AST Gruppe
Angewandte System Technik

ASTAS® 2

Software

Original

Operation Manual

A.S.T. - Angewandte System Technik GmbH, Mess- und Regeltechnik
Marschnerstraße 26 01307 Dresden
Telefon (03 51) 44 55 30 Telefax (03 51) 44 55 555
www.ast.de vertrieb.dd@ast.de

Contents

1. Introduction 1
2. Operation 2
2.1. Program start 2
2.2. Connecting with device 2
3. Device 3
3.1. Summery 3
3.2. Setup 4
3.2.1. Node/Device 4
3.2.2. Analogue inputs 5
3.2.3. Analogue outputs 6
3.2.4. Digital Inputs 7
3.2.5. Digital Outputs (Switch Points und Relay) 8
3.2.6. Load Spectrum Recorder (LSR) 9
3.3. State 10
3.4. Load Calibration 11
3.5. Reset 12
4. Extras 12
4.1. Language 12
4.2. Options 12
4.2.1. Interfaces 12
4.2.2. Node//Values/Diagram 13
4.3. Firmware-Update 13
5. Help 14
6. Error message 14

1. Introduction

The ASTAS software ASTAS®2 is the universal tool for configuration and evaluation for measuring instruments with USB port from A.S.T. Angewandte System Technik GmbH.

The software currently supports the following devices:

- DI 1000
- LS 1000
- KAx-CANopen - Kraftaufnehmer mit CANopen

You can find the software ASTAS®2 on our website ***www.ast.de***, or CD-ROM „***Product Information***“

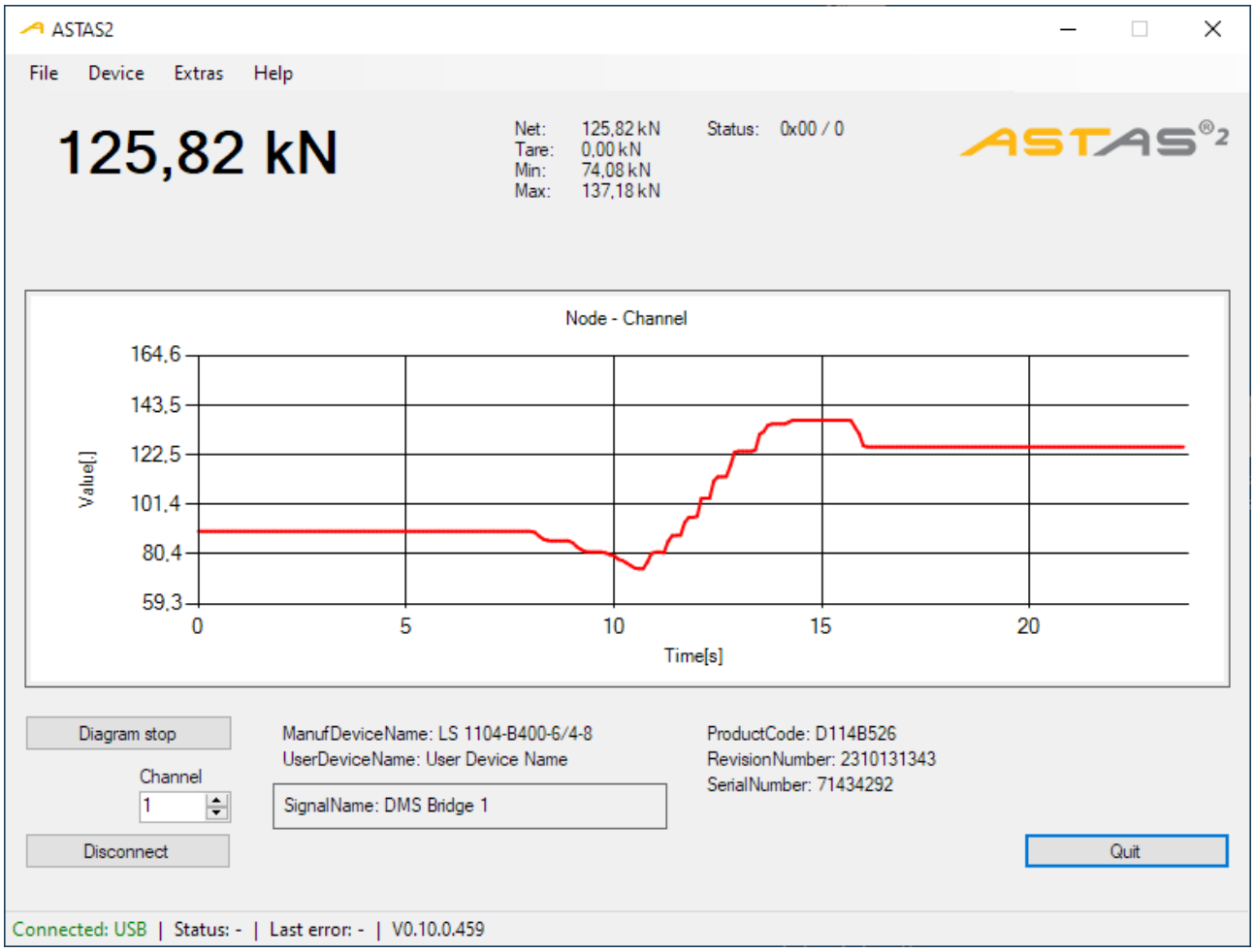
NOTE! Certain functions and settings depend on the firmware status of the device and thus may be unavailable!

Special features:

- Display and logging of data series in the force-time curve
- Setup and calibration functions
- Storage of setup files

2. Operation

2.1. Program start



The main windows shows

- Current measured value per channel
- Chart with scrolling plot and averaging display
- Status bar
  - USB-status
  - Status Node of CANopen
  - last Error message
  - Software version

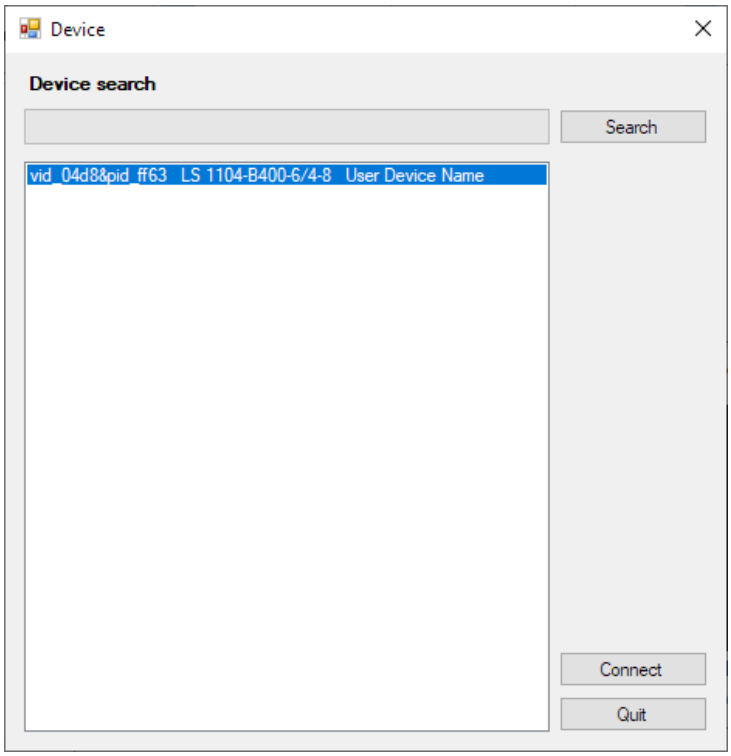
2.2. Connecting with device

Connect the device with USB cable to your PC and start the software ASTAS®2
Start the connection with button "Connect". Select the right channel.
After completing all the settings, "Disconnect" and close the software with "Quit".

