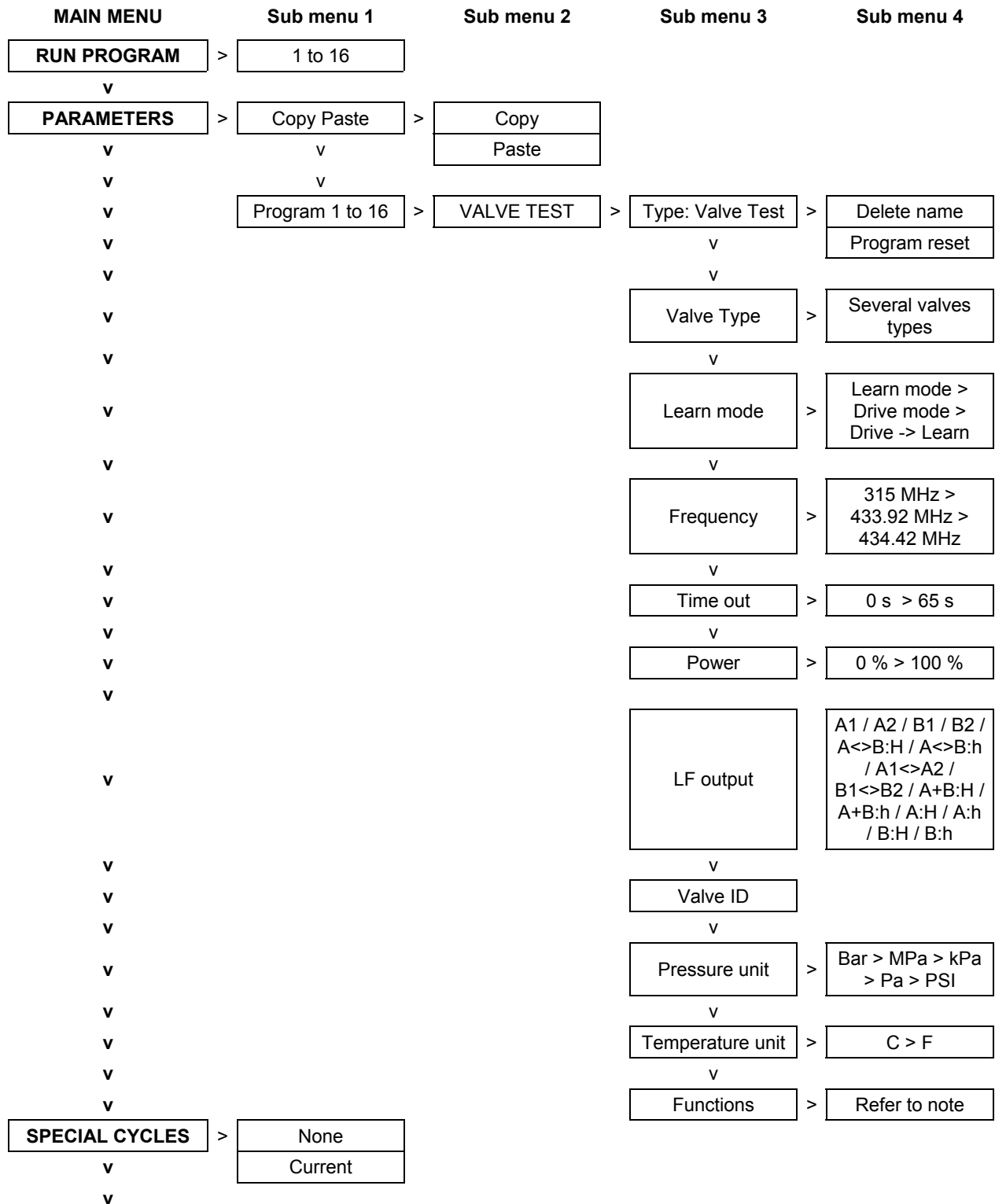
<p>Press the <b>RESET</b> key to stop the measurement. The display "<b>READY</b>" indicates that the instrument is ready to perform a new measurement test.</p>		
---	---	--

