

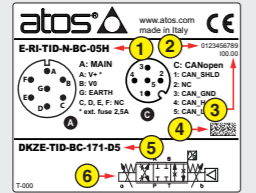
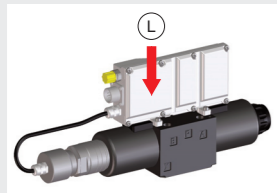
**DIRECT OPERATED PROPORTIONAL DIRECTIONAL VALVES**

Valve model:  
DHZE-TID  
DKZE-TID  
Driver model:  
E-RI-TID-N-BC

**IDENTIFICATION**

Valve identification plates and label

Valve and driver name plate : L



- 1 : driver code
- 2 : driver serial number
- 3 : factory firmware version
- 4 : valve matrix code
- 5 : valve code
- 6 : hydraulic symbol

**INSTALLATION TOOLS ACCORDING TO VALVE MODEL- not included**

Fastening bolts	Wrenches	Main connector	Fieldbus connector
socket head screws	for fastening bolts	7 pin - metallic	BC - CANopen
see STEP 1		see STEP 2.1	5 pin - metallic
			see STEP 2.2

**PROGRAMMING TOOLS - not included**

PC software	Cable	CANopen connection	Adapter
E-SW-SETUP	E-C-BC-DB9/M12	E-TRM-BC-DB9/DB9	E-A-BC-USB/DB9

**PC SOFTWARE**

E-SW-SETUP	supports	NP (USB)	IL (IO-Link)	PS (Serial)	IR (Infrared)
		BC (CANopen)	BP (PROFIBUS DP)	EH (EtherCAT)	
		EW (POWERLINK)	EI (EtherNet/IP)	EP (PROFINET RT/IRT)	
	supports	valves with SP, SF, SL alternated p/Q control			

REMARK Atos PC software is designed for Windows based operative systems - Windows 10 or later

**PC SOFTWARE DOWNLOAD**

Download PC software at [www.atos.com](http://www.atos.com) accessing to "MyAtos -> Download area electronics"

Free registration by filling the form at [www.atos.com/en-it/login](http://www.atos.com/en-it/login)

E-SW-SETUP is free and available in Download area

**RELATED DOCUMENTATION - www.atos.com**

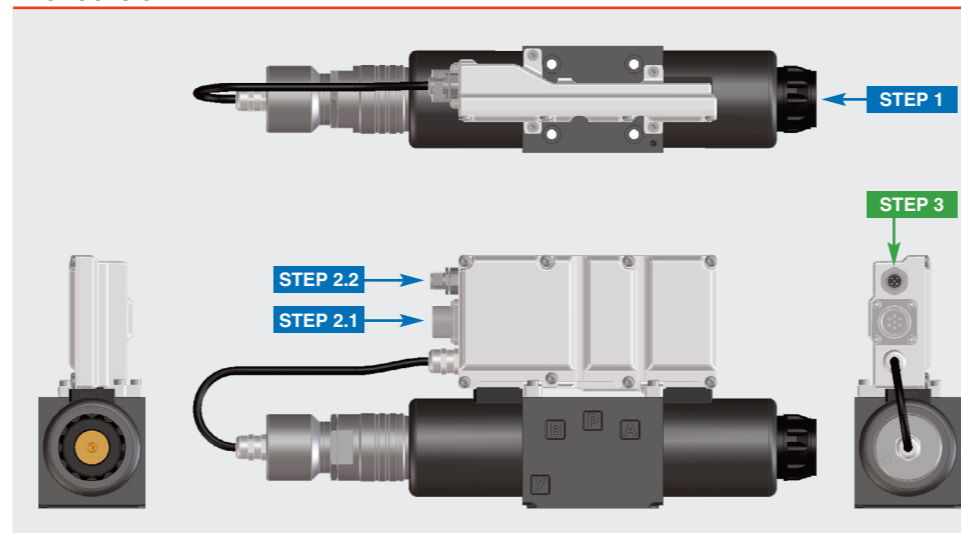
<b>FS900</b> Operating and maintenance information - tech. table	<b>E-MAN-RI-TID</b> TID - driver operating manual
<b>FS155</b> DHZE, DKZE servoproportional - tech. table	<b>E-MAN-S-BC</b> CANopen protocol programming manual
<b>P005</b> Mounting surfaces - tech. table	
<b>GS500</b> Programming tools - tech. table	
<b>GS510</b> Fieldbus - tech. table	
<b>K800</b> Electric and electronic connectors - tech. table	

**ATTENTION !**

The purpose of this quickstart guide is show a logical sequence of basic operations. This guide does not cover all details or variants of Atos valves. All operations described in this document should be performed only by qualified personnel. Operations and images could be subject to change without notice. For further information please refer to related documentation.

