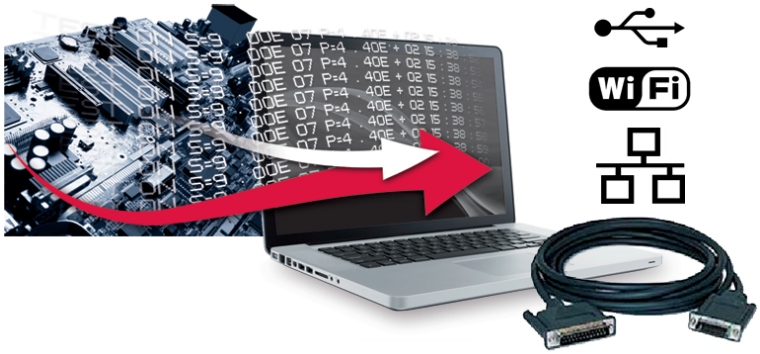
A PASSION FOR PERFECTION

PFEIFFER VACUUM



Translation of the original instructions

37 pin I/O board

Communication interface

Operating Instructions

EN

adixen by PFEIFFER VACUUM

Table of contents

1 About this manual

1.1 Validity

This operating manual is for customers of Pfeiffer Vacuum. It describes the functioning of the designated product and provides the most important information for safe use of the unit. The description follows applicable EU guidelines. All information provided in this operating manual refers to the current state of the product's development. The documentation remains valid as long as the customer does not make any changes to the product.

Up-to-date operating instructions can also be downloaded from www.pfeiffer-vacuum.com.

This manual covers products with the following part numbers:

Part number	Description
JSVA00A2Mx9x	ASM 340 Wet - 37 pin I/O - USB
JSVA00A3Mx9x	ASM 340 Wet - 37 pin I/O - USB - Wi-Fi
JSVA00A4Mx9x	ASM 340 Wet - 37 pin I/O - USB - Ethernet
JSVA00A5Mx9x	ASM 340 Wet - 37 pin I/O - USB - Bluetooth
KSBA00A2MM9A	ASM 340 Dry - 37 pin I/O - USB
KSBA00A3MM9A	ASM 340 Dry - 37 pin I/O - USB - Wi-Fi
KSBA00A4MM9A	ASM 340 Dry - 37 pin I/O - USB - Ethernet
KSBA00A5MM9A	ASM 340 Dry - 37 pin I/O - USB - Bluetooth
121350S	37 pin I/O board accessory - ASM 340
121351S	37 pin I/O board accessory - Wi-Fi - ASM 340
121352S	37 pin I/O board accessory - Ethernet - ASM 340

1.2 Conventions

1.2.1 Safety instructions

Operating manual safety instructions Pfeiffer Vacuum are based on the UL, CSA, ANSI Z-535, SEMI S2, ISO 3864 and DIN 4844 certification standards. This document describes the following information and danger levels:

WARNING

Possibly imminent danger

Indicates an imminent hazardous situation that can result in death or serious injury.

NOTICE

Command or note

Command to perform an action or information about properties, the disregarding of which may result in damage to the product.

1.2.2 Pictographs

Warning of a displayed source of danger in connection with operation of the unit or equipment

Command to perform an action or task associated with a source of danger, the disregarding of which may result in serious accidents

1.2.3 Instructions in the text

⇨ or ➔	Work instruction: you must perform an operation here.
[XXXX]	You must press the key labelled **XXXX** on the control panel.
I/O	Inputs/Outputs

Screenshots are given as examples only. They can therefore vary depending on the operator's settings.

2 Safety precautions

NOTICE

Obligation to inform

Any person responsible for installing, using or maintaining the product must first read the security instructions in this ***operating Manual*** and comply with them.

➔ It is the operating customer's responsibility to protect all operators against the dangers associated with the product, with the media pumped and with the entire installation.

WARNING

Electric shock hazard in case of contact

When the product's circuit breaker is set at **"0"**, some internal components still have an electrical charge.

➔ Make sure that the mains connection is always visible and accessible so that it can be unplugged at any time.

➔ Disconnect the power cable from all power sources before starting any work on the product.

- Only qualified personnel trained in safety rules (EMC, electrical safety, chemical pollution) may carry out the installation and maintenance described in this manual. Our service centers can provide the necessary training.
- Do not turn on the product if the covers are not in place.

3 Installation

3.1 Option

As an option, the 37 pin I/O D-Sub is installed in the detector during the manufacturing stage.

Placed on the frame, this label provides the user with the address of the MAC Wi-Fi or Ethernet installed in the detector.

HLD1302577 - RS232
Bluethooth MAC address
XXXXXX / None
Network MAC address
xx:xx:xx:xx:xx:xx / None

Fig. 1: Address label MAC

3.2 Installation of the accessory

Tool

- 5 mm Allen key supplied in the maintenance kit

Process

WARNING

Electric shock hazard in case of contact

When the product's circuit breaker is set at **"0"**, some internal components still have an electrical charge.

➔ Make sure that the mains connection is always visible and accessible so that it can be unplugged at any time.

➔ Disconnect the power cable from all power sources before starting any work on the product.

➔ Switch off the leak detector: refer to the detector's operating manual.

➔ Unplug the power cable.

➔ Remove the front cover: see detector's maintenance manual.

➔ On the supervisor board, disconnect connector J1.

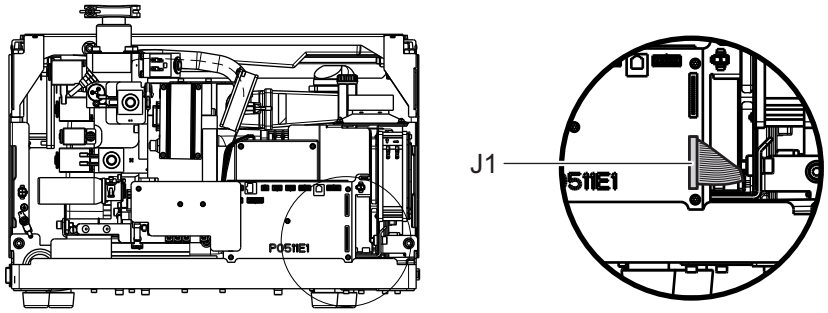
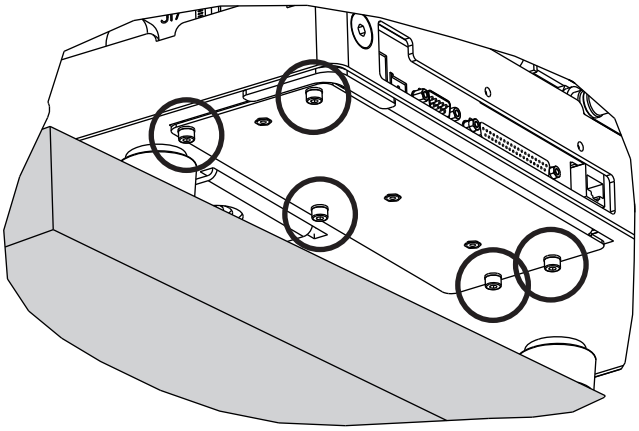


Fig. 2: Connector localisation J1

➔ Move the detector to the edge of the work surface to access the 5 fixing screws of the plate.

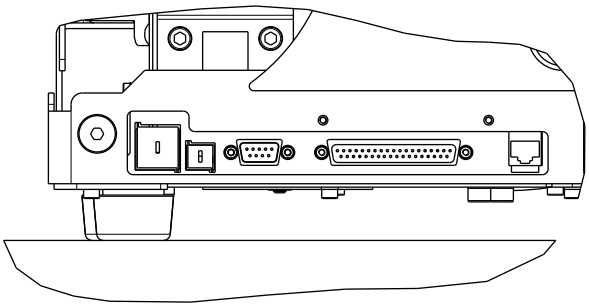


➔ Loosen the screws and remove the plate.

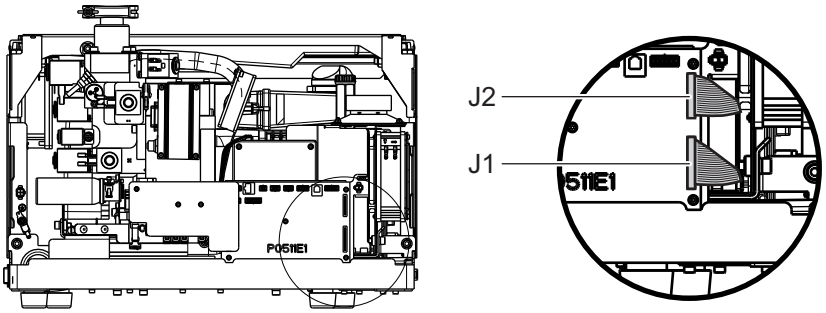
➔ Install the replacement kit (I/O board + plate) and put the harnesses underneath the supervisor board.

➔ Tighten the 5 screws.

➔ Reposition the detector against the work surface.



➔ Connect harnesses J1 and J2 of the I/O board to the supervisor board.



➔ If the I/O board is equipped with a Wi-Fi or Ethernet module, stick the label supplied in the kit onto the frame, see Fig 1.

➔ Configure USB port and the Ethernet or Wi-Fi module according to the I/O board model *(see 5)*.

4 Command via 37 pin I/O interface

Available on any detector equipped with the 37 pin I/O board.

NOTICE

Risk of electromagnetic disturbance

The product's EMC rating is obtained on the understanding that it is installed in compliance with EMC rules.

➔ Use sheathed links and connections for interfaces in environments that produce disturbance.

NOTICE

Extra low voltage circuit

The remote control circuits are equipped with dry contact outputs (30 V - 1 A max.). Any overvoltage or overcurrent can result in internal electrical damage. The installer must:

➔ Connect these outputs in accordance with the rules and protection of safety extra low voltage (SELV) circuits,

➔ Supply these contacts with voltage of less than 30 V and current of less than 1 A.

4.1 Cable

- 37 pins male connector and its cover delivered with the leak detector.
- Cable at customer's expense.

4.2 Detector connector

Digital	Inputs	11 - 12 - 13 - 30 - 31 - 32
	Accessory	34 - 35 - 15 - 16: saved
Digital	Outputs	1 to 9 - 20 to 28
	Analog	19 - 36 - 37 (ground: 17 - 18)
	Others	29: +24 V internal or external(1) 10: internal or external ground(1) 33 - 14: headphones (8 Ω)(2)

(1) Depending on SW1 switch configuration
(2) To activate audio/headphone output, the "= HPD" RS 232 command must be sent to the detector: this command deactivates loudspeaker.
To deactivate audio/headphone output, the "= HPE" RS 232 command must be sent to the detector: this command reactivates the loudspeaker.