3. Device

3.1. Summery

Menu ⇒ Device ⇒ Summery



This list contains all devices plugged in as detected by the software, inclusive of basic information. Highlight a device from the list and press Connect to establish the connection to the selected device. The window opens automatically if more than one device is connected.
This program will automatically connect when only one device is connected.

NOTE It is possible to start several instances of ASTAS®2 to be able to control several devices plugged.

3.2. Setup

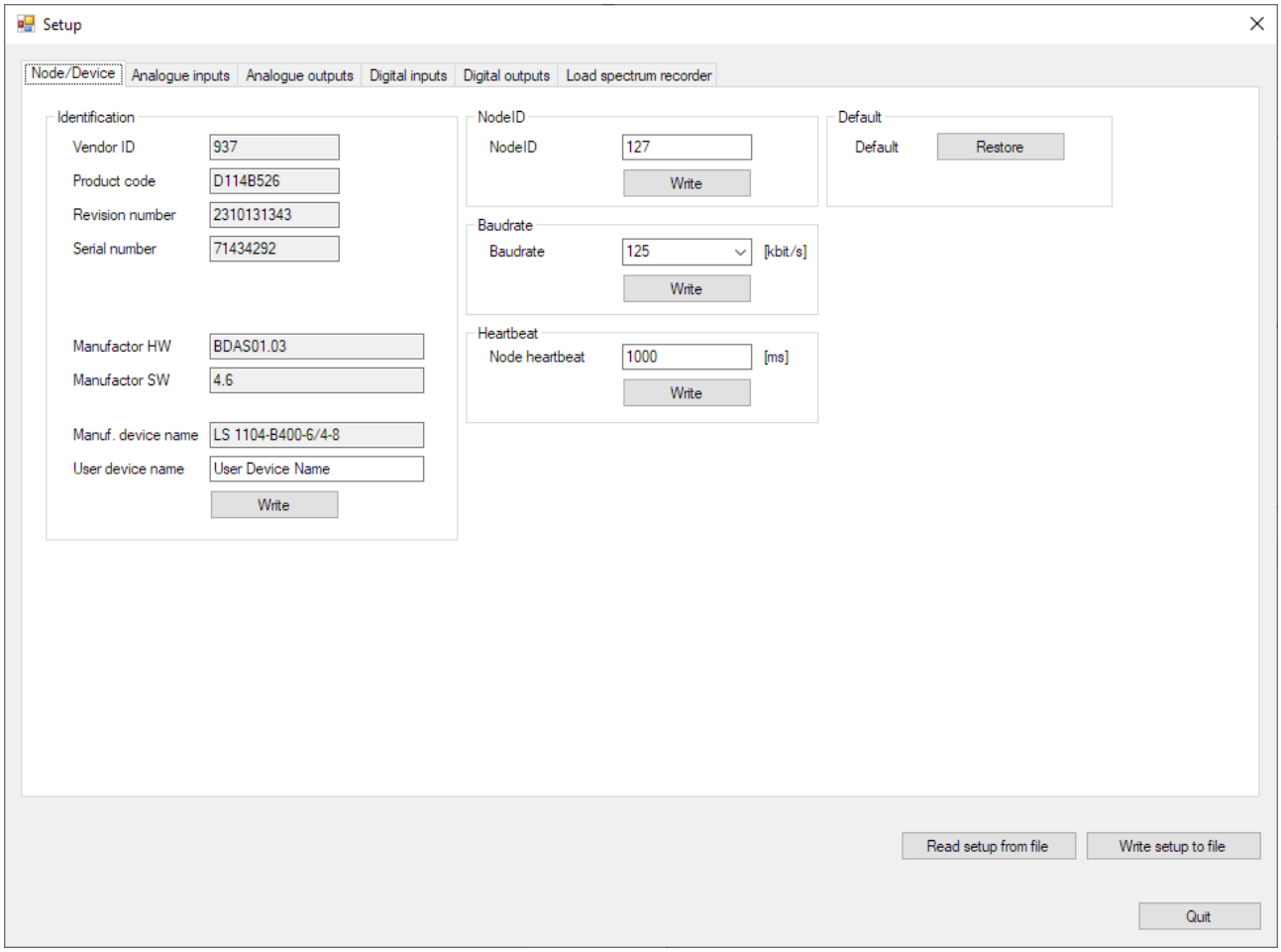
Menu ⇒ Device ⇒ Setup

Read setup from file Read out a local file.

Write setup to file Save the setup in a file.

3.2.1. Node/Device

Menu ⇒ Device ⇒ Setup ⇒ "Node/ Device"



