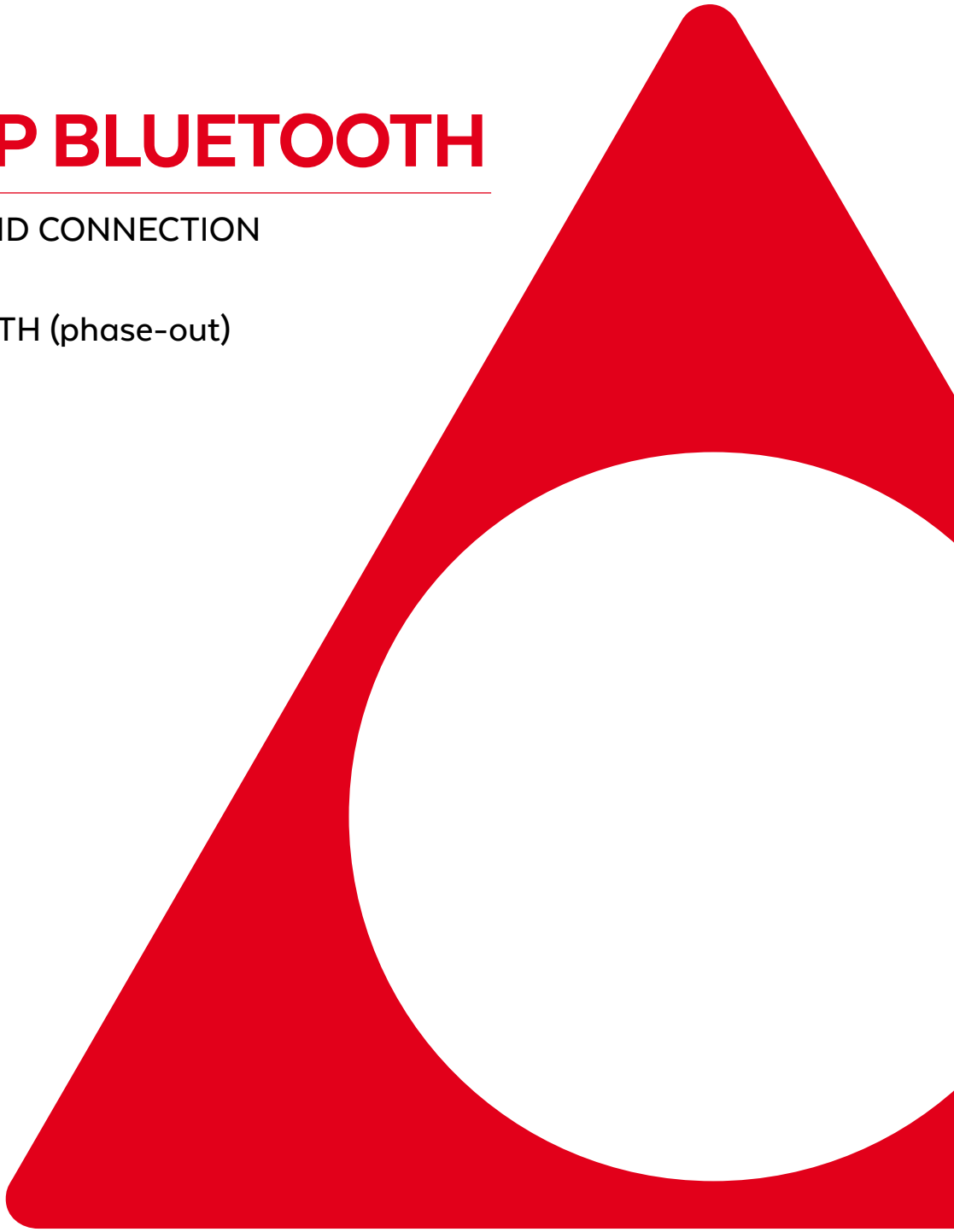
atos
the smart electrohydraulics

USER MANUAL

STARTUP BLUETOOTH

INSTALLATION AND CONNECTION

- E-A-BTH
- E-A-SB-USB/BTH (phase-out)



INDEX

1 GENERAL

This manual describes the steps required to install Bluetooth adapters to Atos valve drivers or axis controllers and connect them via the Atos CONNECT mobile app or the Atos PC software:

- **E-A-BTH** adapter procedure - see 2
- **E-A-SB-USB/BTH** adapter procedure - see 3 (phase-out)

Operations and images could be subject to change without notice and are intended for reference only.

1.1 Atos CONNECT mobile App

Free downloadable App for smartphones and tablets which allows quick access to valve main functional parameters and basic diagnostic information via Bluetooth, thus avoiding physical cable connection and significantly reducing commissioning time.

Atos CONNECT supports Atos digital valve drivers equipped with E-A-BTH adapter or with built-in Bluetooth.

It does not support valves with p/Q control or axis controls (for more information see tech. table GS500).

The previous versions of the E-A-SB-USB/BTH Bluetooth adapter is compatible (see 3).

Download on the App Store

GET IT ON Google Play

EXPLORE IT ON AppGallery

Minimum requirements:

iOS 14	iOS 14
Android	Android 9
Interface	Bluetooth Low Energy (BLE), version 4.2

1.2 PC software

Free downloadable software for PC allows to set all valve functional parameters and to access complete diagnostic information of digital valves drivers and axis controls via Bluetooth/USB service port.

Atos PC software supports all Atos digital valves drivers and axis controls and it is available in MyAtos area upon web registration at www.atos.com.

To connect E-A-BTH adapter with Atos PC software are required:
E-SW-SETUP version 10.0 or greater and Z-SW-SETUP version 5.0 or greater

Different software versions are available:

E-SW-SETUP = for valve drivers

Z-SW-SETUP = for axis controls

Minimum requirements:

Personal Computer	Pentium® processor 1GHz or equivalent
Operating System	Windows 10 **(1)**
Monitor Resolution	1024 x 768
Memory	8 GB RAM + Hard Disk with 1 GB free space
Interface	USB port Bluetooth Low Energy (BLE), version 4.2

(1) Windows 7 does not support Bluetooth connectivity

2 E-A-BTH

E-A-BTH bluetooth adapter can be used to connect valve drivers and axis controls to set functional parameters and to access diagnostic via the Atos CONNECT mobile App for smartphones and tablets (see 2.3.1) or the E-SW-SETUP and Z-SW-SETUP PC software (see 2.3.2).

E-A-BTH adapter can be left permanently installed on-board (not for ex-proof valves), to allow the Bluetooth connection with the valve drivers and axis controls at any time.