4.3 Localization

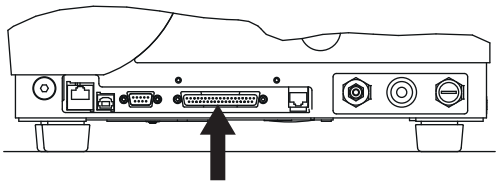


Fig. 3: Location of the 37 pin connector on the detector (INPUTS/OUTPUTS)

4.4 37 pin I/O interface

From the "Settings" screen, press **[Advanced] [Input/Output] [I/O Connector]**.

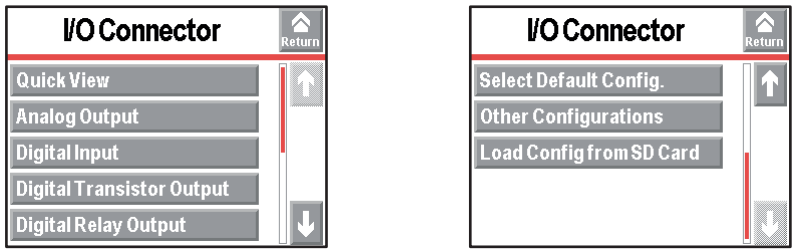


Fig. 4: I/O connector menu

4.4.1 Save

After modification, save all the I/Os configured (".IOP". file).

4.4.2 Quick View

These screens help view, for each output:

- its connection pins,
- its allocation (function, setting, order),
- its status (allocation and contact),
- its activation mode.

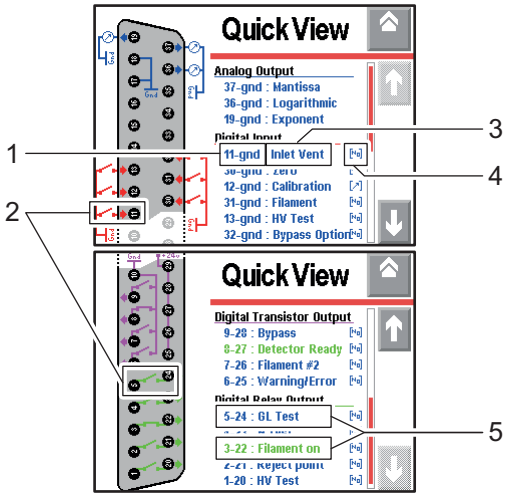


Fig. 5: Quick View screen description

1	Connection pins
2	Contact dynamic status
3	Allocated value
4	Activation mode
5	Allocation status • Blue = not active • Green = active

4.4.3 Analog Output

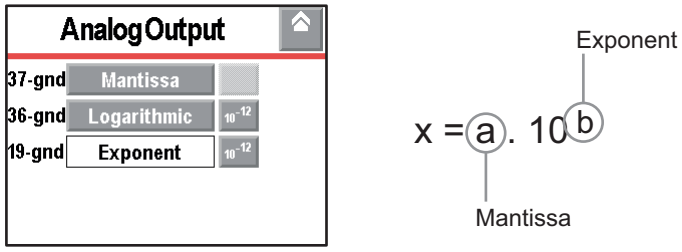


Fig. 6: Analog output menu

Configuration

9-gnd	⇨ Select the value to be allocated: see table below. ⇨ Depending on the value, configure the low decade.
10-gnd	⇨ Select the value to be allocated: see table below. ⇨ Depending on the value, configure the low decade.
12-gnd	Output allocated to «Exponent»

The low decade is the decade corresponding with 0 V.

Value	Function
Mantissa	1/10 V (*)
Exponent	0/10 V (*)
Logarithmic	0/10 V (*)
Inlet pressure	If a pressure measurement gauge is installed (at customer's expense) (*) **Internal Gauge (Pirani)**, set: ● 'external gauge = none' *(see Advanced Menu in the Operating instructions)*. ● range: 2.5 V/8.5 V (10^{-3} to 10^{+3} hPa) **External Gauge (Pirani)**, set: ● 'external gauge = TPR/PCR', ● 'source = external' ● range: *see documentation of the gauge*. **External linear Gauge**, set ● 'external gauge = linear', ● 'source = external' ● range: *see documentation of the gauge*.
He compound	0/10 V (compound exponent, mantissa) (*)

(*)*(see 4.4.4)*

4.4.4 Formulas

Mantissa (1/10 V) The "Mantissa" output corresponds with the leak rate mantissa:

Formula U = Voltage measured (V) on analog output

Mantissa= U

Examples
- U = 3.5 V -> Mantissa = 3.5
- U = 6.9 V -> Mantissa = 6.9

Exponent (0/10 V) The "Exponent" output corresponds with the leak rate exponent:

- it increases by 1 V per decade,
- the starting decade corresponds with 10 V.

Formula U = Voltage measured (V) on analog output

D_0 = Low decade for 0 V

Exponent = 10 - U + D_0

Example 1 Low decade at 10^{-12} (10 V = -12) -> D_0 = -12

- U = 7 V -> Exponent = 10 - 7 - 12 -> Exponent = -9
- U = 2 V -> Exponent = 10 - 2 - 12 -> Exponent = -4

Example 2 Low decade at 10^{-10} (10 V = -10) -> D_0 = -10

- U = 7 V -> Exponent = 10 - 7 - 10 -> Exponent = -7
- U = 2 V -> Exponent = 10 - 2 - 10 -> Exponent = -2

Logarithmic (0/10 V)

The "Logarithmic" output corresponds with the leak rate value:

- it increases by 1 V per decade,
- the starting decade corresponds with 0 V.

Formulas

U = Voltage measured (V) on analog output

D_0 = Low decade for 0 V

Mantissa = $10^{(U\text{- Integer value (U)})}$

Exponent = Integer value (U) + D_0

Leak rate = Mantissa x 10^{Exponent}

Example 1

Low decade at 10^{-12} (0 V = $1 \cdot 10^{-12}$) -> D_0 = -12

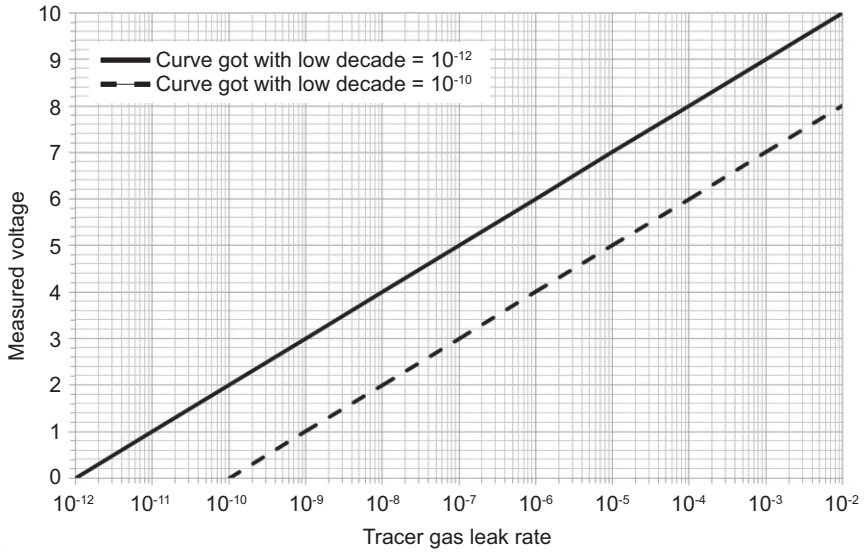
- V = 3.91 V -> Leak rate = $10^{(3.91-3)}$ x $10^{(3-12)}$ = $8.13 \cdot 10^{-9}$
- V = 8.25 V -> Leak rate = $10^{(8.25-8)}$ x $10^{(8-12)}$ = $1.78 \cdot 10^{-4}$

Example 2

Low decade at 10^{-10} (0 V = $1 \cdot 10^{-10}$) -> D_0 = -10

- V = 3.91 V -> Leak rate = $10^{(3.91-3)}$ x $10^{(3-10)}$ = $8.13 \cdot 10^{-7}$
- V = 8.25 V -> Leak rate = $10^{(8.25-8)}$ x $10^{(8-10)}$ = $1.78 \cdot 10^{-2}$

Graphs



Inlet pressure (2.5/8.5 V)

The "Inlet Pressure" output corresponds with the pressure (in hPa) (1 hPa = 1 mbar) read by the internal pressure gauge of the leak detector.

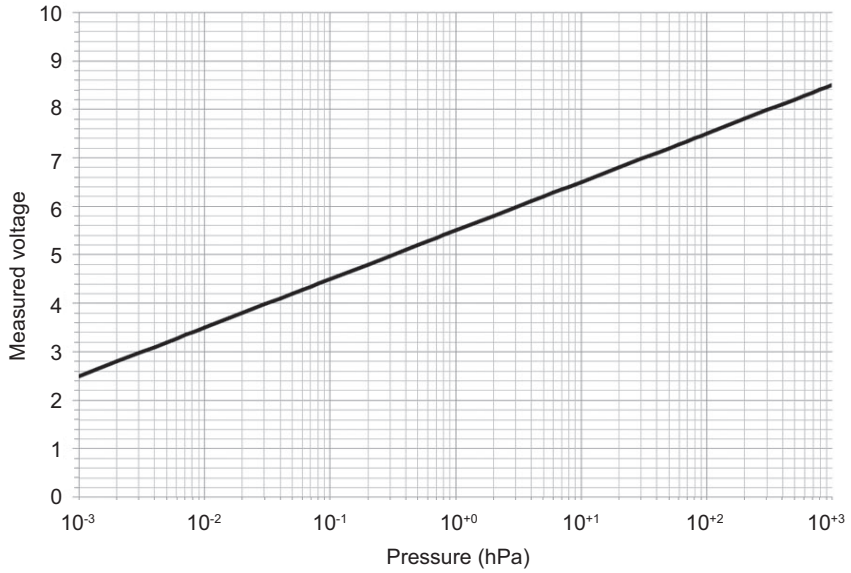
For ASI 30, external gauge installed in the customer's installation (optional, at customer's expenses).

Formula

U = Voltage measured (V) on analog output

Inlet pressure = $10^{(U\text{- }5.5)}$ hPa

Graphs



He Compound (0/10 V)

The "He Compound" output is a combination of mantissa and exponent:

- the integer part represents the exponent
- the decimal part represents the mantissa.