User Device Name Input field for your own device name

Node ID Node ID or device address in CANopen-network

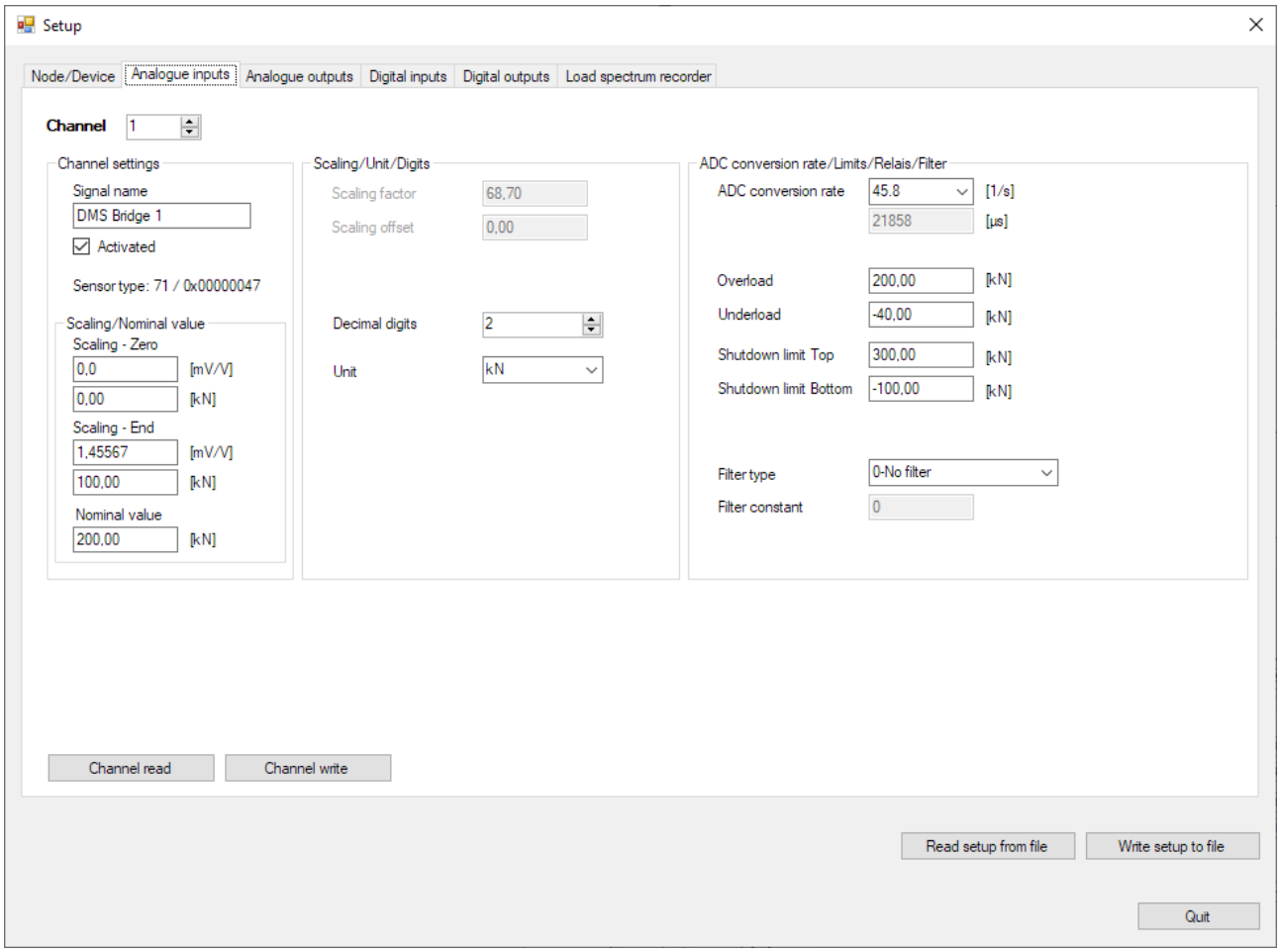
Baudrate CAN-Baud rate of device

Node Heartbeat Heartbeat-Time for CANopen

Default Resetting to factory settings

3.2.2. Analogue inputs

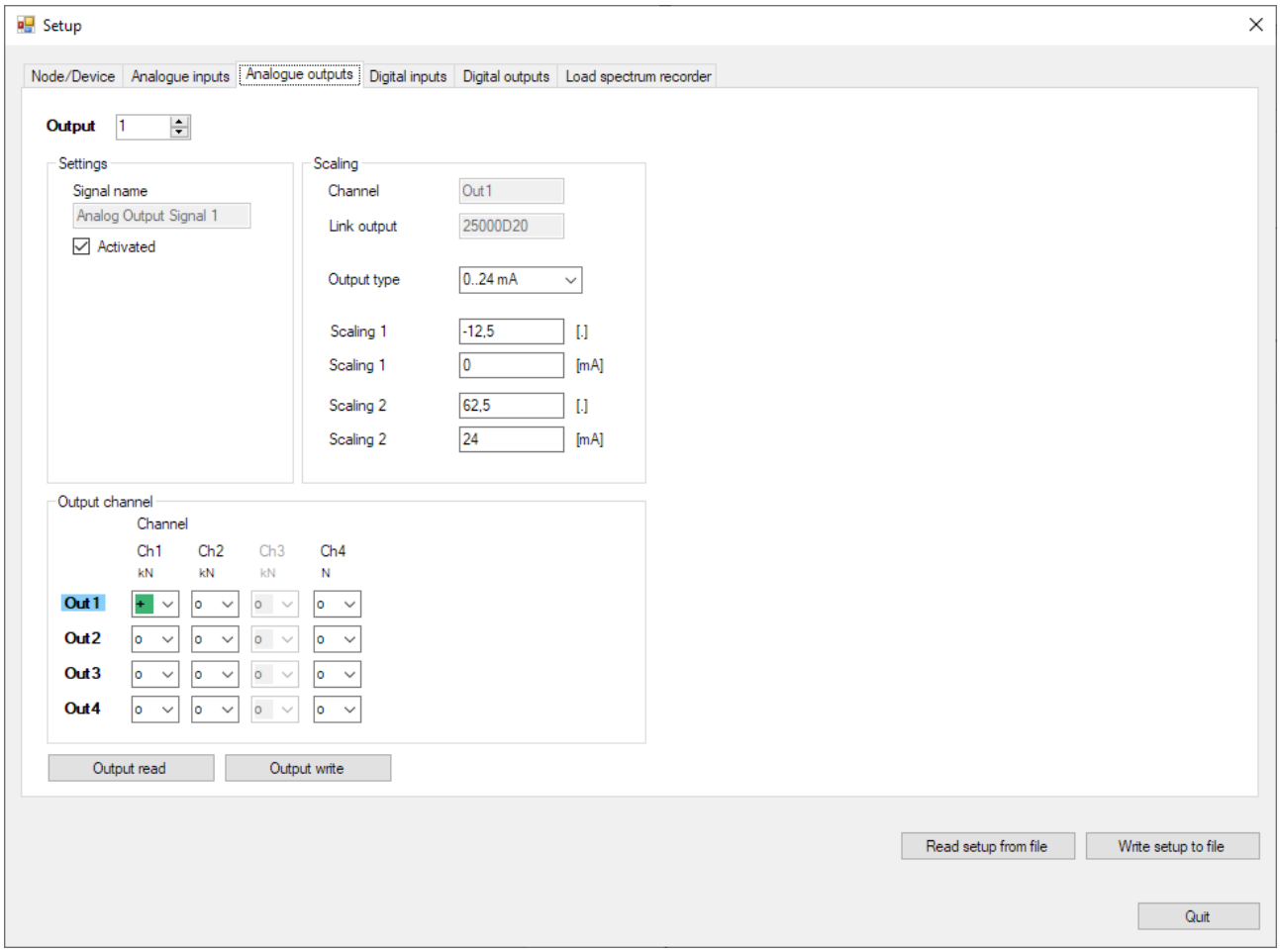
Menu ➡ Device ➡ Setup ➡ "Analogue output"