## Chapter 4

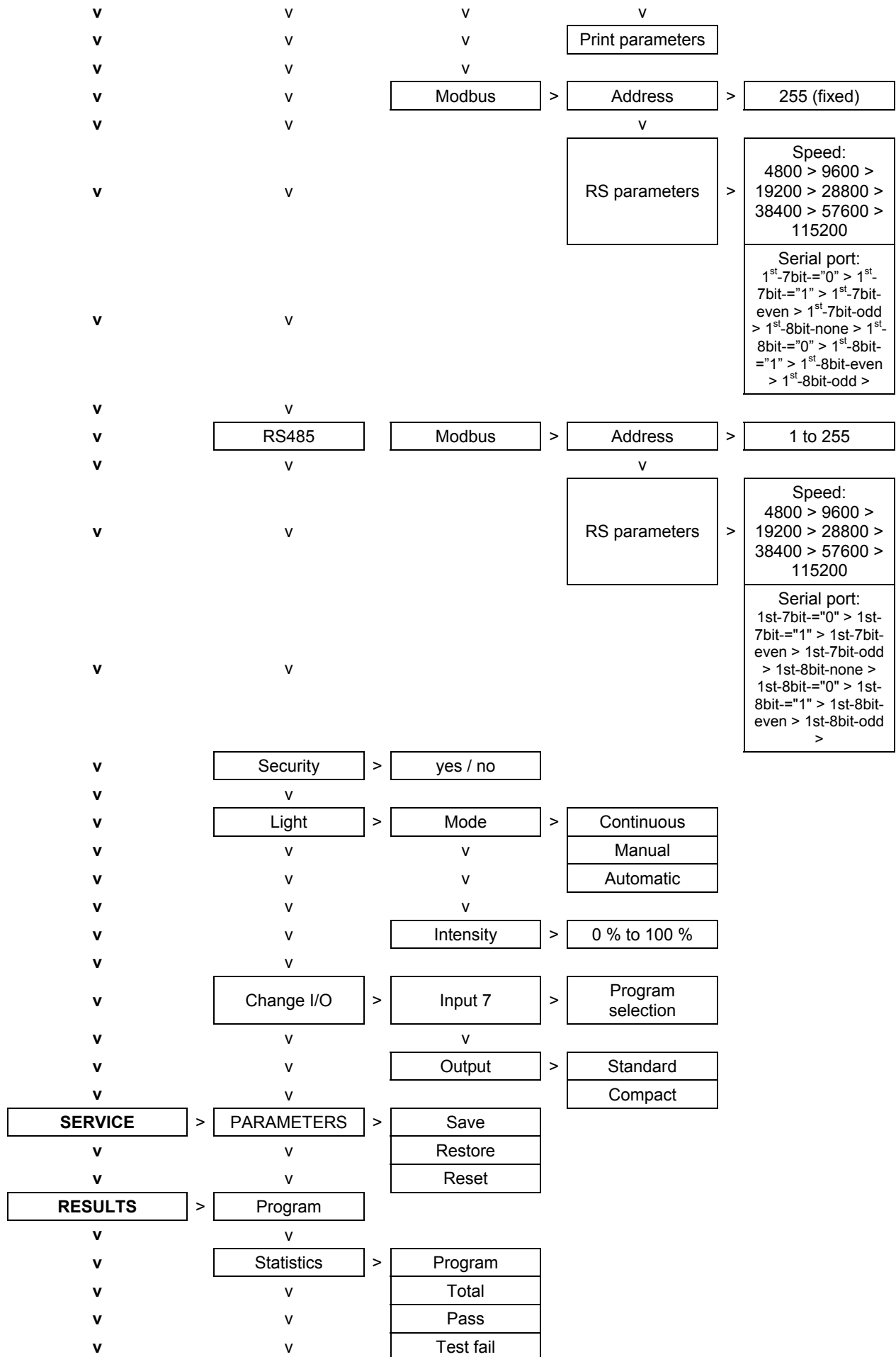
## FUNCTIONS OF THE INSTRUMENT

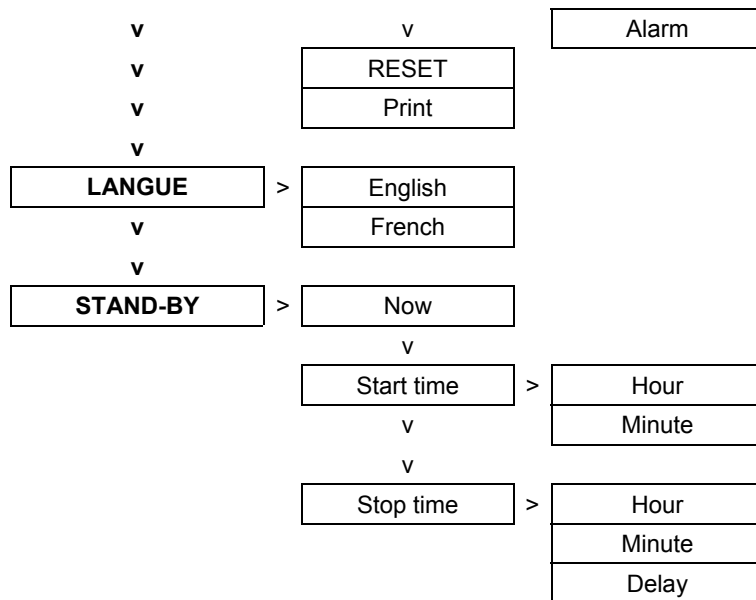
## 1. MENU STRUCTURE

## 1.1. MAIN MENU



CONFIGURATION	>	Extended menus	>	Name				
v		v		Pressure				
v		v		Temperature				
v		v		Acceleration				
v		v		Program sequencing				
v				Discard ID				
v		v		Valves codes				
v		v		24 V outputs				
v		v						
v		Automatic save	>	Yes / no				
v		v						
v		Date & Time	>	Hour				
v		v		Minute				
v		v		Day				
v		v		Month				
v		v		Year				
v		v						
v		RS232	>	Printer	>	RS parameters	>	Speed: 4800 > 9600 > 19200 > 28800 > 38400 > 57600 > 115200
v		v		v		v		Serial port: 1 <sup>st</sup> -7bit="0" > 1 <sup>st</sup> - 7bit="1" > 1 <sup>st</sup> -7bit- even > 1 <sup>st</sup> -7bit-odd > 1 <sup>st</sup> -8bit-none > 1 <sup>st</sup> - 8bit="0" > 1 <sup>st</sup> -8bit- ="1" > 1 <sup>st</sup> -8bit-even > 1 <sup>st</sup> -8bit-odd >
v		v		v		v		
v		v		v		Print frame	>	Pressure
v		v		v		v		Program name
v		v		v		v		Date & time
v		v		v		v		Lines before
v		v		v		v		Lines after
v		v		v		v		Inter line
v		v		v		v		Form feed
v		v		v		v		
v		v		v		Send conditions	>	All
v		v		v		v		Pass
v		v		v		v		Fail
v		v		v		v		Alarm
v						v		
v						TLP (not functional)		
v		v		v		v		
v		v		v		Export	>	yes / no
v		v		v		v		
v						VT60 (not functional)		





**Note:** the parameters which are in the **EXTENDED MENUS** can be found in the **FUNCTIONS** menu of a program when they are activated.



