OXYGEN/TRION 8.2

NEW FEATURES

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PUBLIC

THE MEASURABLE DIFFERENCE.

DEWETRON

OXYGEN / TRION 8.2 - NEW FEATURES

> Realtime Power Analyzer Extensions

> PROFINET Support

> XCP Improvements

> Control Instrument Extensions

> More Flexible Meter Limits

> New CAN Format

> OXYGEN R8.2 – Miscs

> Bugfixes

REALTIME POWER ANALYZER EXTENSIONS

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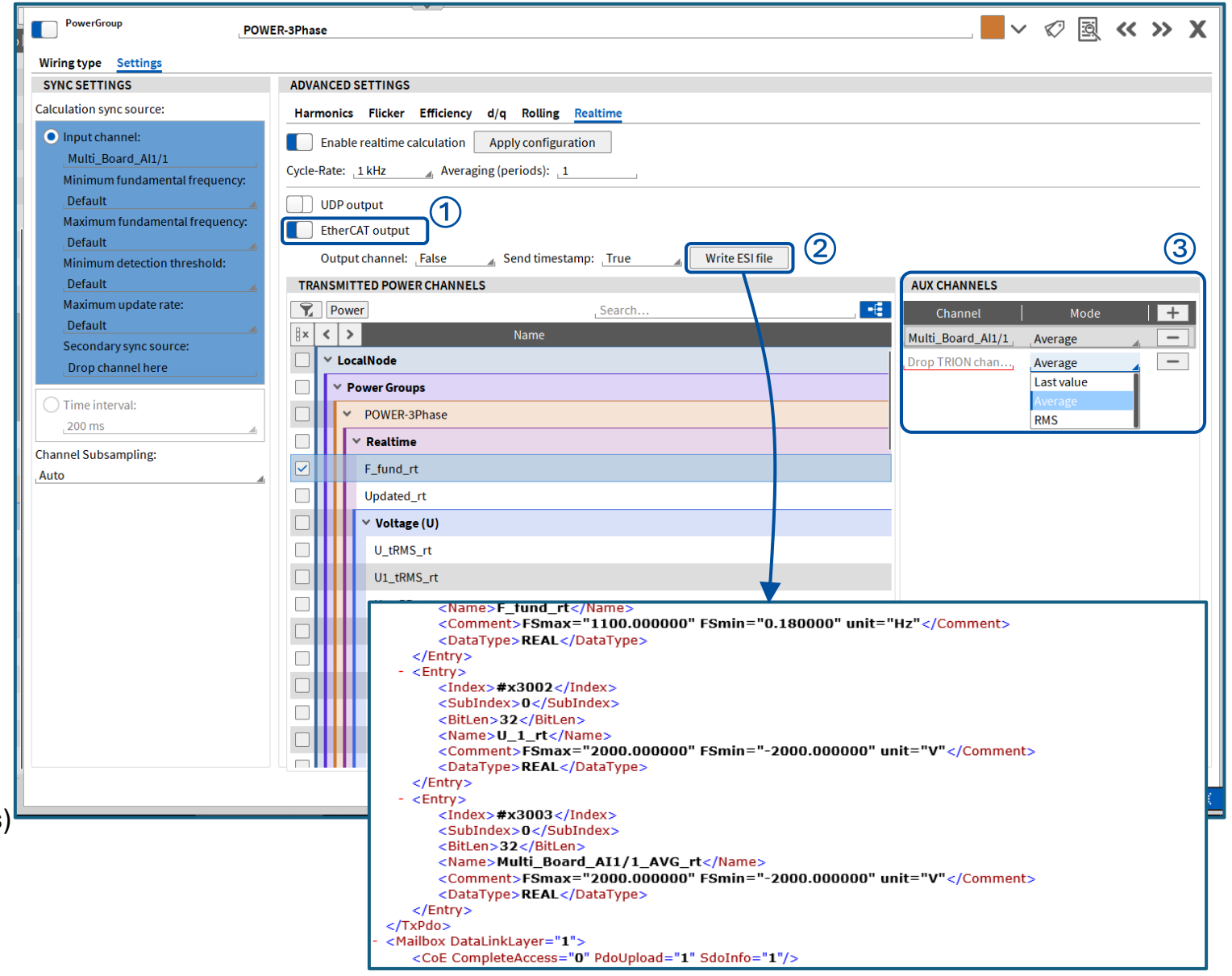
- **EtherCAT** output option for **Realtime** Power (①)
  - For **Ubuntu 24.04**
  - TRION-EtherCAT-1-SLAVE board required
  - Up to 1 kS/s EtherCAT output with I/O delay typ. 2 ms (4 ms max.)
  - Option to write *ESI file* (②) (**E**therCAT **S**ubevice **I**nformation)
  - Combined EtherCAT and UDP output is allowed