Channel	Selection of the measurement channel
Settings	☑ Input channel active / ☐ Input channel inactive
Signal name	Name of channel
Scaling /Nominal value	Inputs of the values are used for the theoretical adjustment of the channel.
Scaling	Nominal value of theoretical adjustment
Decimal digits	Number of decimal places
Unit	Selection of unit
ADC-conversion rate	ADC-conversion rate of device
Overload	Overload message
Underload	Underload message
Shutdown limit Top	max. Overload
Shutdown limit Bottom	min. Underload
Filter type and Filter constant	Selection of Filter type and constant

3.2.3. Analogue outputs

Menu ⇒ Device ⇒ Setup ⇒ "Analogue outputs"

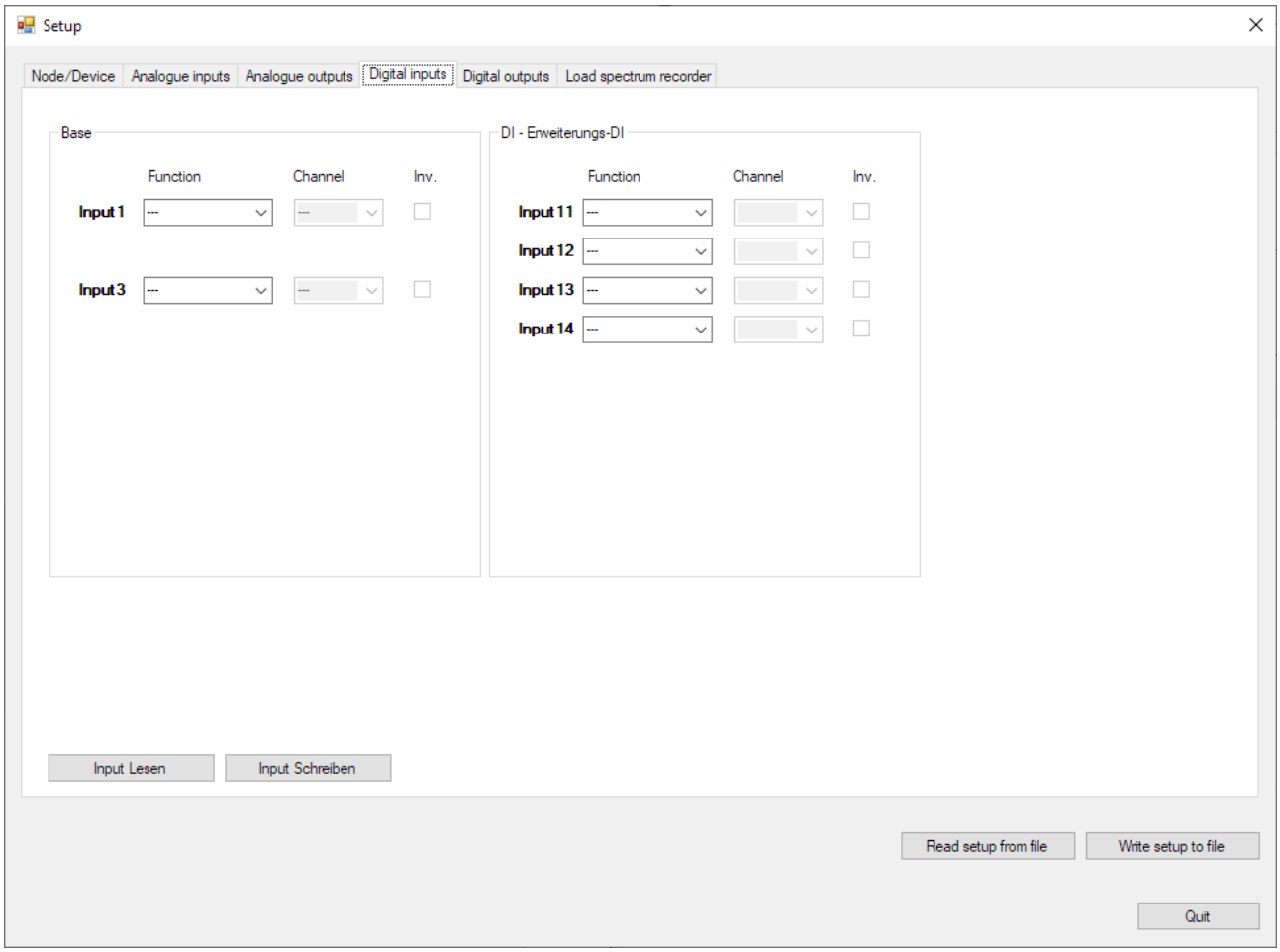


Output	Selection of analogue output
Settings	☑ Output active / ☐ Output inactive
Output channel	Combo field of analogue inputs for the respective analogue output (Outx)
Output type	Selection of current or voltage output
Scaling 1	adjustment point 1
Scaling 2	adjustment point 2

NOTE! Input fields without selection are marked with an "o".

3.2.4. Digital Inputs

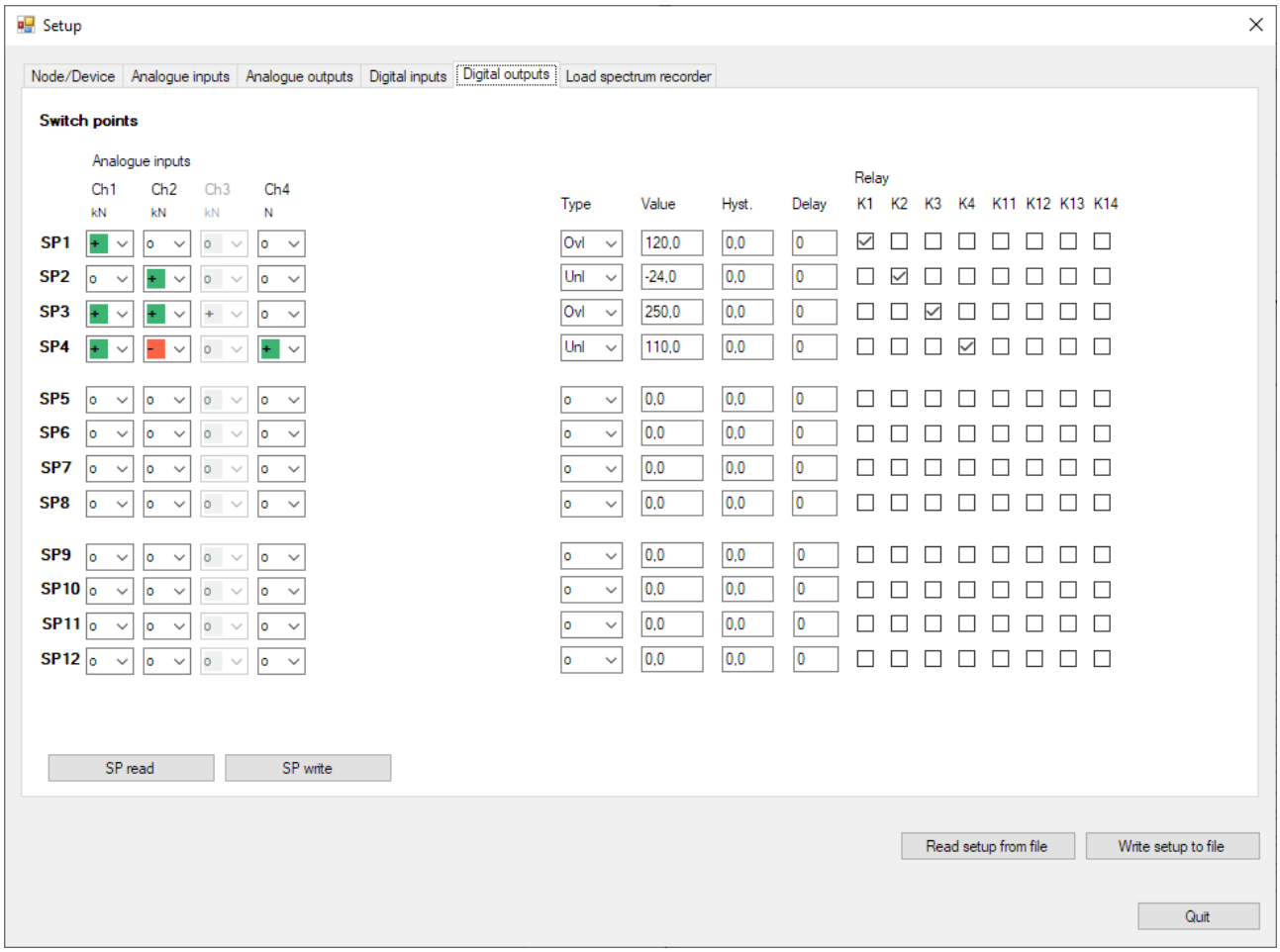
Menu ⇒ Device ⇒ Setup ⇒ "Digital inputs"