E-A-BTH adapter can be directly supplied with the valve drivers (T option, when available) or purchased separately. Bluetooth connection to the Atos devices can be protected against unauthorised access by setting a personal password.
The adapter leds visually indicates the status of valve drivers or axis controls and Bluetooth connection (see 2.2).

For ex-proof valves, all operations described in this guide must be performed in a safe area!

Technical specification

Operating Temperature	-40 ÷ +60 °C (storage -40 ÷ +70 °C)
Bluetooth Protocol	Bluetooth Low Energy (BLE) 5.4
Max RF Transmission Power	+6 dBm
Frequency	2.402 GHz to 2.480 GHz
Format	IP66 / IP67 protection degree
Mass	14 g

Certification

Bluetooth adapter is certified according to directives:

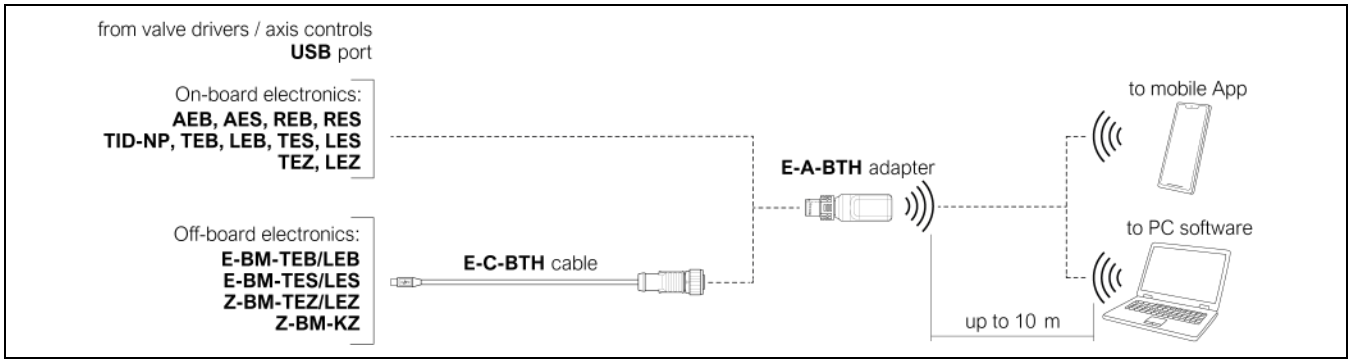
RED (Europe)	Radio Equipment Directive 2014/53/EU
FCC (USA)	FCC CFR 47 Part 15 Subpart B (contains FCC-ID YCP-32WB5MMGH02)
ISED (Canada)	ICES-003 Issue 7 (contains IC-ID 8976A-32WB5MMGH02) (*)
SRRC (China)	China MIIT Notice 2014-01 of State Radio Regulation Committee (contains CMIIT ID: 2023DP14302)
JRF (Japan)	Technical standards regulated by the Ministry of Internal Affairs and Communications (MIC) of Japan pursuant to the Japanese Radio Law (JRF) R 202-SMD070
BIS (India)	WPC approvals
KC (Korea)	Korea Communications Commission (KCC) R-R-2AS-32WB5MMGH002

(*) This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. this device may not cause interference
2. this device must accept any interference, including interference that may cause undesired operation of the device

2.1 Connection tools

Bluetooth connection permits the functional parameters programming through mobile App and PC software.
Adapter and cables shown in the image below can be ordered individually or in a single solution purchasing a dedicated kit: **E-KIT-BTH**



Bluetooth not available for off board E-MI-AS-IR, E-BM-AS, E-BM-AES, E-BM-RES and on-board TID-BC valve drivers.

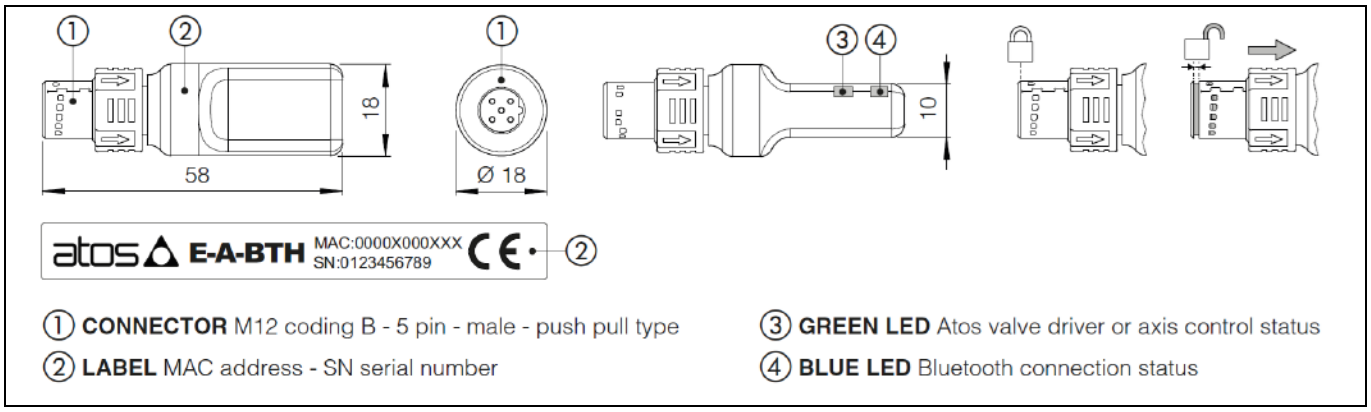
For on-board drivers/axis controls, the USB communication port is always equipped with plastic protection cap. Remove the USB plastic protection cap and connect Bluetooth cable and Bluetooth adapter. Once removed the Bluetooth cable, screw the USB plastic protection cap applying the correct tightening torque, in order to preserve valve's IP protection characteristics.

USB plastic protection cap
Tightening torque: **0,6 Nm**

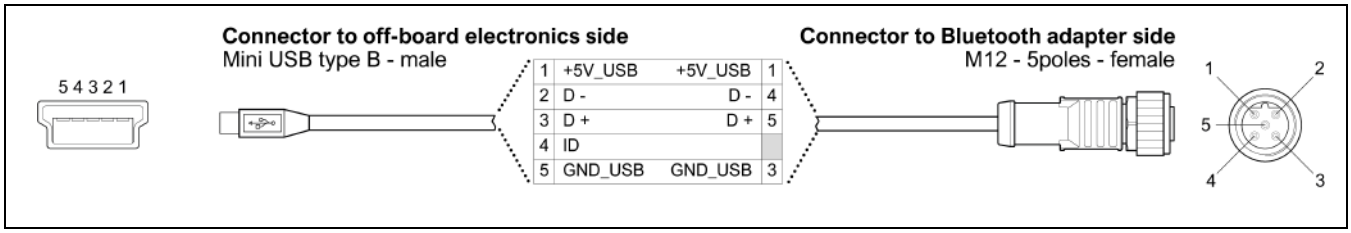
If PC has not built-in Bluetooth, use standard USB to Bluetooth dongle compatible with E-A- BTH specification.