## 1.2. "FUNCTIONS" MENU WHEN ACTIVATED

MAIN MENU		Sub menu 1		Sub menu 2		Sub menu 3		Sub menu 4
FUNCTIONS	>	NAME						
		v						
		Pressure	>	yes / no	>	Pressure Max.		
		v				Pressure Min.		
		v						
		Temperature	>	yes / no	>	Temperature Max.		
		v				Temperature Min.		
		v						
		Acceleration	>	yes / no	>	Acceleration Max.		
		v				Acceleration Min.		
		v						
		Discard ID	>	yes / no				
		Valve codes	>	External 1				
		v		External 2				
		v		External 3				
		v		External 4				
		v		External 5				
		v		External 6				
		v		Internal 1				
		v		Internal 2				
		v						
		Program sequencing	>	Next program				
		v		Inter cycle				
		v		All				
		v		Pass				
		v		Fail				
		v		Alarm				
		v						
		24V outputs		Auxiliary 1				
				Auxiliary 2				
				Auxiliary 3				
				Auxiliary 4				

## 2. CONFIGURATION MENU









### 2.1. EXTENDED MENUS

The extended menus offer access to additional functions.

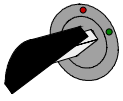
If these functions are activated, they can be found in the **FUNCTION** menu when a program is created.

If no additional functions are activated, the **FUNCTION** menu will be empty when a program is created. .

#### 2.1.1. Activation of the additional functions

In the main menu, place the cursor in front of the <b>CONFIGURATION</b> option.		<pre> MAIN MENU SPE CYCLE : None ▶CONFIGURATION RESULTS           </pre>
Confirm using the <b>ENTER</b> key.		<pre> MAIN/CONFIGURATION ▶EXTENDED MENUS AUTO SAVE   : No DATE        TIME           </pre>
Next, confirm the <b>EXTENDED MENUS</b> function with the <b>ENTER</b> key. The list of additional functions is then displayed.		<pre> CONF/EXTENDED MENU ▶NAME       : No PRESSURE    : No TEMPERATURE : No           </pre>
To activate a function (e.g. the <b>NAME</b> function), confirm it with the <b>ENTER</b> key. Next, choose <b>YES</b> with the navigation keys and confirm again with the <b>ENTER</b> key. Start the operation again if you need to activate other functions.	  	<pre> CONF/EXTENDED MENU ▶NAME       : Yes PRESSURE    : No TEMPERATURE : No           </pre>
Once all the chosen functions are activated, press the <b>CANCEL</b> key twice to return to the main menu.	 	<pre> MAIN MENU SPE CYCLE : none ▶CONFIGURATION SERVICE           </pre>

### 2.1.2. Adjusting the additional function settings

- ✓ Place the key in the **ACCESS**  position.
- ✓ Create a new program (please refer to chapter 3 paragraph 2 "Creation of a test program").
- ✓ In the parameters list for this new program, confirm the **FUNCTIONS** parameter (refer to chapter 3 paragraph 2.3 "Parameter settings").



**Only the functions which have been activated using the above method will appear in the FUNCTIONS parameter.**

### 2.1.3. List of additional functions

#### 2.1.3. 1) Name

This function is used to customize a program, for example to name a program after the part to be tested.

☞ Select the option and enter settings if necessary.

#### 2.1.3. 2) Pressure

This function is used to display and test the pressure parameter sent by the sensor (internal wheel pressure) so this parameter had to be between the high and low pressure parameters.

☞ Select the option and enter settings if necessary.

#### 2.1.3. 3) Temperature

This function is used to display and test the temperature parameter sent by the sensor (internal wheel temperature) so this parameter had to be between the high and low temperature parameters.

☞ Select the option and enter settings if necessary.

#### 2.1.3. 4) Acceleration

This function is used to display and test the acceleration parameter sent by the sensor (wheel acceleration) so this parameter had to be between the high and low acceleration parameters.

☞ Select the option and enter settings if necessary.

#### 2.1.3. 5) Discard ID

This function is used to forget the last reed ID in case of, for a new test cycle, this ID is detected.

☞ Select the option and enter settings if necessary.

### 2.1.3. 6) Program sequencing

This function enables several tests to be carried out by the instrument one after the other following sequencing conditions.

The sequencing order can be edited; the choice of the following program is defined in the parameters. By default the programs are sequenced according to their original number P+1 which can be modify. This function is not operative in the SNIFFING mode (infinite test time).

When an active program is sequenced with another program, a "+" is displayed behind the program number.

```

MAIN MENU
▶ RUN PROG.      : 01+
PARAMETERS
SPE CYCLE : none
    
```

Associated parameters to be set: NEXT PROGRAM, INTER-CYCLE (wait or coupling time between two cycles). Sequencing conditions: ALL RESULTS (under all result conditions), PASS (test good), FAIL (test not good), ALARM.

☞ Select the option and enter settings if necessary.

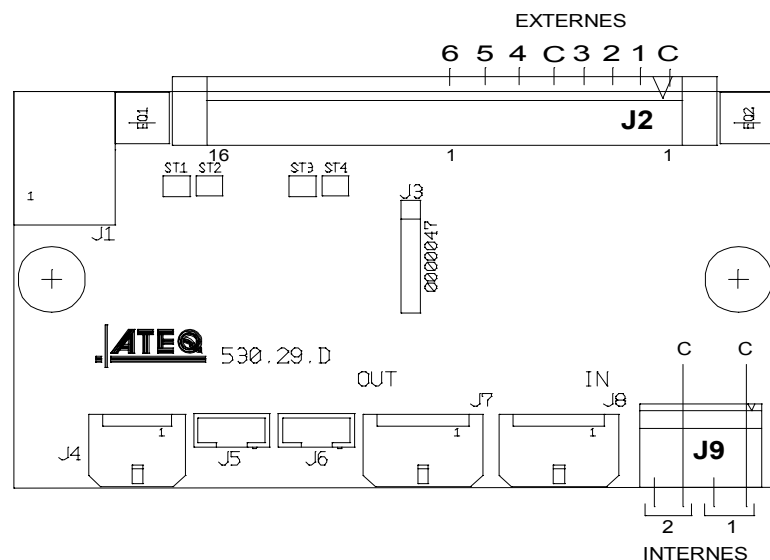
### 2.1.3. 7) Valve codes

The instrument has eight programmable electrical outputs (24V DC/100 mA maximum) on the J1 valve code board.