Function Selection of function: Tara / Clear Min/Max / Load spectrum recorder (LSR)
Channel Selection of channel (Ch1…Chx)
Inv. Invertion of the respective digital input (Inputx)

3.2.5. Digital Outputs (Switch Points und Relay)

Menu ⟹ Device ⟹ Setup ⟹ "Digital outputs"



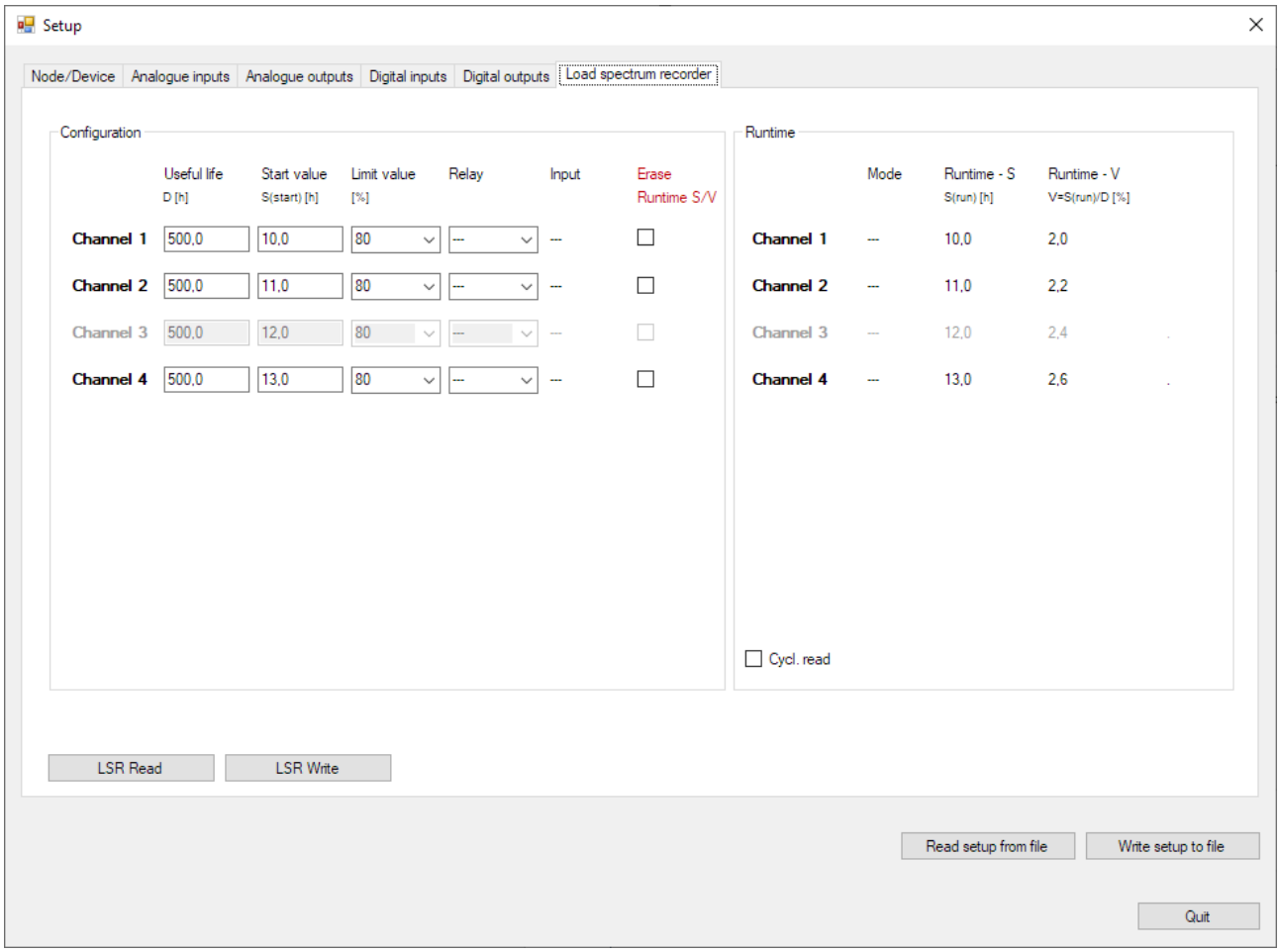
Switch point SPx	Assignment of analog inputs (Ch1…Chx) to the switching point SP1…SPx
Type	switch on at overload (Ovl) / underload (Unl)
Value	Switch value
Hyst.	Hysterese value (absolute)
Delay	Delay time 0....5000 ms with 1 ms steps
Relay	Selection of relay (or relais)

NOTE! Input fields without selection are marked with an "o".

Subject to technical change. 07/2024
A.S.T. - Angewandte System Technik GmbH, Mess- und Regeltechnik

3.2.6. Load Spectrum Recorder (LSR)

Menu ⇒ Device ⇒ Setup ⇒ "Load spectrum recorder"



Useful life D [h]	theoretical useful service life
Start value S [h]	Start value S [h] of theoretical useful service life
Limit value [%]	pre-warning value [%] for theoretical useful service life
Relay	Assignment of a relay when the limit value is exceeded
Input	Selection of digital input see menu "Digital input"
Erase Runtime S/V	Reset all settings
Mode	Display LSR-Mode: --- / RUN
Runtime S(run) [h]	Display actual useful service life
Runtime V [%]	Display relative useful service life in % [V=S(run)/D]

Calculation of useful service life

Load values are calculated second-by-second: 1/3600 h.