**CONTACT US**

**PRODUCTS OVERVIEW**



INSTALLATION		PROGRAMMING
STEP 1	STEP 2	STEP 3
MECHANICAL	ELECTRICAL	PC SOFTWARE

**STEP 1 MECHANICAL**

**In case of first commissioning, before the valve installation the whole system must be correctly flushed to grant the required cleanliness level**  
During the flushing operation use on-off or by-pass valves in place of the proportional valve

- remove protection pad **P1** located on the valve bottom face only immediately before installation (do not remove connectors caps)
- check the presence and correct positioning of the seals on valve ports
- verify that valve mounting surface is clean and free from damages or burrs
- verify the correct valve orientation according to the pattern of the relevant mounting interface
- lock the fastening bolts respecting below sequence and tightening torque according to valve model

DHZE-TID		DKZE-TID	
Mounting surface layout	n°1 OR 2025 for option /Y	Mounting surface layout	n°1 OR 108 for option /Y
4401-03-02-0-05 4401-03-03-0-05 (for /Y without X port) Valve size ISO 4401: 06		4401-05-04-0-05 4401-05-05-0-05 (for /Y without X port) Valve size ISO 4401: 10	
Fastening bolts socket head screws	Tightening torque: 8 Nm	Fastening bolts socket head screws	Tightening torque: 15 Nm
n°4 M5x50 class:12.9	wrench 4 mm	n°4 M6x40 class:12.9	wrench 5 mm

**STEP 2 ELECTRICAL**

To proceed with the wiring of the main and CANopen connectors, perform the following steps.

**2.1 MAIN CONNECTOR**

**1** Remove main connector cap **P2**

**2** Proceed with wirings operations

A	V+ (power supply 24Voc)
B	V0 (power supply 0Voc)
C	
D	NC (do not connect)
E	
F	
G	EARTH

Recommended LiYCY shielded cables:  
7 x 0,75 mm<sup>2</sup> max 20 m  
7 x 1 mm<sup>2</sup> max 40 m

**WARNING:** remove power supply before any electrical or wiring operations

**3** Connect the valve to the system

**NOTE:** the use of above metallic connectors is strongly recommended in order to fulfill EMC requirements

**WARNING:** a safety fuse is required in series to driver power supply - 2,5 A time lag fuse

**2.2 FIELDBUS CONNECTOR - BC CANopen**

**1** Remove CANopen connector cap **P3**

**2** Proceed with wirings operations

1	CAN_SHLD Shield
2	not used
3	CAN_GND Signal zero data line
4	CAN_H Bus line (high)
5	CAN_L Bus line (low)

M12 Coding A  
Cable diameter  
6 ÷ 8 mm

**3** Connect the valve to the fieldbus network. For information about fieldbus terminators see **GS500**

**NOTE:** the use of above metallic connectors is strongly recommended in order to fulfill EMC requirements

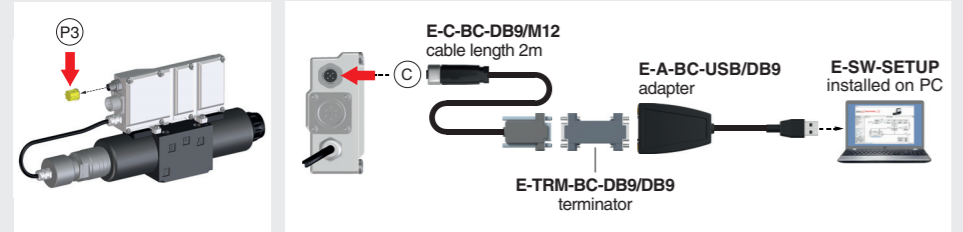
**STEP 3 PC SOFTWARE**

**REMARK** proportional valves with on-board electronics are factory preset with default parameters, only few programming operations are mandatory for setup the network parameters  
Valve programming can be performed through E-SW-SETUP software or via fieldbus

**3.1 CONNECTION**

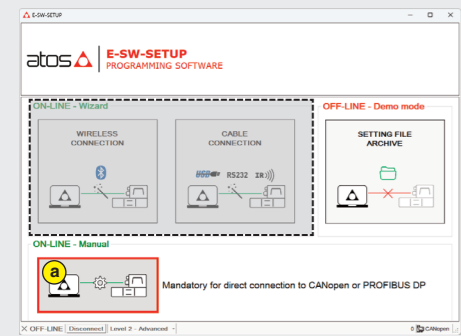
**1** In order to access valve parameterization:  
• Install E-SW-SETUP software on PC  
• Insert main connector to the valve and power on with 24Vdc