The previous versions of the Bluetooth adapter and cables are still compatible (see 3)

E-A-BTH – Overview and dimension [mm]



E-C-BTH – Bluetooth cable (length 10 cm) only for off-board drivers/axis controls



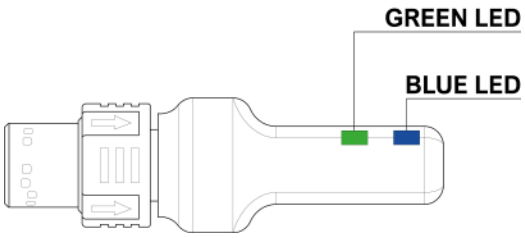
2.2 Led diagnostic

Bluetooth adapter operative conditions are shown by 2 leds for an immediate basic diagnostic:

BLUE LED indicates the Bluetooth communication status and to identify the data exchange

GREEN LED identifies the Atos valve driver and axis control status to which you have physically connected via USB (error/no Error). When the adapter is not connected to a BLE Client (e.g. smartphones, tablets or PC), it is able to interact independently with the connected device to identify its status. In this case the GREEN LED is independent of the status of the Bluetooth connection.

The GREEN LED is valid both in data exchange and with the smartphones, tablets or PC not connected.



Connect the Atos valve driver or axis control with the E-A-BTH adapter (see section 2.1).

The Atos valve driver and axis control has to be powered.

Led	Flash rate	Function	Note
GREEN	OFF	Alarm present	Atos valve driver or axis control status
	ON	No alarm	
BLUE	OFF	The adapter is: - switched off - in Reset Password mode, see below (if led green flashes)	Bluetooth connection status
	Single Flash	The adapter is: - switched on - ready to be connected to smatphones, tablets or PC	
	Double Flash	The adapter is: - switched on - connected to smatphones, tablets or PC without data exchange with driver/axis control	
	Flickering	The adapter is: - switched on - connected to smatphones, tablets or PC and data exchange with driver/axis control in progress	
GREEN BLUE	Blinking	Device search function in progress	GREEN LED and BLUE LED are alternatively blinking
GREEN	Blinking (slow to fast)	Reset Password mode in progress	The led flashes for 30 seconds (the blinking starts slowly and quickly increases until the end of the procedure)

2.3 Bluetooth Atos devices connection

In the procedures described below, the E-A-BTH adapter will be identified as “Atos device”.

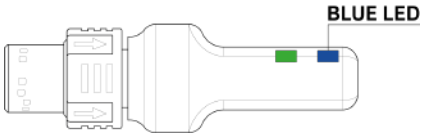
Two different procedures for connecting the Atos device to the Atos valve drivers or axis controls via App or software are described below:

- **Atos CONNECT** mobile App procedure - see 2.3.1
- **E-SW-SETUP / Z-SW-SETUP** PC software procedure - see 2.3.2

2.3.1 Atos CONNECT mobile App – procedure

Atos CONNECT mobile App does not support valves with p/Q control or axis controls.
For more information see tech. table GS500.

1. Power on the Atos valve driver
2. Connect Atos device to the Atos valve driver (see 2.1)
3. Verify that the Atos device is powered correctly: BLUE LED = single flash (see 2.2)



4. Launch the Atos CONNECT mobile App:

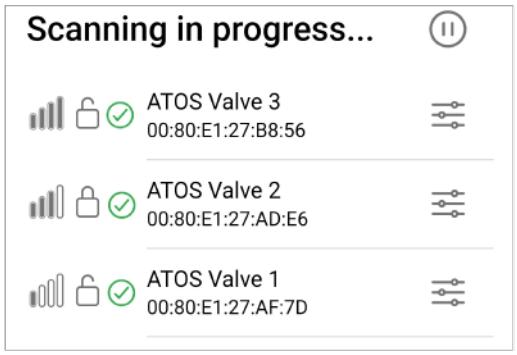
- **Start scanning**

  To start Bluetooth scan press the play button

  Start Bluetooth scan

- **Bluetooth device scanning**

  List only shows the nearby Atos devices switched on



  Scanning in progress
  Search for Atos devices in progress.

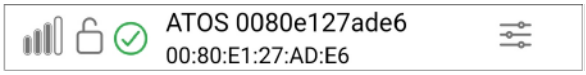
  Pause the scanning

  Available devices
  List of Atos devices detected.

  Perform a new scanning

- **Bluetooth devices List**

  Label

  Default Atos device name is **ATOS** followed by the **MAC address** (unique identifier).
  The MAC address is printed on the label for each Atos device (see 2.1).

  Status

  Bluetooth signal intensity

  Password unlocked connection

  Locked connection

  Regular functioning

  Warnings or alarms present

  Additional features

  Open ddditional features menu

  Green and blue LEDs start blinking alternately for 10 seconds, to visually identify the Atos device.

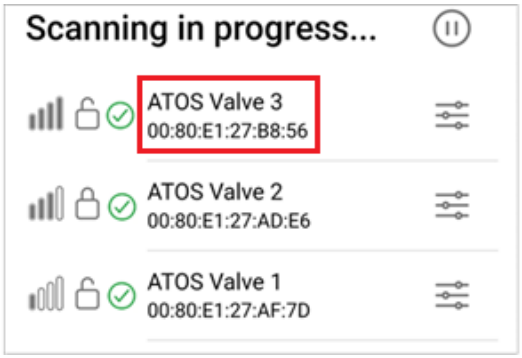
  Change Atos device name.
  Atos device name assigned by the user will always has ATOS prefix.

  Enter a new password or reset the current one.

- **Reset password**
  Follow the steps below to reset the password:
  - read the serial number indicated on the Atos device label
  - tap on the padlock icon and enter the serial number
  - if the serial is correct the green led will start blinking for 30 seconds
  - power-down the Atos device within this time

  Once the password reset is complete, the Atos device name is also reset.

- **Connection to the device**
  Tap on the label of the desired Atos device to connect

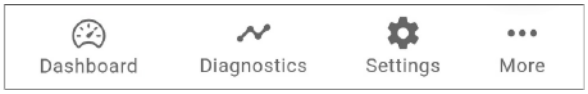


Atos devices already connected (via App or PC software) will not appear in the list of “Available devices”.