The LKZ 701.01 evaluates a ≤4 mA load signal applying 0% and a current signal 4mA…$I_{100\%}$ from 0…100%. The LKZ 701.02 evaluates a ≤0V DC load signal applying 0% and a voltage signal 0V DC…$U_{100\%}$ from 0…100%.

Evaluation and totalizing in respect of actual usage S_i is carried out according to equation (1).

$$S = S_i = S_{i-1} + (IN_i / IN_{100\%})^3 / 3600 \quad (1)$$

- S_i Useful service life in h after i-th measuring interval
- S_{i-1} . Previous useful service life in h
- IN_i Input value to i-th measurement interval
- $IN_{100\%}$ Input value at 100% hoist-unit load

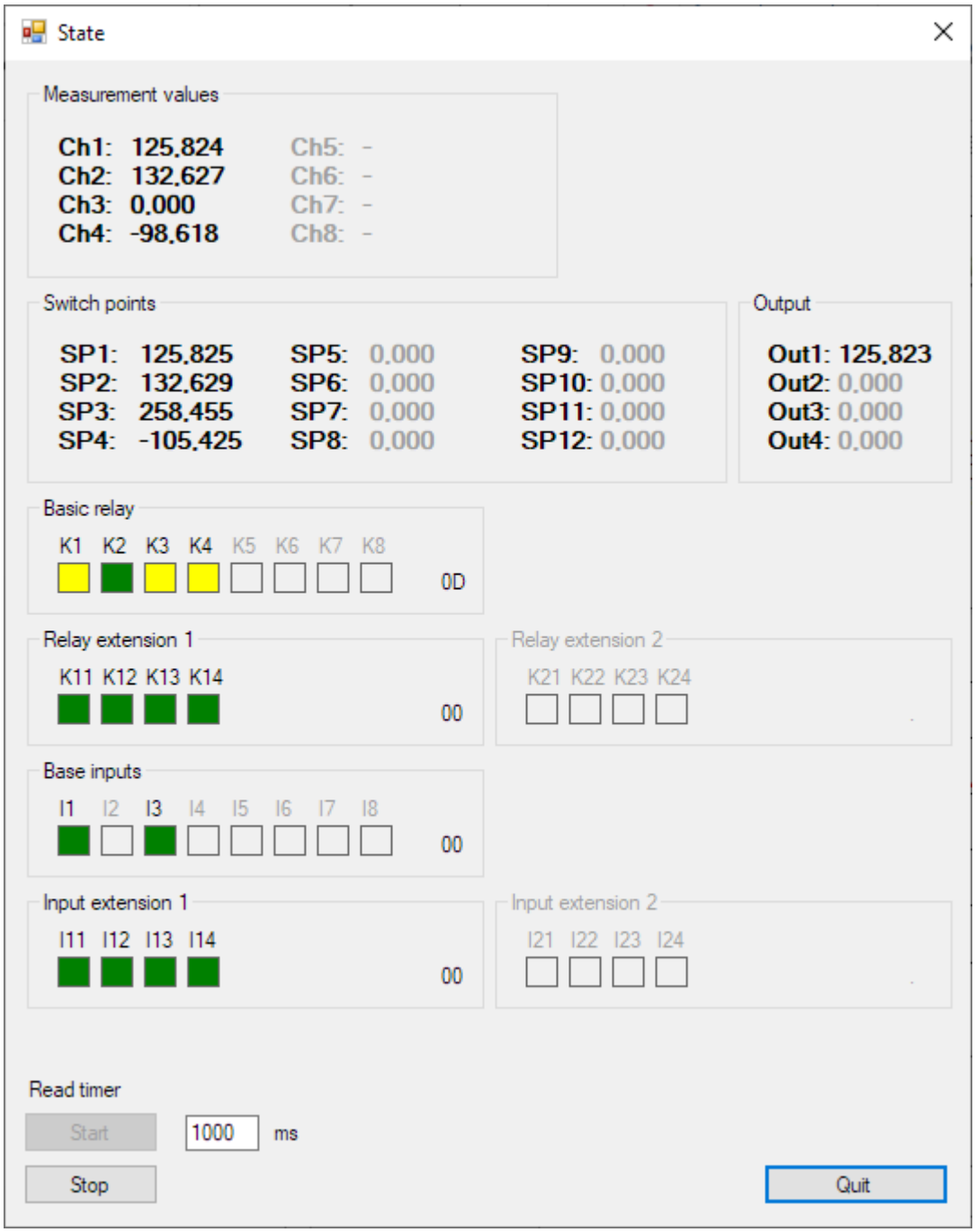
The „consumed“ useful service life V_i is calculated according to equation (2).

$$V = V_i = S_i / D \quad (2)$$

- V_i Consumed useful service life after i-th measurement interval, displayed as %
- S_i Useful service life in h after i-th measurement interval
- D Theoretical usage to be entered in h