- AUX Channels allow **any analog TRION** channel for **low latency output** (waveform)
  - For example: from *TRION3-18xx-MULTI, TRION3-24xx-ACC,* etc.
  - Option to output *Last Value, Average* or *RMS* (③)
  - Average and RMS on cycle rate window (max. 1 kS/s)

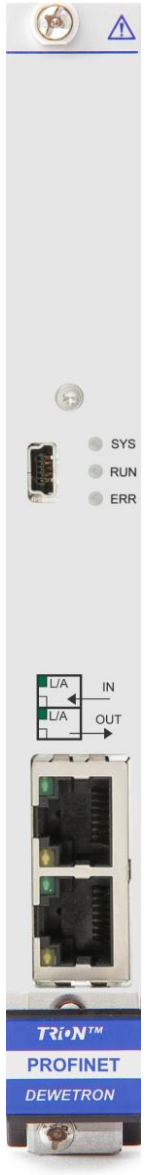
- Both is included in *OXY-OPT-POWER-RT*



PROFINET SUPPORT

- Possibility to **output** OXYGEN data via PROFINET protocol
  - Industrial Ethernet standard used for automation and control applications
- Dedicated hardware required: **TRION-PROFINET-IO-DEVICE**
  - Datasheet can be downloaded here
  - Remark: TRIONet3 is not supported!
- DEWE3 chassis acts as a “producer” and transmits data to an external “consumer” (client)
- Consumer device (client) requires
  - *.gsdml-file which describes relevant decoding information.
  - Tag file (opt), describing how to interpret the *.gsdml-file

- Key features:
  - Synchronous and asynchronous scalar channels supported
  - Max. number of output channels: 100
  - Max output sample rate: 500 S/s
  - Typ. I/O delay: 200 msec
  - Uses relative timestamps
  - Transmits last value
  - Supported OS: Windows 10 & 11



PROFINET SUPPORT

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> PROFINET Server can be added in OXYGEN via new „Servers“ Tab in measurement settings. (①)

> Parameters (②):

  > Update Rate: 2 ..128 ms (Fixed stepsize: 2^x; $x \in [1\text{-}7]$)

  > Status information:

    > Application State: ready/not ready to connect

    > Bus State: communication status between devices

    > Error State: diagnostic status and active errors

  > Refresh button: refresh status information

> Export buttons (③):

