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1 IPEmotion 2019 R3 – General changes

1.1 Supported Languages in the Setup
- English
- German

1.2 New templates for TEDS sensors
The TEDS Editor is supporting 2 new templates:
- 33 – Bridge Sensor
- 35 – Strain Gage Sensor
New functions in OPTIONS

2.1 Change display length of verbal tables in Autosar files

The Autosar ARXML import supports in the OPTIONS > Basic Settings > Expert Mode a new setting to change the length of verbal tables.

Below you see the standard length.
When the check box is activated the V-TAB text shows a reduced length.
3 New functions in SIGNALS

3.1 A2L import with Array Signals

When the A2L file includes array signals you can import specific signals with a CSV file selection. The standard process is that the complete array is imported. However, if you like to import only specific signals from the array the CSV file selection is only possibility.

In the CSV file you define array signal name and the ID in brackets.

Array signal import via CSV selection
3.2 X-Module A2L import / export in ZIP format

When X-Modules are configured on the ETH interface in the of the logger or on the PC with the IPETRONIK Plugin X the export function is creating one ZIP file which includes all A2L files of each X-Module. The dedicated import of A2L ZIP format is then automatically importing all A2L files to create the configuration. On the activated channels are included in the A2L file.
3.3 No case sensitivity on CSV based channel selection

The CSV reference file significantly improves the description file import and channel activation. Especially when you are working with large description files with many channels, sometimes you are uncertain if all required channels are included in the description file. It is also time-consuming to search and activate only the relevant channels for your specific measurement manually. All matching channel names from the CSV reference list are automatically activated. This saves a lot of time compared to activating channel by channel. The channel selection is not cases sensitive. Channels are selected even when the lower and upper cases do not match.
4 New functions in SIGNALS – IPEmotion RT

4.1 Logger data post-processing and follow-up time

- **Full post-processing**  
  With the full processing check-box you can deactivate the check disk operation to save post processing time, which can take on large storage media some time.

- **Follow-up time**  
  On Logger node level the post processing timing can be defined. The follow-up time can be as long as 1.5 hrs. During this time the logger keeps measuring even if the shut-down condition e.g. KL15 (remote off) is true.

4.2 No Message Lost (NML)

The Logger IPElog2 supports the No Message Lost (NML) functionality. When the logger is in NML mode the Power LED is blinking every 3 seconds. When bus traffic is received on the NML configured interface, the logger is booting up and stores all bus traffic data in the storage group. During the boot phase only CAN traffic is stored. The measurement of protocols or M-CAN / X-LINK measurement modules and other periphery devices like IP- and USB cameras, Satellite interfaces etc. is only stored in the data file, when the logger is completed booted and all systems are properly initialized.
4.3 Disable WiFi Access Point

The WiFi access point can be deactivated with a script command. This applies to IPElog2, COMgateV3, IPEwifiV3 devices.

Command line:

Call

- true = deactivate
- false = activated

When you run the script in the SCRIPTING workspace the status is changed. The read only check box shows the current status of the access point.
4.4 AK-Protocol on ETH / X-LINK connectors

On the ETH inputs of the loggers the AK protocol to interface MAHA roller benches is supported.
5 New functions in ACQUISITION – IPEmotion RT

5.1 Saving properties

The general saving process of the logger can be configured on the saving node in the ACQUISITION workspace.

- **File compression**
  This checkbox activates the file compression and the logger will create a MEA.ZIPRT file which includes the data. When the check box is deactivated all following settings are disabled and all files are stored separately on the logger.

- **File split**
  Here you define when the logger will split a continuous measurement. If no split size is defined, the logger will split automatically the file when 4 GB are reached. The maximum file size is 4GB.

- **File split size**
  Here you define the split size when a new data file is created. The file size can be in the range between 1 MB and 4 GB.

- **Data encryption**
  Here you can activate the file encryption based on the blowfish algorithm.

- **Encryption key**
  Define password for zip file encryption. The encrypted data can be opened only with the IpeCrypt.exe.

- **Include log file**
  Here you include or exclude the log files to the MEA.ZIPRT container.

- **Include configuration file**
  Here you include or exclude the configuration file to the MEA.ZIPRT container.
Encrypted data files can be decrypted with the IpeCrypt.exe. The tool is installed in the following directory.

- C:\Program Files (x86)\IPETRONIK\IPEmotion 2019 R3\Tools\IpeCrypt.exe

5.2 CAN send

With the CAN send functionality incoming data can be send out. This functionality is required for different use cases. One use case is to send data from the logger to another test bench software. Another use case is to send data to another data acquisition software which supports CAN inputs only. Also, the CAN send functionality can be used to stimulate CAN based sensors to initiate measurement values.
The source channel needs a target channel where to send the data to. The target channel needs to be a traffic channel which can be created on any CAN interface. The channel type must be data output. If you do not see the Format table sheet you need to activate the OPTIONS > Expert settings.