Formulas

U = Voltage measured (V) on analog output

Mantissa = 10 x (U - Integer value (U))
Exponent = Integer value (U) - 12
He Compound = Mantissa x $10^{Exponent}$

Examples

- U = 3.91 V -> He Compound = 10 x (3.91-3)) x $10^{(3-12)}$ = $9 \cdot 10 \cdot 10^{-9}$
- U = 8.25 V -> He Compound = 10 x (8.25-8)) x $10^{(8-12)}$ = $2.50 \cdot 10^{-4}$

4.4.5 Digital Input

6 optocoupled digital inputs.

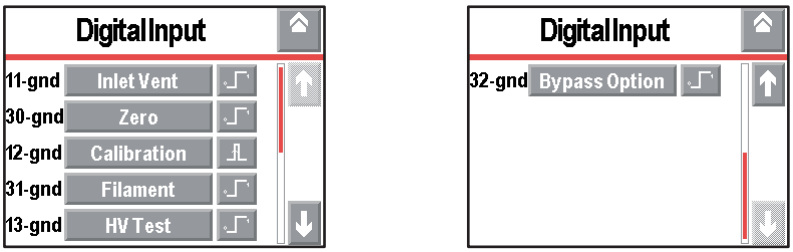


Fig. 7: Digital input menu

Setting

xx-gnd	⇨ Select the value to be allocated: see table below. ⇨ Select the activation mode: see table below.

Value	Function
None	Not allocated
HV test	Start/Stop a hard vacuum test
Calibration	Start an autocalibration
Zero	Activate/Deactivate Zero function
He memo	Activate/Deactivate Memo function
Dynamic cal.	Start a dynamic calibration(2)
Sniffer test	Start/Stop a sniffer test
Filament	Force stop/start filament
GL mode	Force detector in Gross Leak test mode(1)

Value	Function
NR mode	Force detector in Normal test mode(1)
HS mode	Force detector in High Sensitivity test mode(1)
Inlet vent	Opening/closing of the inlet vent valve(1)
Rec. Graph	Start/stop data recording
Save Graph	Save recorded data on a SD card
Bypass	Activate/Deactivate Bypass (accessory)

(1) function available depending on leak detector
(2) ASI 30 only

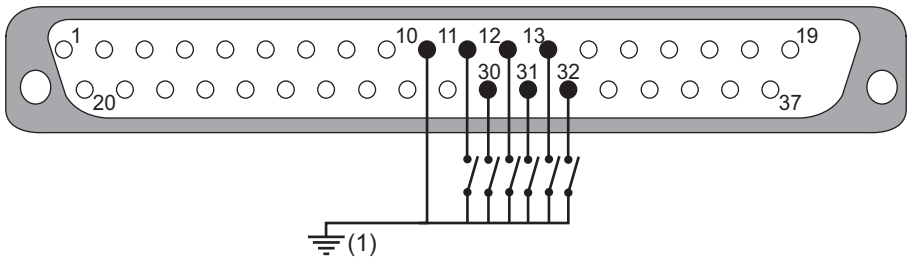
Activation on rising edge
Deactivation on falling edge

Activation on falling edge
Deactivation on rising edge

Activation/Deactivation by impulse

- Activation on rising edge is generally recommended.
- Activation on falling edge is recommended for a function which must be activated on positive security.
- Activation by impulse is recommended for a test start/stop by the operator, an external pushbutton or a test pedal.
- To monitor the status of digital inputs, *(see 4.4.10)*.

Diagram



(1) Internal ground: SW1 = ON
External ground: SW1 = OFF

Example The examples given below illustrate 3 standard uses of digital inputs for which we recommend configuring the 24 V and mode described in the example (e.g.: pushbutton with internal 24 V and impulsion mode).

However, as 24 V and modes are adjustable, you can configure them differently.

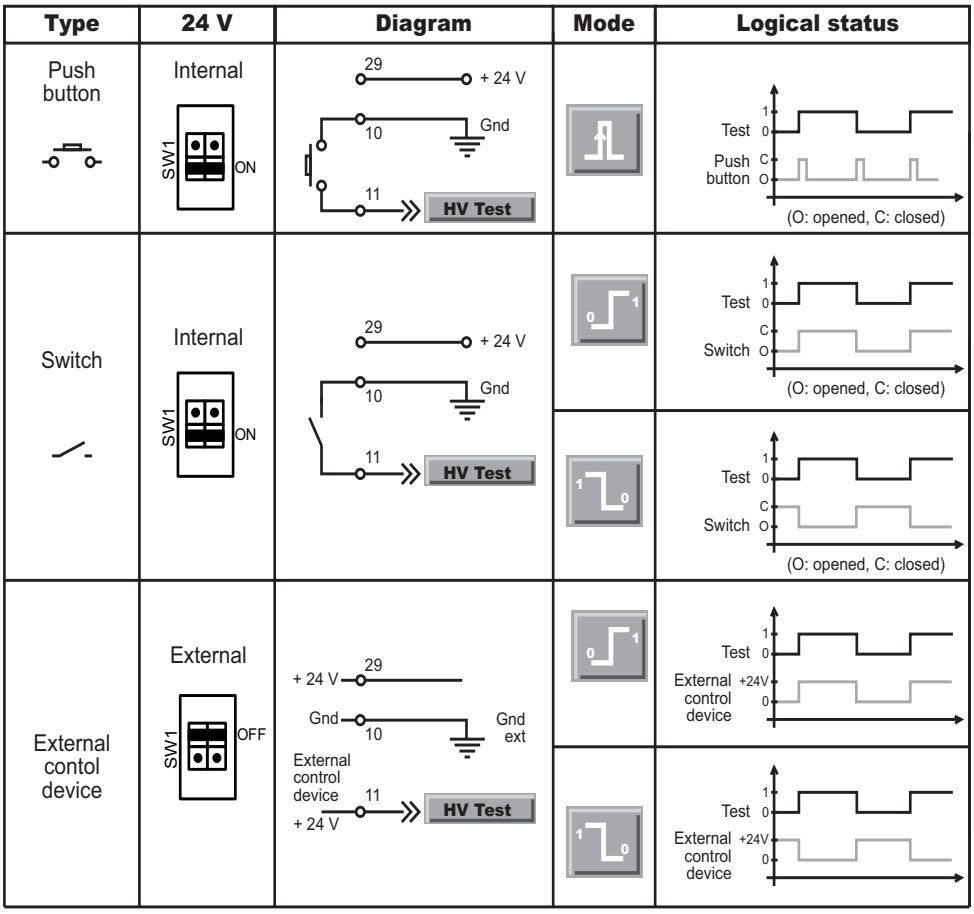


Fig. 8: Examples of digital input use

4.4.6 Digital Output

- 4 MOSFET digital transistor outputs.
- 5 digital relay outputs: 2 DS-P relays + 3 TX relays

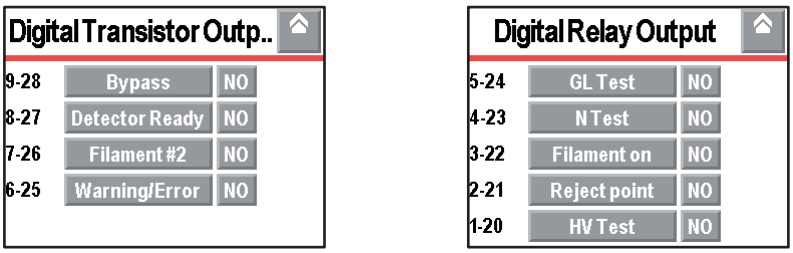


Fig. 9: Digital Output menus

Configuration

x-xx	⇨ Select the value to be allocated: see table below. ⇨ Select the activation mode: see table below.

Value	Function	Configuration	
		NO Active status	NC Active status
None	Not allocated		
Reject point	Detector reject set point (1)	C	O
Set point #2	Leak rate # 2 set point (1)	C	O
Set point #3	Leak rate # 3 set point (1)	C	O
Set point #4	Leak rate # 4 set point (1)	C	O

Value	Function	Configuration	
		NO Active status	NC Active status
Set point #5	Leak rate # 5 set point (1)	C	O
Warning/Error	Warning/error message	C	O
HV test	Device in hard vacuum test	C	O
Sniffing test	Device in sniffing test	C	O
Detector ready	Detector ready to perform a test	C	O
Calibration fail	Calibration failure	C	O
Detector busy	Detector in switching on, test or calibration mode	C	O
Filament #2 on	Filament # 2 selected	C	O
MDP synchro	Hard vacuum pump synchronized	C	O
Filament on	Selected filament ON	C	O
Snif. Clogged	Sniffer probe clogged	C	O
Press s. pt #1	Pressure # 1 set point (2)(3)	O	C
Press s. pt #2	Pressure # 2 set point (2) (3)	O	C
HV Cor	Corrected hard vacuum leak rate	C	O
Maint. Required	Maintenance required	C	O
Sniffer valve	Sniffing valve management	C	O
GL test	Detector in Gross Leak test mode (4)	C	O
N test	Detector in Normal test mode (4)	C	O
HS test	Detector in High Sensitivity test mode (4)	C	O
General failure	Critical failure on the detector	C	O
Test mode ok	Target test mode achieved (4)	C	O
Zero	Function zero activated	C	O
Bypass	By-pass valve opening command	C	O
Cal. aknow.	Validation request of a calibration stage	C	O

O = Open C = Closed
(1) Leak rate measured > rejection set point / leak value set.
(2) Measured pressure ≤ pressure set point set
(3) ASI 30 not concerned unless a pressure gauge is installed on the customer's installation.
(4) Function available depending on the leak detector.

NO	Normally Open Unswitched output idle
NC	Normally Close Switched output idle

Note **To monitor the status of digital outputs,** *(see 4.4.10)*

Digital Transistor outputs: MOSFET transistor

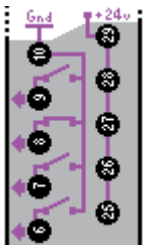


Fig. 10: MOSFET Digital Transistor outputs in the Quick View

Characteristics

Direct current digital outputs: MOSFET transistor.

- Quantity: 4 (6-25; 7-26; 8-27; 9-28)
- Functions: depending on the operator's setting
- Open collector type
- Direct current: 30 V DC – 1 A max – 30 W

Diagram

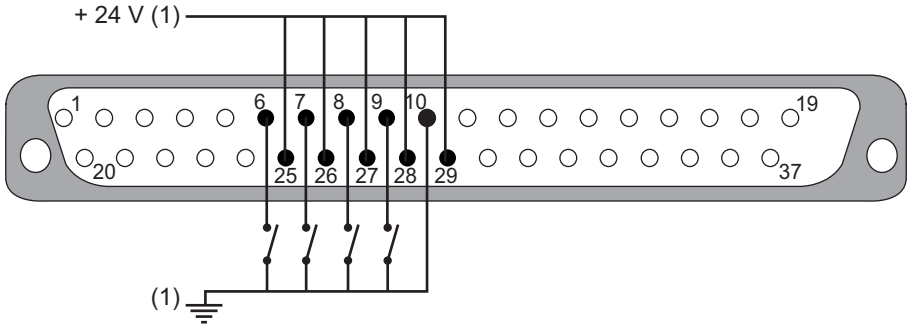


Fig. 11: Digital transistor output

(1) Internal ground and internal + 24 V: SW1 = ON
External ground and + 24 V external: SW1 = OFF

External 24 V (± 10 %) power supply is essential to benefit from the optocoupled gate (atmosphere with interferences) and/or to supply MOSFET transistor outputs 25 to 28. In this case, the SW1 switch on the supervisor board must be in OFF position to avoid any detector deterioration.