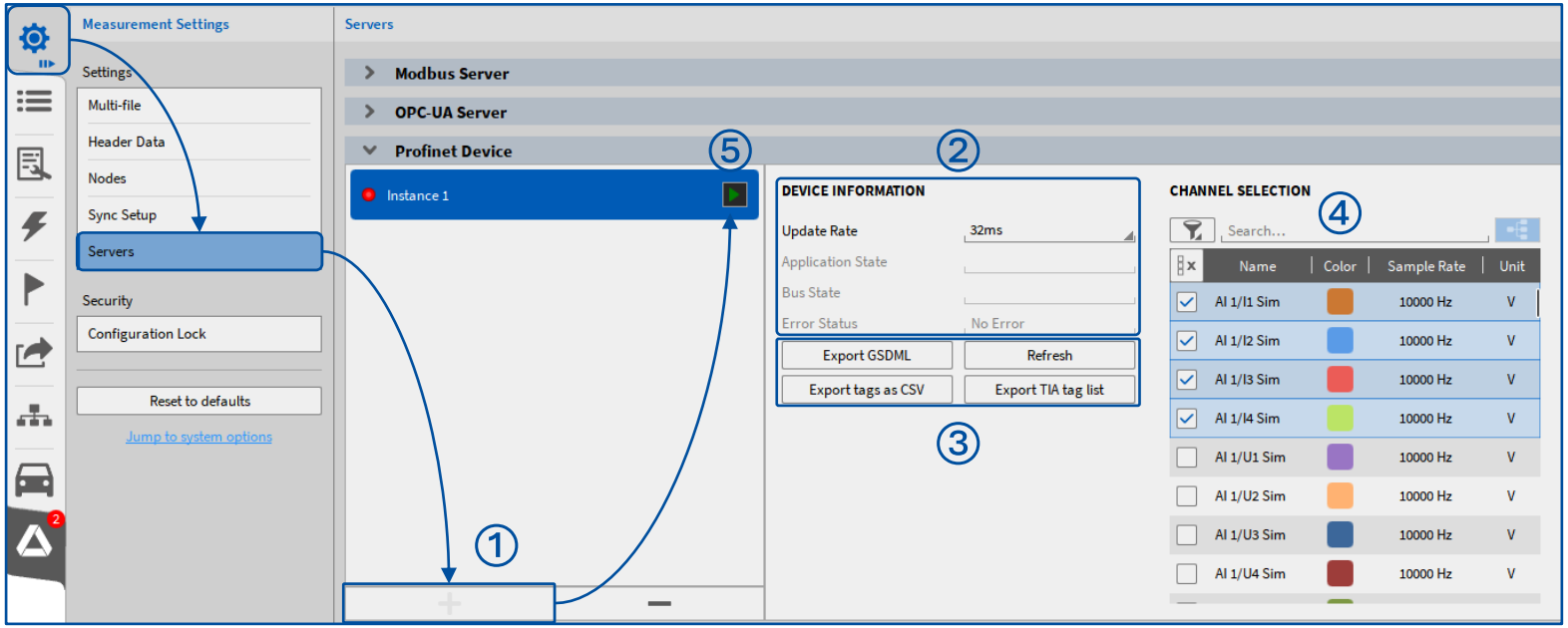
  > Export GSDML: configuration-dependent description file

  > Export TIA tag list: interpretation file specifically for TIA; XML format

  > Export tag as CSV: general interpretation file; CSV format

> Channels which are accessible for the PROFINET Server can be selected (④)

