ETAS INCA-FLOW V4.18

Release Notes

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1. Introduction

1.1. Definitions and Abbreviations

Term/Abbreviation	Definition
EHI	**E**TAS **H**elp Desk **I**nternational
HW	Hardware
KIR	**K**nown **I**ssue **R**eport – For severe Problem Reports which occur after a release, ETAS has introduced the Known Issue Report to inform affected customer immediately. The current Known Issues of former versions can be found on the ETAS website: www.etas.com/kir
PR	Problem Report
SW	Software

1.2. Conventions

The following typographical conventions are used in this document:

Choose **File→Open**.	Menu commands are shown in boldface.
Click **OK**.	Buttons are shown in boldface.
Press <ENTER>.	Keyboard commands are shown in angled brackets.
The "Open File" dialog box is displayed.	Names of program windows, dialog boxes, fields, etc. are shown in quotation marks.
`Select the file setup.exe`	Text in drop-down lists on the screen, program code, as well as path- and file names are shown in the Courier font.
A *distribution* is always a one-dimensional table of sample points.	General emphasis and new terms are set in italics.

1.3. User Documentation

The INCA-FLOW user´s documentation can be found on the DVD or in the installation folder on the PC.

It can be called up from INCA-FLOW via Help (F1) or via the Windows start – menu: Program → ETAS → INCA-FLOW → Help

2. Product Definition

2.1. Functions at a glance

INCA-FLOW is used for documentation and automation of recurring calibration processes. By modeling the calibration task in the form of a flowchart the calibration engineer is able to design a graphic image of the manual calibration task.

INCA-FLOW enables the calibration engineer to focus on its key task of the modeling and implementation of a calibration methodology and not on the syntax of a programming language. The tool allows the calibration engineer without programming knowledge to implement a calibration process / methodology.

INCA-FLOW provides a library of base methods which can be used by the calibration engineer by drag-and- drop to build his process step by step. The parameters of each base method are graphically interactive and intuitive to use. These so-called basic methods have the most diverse tasks:

- Reading and writing parameters
- Input and output methods
- Design methods (e.g. Polyfit)
- Optimization methods (e.g. simplex algorithm)
- Iteration methods
- Condition Queries (bits variables)
- Bypass methods (e.g. freely configurable controller)
- Stimuli generator (e.g. sine, square waves, APRBS)
- Cycle generator (e.g. FTP75 cycle)
- Interface to MATLAB™
- Mathematical/Statistical methods (formula editor, FFT, filtering, histogram, mean value, min/max, standard deviation, etc.)
- Visualization methods (measurement channels over time, histograms, visualization and production of maps and characteristics)

The involvement of external measurement equipment such as thermal scanning, AD and lambda scan is guaranteed by the link to INCA.

Project and Process Configuration

Calibration processes can be modeled and exports and thus passed from one engineer to another engineer. The application programmer has the ability to create for recurring similar processes of several basic methods, so-called library methods. These are then automatically managed in a separate library and can as the base methods with drag and drop be installed in the flow chart. They can also be imported and exported. Calibration and measurement parameters are to be defined as the variables themselves own centrally managed in the database.

2.2. General Description

2.2.1. Safety Notice

Calibration activities influence the behavior of the ECU and the systems controlled by the ECU. This may result in unexpected behavior of the vehicle and thus can lead to safety critical situations. Only well trained personnel should be allowed to perform calibration activities.

Sending CAN messages influences the behavior of the CAN bus network and the systems connected to it. This may result in unexpected behavior of the vehicle and thus can lead to safety critical situations. Only well trained personnel should be allowed to perform CAN message sending activities.

Calibrate measurement (Write to RAM) activities influence the behavior of the ECU and the systems controlled by the ECU. This may result in unexpected behavior of the vehicle and thus can lead to safety critical situations. Only well trained personnel should be allowed to perform calibrate measurements activities.

