LECM 1.02-1 Release Notes

DATE:

June 1, 2018

BACKGROUND:

LECM GAP Programmer 1.02-1 is a new release of the Coder / Operating System for the Woodward LECM

COMPATIBILITY:

To use this version of GAP/Coder, you must use GAP Editor 3.12 or higher.

To use this version of GAP/Coder, you must use SOS 4.12 or higher.

To use this version of GAP/Coder, you must use Control Assistant 4.12 or higher.

To use this version of GAP/Coder, you must use Toolkit 5.3 or higher.

NEW FEATURES:

- AI_MPU_ENG Improved speed recognition time at startup. AI_MPU output reports speed after 2 sample regions (SAMPLES) have been observed and AI_MPU_MON reports speed after 1 sample region has been observed regardless of the number of sampling regions used by the speed filter algorithm. For example, if 8 sample regions were used by the speed filter algorithm, the prior algorithm required 2x the number of sampling regions to be observed before speed was reported. The current algorithm will begin to report speed after the first sample region has been observed. After 2 sample regions have been recognized, the average of the 2 sampling regions will be reported. As speed samples are accumulated, the block will continue reporting the average of the sample regions as they are recognized, e.g. the 3 sample average, 4 sample average, etc. until 8 samples have been observed. Once the desired number of sample regions are observed the speed filter algorithm will report the average of the most recent 8 sample regions.

- Enabled MATLAB block support

- The Ethernet hostname is now in the format LECM_<MAC ID> where MAC ID is in hex with a '-' delimiter. For example: LECM_00-12-8C-00-02-C0

- Enabled new reception queue features that are available in the MPC5566. There are now 8 hardware mailboxes available to queue incoming messages. This will help prevent losing messages in the case that the operating system is not able to process a message before another new message is received. A lost incoming message is indicated by RXOVERFLOW incrementing. This is caused by an insufficiently sized RCV_BF_SZ setting or insufficient time for the operating system to move the message from the HW mailbox to the receive FIFO buffer queue. Prior to this change, only 1 HW mailbox per channel was available to hold incoming messages for the OS to process.

- Added publisher signing to the installation

ISSUES:

The following Product Issue Database ("PID") issues and requests were addressed in 1.02-1:

Issue #	Description	Solution
18417	Coder corruption from large A_CURVE3 tables	Added a coder exit if the following curve sizes are exceeded: CAL_CURVE2 - NUM_PTS limit 0-200 A_CURVE2 - NUM_PTS limit 0-1000 CAL_CURVE3 - NUM_X/Y_PTS limit 0-200

		A_CURVE3 - NUM_X/Y_PTS limit 0-1000
18356	IO Lock and Save values DAB function support for Netsim	Save and IO Lock features now work in NETSIM when using new Toolkit Data Acces Based functions.
17803	CAN_P_STAT LNK_ERR and LNK_ALM	LNK_ERR and LNK_ALM now take into account successfully transmitted msgs. LECM disables self reception sothese alarms were tripped if the LECM was the only controller on the bus generating messages.
18652	Serial ASCII Modbus not working	Fixed bug when using 7 bit serial data. Parity bit was not being masked.
18637	AI_MPU_ENG speed output drops to zero.	Under certain configurations and speed scenarios the deceleration limit check could incorrectly report a speed fault which causes the speed to drop to zero. The control was more sensitive to this if the target contained a missing tooth. The deceleration limit check was changed from 200% to 400%.
18743	CRC check not taking into account all flash sections	Added missing .data and .sdata read only memory sections to crc check.
18744	Page update function issue	Fixed a small timing window that occurred during initialization that could cause an ee corruption if power was interrupted during the first initialization of an app after it is loaded.
18641	SERVLINK block buffer overflow	Added protection if the application name is too long.
18629	LECM CAN Hardware Rx Overflows	Enabled new reception queue features. HW receive queue is now 8 deep.
18748	LECM Hostname	The Ethernet hostname is now in the format LECM_<MAC ID> where MAC ID is in hex with a '-' delimiter. For example: LECM_00-12-8C-00-02-C0