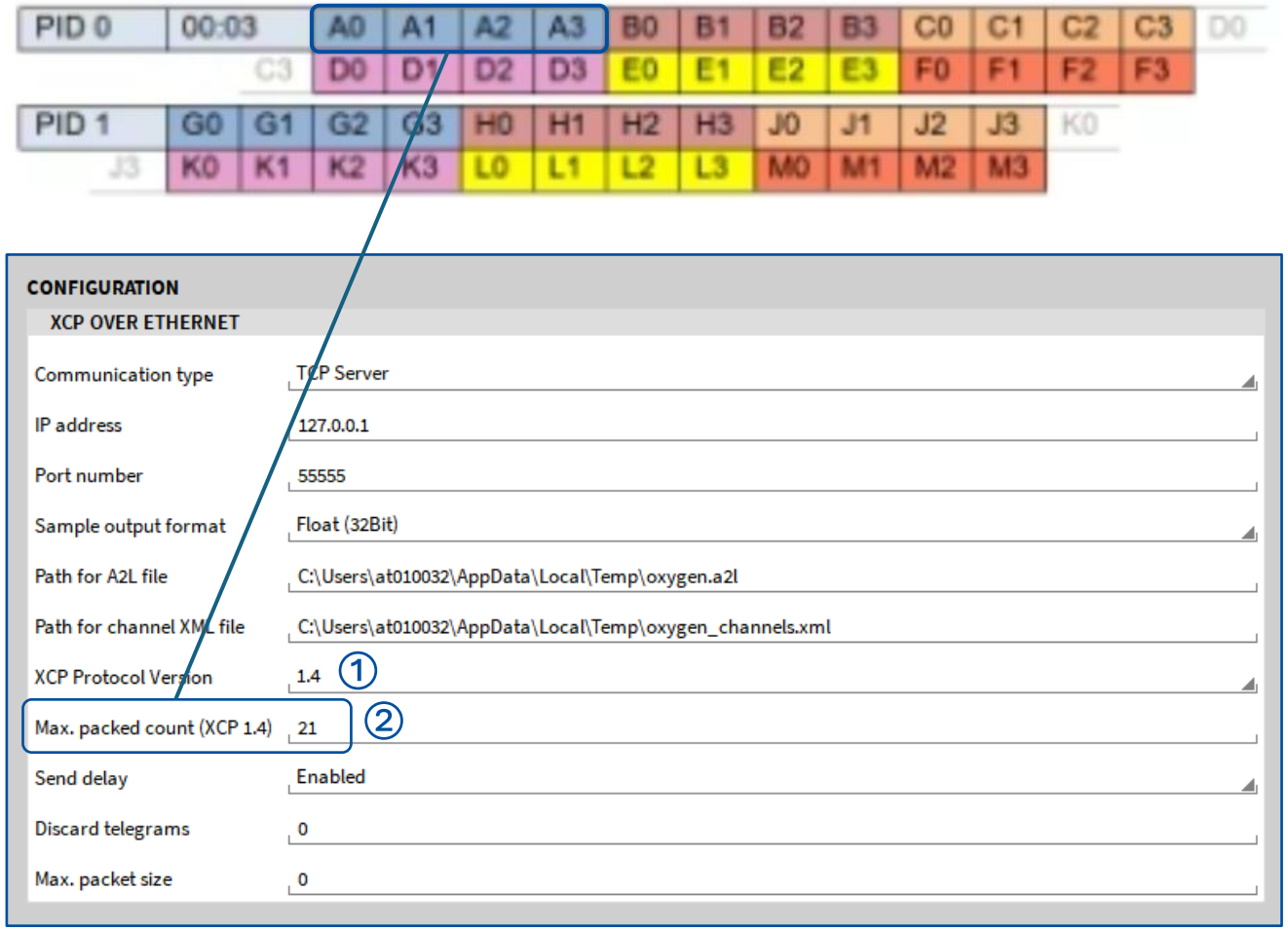
> PROFINET Server can be started by clicking the *Play* button (⑤)



XCP IMPROVEMENTS

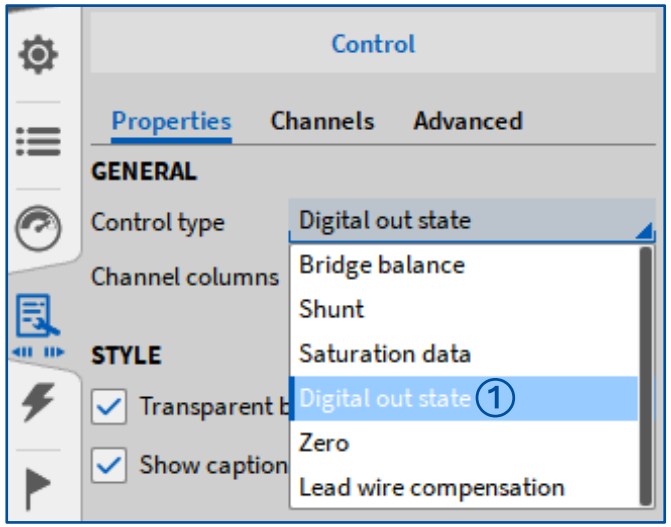
- XCP „Packed Mode“ implemented to ensure stable data transfer for high transmission rates
  - Recommended for 100 kS/s – 2 MS/s
  - To enable switch to XCP protocol version 1.4 (①)
- Packaging multiple samples into a single Ethernet frame for optimal utilization (Don’t use more than 1400 Byte)
- For optimal performance with high transmission rates, enter Max. packed count (②) (samples/channel) for XCP 1.4 to ensure that the maximum paket size of an ethernet frame won‘t be exceeded.
  - Calculation example for 16 channels in float format:

