

STEP 3 SOFTWARE

REMARK off-board drivers are factory preset with default parameters, only few programming operations are mandatory for setup the network parameters and the source of reference signals

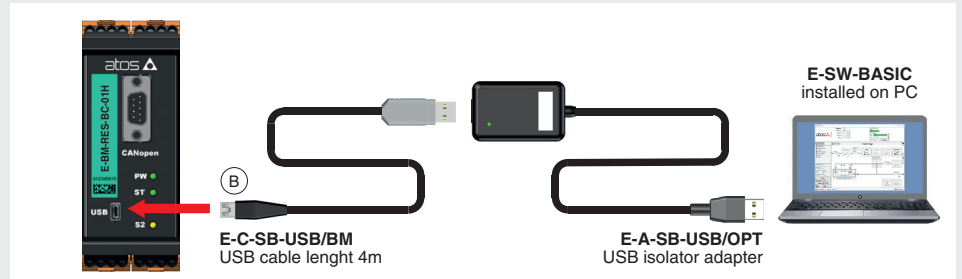
Driver programming can be performed through E-SW software or via fieldbus

PROGRAMMING						PC
3.1	3.2	3.3	3.4	3.5	3.6	3.7
CONNECTION	CONFIGURATION	FIELDBUS	REFERENCES	SMART TUNING	STORE	BACK UP

3.1 CONNECTION

- 1 In order to access valve parameterization:**
- Install E-SW software on PC
 - Complete the electrical installation and power on the driver with 24Vdc

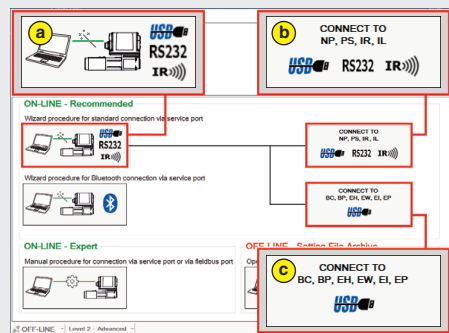
2 Connect driver to the PC as shown below



WARNING: drivers USB port is not isolated! The use of USB isolator adapter is highly recommended for PC protection (see GS500)

- 3** Launch the software using E-SW icon:
- software does NOT detect valid connection communication is not established, please follow wizard procedure
 - software detects valid connection communication automatically established - driver is ON-LINE see

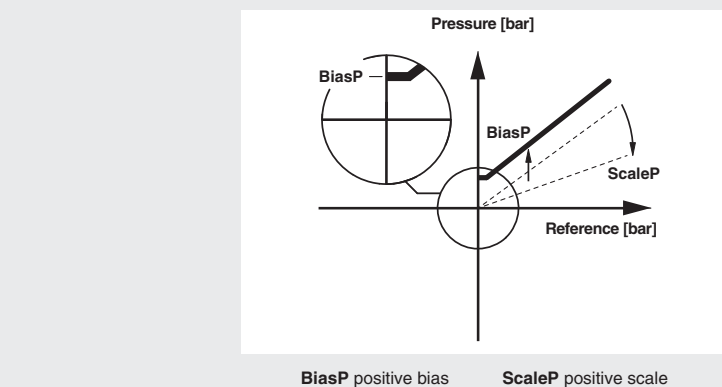
- 4** Press buttons according the below sequence:
- ON-LINE - Recommended**
Wizard procedure for standard connection
 - CONNECT TO NP, PS, IR, IL**
for driver without fieldbus communication
 - CONNECT TO BC, BP, EH, EW, EI, EP**
for driver with fieldbus communication



NOTE: Bluetooth adapter is not compatible with E-BM-RES

3.2 CONFIGURATION

All valves



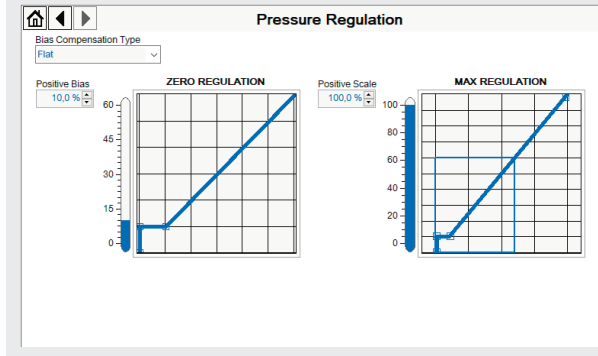
BiasP positive bias ScaleP positive scale

BIAS , SCALE AND RAMPS

Bias setting: supply the input signal equal to 0 bar

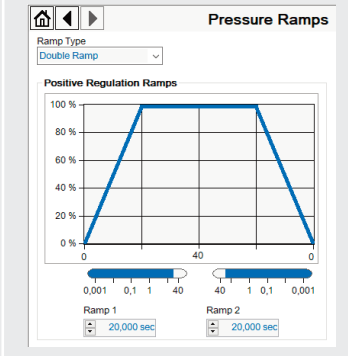
- **relief valves:** increase the Bias until the pressure starts to increase, then lightly reduce the Bias just to bring back the pressure lightly over the minimum regulated value
- **reducing valves:** increase the Bias until it reached the minimum desired value of starting pressure