The “valve code” outputs reserved to a pneumatic function are identified by the associated function’s name: Stamping, automatic connector, etc... When they are “free” and available to the operator they are called: internal or external with their position number.

Associated parameters to be set: External 1, External 2, External 4, External 5, External 6, Internal 1, Internal 2.

☞ Select the option and enter settings if necessary.



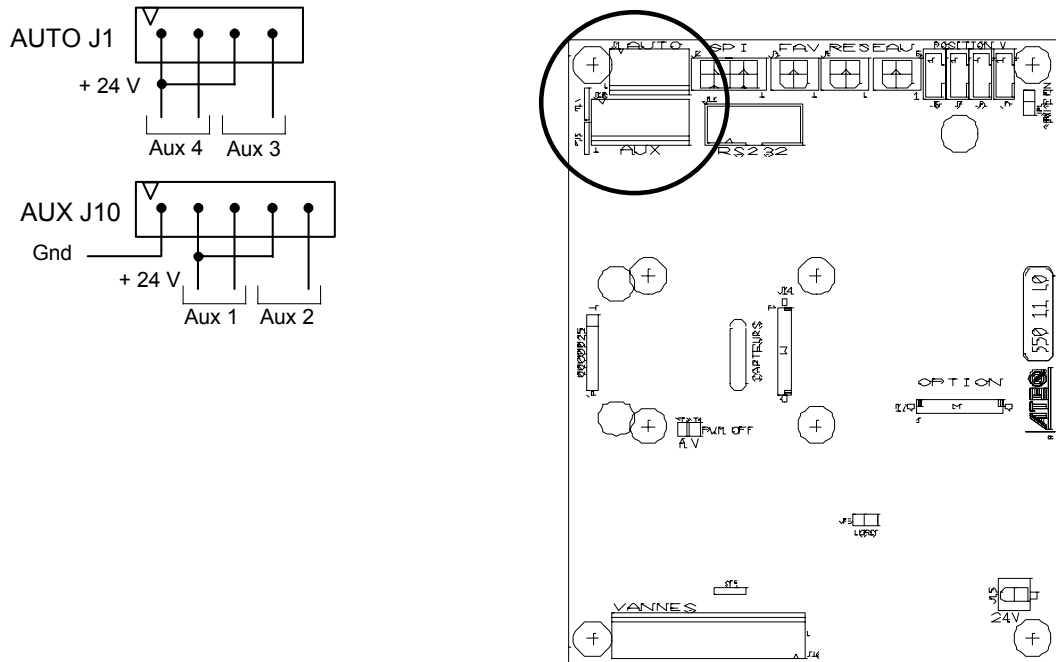
### 2.1.3. 8) 24V Auxiliary outputs

On the instrument main board there are four programmable electrical outputs (24V DC / 100 mA maximum, outputs).

Unlike the **valve code** outputs, the **auxiliary outputs** reserved for a pneumatic function are identified by the name of the function: stamping, automatic connector, etc. When they are free and available for the operator to use they are called: auxiliary and the position number.

Associated parameters to be adjusted: Auxiliary 1, Auxiliary 2, Auxiliary 3, Auxiliary 4.

☞ Select the option and enter settings if necessary.



## 2.2. AUTOMATIC SAVE

This function has for main objective to save the test parameters from the RAM memory of the instrument to its flash memory.

When this function is not validated, each time the key switch is turned from the **ACCESS** to the **LOCKED** mode, the instrument displays **NO PARAMETERS SAVED IN FLASH**. The save operation can be carried out manually in the **SERVICE PARAMETERS** menu.

When the **AUTOMATIC SAVE** function is confirmed with a **YES**, the parameters are saved automatically when the key is turned from the **ACCESS** to the **LOCKED** position.

This function is useful if the parameters in the RAM are accidentally erased. The instrument will then automatically read and restore the flash parameters in the RAM.

### **2.3. DATE & TIME**

This function includes a clock (hours, minutes) and an internal calendar (day, month and year).

☞ Select the option and enter settings if necessary.

### **2.4. RS232**

#### **2.4.1. C540/580**

This function enables the configuration of the instrument so that it may be supervised by an ATEQ central.

☞ Select the option and enter settings if necessary.

#### **2.4.2. Printer**

This function enables the configuration of the instrument to enable the printing of the program data (parameters) as well as the test results. When the option is activated (YES), each time a cycle is started, the test results are systematically printed.

☞ Select the option and enter settings if necessary.

##### **2.4.2. 1) RS parameters**

These parameters enable the configuration of the instrument enabling it to communicate with the printer.

Associated parameters to be set: Speed, Stop byte, number of data bytes, parity.

☞ Select the option and enter settings if necessary.

##### **2.4.2. 2) Print frame**

This function enables the configuration of the results printout.

Associated parameters to be set: Prog. name (displays the program name when set), Date & Time (printing of the date and the time), Sensor's name, Sensor's ID (displays the sensor's identifier), Sensor's pressure, Sensor's temperature, Sensor's acceleration, Sensor's battery status, Sensor's status, Lines before (number of lines before the result), Lines after (number of lines after the result), Inter line (space between each line), Form feed (new page).