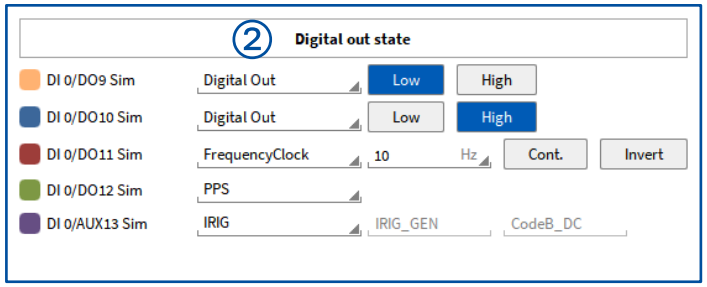
    1400 Byte / 16 ch / 32 Bit (Float; 4 Byte) = 21.875 => 21
- For low transmission rates <100 kS/s stay with XCP 1.0 (Default)

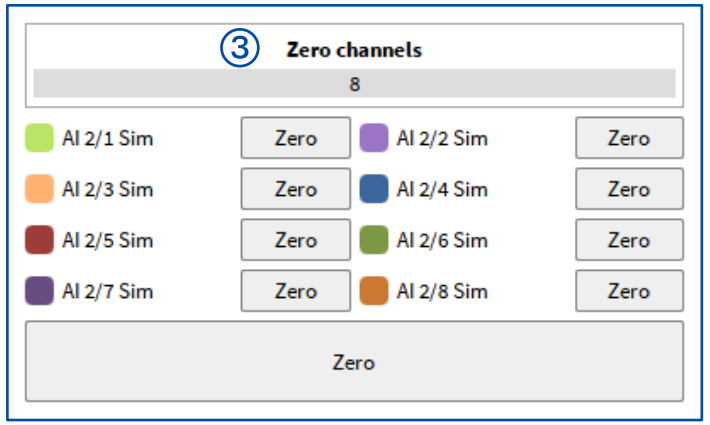


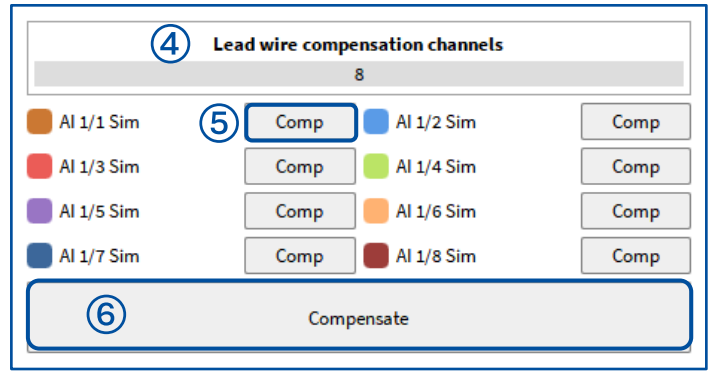
CONTROL INSTRUMENT EXTENSIONS

- 3 new Control types available (①) :
  - Changing Digital Out mode and settings (②)
  - Zeroing (③)
  - Lead wire compensation (only applicable for TRION(3)-18xx-MULTI for bridge scaled 3-wire-quarter-bridge channels) (④)
- Channel assignment for all control types supported
  - Possibility to apply control to all (⑤) or single channels (⑥)









MORE FLEXIBLE METER LIMITS

> Possibility to add multiple user-defined upper and lower Limits (①)