Scale setting: supply the max input signal; adjust the Scale to obtain the max regulated pressure



Ramps setting: select the required ramp configuration and adjust the ramp time to optimize the pressure response according to the system characteristics

- No Ramp:** no ramps selected
- Single Ramp:** setup Ramp 1
- Double Ramp:** setup Ramp 1 and 2



WIZARD REFERENCE - E-SW level 2 functionality

Reference input signal is factory preset according to selected valve code, defaults are 0 ÷ 10 Vdc for standard and 4 ÷ 20 mA for /I option. Input signal can be reconfigured via software selecting between voltage and current, browsing to **Reference Analog Range** page:

REMARK: Voltage Standard or Current 4..20 mA buttons do not act on Monitor output signal configuration! For Monitor output signal configuration browse to page **Others - Monitor Outputs**

3.3 FIELDBUS - Network Management

Node, Station Alias, IP Address, Baudrate, etc... can be set through:

- Machine central unit (master)** - please refer to E-MAN-S-** fieldbus protocol programming manual
- E-SW software**
 - switch to **Level 2 - Advanced** and browse to **Network Management - Configuration** to change below default settings:

BC CANopen Configuration file: EDS Configuration: CANopen Node 1, Speed 50 Kbit/sec, Filter Active	BP PROFIBUS DP Configuration file: GSD Defaults: Telegram 3 Telegram Selection: Telegram 3
EH EtherCAT Configuration file: XML Station Alias is assigned automatically by fieldbus master	

- press **Memory Store** button and in **Fieldbus Parameters** press **Store User** button to save new setting into the driver (see 3.6)
- network configuration settings will be applied at next driver power-on or pressing the **Restart** button

NOTE: configuration files are available in USB memory stick of the software or in MyAtos area - www.atos.com

3.4 REFERENCES - only for BC, BP, EH

The source of reference signals for valves with fieldbus:

- is preset as **Analog** by factory default
- can be managed through machine control unit by setting the source from **Analog** to **Fieldbus**

3.5 SMART TUNING - E-SW level 2 functionality

Smart tuning allows to adjust the valve dynamic response in order to match different performance requirements.

3.6 STORE

Parameters modifications will be stored into driver permanent memory:

- press **Memory Store** button to access **Driver - Memory Store** window
- press **Store User** buttons to store **Valve Parameters** or **Fieldbus Parameters**

WARNING: During valve or fieldbus parameters storing operations, the driver automatically shuts down the solenoid power supply for a short time. Do not perform any storing commands while the system is working.

3.7 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

HINT ! - Wizard objects dictionary - only for BC, BP, EH

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 **▶** to display values accepted by the parameter

NOTE: alternatively right click on any parameter

TROUBLESHOOTING

Valve vibration or noise

- presence of air in the solenoid; perform air bleeding procedure – see tech. table of the connected valve
- dither frequency too low; increase value of the frequency – please refer to E-MAN-BM-RES operating manual

The valve does not follow the reference signal

- driver is powered off, verify presence of 24 Vdc power supply and the coil(s) connection
- driver is disabled, verify presence of 24 Vdc on enable pin
- flow/pressure values exceeding the valve's performance limits, verify that hydraulic operating conditions are in compliance with the valve's characteristics
- big hysteresis or spool stick-slip, reduce the dither frequency
- the mechanical pressure limiter interferes with the regulation (only AGMZ0 and AGRCZ0 with /P option and only LIRZ0, LICZ0, LIMZ0 sizes 16, 25, 32 and /P option) – check the pressure limiter setting
- spool sticking, contact Atos service center
- poppet sticking (only LIRZ0, LICZ0, LIMZ0) – contact Atos service center
- missing piloting pressure, verify that the system pressure is compliant with valve's characteristics
- wrong pilot/drain configuration - check if the pilot/drain configuration of the valve corresponds to the effective system layout

Pressure instability or vibration

- select PID4 to operate the valve in open loop:
 - if the instability still persists, check eventual anomalies in the hydraulic circuit as the presence of air
 - if the instability disappears, select an alternative configuration within PID selection 1, 2 or 3 which better matches the application requirements
 - if no one of the above selection fulfills the application, tune P - I - D parameters at E-SW software level 2 to obtain the desired dynamic response

Software parameters modifications are lost when driver is switched off

- parameter store operation was not performed, check store procedure – see STEP 3, section 3.6

Software parameters modifications have no effect on the valve

- driver is OFF LINE, check connection procedure – see STEP 3, section 3.1

After the modifications of software parameters the valve does not work properly

- restore valve factory parameters using 'Restore Factory' button, located in 'Driver - Memory Store' 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!
 - perform the bias and scale configurations again!