**a) Frame format**

Frame detail, in the following example, all the parameters are sent in the frame, if you don't want one or several of them, you have to validate by "NO" in the frame menu.


See the following example:

Program name	Program number	Test result	Identifier	Pressure	Pressure unit	T°	T° unit	acceleration	Battery status	Date	Time
CAR 01	01	(OK)	84037168h	2.10	bar	73	C	2.5 G	BAT:OK	02/01/2006	16:30:25
CAR 01	01	(OK)	84037169h	2.12	bar	73	C	2.5 G	BAT:OK	02/01/2006	16:31:34
CAR 01	01	(OK)	84037170h	2.13	bar	74	C	2.5 G	BAT:OK	02/01/2006	16:32:39
CAR 01	01	(OK)	84037171h	2.09	bar	74	C	2.5 G	BAT:OK	02/01/2006	16:33:41
CAR 01	01	(OK)	84037172h	2.10	bar	73	C	2.5 G	BAT:OK	02/01/2006	16:34:43
CAR 01	01	(OK)	84037173h	2.12	bar	74	C	2.5 G	BAT:OK	02/01/2006	16:35:45
CAR 01	01	(OK)	84037174h	2.10	bar	73	C	2.5 G	BAT:OK	02/01/2006	16:36:46
CAR 01	01	(OK)	84037175h	2.13	bar	74	C	2.5 G	BAT:OK	02/01/2006	16:37:47
CAR 01	01	(OK)	84037176h	2.10	bar	74	C	2.5 G	BAT:OK	02/01/2006	16:38:48
CAR 01	01	(OK)	84037177h	2.09	bar	74	C	2.5 G	BAT:OK	02/01/2006	16:39:50
CAR 01	01	(OK)	84037178h	2.12	bar	74	C	2.5 G	BAT:OK	02/01/2006	16:40:51
CAR 01	01	(OK)	84037179h	2.10	bar	73	C	2.5 G	BAT:OK	02/01/2006	16:41:53
CAR 01	01	(OK)	84037180h	2.13	bar	73	C	2.5 G	BAT:OK	02/01/2006	16:42:54
CAR 01	01	(OK)	84037181h	2.12	bar	74	C	2.5 G	BAT:OK	02/01/2006	16:43:55
CAR 01	01	FAIL	84037168h	2.12	bar	74	C	7.5 G	BAT:OK	02/01/2006	16:55:58

**2.4.2. 3) Sending conditions**


With this function you can choose which data is to be printed on the results sheet.

Associated parameters to be set: **ALL RESULTS** (all test results), **PASS** (number of good parts), **FAIL** (number of bad parts), **ALARM** (number of times the alarm has been trigger).

 Select the option and enter settings if necessary.

**2.4.2. 4) TLP**

No fonctionnal.


 Select the option and enter settings if necessary.

**2.4.2. 5) Export**

This function can be used to create and send a special results frame which can be processed by a PC using Microsoft Excel.

This frame is of the same type as the print parameters frame except that the different character strings follow each other and are separated by a punctuation mark which enables the various boxes to be entered automatically in Microsoft Excel.

This frame is operated by connecting a computer to the instrument's RS 232 link.

 Select the option and enter settings if necessary.

### 2.4.2. 6) Print parameters

When this option is confirmed the test parameters are printed immediately.

#### a) Example of a parameters print frame

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
V	e	r	s	i	o	n			0	1	.	0	0	b	5																								
0	3	/	0	1	/	2	0	0	6																														
P	r		0	1		P	R	O	G	R	A	M		N	A	M	E																						
T	Y	P	E		:		V	A	L	V	E		T	E	S	T																							
V	A	L	V	E		T	Y	P	E		:		T	G	1	B		N	D		4	3	3		M	H	z												
T	R	I	G	G	E	R		:		F	O	R	C	E	D		F	R	A	M	E																		
P	O	W	E	R		:		4	0		%																												
V	A	L	V	E		I	D		:		H	E	X	.																									
P	r	e	s	s	.	U	N	I	T		:		b	a	r																								
M	A	X	.	T	E	M	P	.		:		1	0	0																									
M	I	N	.	T	E	M	P	.		:			1	0																									
T	e	m	p	.	U	N	I	T		:		C																											

**Note:** The "PROGRAM NAME" characters are printed when a program name has been set in the parameters.

### 2.4.3. Modbus

This function enables the configuration of the Modbus link when the instrument is installed in this type of network. The frame parameters, RS parameters (speed, serial port) must be entered.

☞ Select the option and enter settings if necessary.

### 2.5. RS485

This function enables the configuration of the RS485 output to a C540 central or F580 when the instrument is installed in a network.

☞ Select the option and enter settings if necessary.

### 2.6. SECURITY

This function deactivates the **START** key on the instrument front panel. Programs can only be started from the instrument inputs (J3 connector).

☞ Select the option and enter settings if necessary.

















## 2.7. LIGHT (BACKLIGHT)

Screen illumination (backlight) can be programmed and modified. The lighting can be adjusted according to the ambient conditions or the user's choice.

There are three lighting modes:

- ✓ **continuous** mode, display screen permanently lit whatever the conditions
- ✓ **manual** mode, the screen remains lit for 20 minutes and if the keyboard has not been used by the end of this period the screen shuts down and only relights when the keyboard is touched again.
- ✓ **automatic** mode, which is identical to manual mode, with illumination of the screen also if an action is carried out from the external inputs (rear connectors)

Using these three modes, the lighting intensity of the screen can be programmed from 0% (screen off) to 100% (maximum lighting intensity).