- **Header and Footer**
  Once connected, the App always shows header and footer.

  Header
  Atos device name, valve code, status and alarms

  Footer
  Browse through App pages



  Overview valve operating status

  Access to valve main functional settings

  Access to the valve/driver main functional settings

  Import/export setting file, Bluetooth scan, change language

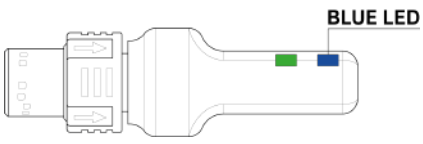
- **More – Find and Info**

  Find other Bluetooth valves
  Disconnect the App from the connected Atos device and perform a new scanning.

  App info
  Change language and check App version.

  Bluetooth info
  Check additional information about the Atos device.

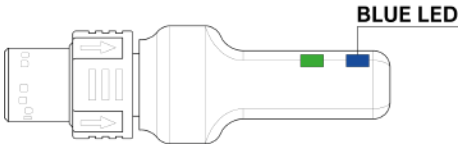
6. Verify that the Atos device is connected correctly: BLUE LED = fast flash or flickering (see 2.2)



7. Procedure terminated: Atos valve driver is connected to the App via Atos device

2.3.2 E-SW-SETUP / Z-SW-SETUP PC software – procedure

1. Power on the Atos valve drivers or axis controls
2. Connect Atos device to the Atos valve drivers or axis controls (see 2.1)
3. Verify that the Atos device is powered correctly: BLUE LED = single flash (see 2.2)

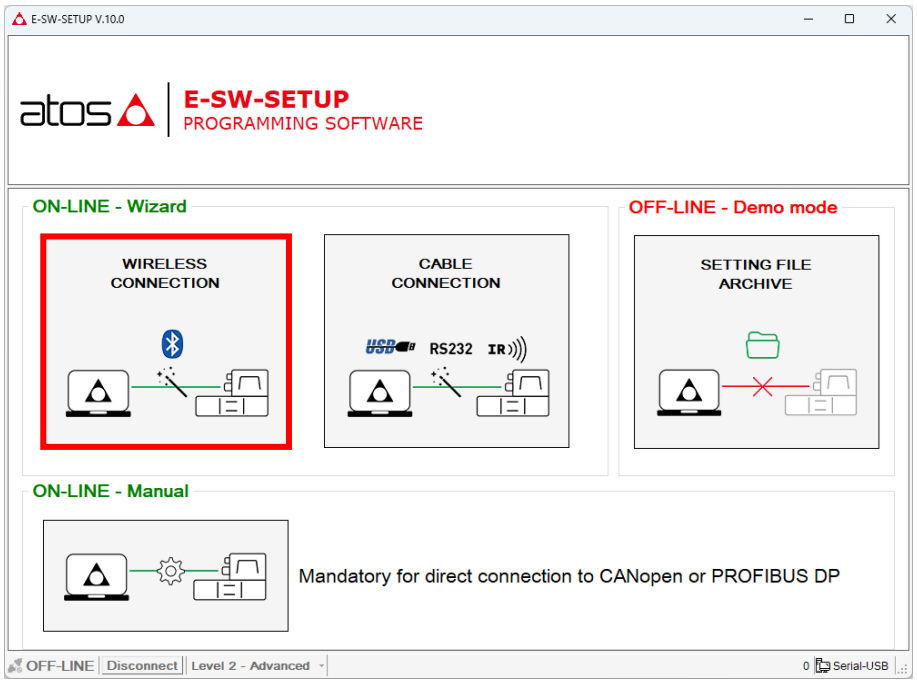


4. Launch the Atos PC software using **E-SW-SETUP** or **Z-SW-SETUP** icon on PC:

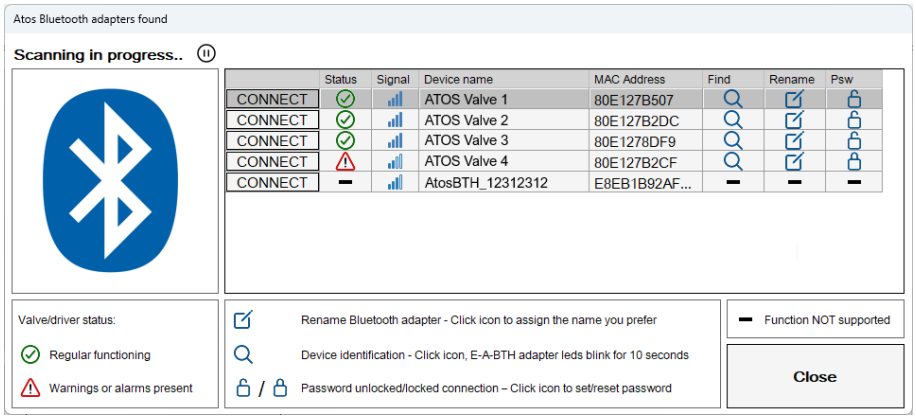
E-SW-SETUP icon
opens software
for digital drivers

Z-SW-SETUP icon
opens software
for digital axis controls

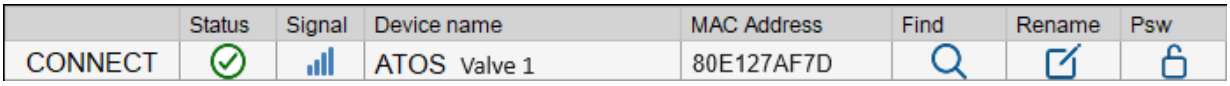
5. Press the **WIRELESS CONNECTION** button



- **Atos Bluetooth adapters found**



Label



Default Atos device name is **ATOS** followed by the MAC address (unique identifier).
The MAC address is printed on the label for each Atos device (see 2.1).