3.3. State

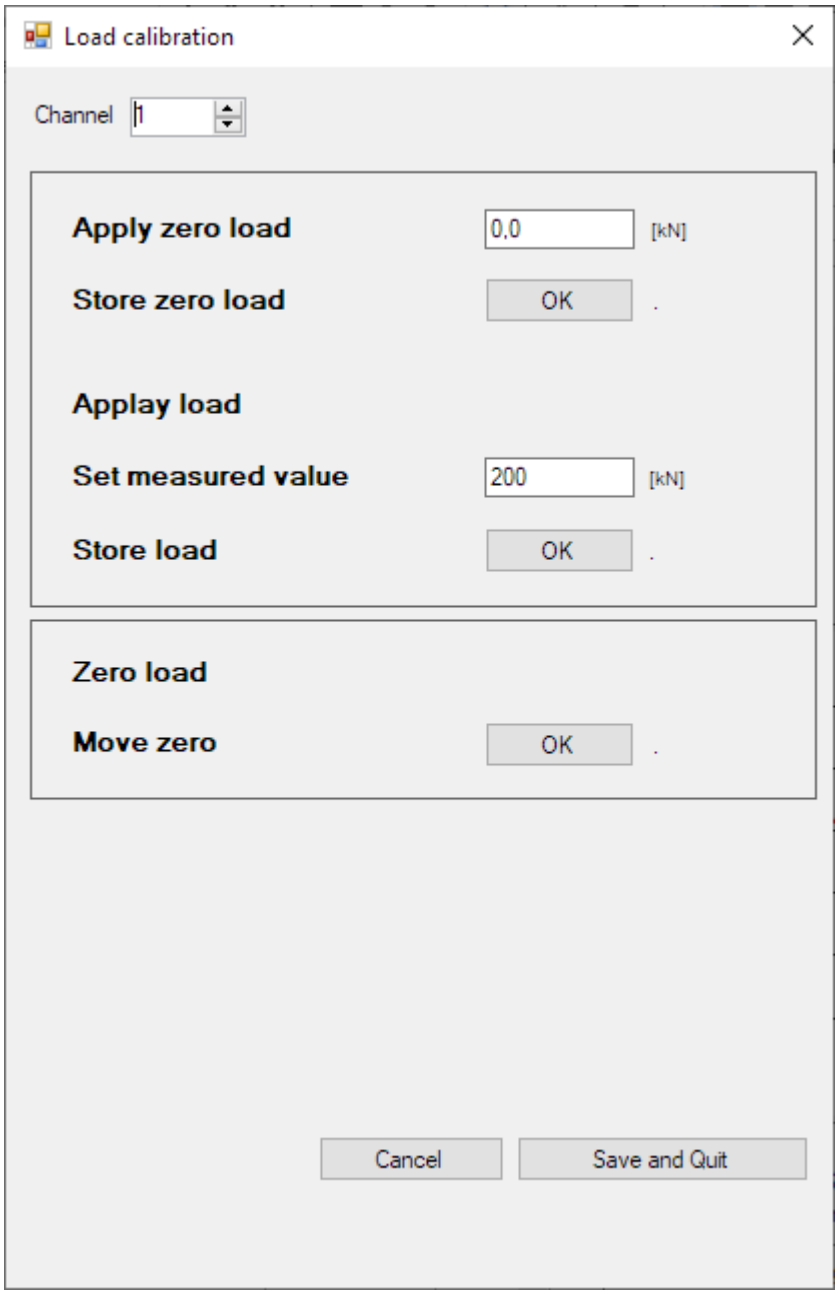
Menu ⇒ Device ⇒ State



NOTE! The Status displays for measured values / switching points / relays / inputs are depend from device!

3.4. Load Calibration

Menu ⇒ Device ⇒ Load calibration



Zero load	Adjustment of zero point. → Recalibration change increase of curve!
Measured value	Adjustment of second point.
Move zero	Adjustment of zero point (Tare). → Recalibration don´t change increase of curve!

3.5. Reset

Menu ➡ Device ➡ Reset

4. Extras

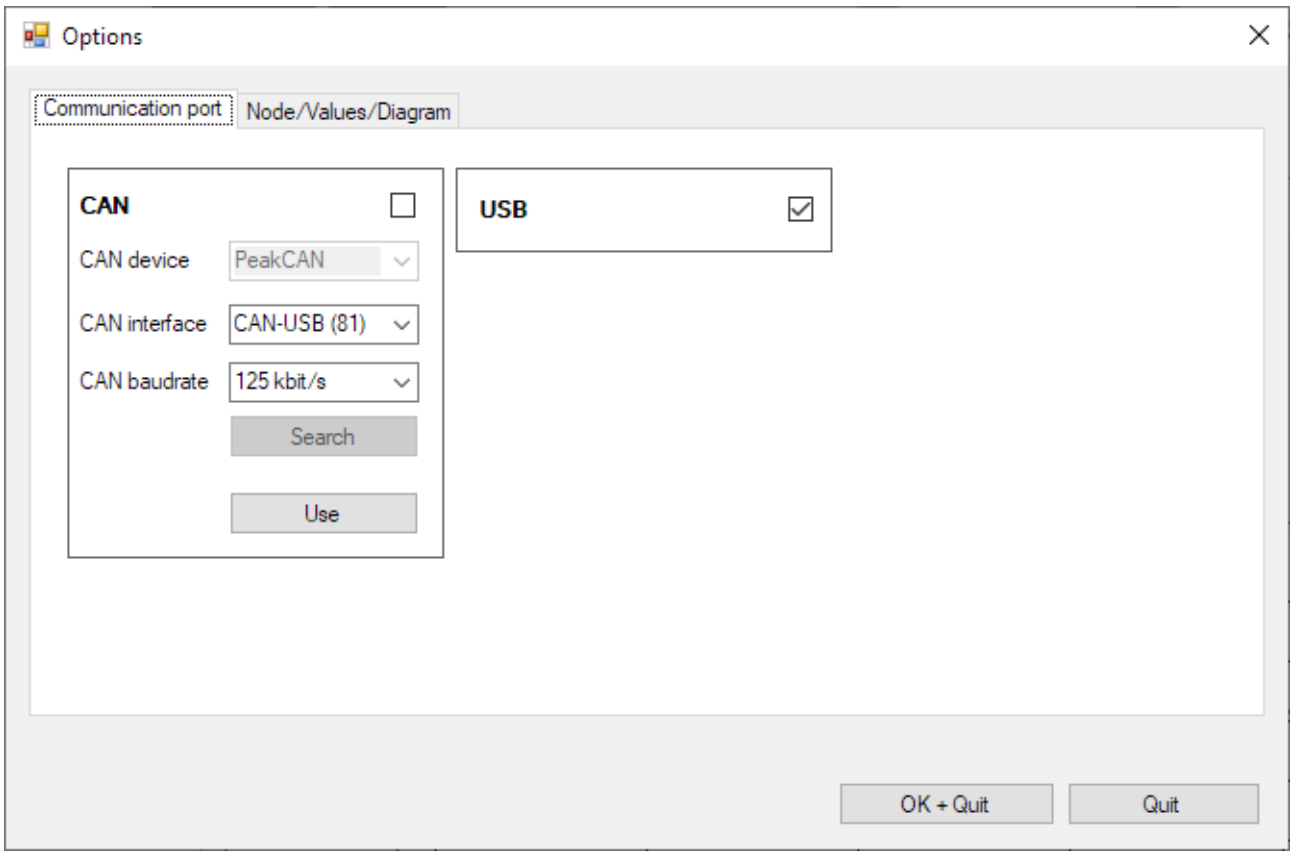
4.1. Language

Menu ➡ Extras ➡ Language
- German or English

4.2. Options

4.2.1. Interfaces

Menu ➡ Extras ➡ Options ➡ "Communication port"



Settings for the connection interface of ASTAS®2.