In the main menu, position the cursor by the <b>CONFIGURATION</b> menu then confirm by pressing <b>ENTER</b> .	 	<pre>MAIN MENU PARAMETERS SPE CYCLE: none CONFIGURATION</pre>
Move the cursor down until it is in front of the <b>LIGHT</b> menu then confirm by pressing <b>ENTER</b> .	 	<pre>MAIN/CONFIGURATION MODBUS : No SECURITY : No LIGHT : No</pre>
Place the cursor in front of <b>MODE</b> to choose the required lighting mode and confirm using <b>ENTER</b> .	 	<pre>MAIN/CONFI/LIGHT MODE : AUTO INTENSITY : 50%</pre>
Select the lighting mode and confirm using <b>ENTER</b> .	 	<pre>MAIN/CONFI/LIGHT/MO CONTINUOUS MANUAL AUTO</pre>
To return to the previous menu, press the <b>C</b> button once		<pre>MAIN/CONFI/LIGHT MODE : CONTINUOUS INTENSITY: 50%</pre>
To select the lighting intensity for the display, place the cursor in front of the <b>INTENSITY</b> menu and confirm using <b>ENTER</b> .	 	<pre>MAIN/CONFI/LIGHT MODE : CONTINUOUS INTENSITY : 50%</pre>
Then select the lighting intensity from 0% (off) to 100% (maximum luminosity) and the new lighting intensity will be applied as soon as <b>ENTER</b> is pressed.	  	<pre>MAIN/CONFI/LIGHT MODE : CONTINUOUS INTENSITY : 75%</pre>

## **2.8. CHANGE I/O CONFIGURATION**

### **2.8.1. Input 7 (IN7)**

This menu is used to configure programmable input 7 on connector J3 on the 16-program input/output board.

Refer to Chapter 1, paragraph 2.1.5 "Connector J3 (binary Inputs/Outputs) programmable input".

The various functions which can be set on input 7 are: "Program selection", "Current".

These functions represent all the special cycles available.

### **2.8.2. Output**

Two output modes are available: **STANDARD** mode and **COMPACT** mode.

They enable the configuration of the outputs available in two different ways.

For the wiring of the outputs, please refer to chapter 1 paragraph 2.1.3. J3 connector (Binary Inputs/Outputs).



The compact mode enables the output of test results for two sequenced cycles maximum. Outputs 1 and 2 are reserved to the first cycle, outputs 3 and 4 to the second, output 5 for the general cycle end.

### 3. SPECIAL CYCLES MENU

#### 3.1. SPECIAL CYCLES AVAILABLE

The following list shows all the special cycles which are possible: those available will vary depending on what is checked in the expanded menus or according to the optional extras requested at the time of manufacture of the instrument.


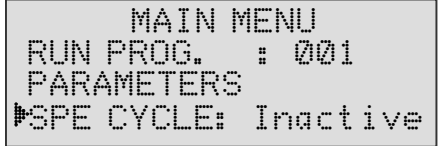

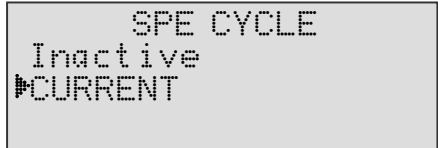
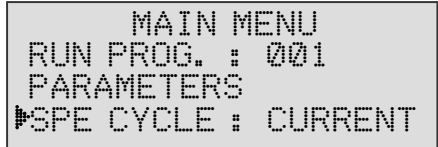


Special cycle	Function
✓ Inactive:	No special cycle selected.
✓ Current:	Cycle allows adjusting the antenna tuning by the measurement of the current.

To run a special cycle, select it in the **Special Cycles** menu, then press the  button. To stop it, press the  button. In some cycles the stop is automatic.

### 3.2. STARTING THE SPECIAL CYCLES

#### 3.2.1. Current (antenna tuning)


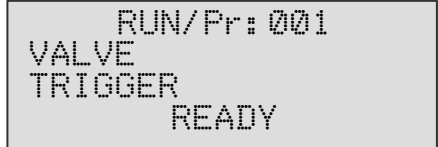
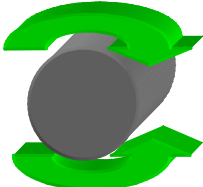

Cycle allows adjusting the antenna tuning by the measurement of the current.

Position the cursor in front of <b>SPE CYCLE</b> and confirm using the <b>ENTER</b> key.		
Next, position the cursor in front of <b>CURRENT</b> and confirm using the <b>ENTER</b> key.		
The display confirms that the special cycle has been selected.		
Press the <b>START</b> key to start the special cycle. Then measure on the bar graph the current value.		



***Do not face close to the antenna during the transmission.***



Press the <b>RESET</b> key to stop the special cycle		
Adjust the antenna tuning to obtain the maximum current displayed.		

*For further information concerning the current display, see the chapter 3, paragraph 6.1 "Current display description".*

## 4. SERVICE MENU










### 4.1. PARAMETERS SERVICE

This menu is used to manage the memory containing the test cycle parameters.

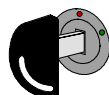
- ✓ **Save** service parameters menu: used to save the configuration of the parameters in the current test.
- ✓ **Restore** service parameters menu: used to restore a previously saved configuration.
- ✓ **Reset** service parameters menu: used to delete the current configuration.

To access the menu, put the switch to **ACCESS** position.