Description

Regular functioning

Warnings or alarms present

Bluetooth signal intensity

Device identification – Clicking the icon, green and blue LEDs of the E-A-BTH adapter start blinking alternately for 10 seconds, to visually identify the device

Rename Bluetooth adapter – Click icon change device name.
Device name assigned by the user will always has ATOS prefix

Password unlocked/locked connection – Click icon to set / reset password

- **Reset password**

Follow the steps below to reset the password:

- read the serial number indicated on the Atos device label (see 2.1)
- click on the padlock icon and enter the serial number
- if the serial is correct the green led will start blinking for 30 seconds
- power-down the Atos device within this time

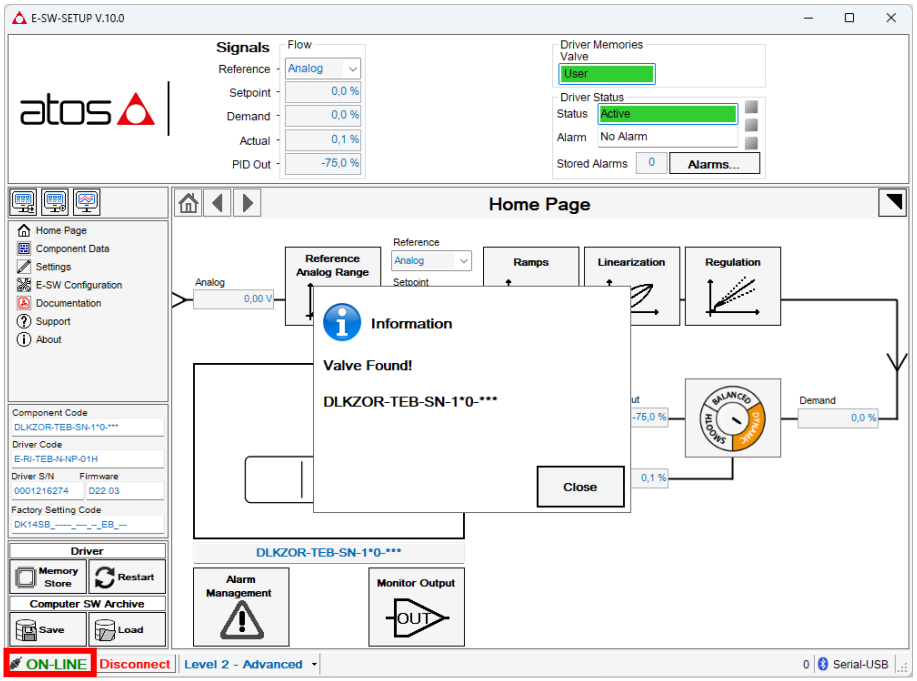
Once the password reset is complete, the Atos device name is also reset.

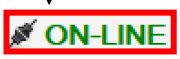
Connect

CONNECT Click button to connect the desired Atos device

Atos devices already connected (via App or PC software) will not appear in the list of “Atos Bluetooth adapters found”.

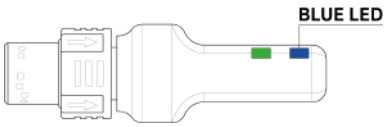
6. When Atos device is connected to the software the following software page opens (see examples below):





Communication active between Atos PC software and Atos driver/axis control

7. Verify that the Atos device is connected correctly: BLUE LED = fast flash or flickering (see 2.2)



8. Procedure terminated: Atos valve driver or axis control is connected to the PC software via Atos device

3 E-A-SB-USB/BTH (PHASE-OUT)

E-A-SB-USB/BTH bluetooth adapter can be used to connect valve drivers and axis controls to set functional parameters and to access diagnostic via the Atos CONNECT mobile App for smartphones and tablets (3.3.1) or the E-SW-SETUP and Z-SW-SETUP PC software (3.3.2).

The adapter leds visually indicates the status of valve drivers or axis controls and Bluetooth connection (see 3.2).

For explosion-proof valves, all operations described in this guide must be performed in a safe area!

Technical specification

Power Supply	5 VDC (3,5 VMIN – 5,5 VMAX) – only from Atos driver/axis control
Current Consumption	IMIN = 50 mA with +5V USB - Standby mode IMAX = 60 mA with +5V USB - Operating mode
Operating Temperature	-20 ÷ +70 °C (storage -40 ÷ +70 °C)
Use Environment	Outdoor (not for fixed installation) and Indoor
Max Operating Altitude	2000 m
Bluetooth Protocol	Bluetooth Classic Version 2.x , 3.x supporting Serial Port Profile (SPP Profile)
Type of Radio Interface	Bluetooth Class 2
Max RF Transmission Power	Class 2 Output Power (+1.5 dBm typical)
Frequency	2.402 GHz to 2.480 GHz
Format	IP20 protection degree
Dimension (W x D x H)	71 x 35 x 16 mm
Mass	21 g

Certification

Bluetooth adapter is certified according to directives:

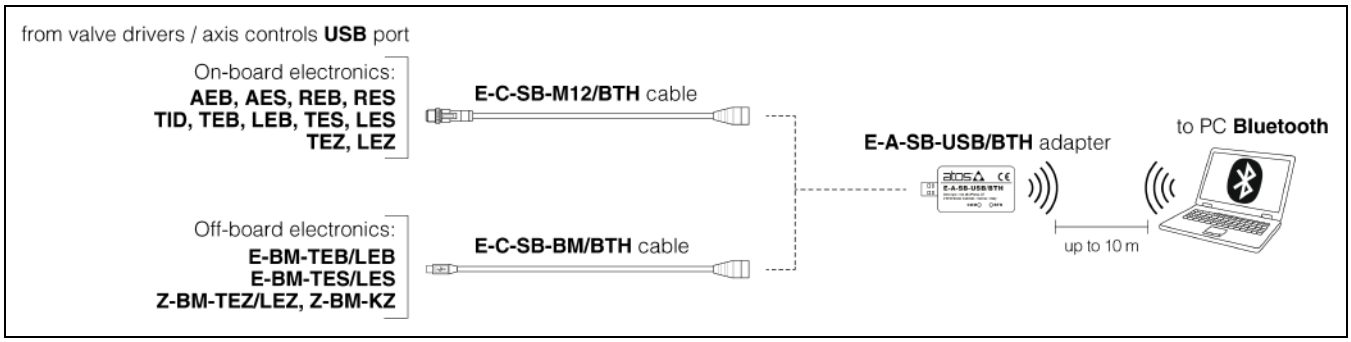
RED (Europe)	Radio Equipment Directive 2014/53/EU
FCC (USA)	FCC CFR 47 Part 15 Subpart B (contains FCC-ID A8TBM78ABCDEFGH)
ISED (Canada)	ICES-003 Issue 6 (contains IC-ID 12246A-BM78SPPS5M2) **(*)**
SRRC (China)	China MIIT Notice 2014-01 of State Radio Regulation Committee (contains CMIIT ID: 2015DJ7133)
MIC (Japan)	Technical standards regulated by the Ministry of Internal Affairs and Communications of Japan pursuant to the Radio Act of Japan R 202-SMD070
BIS (India)	WPC approvals
KC (Korea)	Korea Communications Commission (KCC) MSIP-CRM-mcp-BM78SPPS5MC2

(*) This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. this device may not cause interference
2. this device must accept any interference, including interference that may cause undesired operation of the device

3.1 Connection tools

Bluetooth connection permits the functional parameters programming through mobile App and PC software.