> Applicable for

  > Digital Meter

  > Analog Meter

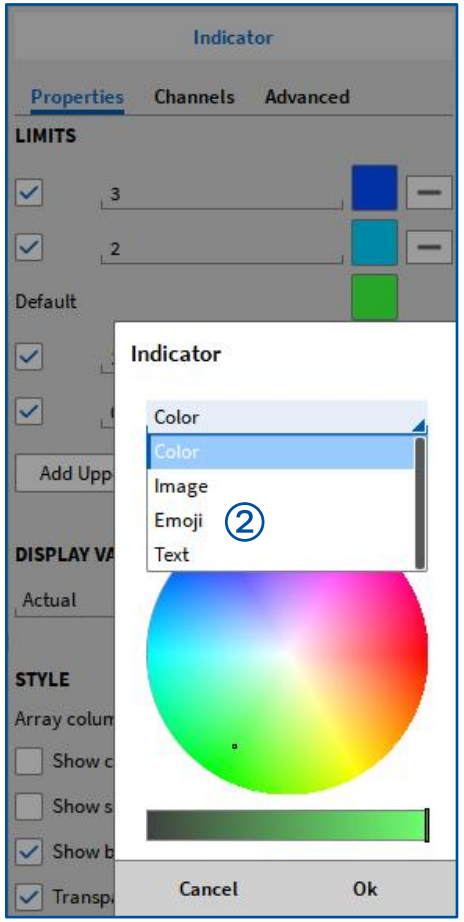
  > Bar Meter

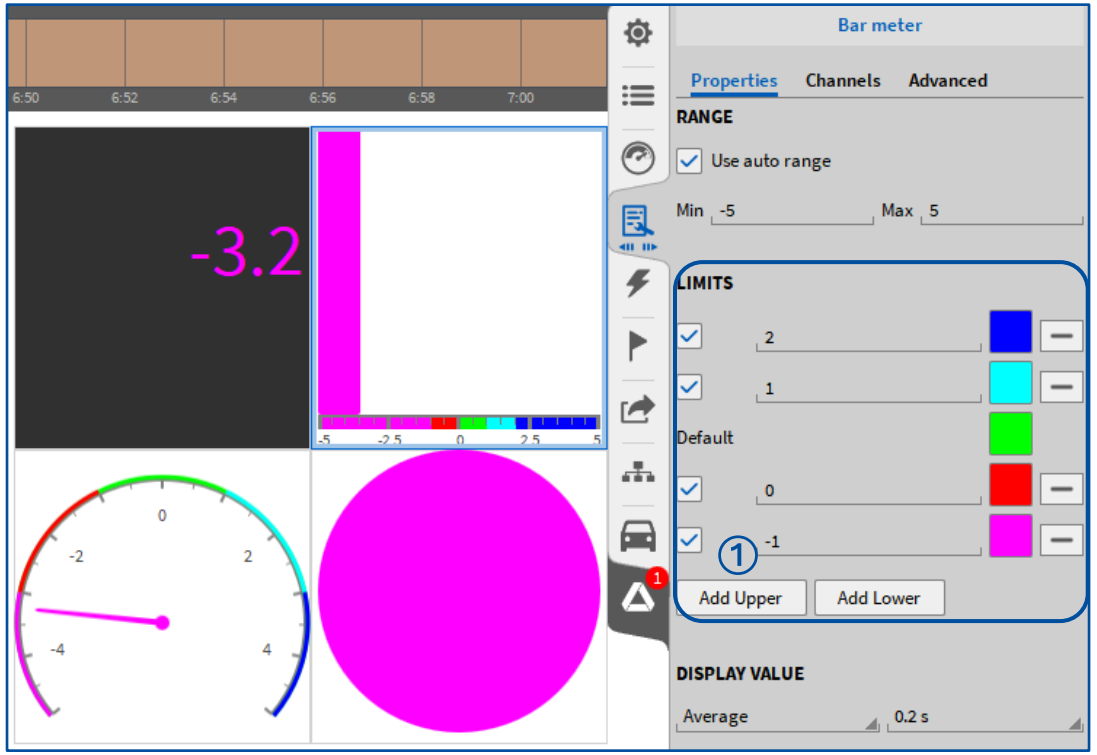
  > Indicator

> New Indicator options (②):

  Use an Image, Emoji or Text

  as alternative to Color indication





NEW CAN-FORMAT

> Must be activated in advanced OXYGEN settings (①)

> Possibility to invert bit order of INTEL and MOTOROLA CAN-Format (②)

> Available only for receiving CAN messages (③)

