



Multi-Dimensional Measurements

ASAP2 LAYOUT

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Multi-Dimensional Measurements - ASAP2 LAYOUT

Description

The ASAP2 keyword LAYOUT describes for multi dimensional measurement arrays how the data is stored in the ECU.

This is necessary as MEASUREMENT does not support the RECORD_LAYOUT information. Two and more dimensional array can be row or column sorted.

ROW_SORTED

Addr 00	Addr 01	Addr 02
Addr 03	Addr 04	Addr 05
Addr 06	Addr 07	Addr 08
Addr 09	Addr 10	Addr 11

COLUMN_SORTED

Addr 00	Addr 04	Addr 08
Addr 01	Addr 05	Addr 09
Addr 02	Addr 06	Addr 10
Addr 03	Addr 07	Addr 11

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Problem with default behavior

The ASAP2 V1.6 (2009) specification introduced the optional LAYOUT to offer the possibility to describe the different behavior. As default, when LAYOUT is missing, the ASAP2 spec V1.6 introduced as default ROW_DIR.

INCA supported 2-dimensional measurement arrays already long before ASAP2 introduced LAYOUT. INCA uses as default COLUMN_DIR.

As result INCA indexes the measurement arrays column wise instead of row wise.

There are already A2L files in the field that describe 2-dimensional measurement arrays without LAYOUT. These A2L files believe in the existing INCA default interpretation COLUMN_DIR. A change of the INCA default behavior would affect these already existing A2L files.

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Solution

INCA will change its default for measurement arrays without LAYOUT from COLUMN_DIR to ROW_DIR beginning with **INCA V7.3.3**.

As there are already A2L files in the field that describe 2-dimensional measurement arrays without LAYOUT with ASAP2 VERSION up to 1.6 INCA will change the default dependent on the ASAP2 VERSION stated in the A2L file.

For A2L files with ASAP2 VERSION < 1.7 INCA will keep COLUMN_DIR as default!

For A2L files with ASAP2 VERSION >= 1.7 INCA will use ROW_DIR as default!

Recommendation

The creators of A2L files shall use always the optional ASAP2 keyword LAYOUT to describe the orientation exactly.

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Overview INCA Support

If the ASAP2 measurement description contains the LAYOUT info INCA respects the given memory orientation.

If LAYOUT is missing INCA interprets multi-dimensional measurement arrays by default dependent on INCA version and ASAP2 version

INCA / ASAP2	V1.5	V1.6.1	V1.7
V7.2.x	COLUMN_DIR	COLUMN_DIR	COLUMN_DIR
V7.3.2	COLUMN_DIR	COLUMN_DIR	COLUMN_DIR
V7.3.3 ff.	COLUMN_DIR	COLUMN_DIR	ROW_DIR

Thank you

The logo for ETAS, consisting of the letters 'ETAS' in a bold, blue, sans-serif font. The 'E' and 'S' have a stylized, blocky appearance with horizontal lines through them.

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