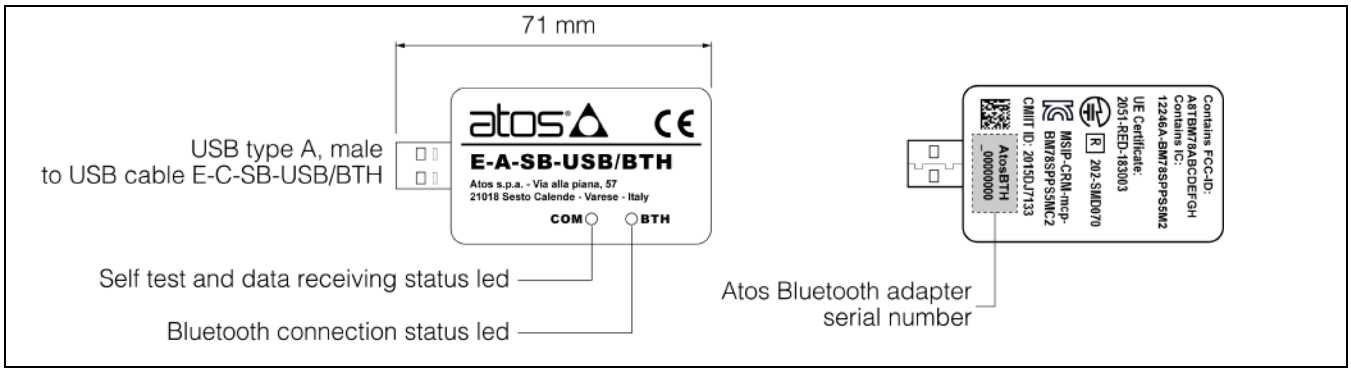
Bluetooth not available for off board E-MI-AS-IR, E-BM-AS, E-BM-AES, E-BM-RES and on-board TID-BC valve drivers.

For on-board drivers/axis controls, the USB communication port is always equipped with plastic protection cap. Remove the USB plastic protection cap and connect Bluetooth cable and Bluetooth adapter. Once removed the Bluetooth cable, screw the USB plastic protection cap applying the correct tightening torque, in order to preserve valve's IP protection characteristics.

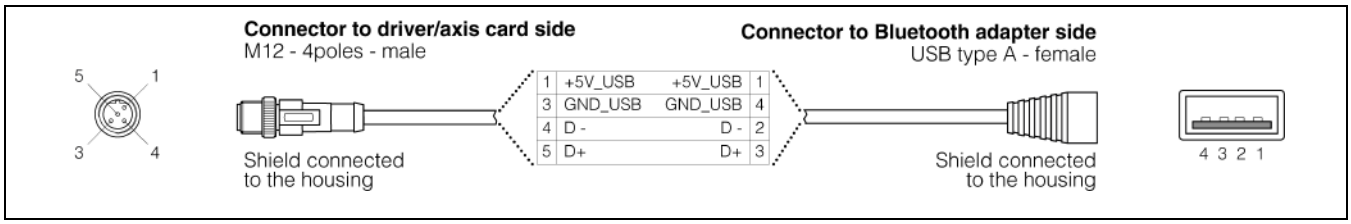
USB plastic protection cap
Tightening torque: **0,6 Nm**

If PC has not built-in Bluetooth, use standard USB to Bluetooth dongle compatible with E-A-SB-USB/BTH specification.

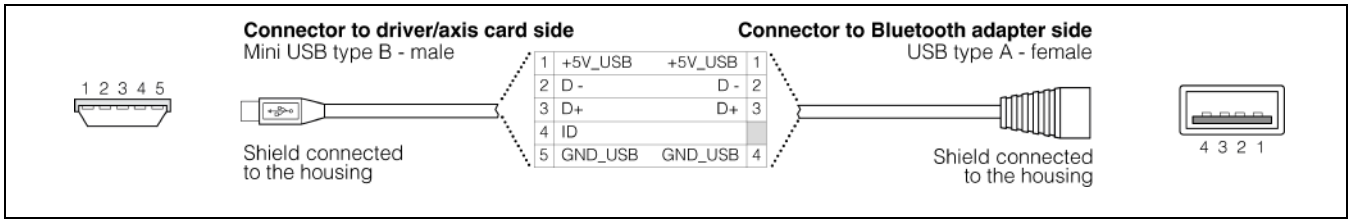
E-A-SB-USB/BTH – Overview and dimension [mm]



E-C-SB-M12/BTH - Bluetooth cable (length 40 cm) for on-board drivers/axis controls

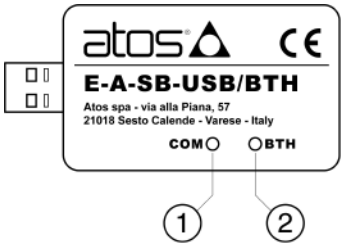


E-C-SB-BM/BTH - Bluetooth cable (length 20 cm) for off-board drivers/axis controls



3.2 Led diagnostic

Bluetooth adapter operative conditions are shown by 2 leds for an immediate basic diagnostic.



① **COM:** Self test and data receiving status (green light)

② **BTH:** Bluetooth connection status (blue light)

Connect the Atos driver/axis control with the Atos Bluetooth adapter (see section 3.1). The Atos valve driver and axis control has to be powered.

Led	Color	Flash rate	Function	Note
COM	GREEN	OFF	No data transfer	
		Single Flash	Self-test performed (no error) and successively USB communication opening	When the adapter is connected to the valve driver or axis control, the led performs two single flash (1sec each).
		Single Flash	Receiving data from PC	Led lights up for 100 msec every time a message is received. With communication always active and continuous flow of data, the led remains permanently on steady.
		ON		
BTH	BLUE	OFF	No power supply to the adapter	Bluetooth connection status
		Single Flash	COM port closed, Not paired	
		Double Flash	Paired with Atos driver/axis control and the PC has open the correct COM port	

Troubleshooting - No software connection

Led	Color	Flash rate	Function	Note
COM	GREEN	OFF	No data transfer	No power supply. Verify the connection between Atos valve driver or axis control and Atos Bluetooth adapter (Atos valve driver or axis control has to be powered)
BTH	BLUE	OFF	No power supply to the adapter	

Led	Color	Flash rate	Function	Note
COM	GREEN	OFF	No data transfer	Power supply ok, not paired with the PC. Check the connection procedure (see 3.3)
BTH	BLUE	Single Flash	COM port closed, Not paired	

3.3 Bluetooth Atos devices connection

In the procedures described below, the E-A-SB-USB/BTH adapter will be identified as “Atos device”.