> No official Vector standard ➔ No possibility to save information in .dbc file

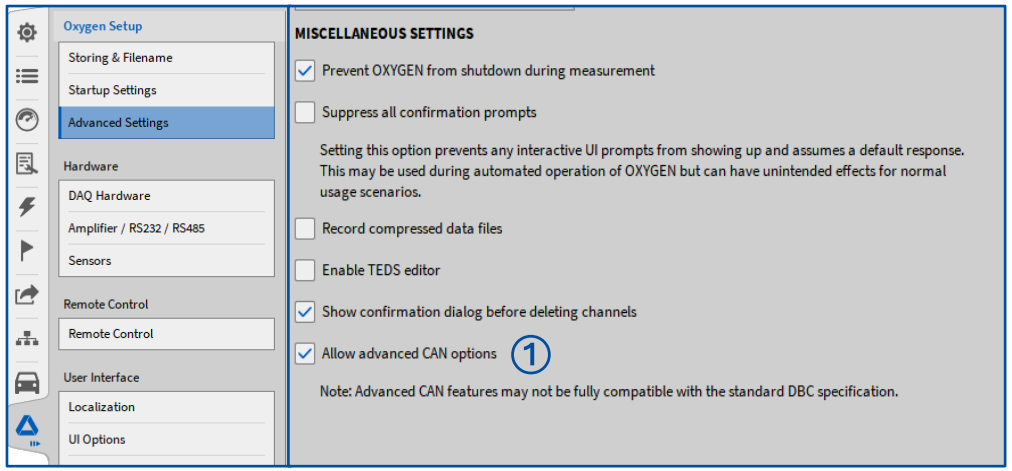
> DBC-File structure:

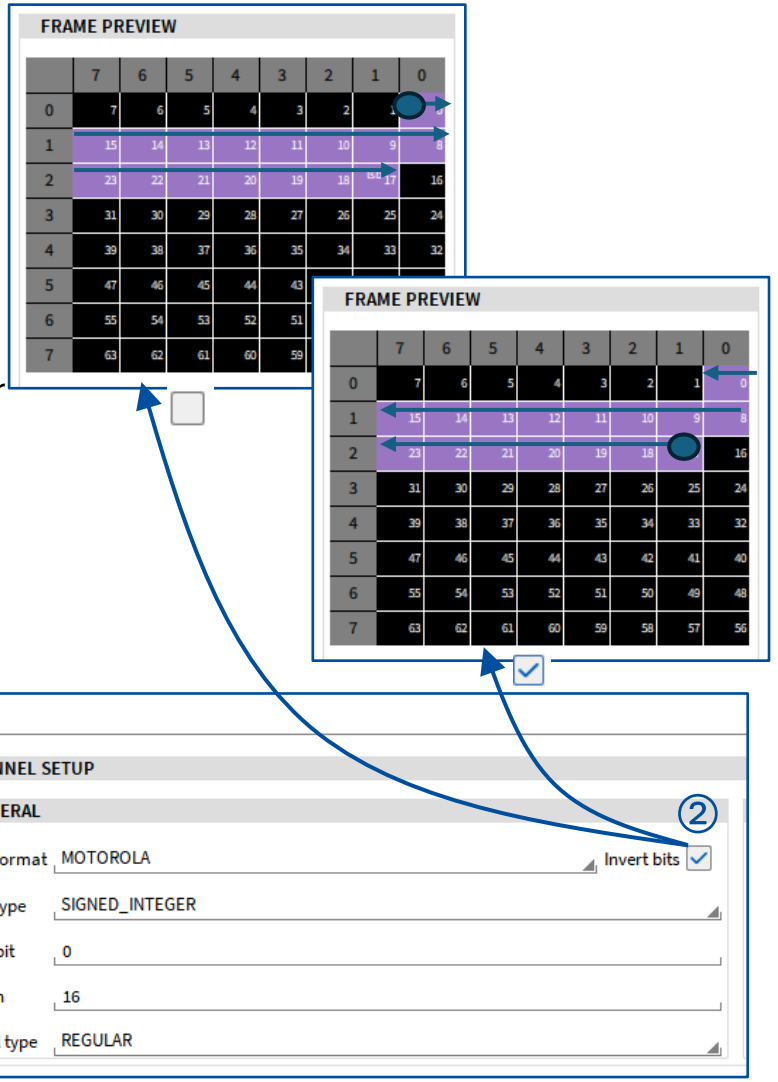
  > SG_ SignalName : StartBit|Length@EndiannessSign (Factor,Offset) [Min|Max] "Unit" Receiver

  > SG_ CAN_Signal_2 : 0|32@0- (1.000000,0.000000) [-1.000000|1.000000] "" Vector__XXX

  > @0: Motorola / Big Endian (MSB first)