It is possible to occasionally use leak detector internal 24 V if global power on outputs 25 to 28 is less than 2 A.

These outputs can be used to supply an electromagnetic valve (24 V DC – 24 W max).

Example The example below illustrates standard usage of digital outputs.

Type	24 V	Diagram	Mode	Logical status
Electrovalve	Internal	29, 28, 9, 10, + 24 V, GND, Press. s.pt #1, SW1 ON	NO	Electrovalve C O, Pressure set (O: opened, C: closed)
			NC	Electrovalve C O, Pressure set (O: opened, C: closed)
	External	+ 24 V, 29, 28, 9, 10, GND, Press. s.pt #1, SW1 OFF	NO	Electrovalve C O, Pressure set (O: opened, C: closed)
			NC	Electrovalve C O, Pressure set (O: opened, C: closed)

Fig. 12: Example of digital output use

Digital Relay outputs: DS -P relay

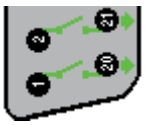


Fig. 13: DS-P digital relay output in Quick View

Characteristics Direct/alternating current digital outputs: DS-P relay

- Quantity: 2 (1-20; 2-21)
- Functions: depending on the operator's setting
- Dry contact type
- Direct current: 60 V DC – 2.5 A max - 30 V DC – 5 A max

- Alternating current: 250 V AC - 5 A max

Diagram

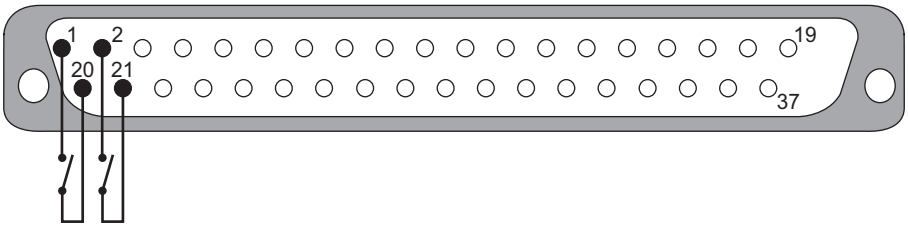


Fig. 14: DS-P digital relay output

We recommend using a maximum voltage of 60 V AC even if the wiring is for 250 V AC.

Digital Relay outputs: TX relay

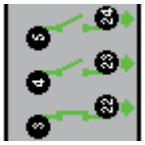


Fig. 15: TX digital relay output in Quick View

Characteristics

Direct current digital outputs: TX relay

- Quantity: 3 (3-22; 4-23; 5-24)
- Functions: depending on the operator's setting
- Dry contact type
- Direct current: 60 V DC – 1 A max - 30 V DC – 2 A max

Diagram

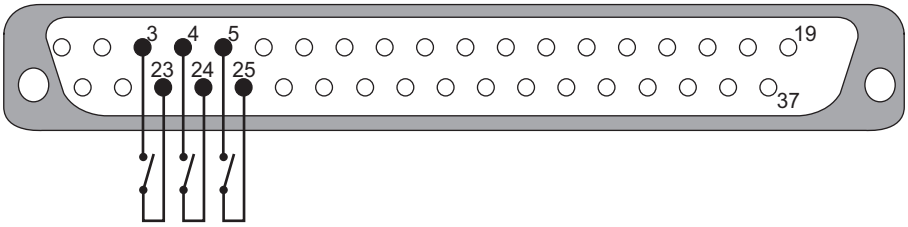


Fig. 16: TX digital relay output

Example

The example below illustrates standard usage of digital outputs.

Type	24 V	Diagram	Mode	Logical status
Light	Internal or External	5, 24 V, 24, Reject point	NO	Light 1 0, Reject point
			NC	Light 1 0, Reject point

Fig. 17: Example of digital output use

4.4.7 Select Default Configuration

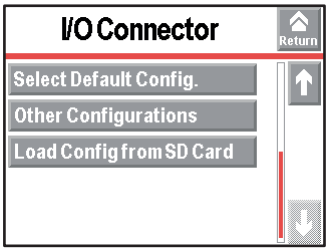


Fig. 18: I/O connector menu

This is the default configuration of the I/Os upon delivery of the detector. It is specific to one leak detector model.

4.4.8 Other Configurations

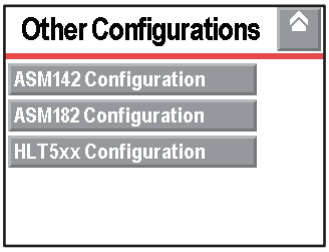


Fig. 19: Other configurations menu

3 predefined configurations are available. Each I/O can be configured according to needs.

ASM 142 configuration

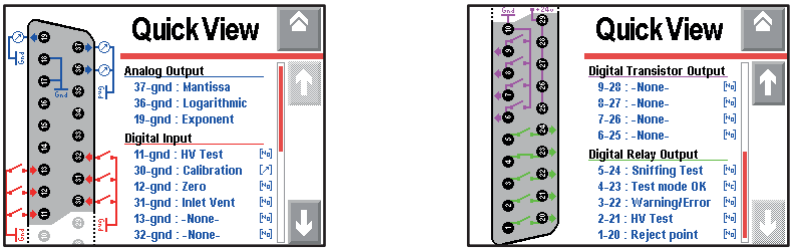


Fig. 20: Quick View of the ASM 142 configuration

ASM 182 configuration

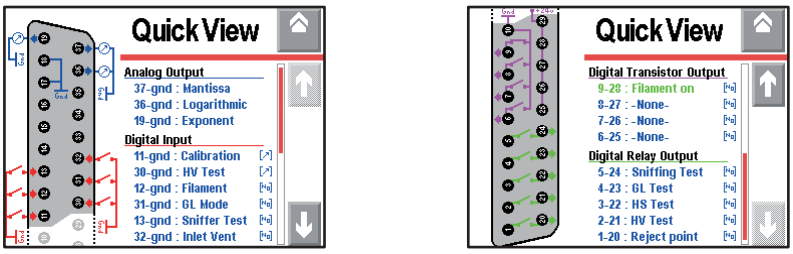


Fig. 21: Quick View of the ASM 182 configuration

HLT 5xx configuration

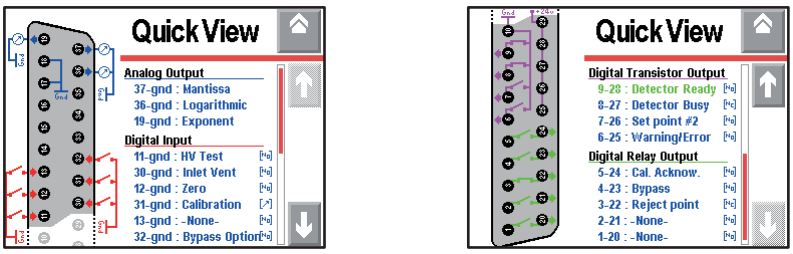


Fig. 22: Quick View of the HLT 5xx configuration

4.4.9 Load configuration from SD card

When loading, the operator loads the saved configuration of I/Os (values + activations) recorded on the SD card.

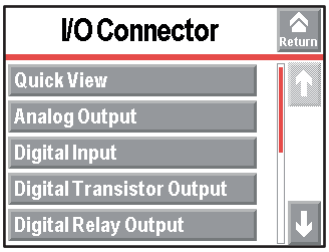


Fig. 23: I/O connector menu

4.4.10 I/O surveillance

On the I/O board, an LED is allocated to each I/O to monitor its status.

Location of the I/O board

Please refer to the leak detector's ***Operating Manual***.

Leds location

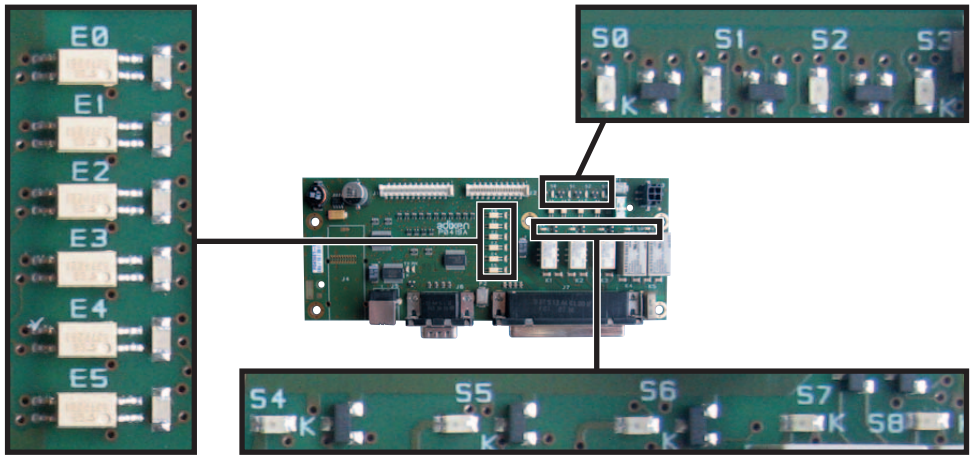


Fig. 24: Leds location on the I/O board

S0 to S8	9 digital output surveillance leds
E0 to E5	6 digital input surveillance leds

4.4.11 Internal 24 V or external 24 V power supply

➔ Configure SW1 switch according to power supply type.