Create CAN traffic output channel

[ACRT_51]
Then you link to the CAN Send node a CAN traffic output channel.

Select CAN traffic output channel

The default CAN Send channel settings are defined below.

CAN Send settings
The settings of the source channel displayed below. However, with the column chooser you can add more properties to the channel grid.
6 New functions in Mobile Display – IPEmotion RT

6.1 KPI Dashboard

The intention of the KPI dashboard is to give the user an instant overview of key indicators of the data logging system. The dashboard needs no configuration or activation. It is automatically available and accessible via IPEmotion ME app through a Bar Graph Icon in the bottom left corner. The dashboard provides the following information.

- Name of the configuration: Test.rwf
- Actual MEA number: 123

Status LEDs:
- CPU Load: > 80% LED red / < 80% = green
- RAM Usage: > 80% LED red / < 80% = green
- Free Diskspace Default: < 15% LED red / > 15% = green
- Free Diskspace Raw: < 15% LED red / > 15% = green
- Supply Voltage: < 9 Volt LED red / > 9V = green
Bus Activity LED.
These LEDs show the status of the bus activity. When data is received on the interfaces it is indicated in green colour. When no bus activity is active the status colour is grey. The list of bus interfaces is statically defined to 16. There is no difference if it is a CAN and LIN interface. The activity is reported on both types. Bus activity does not jet implemented for ETH interfaces.

Information
For the logger µCROS SL the KPI dashboard is not providing information about the supply voltage and the Bus activity. These internal status channels are not available for this logger.

6.2 Audio Notes recording
The user can record via the ME app audio notes over the WiFi and LAN interface only. The audio recording is generating a WAV file. Audio Recording must be activated in the settings of the App. After activation an Audio Icon appears in the top right corner of the pages of the app.
When the audio icon is activated a microphone icon shows up, and the user can record up to 30 seconds of data. When the audio data recording is started the app is fetching from the logger the actual MEA number and the actual logger time stamp. This information important to synchronize the audio data to the right MEA number and to other measurement data files of the logger for the post processing.

The WAV audio files are stored locally on the tablet first and asap transferred to the actual measurement number MEA. A status is indicating the successful transfer to the logger. After 10 minutes the audio files are deleted automatically from the mobile device. You can playback the audio recordings on the mobile device as along as the files visible in the audio notes inventory list.

In the case the MEA number is already closed before the audio file transfer to the logger cloud be executed, the audio file cannot be integrated and will stay on the mobile device. All audio files not uploaded to the logger are indicated with a warning message must be deleted manually.
6.3 Change channel display order in instruments

The default order of the channels in the instrument is based on the sequence how channels are dragged into the instrument. In many cases users like to change the display order in the instrument later, when the configuration is growing, to arrange channels in logical orders. In the example below we have the default order 1 … 4.
In order to change the channel order in the instrument, you have to access the channels search dialog and use the move icon.

When you confirm the dialog, the channels are arranged in the order as defined in the dialog above.

New channel order
6.4 LED instrument with individual thresholds

The LED instrument support the configuration of a custom threshold. The default behavior of the LED instrument is to change the display color based on a binary value 0, 1. However in some cases user like to use other numerical values to change the state of the LED. This can be configured with numerical custom thresholds.

LED settings
7 New functions in DATA MANAGER

7.1 MDF4 data format

The MDF 4 of the logger support new data formats.

- MJPEG Video pictures (The h264 codec of IP-cameras is not yet supported)
- FlexRay Traffic
- Ethernet Traffic
- Multipoint Scaling in V-TAB
8 New functions in Scripting – IPEmotion RT

8.1 Activate Logger Scripting

The logger scripting function is considered as an expert setting and is by default not activated. The corresponding settings XML file is installed in this directory:

- `C:\ProgramData\IPETRONIK\IPEmotion 2019 R3\SettingsRT.UI.xml`

When the `SettingsRT.UI.xml` is activated as indicated above you can then use the customize ribbon function to show the LOGGER SCRIPTING work space.
8.2 Logger scripting overview

There is a range of scripting command and coding examples available. The general topic overview is provided below. Scripts can be triggered from events like limit violations or action buttons.

- Sending CAN messages
- Reading a channel’s actual value
- Setting a variable
- FTP transfer
- MEA Index
- Adding a message to the log file
- Mail sending
- Mail sending with additional recipient
- Mail group

Scripting examples are provided by the Support team.