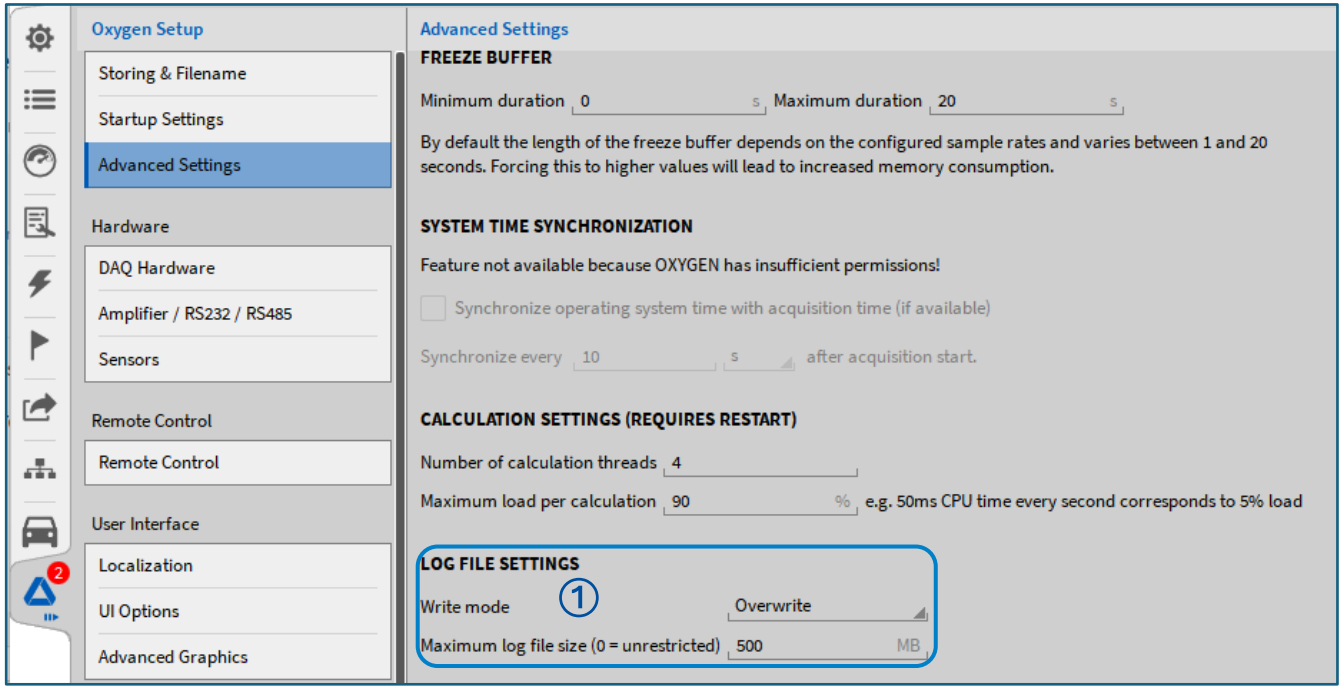
  > @1: Intel / Little Endian (LSB first)





OXYGEN R8.2 - MISCS

> OXYGEN log: Selection if log file shall be overwritten for each new session (Default) or if new log will be appended to existing file
  > Settings can be found in OXYGEN Setup → Advanced Settings → Log File Settings (①)
> TRION3-24xx-ACC/LV: hide status channels for invalid modes, like IEPE status channels in voltage mode.



BUGFIXES

- OXYGEN R8.2
  - Fixed an issue with OpenMP resulting in high CPU usage
  - Fixed the visualization of the pin outs of TRION3-18xx-MULTI-L0B boards
  - Fixed the visualization of the pin outs of the chassis controller
  - Fixed an issue when the dmd_reader could not decode merged DMD files
  - Fixed an issue where the memory usage increased when triggering on a 10 MS/s channel

- TRION R8.2
  - TRION-2402-dACC: Fix counter threshold and retrigger inconsistencies.
  - TRION3-CAN-FD: Fixed an issue when CAN messages are delayed.
  - TRION3-24XX-ACC: Fixed FIR-filter data latch bug and ADC read data timings.

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THANK YOU

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