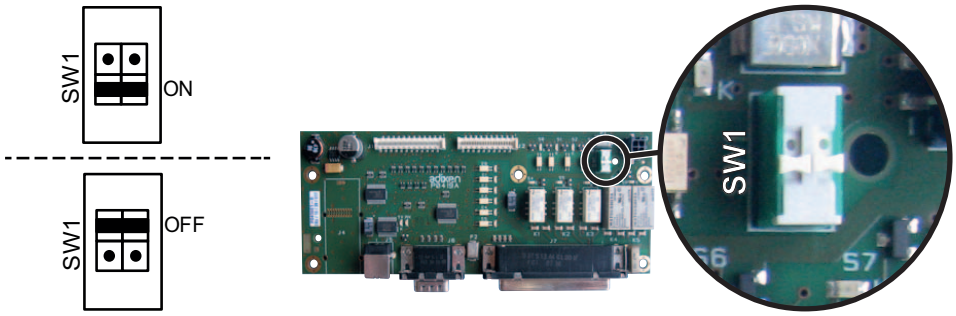
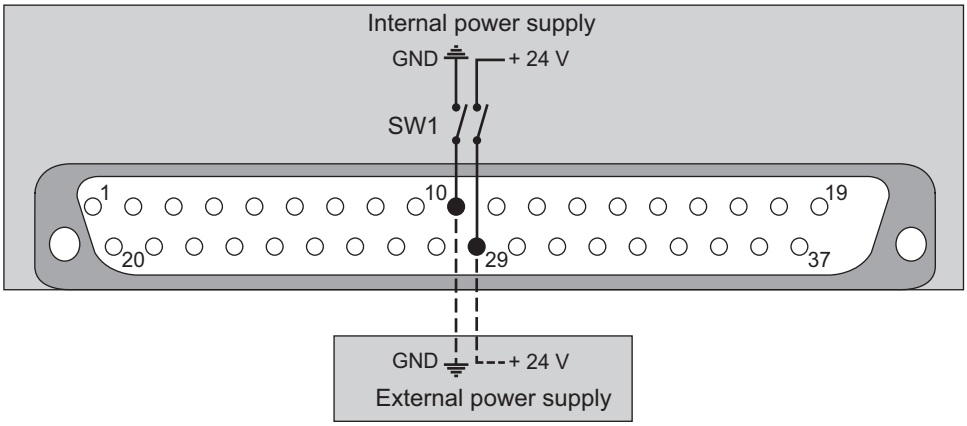


Fig. 25: SW1 location on I/O board (P0419)

ON	Internal power supply Internal 24 V ± 10 % + internal ground
OFF	External power supply External 24 V ± 10 % + internal ground Default configuration upon delivery.



4.5 37 pin D-Sub/25 pin D-Sub adaptation cable

This accessory enables communication with the customer's automatic systems when the ASM 142 leak detector is replaced by an ASM 340 model. The configuration of the D-Sub plugs of these two products is the same *(see 4.4.8)* Fig. 18.

➔ From the "Settings" screen, press **[Advanced] [Input/Output] [I/O Connector] [Other configurations] [ASM142]**.

➔ Connect the connecting cable between the 37 pin D-Sub connector of the detector and the customer's automatic systems.

Connecting cable part number: see the ***Accessories*** chapter of the leak detector's operating instructions.

5 Setting (USB - Wi-Fi - Ethernet)

5.1 Allocation of Serial Link 1 and Serial Link 2

From the "Settings" screen, press **[Advanced] [Input/Output]**.

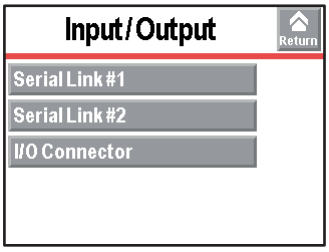


Fig. 26: Input/Output menu

Select **[Serial Link 1] or [Serial Link 2]** to access the setting menu	
Type	⇨ Set the type of serial link: see table below.
Parameters	⇨ Set the serial link mode: see table below.

	Serial Link 1	Serial Link 2	Type to select
USB	yes	yes	USB
Wi-Fi(*)	no	yes	Network
Ethernet(*)	no	yes	Network

(*) depending on I/O board installed

From the "Settings" screen, press **[Advanced] [Input/Output], [Serial Link 1] or [Serial Link 2], [Parameters]**.	
Mode	⇨ Set the mode: see table below.

Basic (standard)	Continuous acquisition of data sent to the hyperterminal according to a defined time period. A command can be sent to the leak detector at any time. Please refer to the RS 232 operating Manual before using this mode. **Recommended mode during leak detector test procedure setting operations.**
Spreadsheet	Variation of the Basic mode. Continuous data acquisition, formatted in a spreadsheet such as Microsoft Excel ™ or other similar software. Please refer to the RS 232 operating Manual before using this mode. **Recommended mode for drawing curves.**
Advanced	Full management of the detector by a supervisor. The detector sends information at the supervisor's request. 5 V power supply available. Please refer to the RS 232 operating Manual before using this mode. **Recommended mode for automatic systems**.
Data Export	Export of the "tickets" via a PC, further to: ● calibration with an internal/external calibrated leak, ● calibration control with an internal leak, ● a test. **Serial links 1 and 2 must not be in "Data Export" mode at the same time.**
PV Protocol	Protocol for compatibility with the HLTxxx detector protocol. List of orders for the protocol compatible with ASM 340. Please refer to the RS 232 operating Manual.

5.2 MAC address

The following addresses MAC, necessary for the installation of the drivers of the Wi-Fi or Ethernet modules, are available on the label sticked to the detector or accessory.

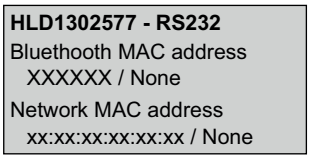


Fig. 27: Example Address label MAC

6 Command via USB

Available on any detector equipped with the 37 pin I/O board,

USB is very useful for computers without a RS 232 link.

6.1 Cable

- Always use an A-B type USB cable.
- Cable at customer's expense

6.2 Localization

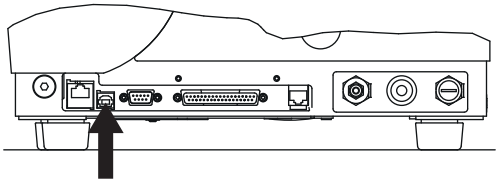


Fig. 28: Location of the USB connector on the detector (USB)

6.3 Starting up

6.3.1 Setting

➔ Allocate the 'USB' type to serial link 1 or 2: *(see 5.1)*.

6.3.2 Configuration

Displays are given as examples only (Windows 7). They can vary depending on the computer system.

Do not connect the USB cable before installing the driver.

➔ Insert the CDRom of the detector's operating Manual into your CD/DVD player.
➔ Install the USB driver supplied in the "Driver" folder of the operating Manual CDRom.
➔ Start driver installation.

Note **Windows 8 : Run this progammable in compatibility mode for Windows 7.**

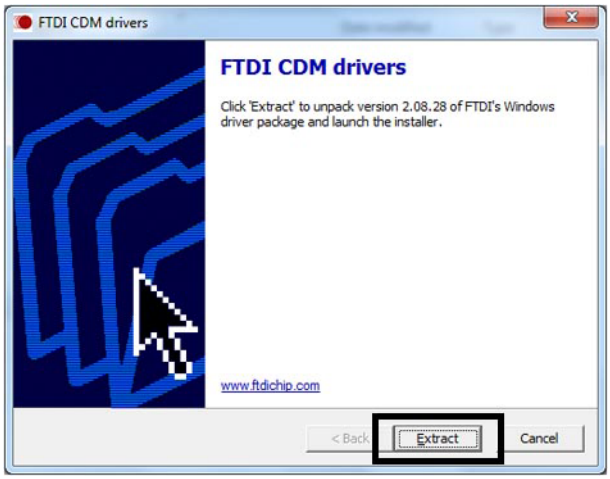


Fig. 29: Driver installation start screen

➔ Validate the different stages and then **[Finish]**.

➔ Start driver extraction.

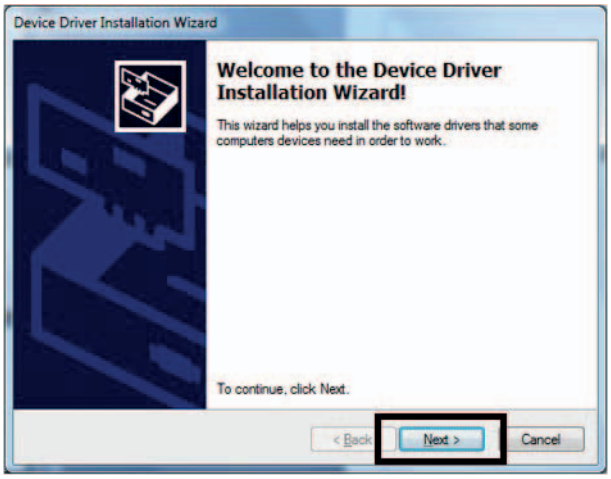


Fig. 30: Driver extraction start screen

➔ Validate the different stages and then **[Finish]**.

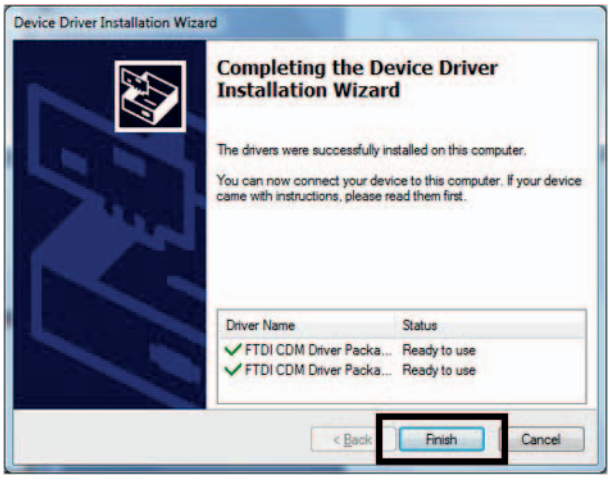


Fig. 31: Driver extraction end screen

➔ Connect a cable between the USB port and your computer. As soon as the cable is connected, the USB module is detected.

➔ To know which USB port is allocated, consult your computer's device manager: Device Manager > Ports (COM & LPT).

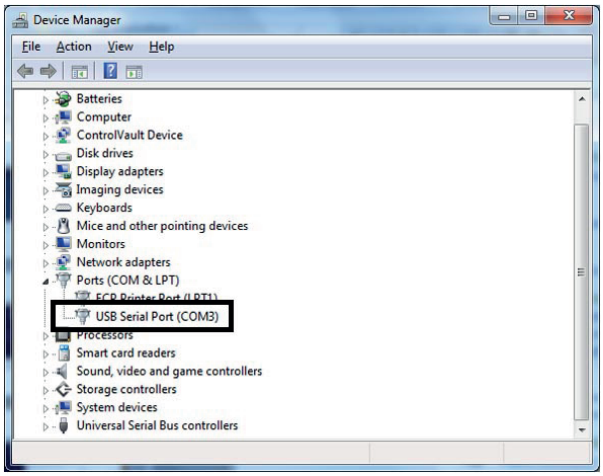


Fig. 32: Device screen

In our example, the USB port is allocated to COM 3.