**2** Remove CANopen connector cap **P3** and connect valve to the PC as show below

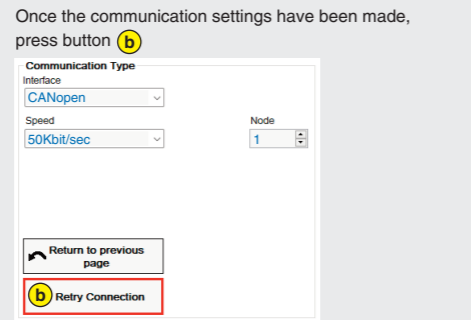


**3** Launch the PC software using E-SW-SETUP icon:  
• **PC software does NOT detect valid connection** communication is not established, please follow manual procedure **4**  
• **PC software detects valid connection** communication automatically established - valve is **ON-LINE** see **5**

**4** In **ON-LINE - Manual** press button **(a)** and follow the instructions shown on the side



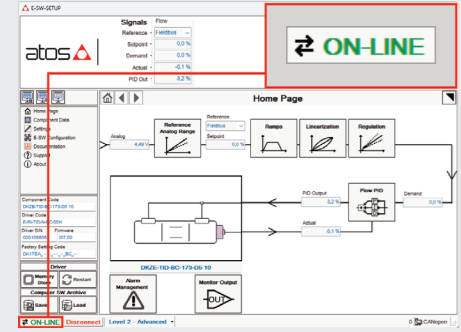
In **Communication Type** perform the following settings:  
• Interface = **CANopen**  
• Speed = **50Kbit/sec**  
• Node = **1**



**NOTE:** for E-RI-TID-N-BC the **ON-LINE - Wizard** are not available

**5** Communication established, valve is **ON-LINE** and it is possible change parameters

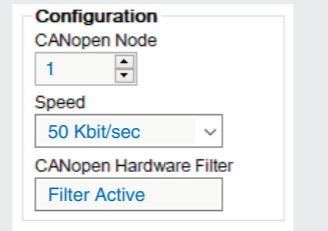
**NOTE:** see step 3.2 to change the network setup



**3.2 FIELDBUS - Network Management**

CANopen Node and Speed can be set through:

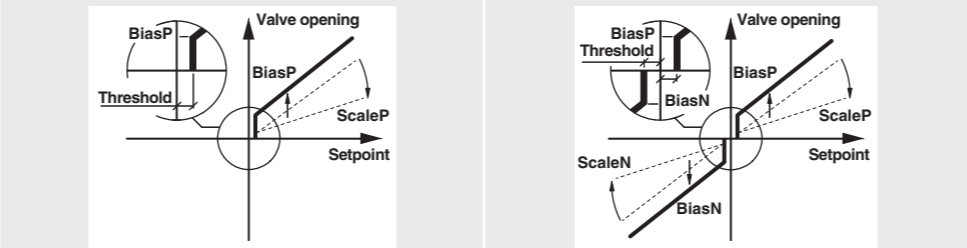
- Machine central unit (master)**  
please refer to E-MAN-S-BC fieldbus protocol programming manual
- E-SW-SETUP software**
  - browse to **Network Management - Configuration** to change default settings as shown in the image opposite
  - press **Memory Store** button and press **Save User Set** button to save new setting into the driver (see 3.4)
  - network configuration settings will be applied at next driver power on or pressing the **Restart** button



**NOTE:** CANopen EDS configuration file is available in MyAtos area - [www.atos.com](http://www.atos.com)

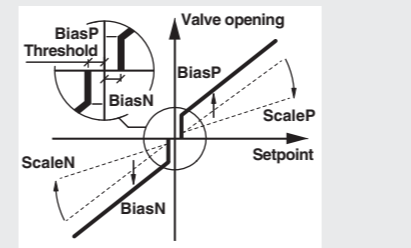
**3.3 CONFIGURATION**

Single solenoid directional control valve, 2 positions with positive overlapping and flow control valve



**BiasP** positive bias  
**ScaleP** positive scale  
**Threshold** = 2%  
(200mV or 0,32mA for *I* option)

Double solenoid directional control valve, 3 positions with positive overlapping



**BiasP** positive bias  
**ScaleP** positive scale  
**BiasN** negative bias  
**ScaleN** negative scale  
**Threshold** = 2%  
(±200mV or ±0,16mA for *I* option)