In the main menu, place the cursor in front of <b>SERVICE</b> and confirm using <b>ENTER</b> .	 	<pre> MAIN MENU SPE CYCLE: none CONFIGURATION SERVICE </pre>
Then place the cursor in front of <b>PARAMETERS</b> and confirm using <b>ENTER</b> .	 	<pre> MAIN/SERVICE PARAMETERS </pre>
Then place the cursor in front of the action required :  <b>SAVE</b> : save current parameters, <b>RESTORE</b> : load from memory to current parameters, <b>RESET</b> : delete current parameters, and confirm using <b>ENTER</b> .	 	<pre> MAIN/SERVI/PARAMETE SAVE           : No RESTORE        : No RESET          : No </pre>
To activate an operation, confirm using <b>ENTER</b> . Then choose <b>YES</b> using the arrows then confirm again using <b>ENTER</b> .	  	<pre> MAIN/SERVI/PARAMETE SAVE           : Yes RESTORE        : No RESET          : No </pre>

Turn the switch to the **LOCKED** position.



**Note:** if the parameters have been modified, then current and saved parameters are therefore different, when the instrument begins to operate, the following message is displayed on the screen.

This message does not block the instrument and disappears after a few seconds. It informs that a parameters saving could be necessary. In this case three solutions appear:

SAVE PARAMETERS

- 1) **Restore** the saved parameters (current parameters will be lost).
- 2) **Save** the current parameters in the memory (the parameters already in the memory will be lost).
- 3) **Do nothing** and work with the current parameters.

## 5. RESULTS MENU

This function is used for the:

- ✓ detailed display of the test results: number of parts tested, number of Pass parts, number of Fail reference parts, number of Fail test parts, number of re-workable parts, number of times the alarm is triggered (each indicator is expressed as a % value), .
- ✓ resetting of the results memory,
- ✓ printing of the results (number of good parts, number of bad parts)

## 6. LANGUAGE MENU

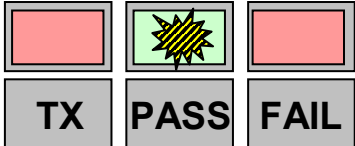
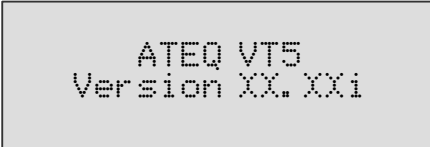
This function is used to select the language displayed by the instrument. Several languages are available. Two languages can be stored in the instrument when it is manufactured, English by default and one other optional language.


## 7. STAND BY MENU

This function is used to switch off the instrument without disconnecting it. Standby can be immediate or programmed with start and stop times.

There are two ways to achieve immediate standby:















- 1) Either through the standby menu,
- 2) Or by pressing the **RESET**  key for more than three seconds.

<p><b>Note:</b> when the instrument is in standby mode, the display is off and only the yellow indicator light flashes approximately every 3 seconds.</p>	
<p>To reactivate the instrument, simply press any key on the front panel or activate any input.</p>	

 Select the option and enter settings if necessary.

**7.1. STANDBY USING THE MENU**

Standby using the menu enables start and stop times for the instrument to be programmed.

In the main menu, position the cursor beside <b>STAND-BY</b> and confirm by pressing <b>ENTER</b> .	 	<pre> MAIN MENU RESULTS LANGUAGE : English ▶STAND-BY           </pre>
To program automatic standby at a given time, position the cursor beside <b>STOP TIME</b> .	 	<pre> STAND-BY Now       : No Start time : No ▶Stop time : No           </pre>
Confirm the <b>STOP TIME</b> parameter using <b>YES</b>	 	<pre> STAND-BY Now       : No Start time : No Stop time  : Yes  ◀           </pre>
Then set parameters for the time (hours and minutes) when the standby must take effect. <b>TIME DELAY</b> is the delay (in minutes) between the programmed time and actual standby	 	<pre> STAND/Stop time HOUR      : 00  ◀ MINUTE    : 00 Delay     : 00           </pre>
To program the start-up time for the instrument, position the cursor beside <b>START TIME</b>	 	<pre> STAND-BY Now       : No ▶Start time : Yes Stop time  : Yes           </pre>
Confirm the <b>START TIME</b> parameter using <b>YES</b>	 	<pre> STAND-BY Now       : No Start time : Yes  ◀ Stop time  : Yes           </pre>
Then set parameters for the instrument start time (in hours and minutes).	 	<pre> STAND/Start time HOUR      : 00  ◀ MINUTE    : 00           </pre>





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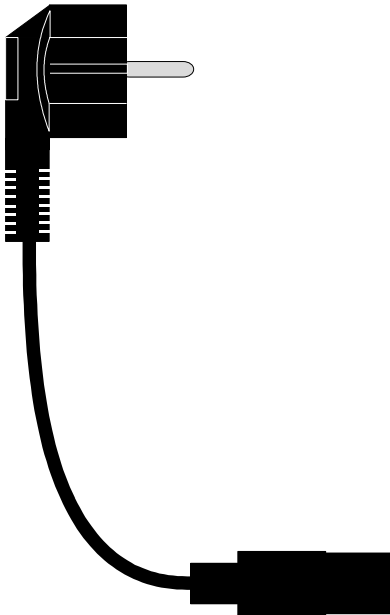
## Chapter 5

# ACCESSORIES

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### 1. ACCESSORIES SUPPLIED WITH THE INSTRUMENT

#### 1.1. MAINS POWER CABLE



The power supply cable of the **VT520** with the integrated antenna allows its connection to the mains supply network (from 100 to 240V AC).

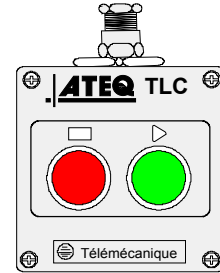
For the VT520 with the remote antenna, the power supply is the stabilized 24 V DC and is via the Jaeger type connector (not supplied).