➔ Use this COM port as RS 232.

7 Command via Wi-Fi

Available on any detector equipped with a 37 pin Wi-Fi I/O board.

7.1 Antenna

The Wi-Fi antenna is supplied with the I/O board: screw-on.

7.2 Localization

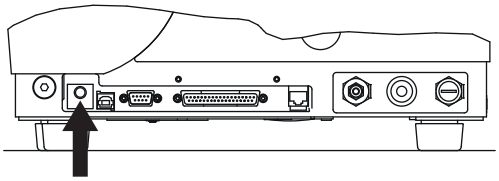


Fig. 33: Location of the Wi-Fi antenna connector on the detector (NETWORK)

7.3 Starting up

7.3.1 Setting

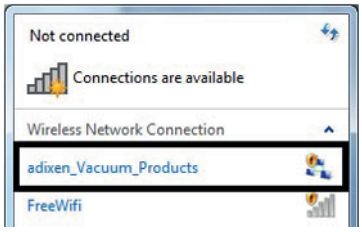
➔ Allocate the 'Network' type to serial link 2: *(see 5.1)*.

7.3.2 Configuration

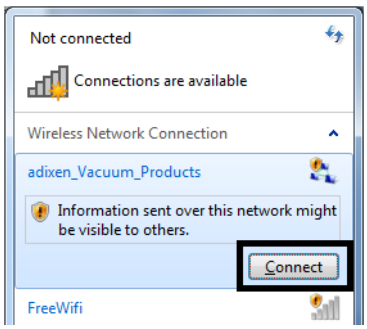
Displays are given as examples only (Windows 7). They can vary depending on the computer system.

1. Creation of the Wi-Fi module network

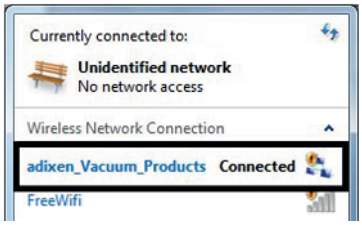
➔ Select the "adixen_Vacuum_Products" Wi-Fi network.



➔ Connect to the Wi-Fi network.



➔ The detector is connected to the Wi-Fi network.



2. Programme installation

Note **Windows 8 : Run this progammable in compatibility mode for Windows 7.**

➔ Install the "Digi Device Discovery" programme supplied in the "Driver" folder of the CDrom of your leak detector's Operating manual.

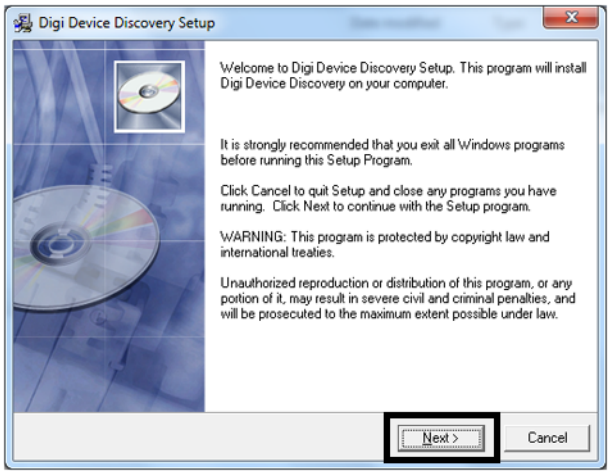


Fig. 34: Programme installation start screen

➔ Validate the different stages and then **[Finish]**.

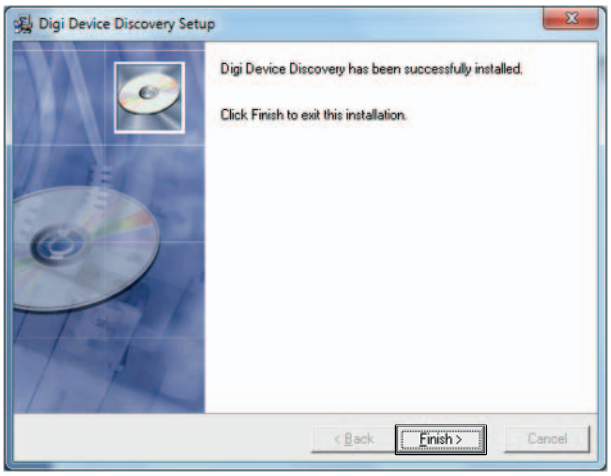


Fig. 35: Programme installation end screen

3. Change in the Wi-Fi module's IP address

➔ Start the "Digi Device Discovery" programme: the Wi-Fi module is detected. Otherwise, re-start detection: click on **[Refresh view]**.

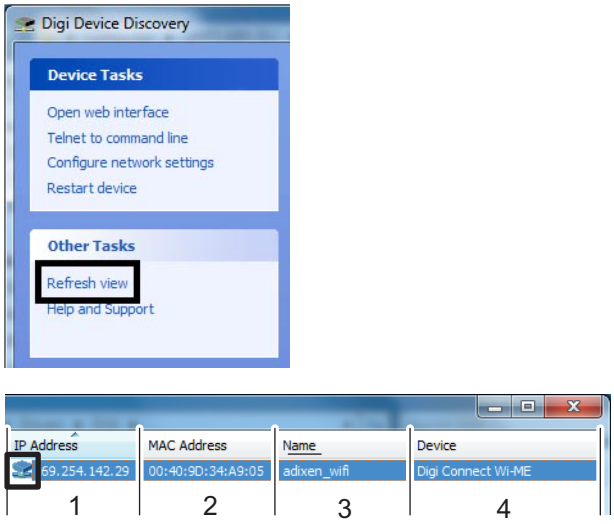


Fig. 36: Wi-Fi module detected Display

1	Module detected: IP address correct (icon OK)
2	Module identification MAC address The MAC address is unique and specific to each Wi-Fi module. It is indicated on the module and the identification label sticked to the detector frame. To select a detector from several detected, select the MAC address of the desired detector.
3	Module name: always "adixen_wifi"
4	Type of module: always "Digi Connect WI-ME".

4. Allocation of a serial port to the Wi-Fi module

➔ Install the "Digi Real Port" driver supplied in the "Driver" folder of the CDrom of your product's operating Manual. Start the "Digi Real port" programme.

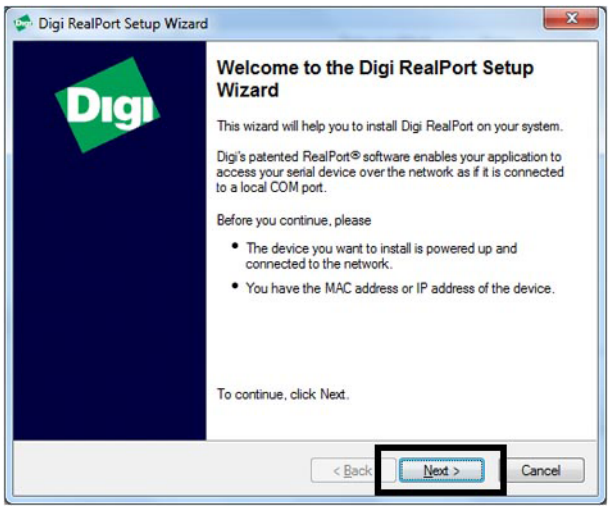


Fig. 37: Driver installation start screen

➔ The Wi-Fi module is automatically detected: if it is not detected, refresh.

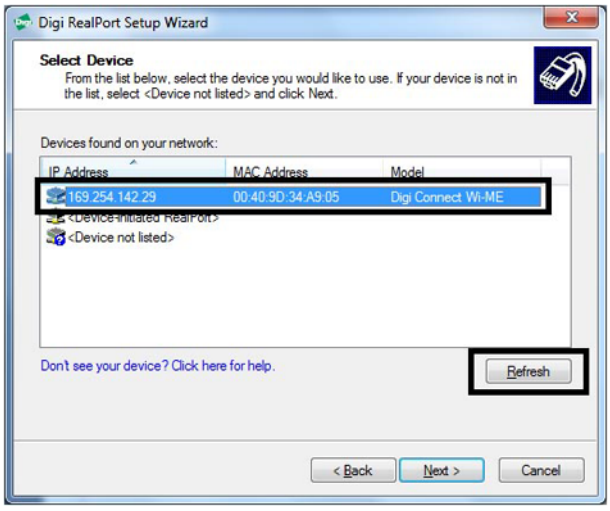


Fig. 38: Wi-Fi module detected

➔ Select the Wi-Fi module to be allocated to a PC serial port, then **[Next]**.

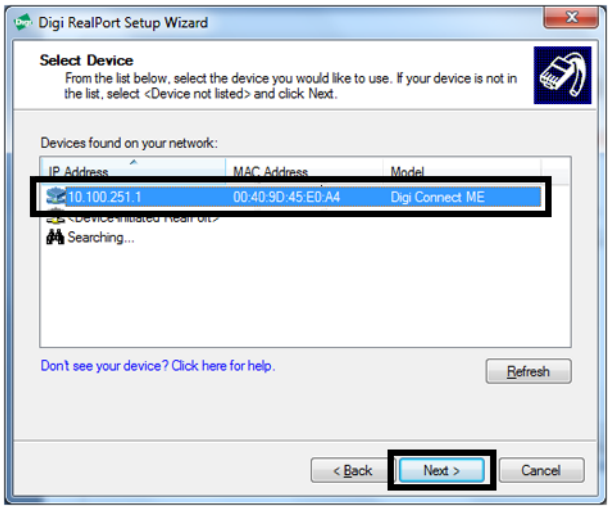


Fig. 39: Selection of the Wi-Fi module to be allocated to a communication port

➔ Select the Wi-Fi module.

➔ Select a serial port number from the list and then **[Finish]**.

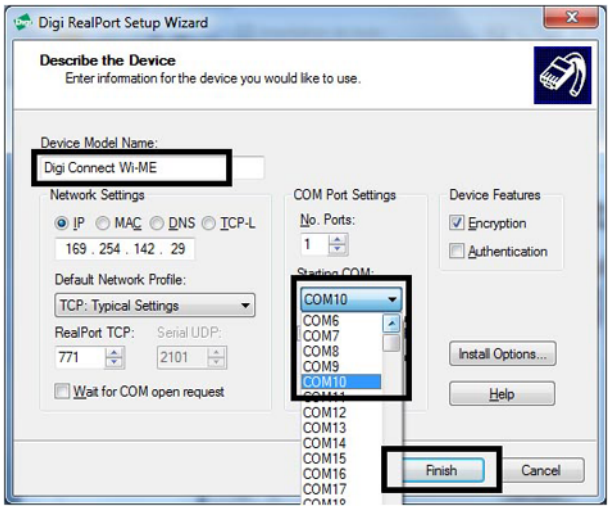


Fig. 40: Communication port setting

In our example, the Wi-Fi port is allocated to COM 10.