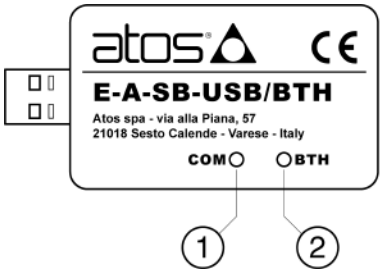
Two different procedures for connecting the Atos device to the Atos valve drivers or axis controls via App or software are described below:

- **Atos CONNECT** mobile App procedure - see 2.3.1
- **E-SW-SETUP / Z-SW-SETUP** PC software procedure - see 2.3.2

3.3.1 Atos CONNECT mobile App – procedure

Atos CONNECT mobile App does not support valves with p/Q control or axis controls.
For more information see tech. table GS500.

1. Power on the Atos valve driver
2. Connect Atos device to the Atos valve driver (see 3.1)
3. Verify that the Atos device is powered correctly through **COM** and **BTH** led (see 3.2)

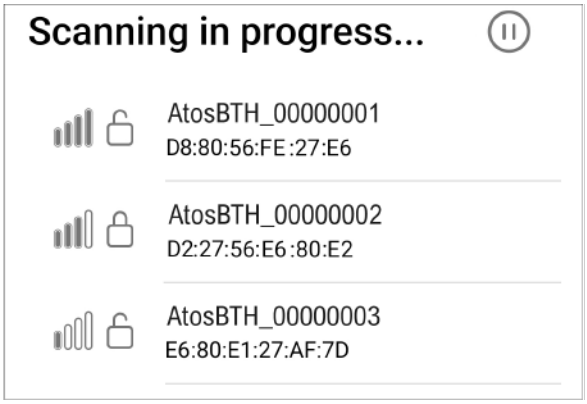


1 **COM:** the led performs two single flash (1sec each) and upon it turn of

2 **BTH:** the led performs continuous singles flash

4. Launch the Atos CONNECT mobile App:

- **Bluetooth device scanning**
  List only shows the nearby Atos devices switched on



Scanning in progress
Search for Atos devices in progress.

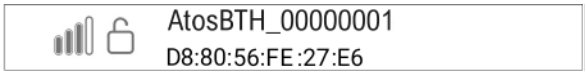
Pause the scanning

Available devices
List of Atos devices detected.

Perform a new scanning

- **Bluetooth devices List**

  Label

  Default Atos device name is **AtosBTH_serial number** followed by the **MAC address** (unique identifier). The serial number is printed on the label for each Atos device (see 3.1).

  Status

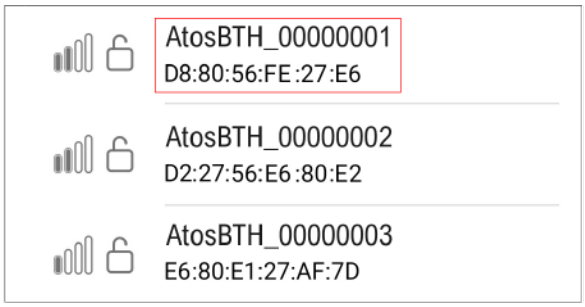
  Bluetooth signal intensity

  Password unlocked connection

  Locked connection

- **Connection to the device**

  Tap on the label of the desired device to connect

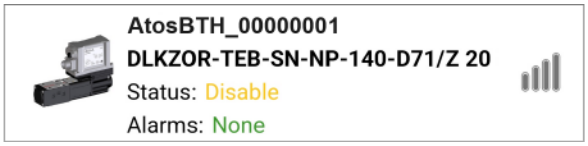
  Atos devices already connected (via App or PC software) will not appear in the list of “Available devices”.

- **Header and Footer**

  Once connected, the App always shows header and footer.

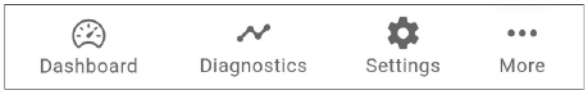
  Header

  Atos device name, valve code, status and alarms

  Footer

  Browse through App pages

  Overview valve operating status

  Access to valve main functional settings

  Access to the valve/driver main functional settings

  Import/export setting file, Bluetooth scan, change language

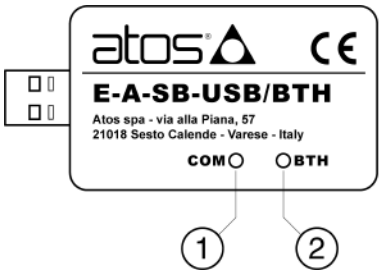
- **More – Find and Info**

  Find other Bluetooth valves
  Disconnect the App from the connected Atos device and perform a new scanning.

  App info
  Change language and check App version.

  Bluetooth info
  Check additional information about the Atos device.

5. Verify that the Atos device is connected correctly through **COM** and **BTH** led (see 3.2).



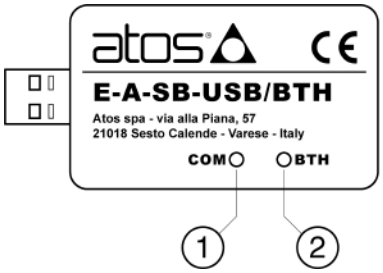
1 **COM:** the led performs single flash (with communication always active and continuous flow of data, the led remains permanently on steady)

2 **BTH:** the led performs double flash

6. Procedure terminated: Atos valve driver is connected to the App via Atos device

3.3.2 E-SW-SETUP / Z-SW-SETUP PC software – procedure

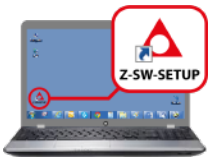
1. Power on the Atos valve drivers or axis controls
2. Connect Atos device to the Atos valve drivers or axis controls (see 3.1)
3. Verify that the Atos device is powered correctly through **COM** and **BTH** led (see 3.2)



1. **COM:** the led performs two single flash (1sec each) and upon it turn of
2. **BTH:** the led performs continuous singles flash