**BIAS AND SCALE - 2 POSITION VALVES and FLOW CONTROL VALVES**

**Bias setting:** supply input signal just over the Threshold value; increase the Bias until the actuator is start moving, then lightly reduce the Bias just to stop the actuator  
**Scale setting:** supply the max input signal; adjust the Scale to obtain the max actuator speed

**BIAS AND SCALE - 3 POSITION VALVES**

Follow the same indications reported for 2 position valves and flow controls valves for both valve's solenoids

**RAMPS**

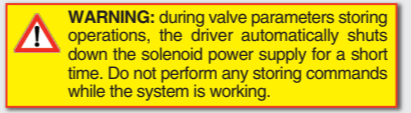
**Ramps setting:** select the required ramp configuration and adjust the ramp time to optimize the actuator's acceleration and deceleration

- No Ramp** : no ramps selected
- Single Ramp** : setup Ramp 1
- Double Ramp** : setup Ramp 1 and 2
- Four Ramps** : setup Ramp 1, 2, 3 and 4 (only 3 position)

**3.4 STORE**

Parameters modifications will be stored into driver permanent memory:

- press **Memory Store** button to access **Driver - Memory Save** window
- press **Save User Set** button to store **Valve Parameters**



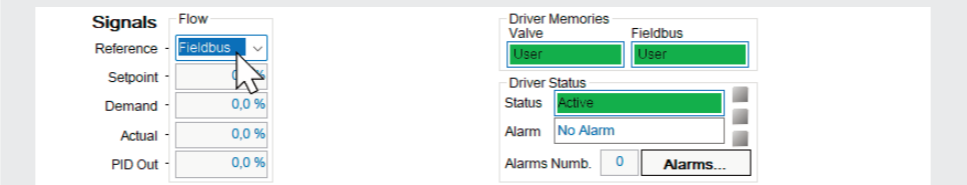
**3.5 BACK UP**

Parameter modifications will be saved into PC memory:

- press **Save** button to access **Computer SW Archive - Setting Files** page, **Setting File Name** pop-up appears
- input a valid name into **Description** field and press **Ok** button

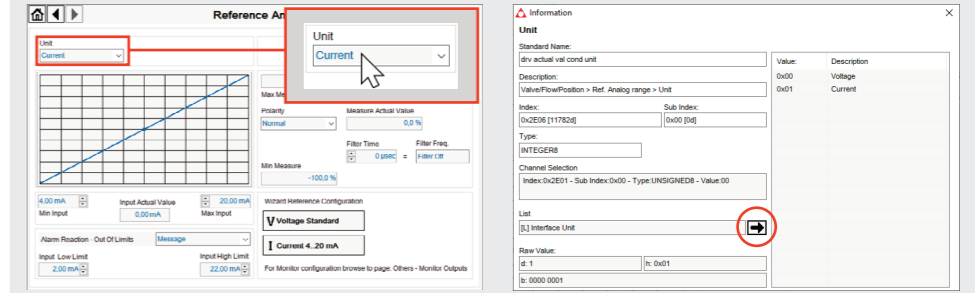
**REFERENCE**

The source of reference signals for valves is preset as **Fieldbus** by factory default



**HINT ! - Wizard objects dictionary**

Press **CTRL + H** on the PC keyboard to open the context help form  
Move arrow on parameter (e.g. **Unit**) to display the objects dictionary information to access the parameter via fieldbus  
If present **List**, press **(right arrow)** to display values accepted by the parameter



**NOTE:** alternatively right click on any parameter

**TROUBLESHOOTING**

- The valve does not follow the reference signal**
  - valve is powered off, verify presence of 24 Vdc power supply
  - flow/pressure values exceeding the valve's performance limits, verify that hydraulic operating conditions are in compliance with the valve's characteristics
  - spool sticking, contact Atos service center

**PC software parameters modifications are lost when valve is switched off**  
• parameter store operation was not performed, check store procedure – see STEP 3, section 3.4

**PC software parameters modifications have no effect on the valve**  
• valve is OFF LINE, check connection procedure – see STEP 3, section 3.1

- After the modifications of PC software parameters the valve does not work properly**
  - restore valve factory parameters using 'Load Factory Set' button, located in 'Driver - Memory Save' window:
    - during restore, the current to the solenoid(s) will be temporarily switched to off!
    - factory parameters will be applied at next driver restart or after power off-on sequence!