The Wi-Fi virtual port selected is in the process of being created.

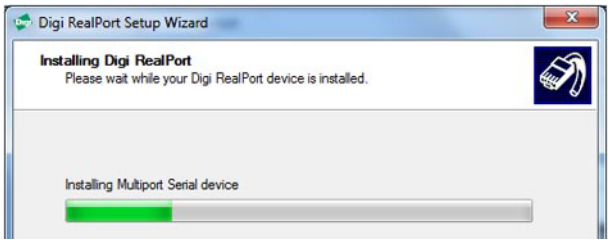
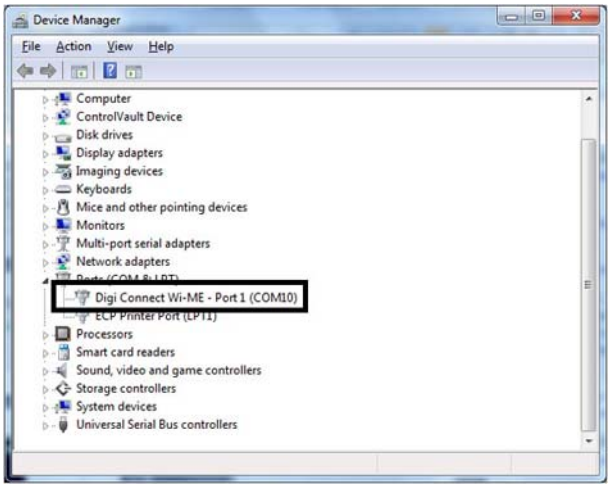


Fig. 41: Port is in the process of being created

The Wi-Fi virtual port is created.

5. Visualisation of the port created for the Wi-Fi module

➔ View the new port created in your device manager: Device Manager > Ports (COM and LPT).



➔ Use this COM port as RS 232.

7.3.3 Uninstall

Select the Wi-Fi module allocated to a PC serial port to be uninstalled, then **[Uninstall]**.

7.3.4 Transmission limits

Generally, indoors, we allow a range of 25 m in a dense environment (with large obstacles) and 60 m if there are only thin partitions to cross.

7.3.5 Use with a detector

Once the driver has been installed and configured, the operator has a virtual RS 232 serial link to manage the leak detector from a compatible computer.

It is possible to dialogue in direct command mode on Wi-Fi using the TELNET protocol.

7.3.6 Use with a PDA

Usage range is 10 to 30 m.
The PDA, configured for use with the leak detector, is supplied by the operator.
Minimal configuration of the PDA: Windows Mobile 5 mn/Windows Pocket PC 2003.

8 Command via Ethernet

Available on any detector equipped with a 37 pin Ethernet I/O board.

8.1 Cable

Cable at customer's expense.

8.2 Localization

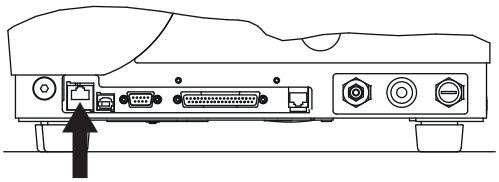


Fig. 42: Location of the Ethernet connector on the detector (NETWORK)

8.3 Starting up

8.3.1 Setting

➔ Allocate the 'Network' type to serial link 2: *(see 5.1)*.

8.3.2 Configuration

Displays are given as examples only (Windows 7). They can vary depending on the computer system.

➔ Connect a cable between the Ethernet port and your computer. As soon as the cable is connected, the USB module is detected.

1. Programme installation

Note **Windows 8: Run progam in compatibility mode for Windows 7.**

➔ Install the "Digi Device Discovery" programme supplied in the "Driver" folder of the CDrom of your leak detector's operating Manual.

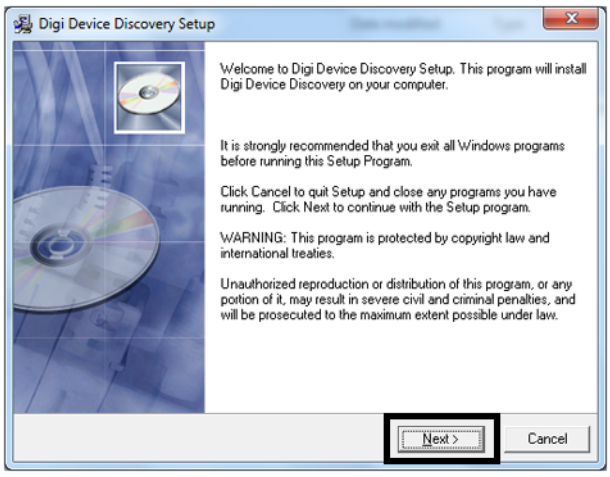


Fig. 43: Programme installation start

➔ Validate the different stages and then **[Finish]**.

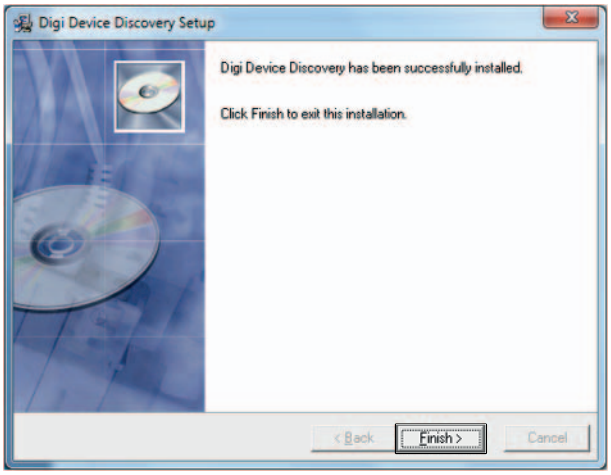


Fig. 44: Programme installation end screen

2. Change in the IP address of the Ethernet module

➔ Start the "Digi Device Discovery" programme: the Ethernet module is automatically detected.

➔ Otherwise, re-start detection: click on **[Refresh view]**.

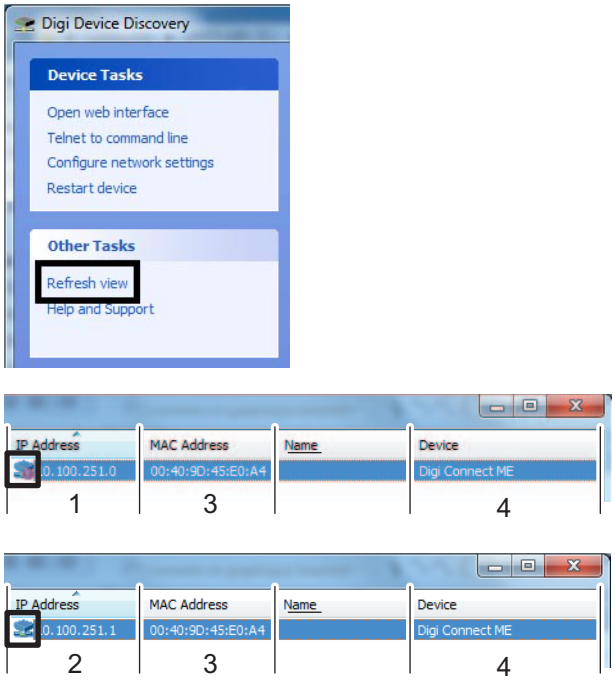
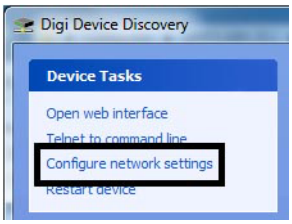


Fig. 45: Ethernet module detected and undetected display

1	"Not properly configured" message displayed in the details.
2	Module detected: IP address correct (icon OK)
3	Module identification MAC address The MAC address is unique and specific to each Ethernet module. It is indicated on the module and the identification label sticked to the detector frame. To select a detector from several detected, select the MAC address of the desired detector.
4	Type of module: always "Digi Connect ME".

➔ Change the module's IP address to be in the same sub-network as your computer.



➔ Change and save the addresses.

Note **Contact your Network administrator for the IP addresses to be configured.**

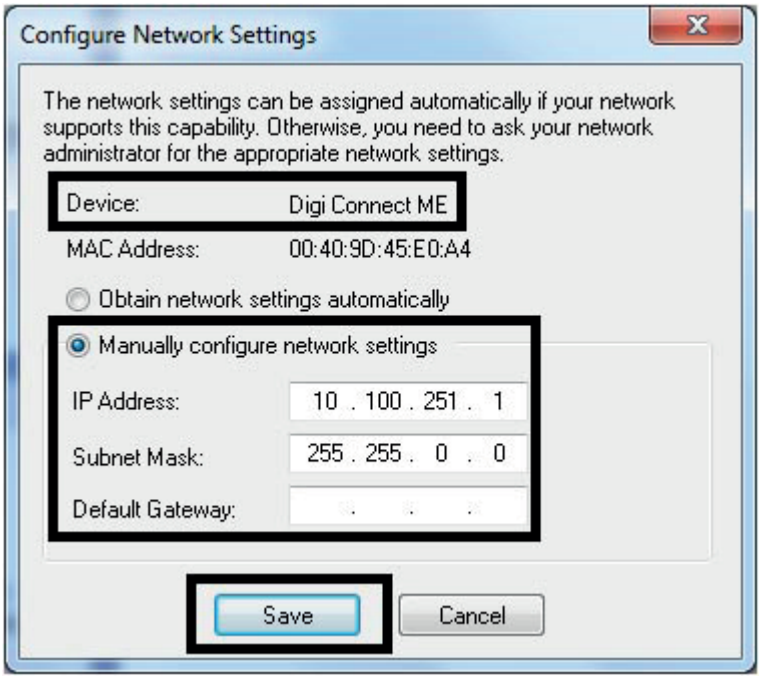


Fig. 46: Address configuration example

➔ To finalise the IP address update, restart connection to module [**OK**].

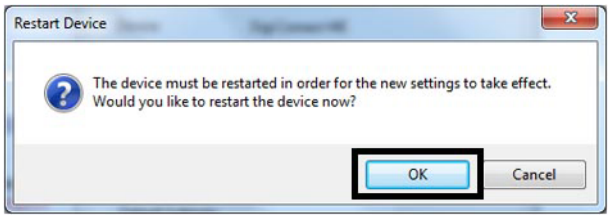


Fig. 47: Restart connection to the module

3. Allocation of a serial port to the Ethernet module

➔ Install the "Digi Real Port" driver supplied in the "Driver" folder of the CDrom of your leak detector's operating Manual.