2.2.2. Software Prerequisites

The following minimum system prerequisites have to be met:

Required Hardware	2 GHz Processor 2 GB RAM DVD-ROM drive (for installation) Graphics with a resolution of at least 1024 x 768, 256 MB RAM, 16bit color
Required Operating System	Windows® 10 64 bit Windows® 11 64bit (English, French, Japanese, Chinese and German OS version supported) Note: INCA V7.5 and higher supports the 64-bit operating system only.
Required Free Disk Space	4 GB

The following system prerequisites are recommended:

Recommended Hardware	3 GHz Quad-Core Processor or equivalent 16 GB RAM DVD-ROM drive (for installation) Graphics with a resolution of at least 1280 x 1024, 1GB RAM, 32bit
Recommended Operating System	Windows® 10 64 bit (English, French, Japanese, Chinese and German OS version supported)
Recommended Free Disk Space	>4 GB
Recommendation on Performance	Investigation on performance showed: - More Memory improves execution time of repetitive

operations
- SSD hard disks improve the file access times

2.2.3. Restrictions

None

2.2.4. Miscellaneous

None

2.3. Delivery

The INCA-FLOW software is delivered on DVD and digital. The DVD contains an installation routine including INCA-FLOW software, documentation. All software documentation is available in the Portable Document Format (PDF), which requires Adobe® Reader®. You find the installation link in the Tools & Utilities directory on the installation DVD and the software is delivered via download on the ETAS Download Page. The <CD/DVD> contains the following items:

2.3.1. Used 3rd Party Software

Open-source 3rd Party Software used by INCA-FLOW is listed in the documentation in the folder …\ OpenSourceSoftware.

2.4. Installation

For details on installation or licensing see the separate installation instructions document “INCA-FLOW - Getting Started”.

2.5. Licensing

This INCA-FLOW is protected via electronic licensing. In order to run and use the products, a license file is required. The license needs to be installed via the ETAS License Manager. The license manager is opened during the installation and can also be started at a later point as an external program located in the ETAS program folder in the Start menu. The license file can be obtained through a self-service portal on the ETAS website by using the software entitlement you received during the order process or it is provided by your tool coordinator.

2.6. Open-Source Software

INCA-FLOW contains some open-source components, which are listed in the Open-Source attribution document. This can be found in the Documentation part of the installation package under OpenSourceSoftware.

3. Changes

This chapter describes changes with respect to INCA-FLOW V4.17.

3.1. What's New with INCA-FLOW V4.18

New functionalities	
• *Support of Vector CANape*	Support the application tool Vector CANape
New methods	
• *MDF Add header data*	Add or overwrite the header data to an existing MDF file
Extension of methods	
• *Visualization*	New contour diagram (Heat map)
• *Configure SI button*	New parameters to set button style for on/off state
• *Message window*	New parameter 'Window alignment'
• *Excel read*	Verification of numeric values
• *ASCMO ODCM Next experiment*	Return experiment and block id
• *Start stimulus generator*	New parameter to abort generator if delays occur
Other Improvements	
• *CAN interface*	Native support of Vector drivers (vxlapi64.dll)
• *Using environment variables in processes*	Environment variables can now be used with this syntax: $ENV%<NAME>, like $ENV%TEMP
• *Model interface*	Support of FMI 3.0 standard
• *Standalone processes*	Deactivate breakpoints at export, speed up loading time

Please refer to the INCA-FLOW V4.18 What's new presentation and the online help for more details.

3.2. Fixed Problems

This section describes the set of fixed problems of the previous INCA-FLOW V4.17.

Calls fixed in INCA-FLOW V4.18

ID	Title
763763	INCA-FLOW Interpreter window display issue
773283	Wrong return value from MATLAB method
755419	Problems of the stand-alone interpreter (SI) state
774922	INCA warns when reading INCA-FLOW XCP gateway A2L file
777633	Logic expression issue

3.3. Known Issue Reports

If a product issue develops, ETAS will prepare a Known Issue Report (KIR) and post it on the internet. The report includes information regarding the technical impact and status of the solution. Therefore, you must check the KIR applicable to this ETAS product version and follow the relevant instructions prior to operation of the product.

The Known Issue Report (KIR) can be found here: www.etas.com/kir

3.4. Known Issues

None

3.4.1. Software related Items

Online EDT/TDT

The XCP command GET_DAQ_CLOCK is disabled for the XCP communication with INCA. INCA uses system timestamps when receiving the measurement data via XCP, so the sample rate in the measurement file may not be constant 10ms for the EDT/TDT measurements.

4. Hints

None

5. Hotfix Information

None

6. Contact Information

6.1. Technical Support

For details of your local sales office as well as your local technical support team and product hotlines, take a look at the website: www.etas.com/hotlines

6.2. ETAS Headquarters

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