UNSUPPORTED BLOCKS AND FUNCTIONALITY:

The following blocks may be available in the Template and GAP Editor, but are not supported for customer use in the LECM 1.02-1 release version of the Coder (compiler):

- **AN_OUT**
- **SPI_RD**
- **SPI_WR**
- **RT_CAN_NTW**
- FBUS functionality is not supported in LECM
- EGD functionality is not supported in LECM
- Modbus Serial RTU multi drop is not supported

PART NUMBERS:

Version 1.02-1
GAP/Coder Part Number: 9927-2575

LECM 1.02-0 Release Notes

DATE:

May 19, 2017

BACKGROUND:

LECM GAP Programmer 1.02-0 is a new release of the Coder / Operating System for Woodward controls

COMPATIBILITY:

To use this version of GAP/Coder, you must use GAP Editor 3.12 or higher.

To use this version of GAP/Coder, you must use SOS 4.12 or higher.

To use this version of GAP/Coder, you must use Control Assistant 4.12 or higher.

To use this version of GAP/Coder, you must use Toolkit 5.3 or higher.

NEW FEATURES:

- This version of LECM coder officially releases a verified version of **UDS** over CAN (ISO15765).
- Added support for the HMI_ENUM block with UDS
- LECM 1.02-0 will reload defaults whenever an application is loaded, even if the same application is loaded. Prior releases of Coder would only reload defaults if the application Date code changed (application was recompiled or is different than currently loaded.)
- The **SYS_INFO** block contains a new input that was added for other platforms as a means to disable 10% step enforcement for analog values. This field performs the same function as the TUNE_LIMIT input on the **STATUS_LECM** block. If either of these inputs is set to allow a step change >10% the step will will be allowed. Both inputs default to a state that enforces the 10% step change.
- New **LECM_BOOT_FLAGS** block which allows for customization to the forced boot behavior over CAN. Requires a complatible hard boot version.

NOTE:

The BOOT_SEC_EN input that was introduced on the STATUS_LECM block in the LECM1.01-0 release has been relocated to the LECM_BOOT_FLAGS block in this release.

ISSUES:

The following Product Issue Database ("PID") issues and requests were addressed in 1.02-0:

Issue #	Description	Solution
18281	Can buffer_gen function	corrected issue that could cause issue on certain machines during compile time.

18311	RTC DOW help	The help file incorrectly stated that SET_DOW and DOW_IN were ignored. This is not true for LECM. An appropriate note was added in help.
18316	AI_PWM missing from NetSim build	AI_PWM for simulation support added for speed inputs.
18314	LECM TRIG_OUT for simulation	TRIG_OUT for simulation support added.
18355	Load Default values	Control will now reload defaults whenever an application is loaded, even if the same application is loaded. Prior releases of Coder would only reload defaults if the application Date code changed (application was recompiled or is different than currently loaded.)
18284	GetClockTime_diff_uS function not declared LECM	Added declaration.
18285	XCP default Identifiers	Changed the XCP_CAN default identifiers were modified to match Identifers defined for Woodward devices for XCP instance 1.
18249	J1939_NTW block incorrect allowed ranges	J1939_NTW inputs used to create the NAME used in the address claim were modified to allow the correct ranges per the j1939 standard.
18317	CURVES_3 Y values not increasing	Added compile check that makes sure the x and y values are monotonically increasing. Coder will now exit if this check fails.
18394	A_STEP_PER behaves differently in simulation	fixed this input behavior in SIMULATION.

UNSUPPORTED BLOCKS AND FUNCTIONALITY:

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- **SPI_RD**
- **SPI_WR**
- **RT_CAN_NTW**
- FBUS functionality is not supported in LECM
- EGD functionality is not supported in LECM
- Modbus Serial RTU multi drop is not supported

PART NUMBERS:

Version 1.02-0
GAP/Coder Part Number: 9927-2575