## 2. OPTIONAL ACCESSORIES

### 2.1. SIMPLE REMOTE CONTROLS

The remote control allows control and selection of various settings remotely for instruments in the **ATEQ** range.




example: START / RESET



Chapter 6

ERROR MESSAGES

The **ATEQ VT520** can display error messages if there are operational problems.

PROBLEM	LIT INDICATORS	MESSAGE DISPLAYED
<p>The instrument didn't receive any signal.</p> <p><b>Action:</b> be sure the proper sensor is selected.</p>	<div><div></div><div></div><div></div><div>TX</div><div>PASS</div><div>FAIL</div></div>	<div><div>RUN/Pr001</div><div>NO RESPONSE</div></div>



## Appendices

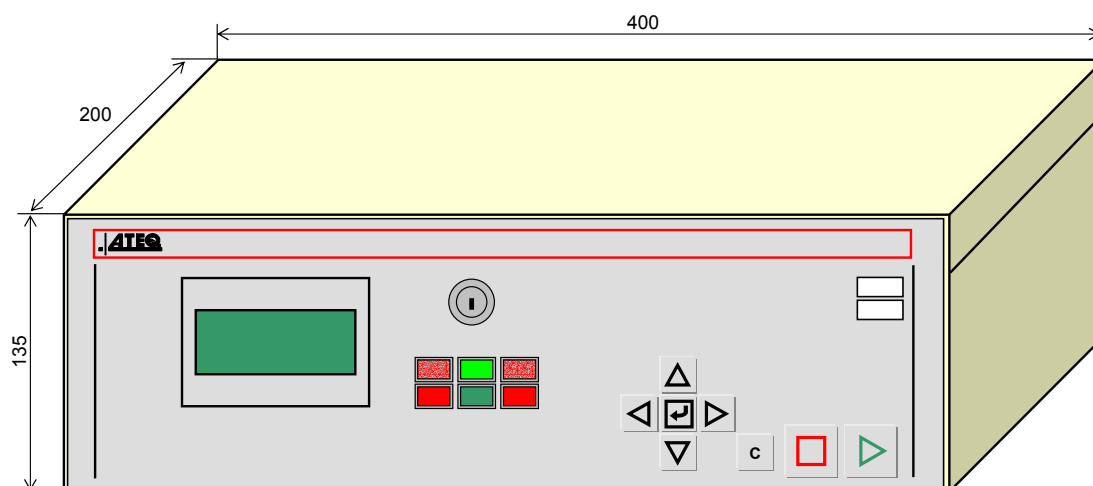
### ATEQ VT520

#### 1. TECHNICAL CHARACTERISTICS VT520

##### 1.1. CHARACTERISTICS

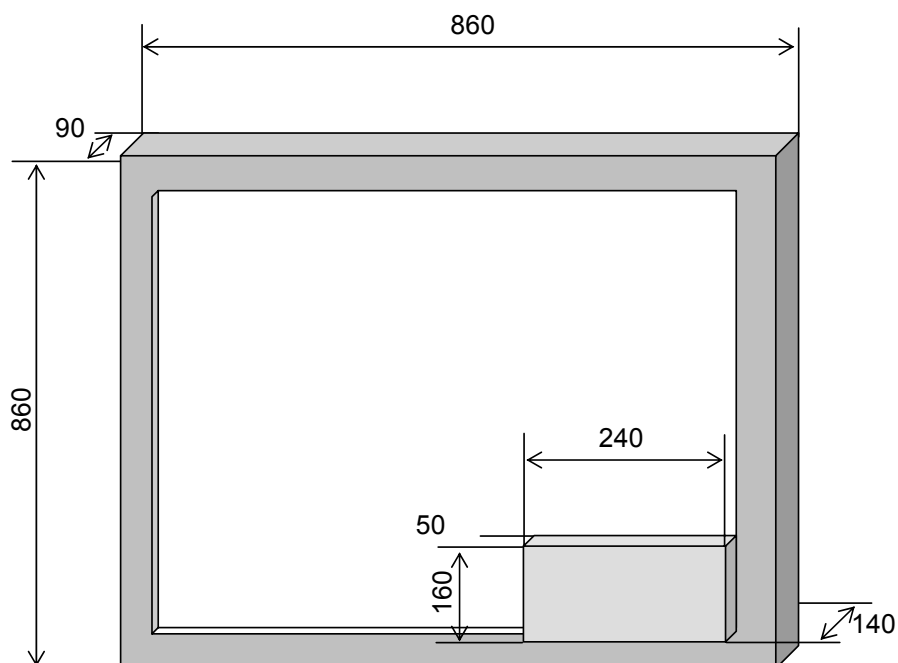
	VT520
<b>Dimensions</b> H x L x D (mm):	400 x 200 x 135
<b>Power supply:</b>	24 V DC stabilized (+/- 0.5 V) 2.5 A minimum.
<b>Weight (kg):</b>	About 2.5.
<b>Temperatures :</b>	
Operational:	+10°C to +45°C
Storage :	0°C to +60 °C

##### 1.2. DIMENSIONS



### 1.3. ANTENNA CHARACTERISTICS

	ANTENNA
<b>Dimensions</b> H x L x D (mm) :	860 x 860 x 140 (overall)
<b>Weight (kg):</b>	about 12
<b>Temperatures :</b>	
Operational:	+10°C to +45°C
Storage :	0°C to +60 °C





### **3. DEFAULT PARAMETERS FOR 4MT-05 (PEUGEOT CUSTOMER)**

The parameters to apply by default for the 4MT-05 device type are (Peugeot customer) the following ones:

**JCAE PF2-PLATFORM** Sensor:

- LF Output: **TANGENT**.
- LF: **A : h**.

**TG1B ND** Sensor:

- LF Output: **AXIAL**.
- LF type: **A + B : H**.



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