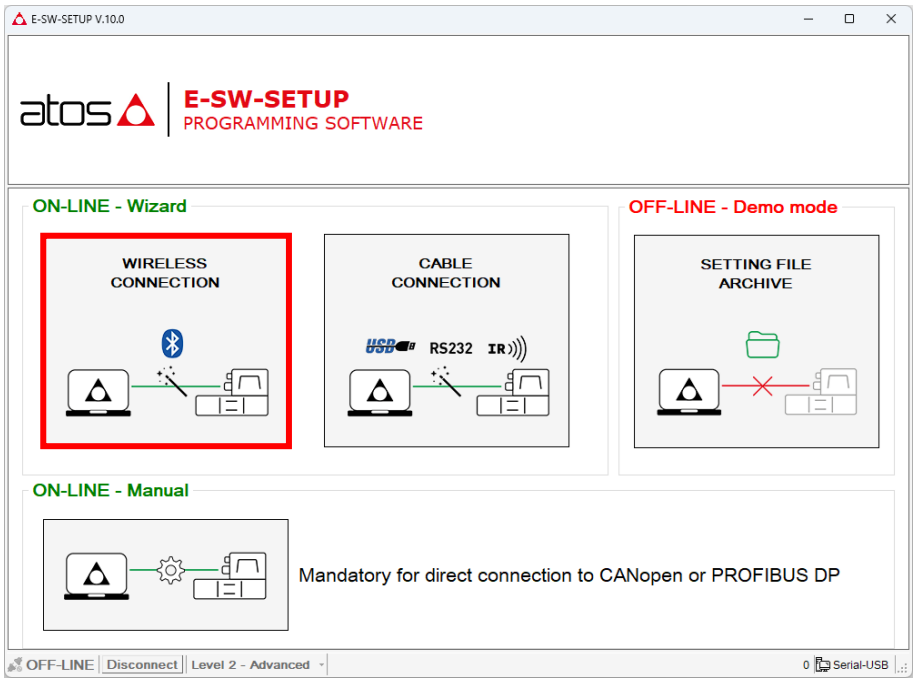
4. Launch the Atos PC software using **E-SW-SETUP** or **Z-SW-SETUP** icon on PC:

E-SW-SETUP icon
opens software
for digital drivers

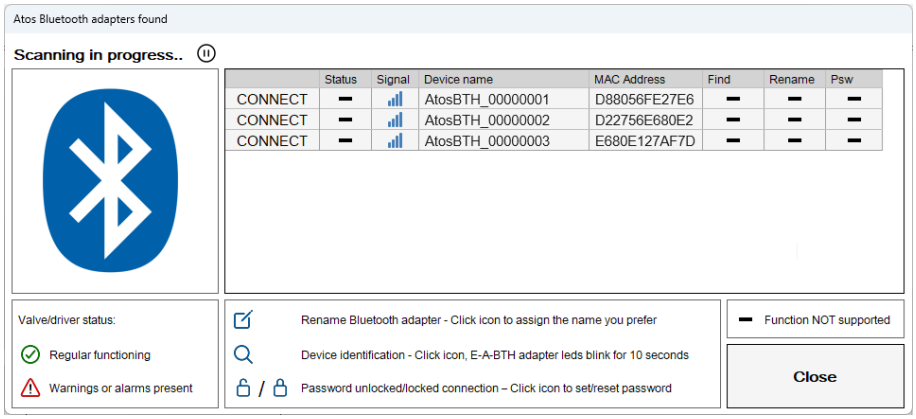


Z-SW-SETUP icon
opens software
for digital axis controls

5. Press the **WIRELESS CONNECTION** button



Atos Bluetooth adapters found



Label

	Status	Signal	Device name	MAC Address	Find	Rename	Psw
CONNECT	–		AtosBTH_00000001	D88056FE27E6	–	–	–

Default Atos device name is **AtosBTH_(serial number)** followed by the MAC address (unique identifier). The serial number is printed on the label for each Atos device (see 3.1).

Description

Bluetooth signal intensity

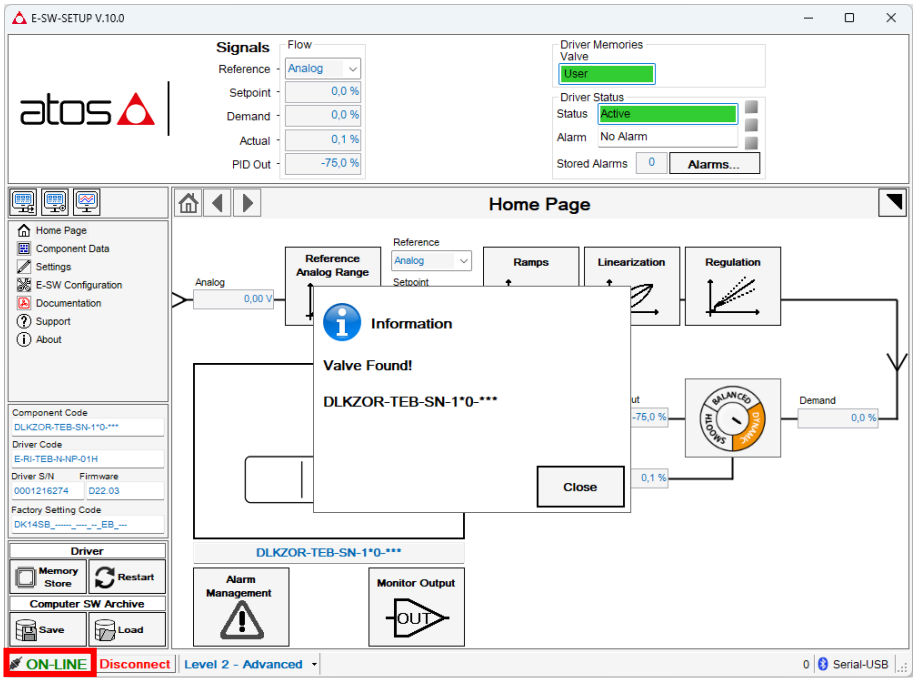
Status, Find, Rename and Psw are not available for Atos device AtosBTH_(serial number).

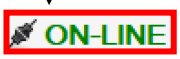
Connect

CONNECT Click button to connect the desired Atos device

Atos devices already connected (via App or PC software) will not appear in the list of “Atos Bluetooth adapters found”.

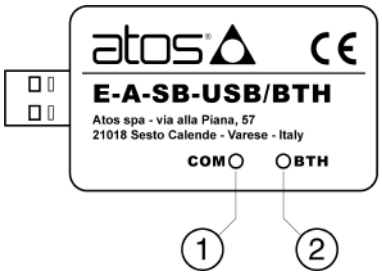
6. When Atos device is connected the PC software the following software page will open (see examples below):





Communication active between Atos PC software and Atos driver/axis control

7. Verify that the Atos device is connected correctly through **COM** and **BTH** led (see 3.2)



1. **COM:** the led performs single flash (with communication always active and continuous flow of data, the led remains permanently on steady)
2. **BTH:** the led performs double flash

8. Procedure terminated: Atos valve driver or axis control is connected to the PC software via Atos device

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