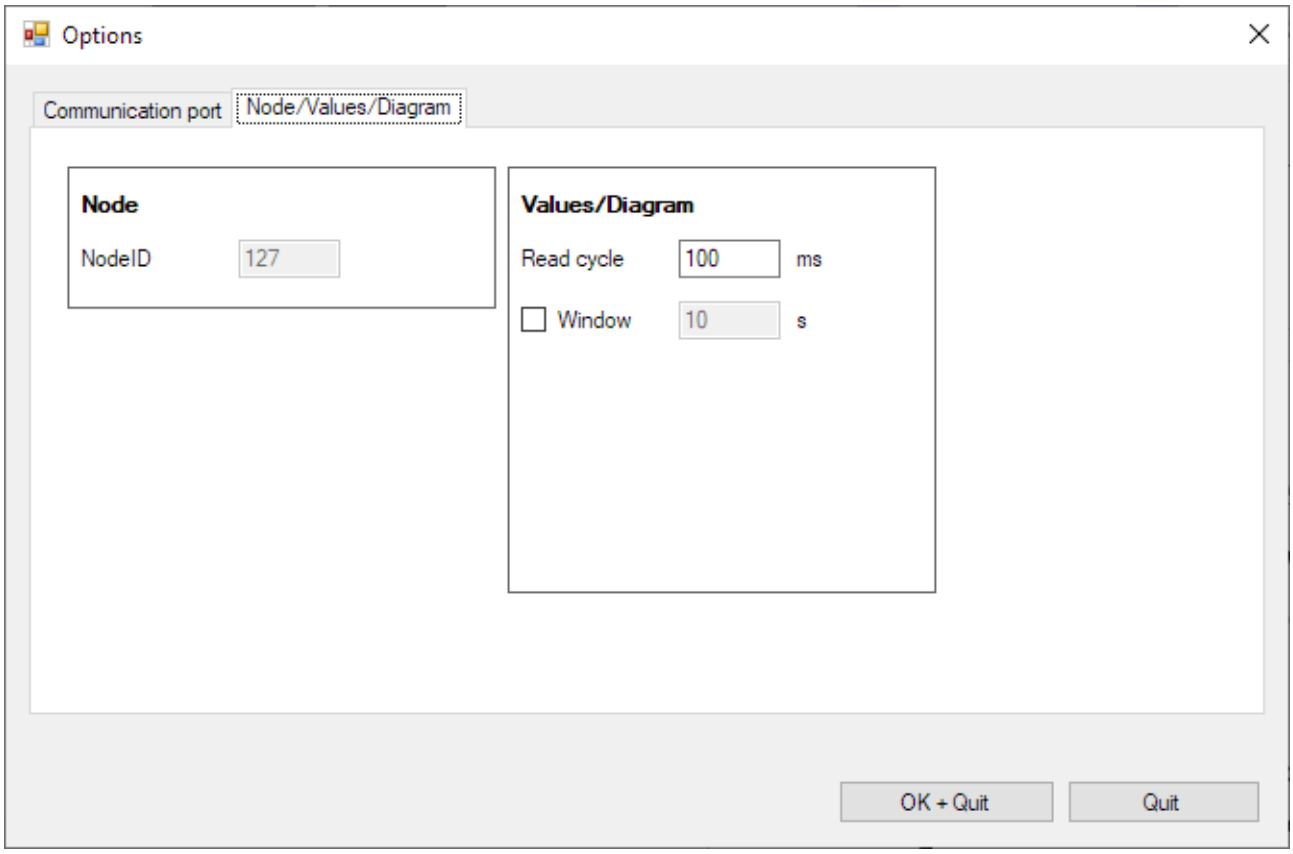
It is possible to connect via CAN device – usually only Peak USB-CAN adapter – or USB.

CAN	Connection to ASTAS2 with CAN / ☑ CAN active / ☐ CAN inactive
CAN device	only Peak USB-CAN-Converter or Systec USB-CAN Dongle
CAN interface	Selection of USB-CAN-converter (more than one)
CAN baudrate	Selection of CAN-baudrate

USB	Connection to ASTAS2 with ☑ USB active / ☐ USB inactive

4.2.2. Node//Values/Diagram

Menu ➡ Extras ➡ Options ➡ "Node/Values/Diagram"



Read cycle Cyclic read timer for measured value of the current channel
Window Window time for chart display

4.3. Firmware-Update

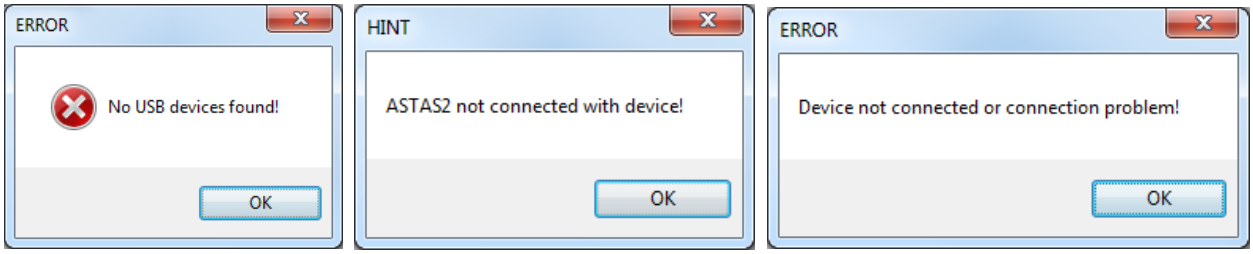
Menu ➡ Extras ➡ Firmware-Update

5. Help

Menu → Help → About

6. Error message

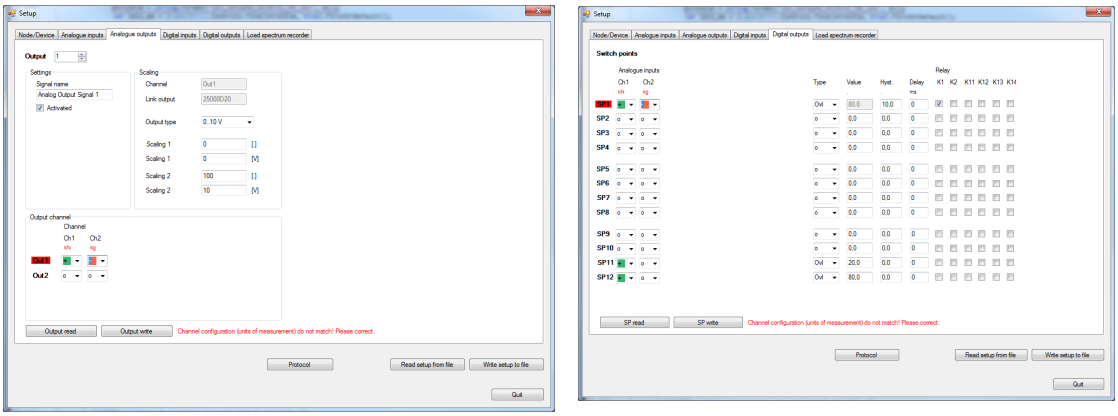
6.1. No connection to USB device



Assistance:

- Check the connection from the USB device.
- Check USB connection or cable.
- If connected to notebook use USB hub with power supply.
- If you have a problem with USB3 port, use the USB2 port.
- Connect the device via USB and start the connection in the Software ASTAS2.
  see ***2.2 Connecting with device*** or ***3.1 Summery***

6.2. Different units of measurement analogue output or relay



Assistance:

- Only combinations of channels with the same units of measurement are possible!
  see ***3.2.2 Analogue inputs***