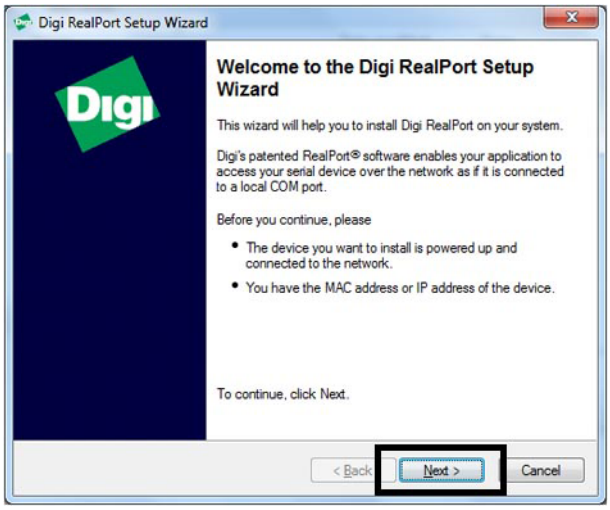


Fig. 48: Installation home page

➔ Validate the different stages and then **[Finish]**.

➔ Start the "Digit Real Port" driver: the Ethernet module is automatically detected. If it is not detected, refresh.

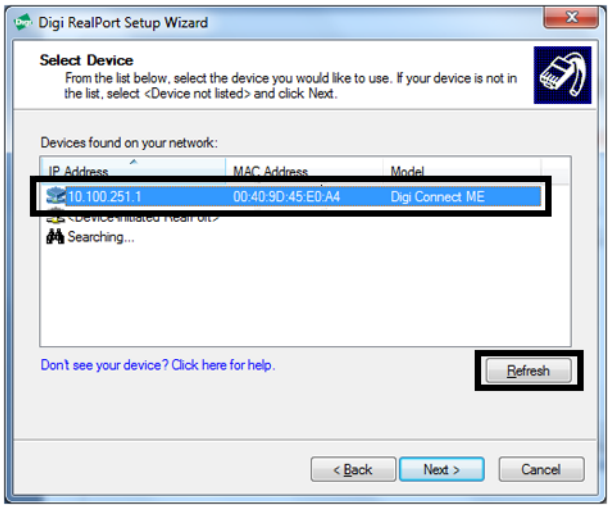
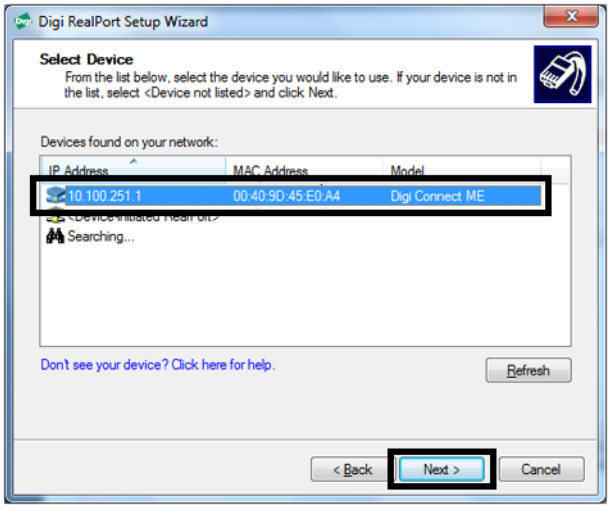


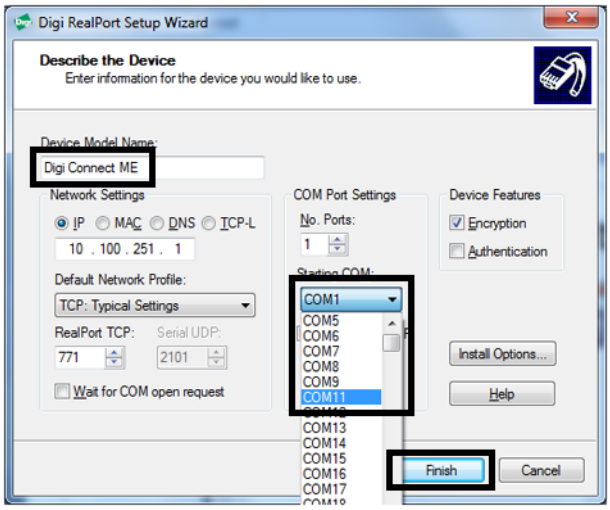
Fig. 49: Ethernet module detected

➔ Select the Ethernet module to be allocated to a PC serial port, then **[Next]**.



➔ Select the Ethernet module.

➔ Select a serial port number from the list and then **[Finish]**.



In our example, the Ethernet port is allocated to COM 11.

The Ethernet virtual port selected is in the process of being created.

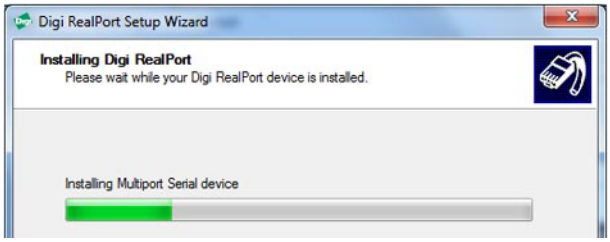
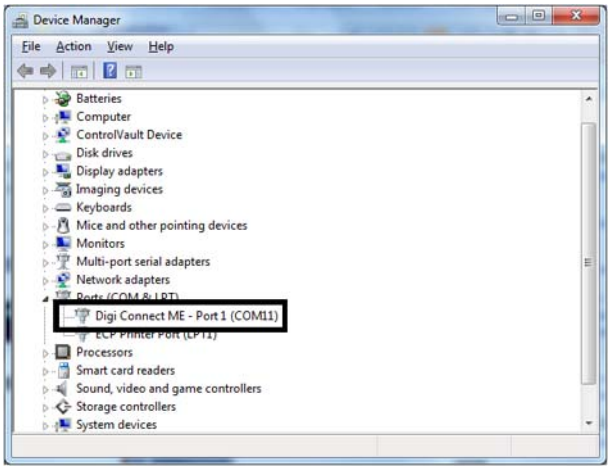


Fig. 50: Digi Real port installation

The Ethernet virtual port is created.

4. Visualisation of the port created for the Ethernet module

➔ View the new port created in your device manager: Device Manager > Ports (COM and LPT)



➔ Use this COM port as RS 232.

8.3.3 Uninstall

Select the Ethernet module allocated to a PC serial port to be uninstalled, then **[Uninstall]**.

9 Malfunctions

In case of difficulties when using these communication interfaces, please refer to the ***Malfunction*** chapter of the leak detector maintenance instructions.

10 Service

Pfeiffer Pfeiffer Vacuum offers first-class customer service!

- On-Site maintenance for many products)
- Overhaul / repair in the nearby Service Location
- Fast replacement with refurbished exchange products in mint condition
- Advice on the most cost-effi cient and quickest solution

Detailed information, addresses and forms at: **www.pfeiffer-vacuum.com (Service)**.

Overhaul and repair in the Pfeiffer Vacuum Service Center

The following general recommendations will ensure a fast, smooth servicing process:

➔ Fill out the "Service Request/Product Return" form and send it to your local Pfeiffer Vacuum Service contact.

➔ Include the confirmation on the service request from Pfeiffer Vacuum with your shipment.

➔ Fill out the declaration of contamination and include it in the shipment (mandatory!). The Declaration of contamination is valid for any product/device including a part exposed to vacuum.

➔ Dismantle all accessories and keep them.

➔ Close all the ports flange openings by using the original protective covers or metallic airtight blank flanges for contaminated devices.

➔ If possible, send pump or unit in its original packaging.

Sending of contaminated pumps or devices

No devices will be accepted if they are contaminated with micro-biological, explosive or radioactive substances. "Hazardous substances" are substances and compounds in accordance with the hazardous goods regulations (current version).

➔ Neutralize the pump by flushing it with nitrogen or dry air.

➔ Close all openings airtight.

➔ Seal the pump or device in suitable protective film.

➔ Return the pump/device only in a suitable and sturdy transport container and send it in while following applicable transport conditions.

Pump or device returned without declaration of contamination form fully completed and/or non-secured in a suitable packaging, will be decontaminated and/or returned at the shipper’s expense.

Exchange or repaired

The factory operating parameters are always preset with exchange or repaired devices. If you use specific parameters for your application, you have to set these again.

Service orders

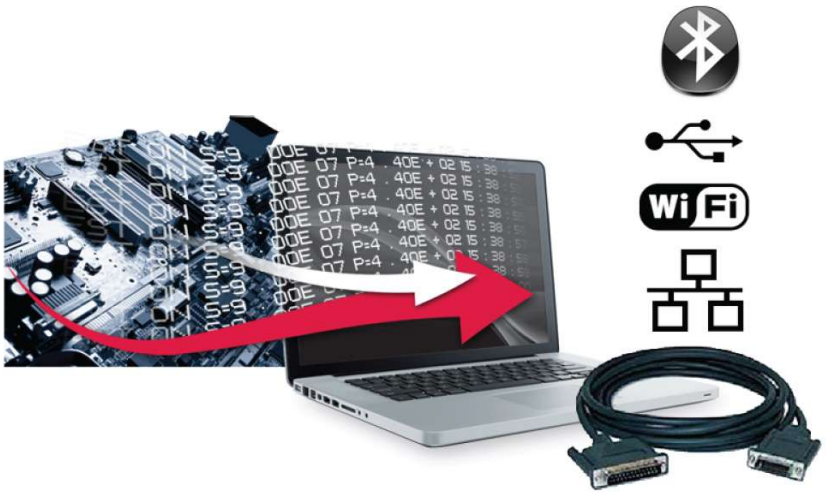
All service orders are carried out exclusively according to our general terms and conditions for the repair and maintenance, available in our website.

11 Spare parts

Spare parts available for sales, classified by functions are listed in this chapter.

Options and accessories
Accessories

Interfaces de communication
Communication interfaces
Kommunikation-Schnittstelle



Ref	Description	P/N	Qty	Remarks
J113	P0482E1 Bluetooth Board	P0482E1	1	
J140	Sub D 37 Pin Plug (Without Cover)	118733	1	
J141	Sub D 37 Pin Plug Cover	118732	1	
J167	I/O interface module - 340	121350S	1	
J168	I/O interface + Wi-Fi module - 340	121351S	1	
J169	I/O interface + Ethernet module - 340	121352S	1	
J184	Sub D 25 pin/37 pin adaptor - 340	A333758	1	

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