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ECU list - Motortech

Custommer ECU list for MIC, VariStep , Logger

SW version 1.6.0

New Features List

1 General information

1.1 Version information

This is a customer version of ECU list.

1.2 Clarification of notation

Note: *This type of paragraph calls readers attention to a notice or related theme.*

IMPORTANT: This type of paragraph highlights a procedure, adjustment etc., which can cause a damage or improper function of the equipment if not performed correctly and may not be clear at first sight.

Example: This type of paragraph contains information that is used to illustrate how a specific function works.

2 Changes in the version 1.6.0

2.1 New features

▶ Change the period of timeout

- The timeout of the message has been improved. (PGN 0xFEF6, source address 0x00, period increased from 500ms to 1000ms)
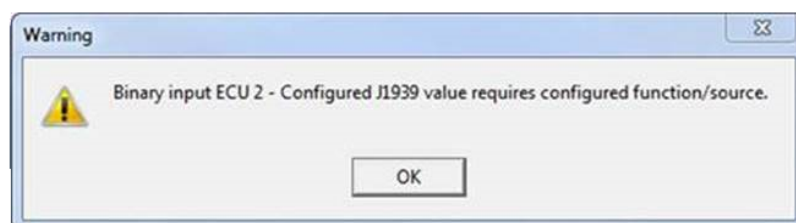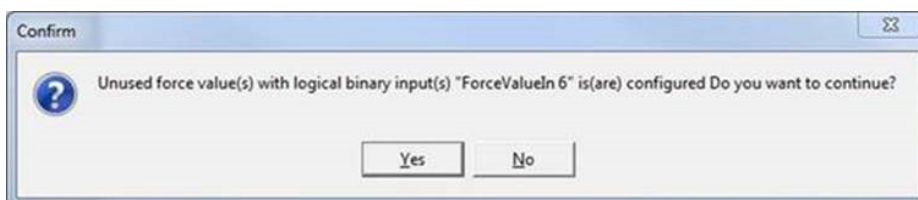
3 Changes in the version 1.5.0

3.1 New features

▶ Remove HeartBeat input
- Removed Heartbeat binary input from the esc file. There is no need for it to have it in the support since the IS-NT-AFR is using different system for evaluating of the non functional logger connection.
- Heartbeat binary input as hidden input was causing false SD ECU red alarm in default configuration because Heartbeat is in the fastest input frame of the whole MIC+2Varistep+Logger.esf.

▶ MIC values made configurable
- All MIC values were made configurable in GenConfig so user can remove them as he wish. Nevertheless some values still remains configured as default configured.
- Side-effect of this feature is that ADV/RET and BTDC/ATDC in MIC screens wont work as in the past on default screens.

▶ Leave only MIC+2Varistep+Logger esc file
- All esc files from ECU list except MIC+2Varistep+Logger.esc were deleted. User still can make the appropriate configuration by removing or adding required signals in the Genconfig.

3.2 Repairs

▶ SD ECU because of missing frames from ID-Mobile logger
- Some frames were configured automatically as default and were hidden for user. This caused in some cases wrong evaluation of SD ECU. This feature was removed to allow (un)configure all values.

▶ MIC BININ Ready logioindex mapped to Force Value 6
- When user unconfigures the Force Value, Warning message saying that the input is required appeared. When any ECU with MIC unit was configured, fault causes that binary input Ready in MIC is mapped to Force Value 6. If user wants to use Force Value 6, message saying "Unused Value(s) with logical binary input(s) "Force Value 6" is(are) configured".

This mapping was removed so this happens no more.

Information about firmware version and parameter settings.

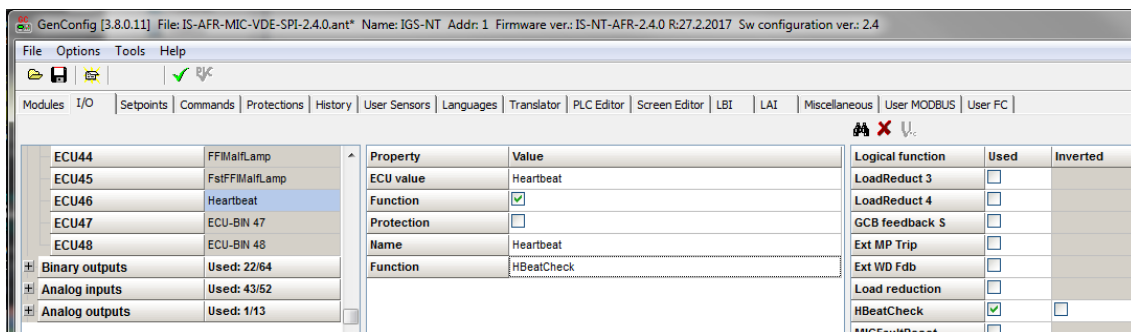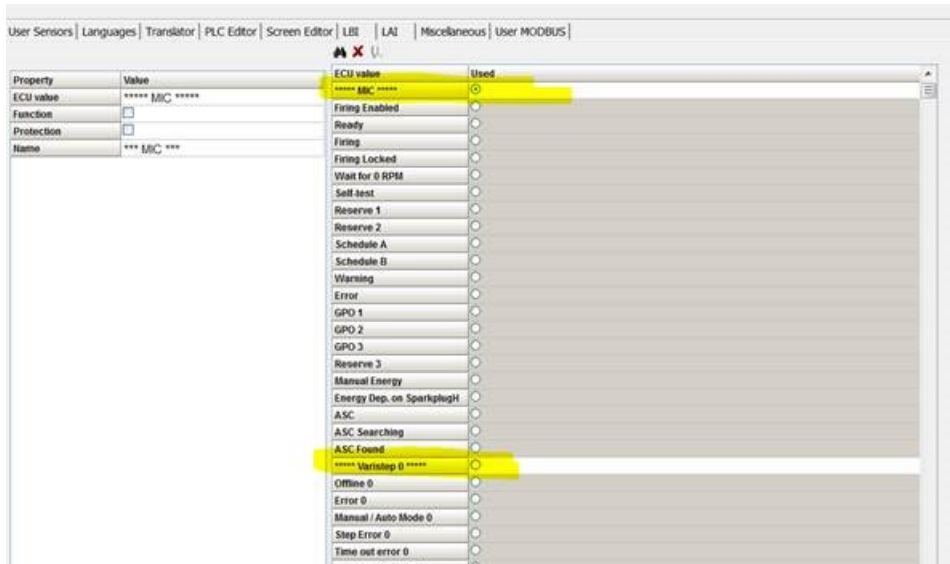| Unit	FW version	HW version
Varistep2	1.5.1	1.3
Varistep3	0.25	1.2
MIC4	1.0.1	1.4
MIC3	1.4	1.0
MIC5	1.0.2	1.4
InteliDrive Mobile Logger	1.7.0	1.2
InteliSyste NT AFR	2.4.0	2.0

4 Changes in the version 1.4.0

ECU list Motortech version 1.4.0 is meant to be used with MIC 4 fw version 1.0.1 and InteliSys-NT AFR fw version 2.4.0.

4.1 New features

▶ MIC address and frame change

- Conflict frames after merging MIC and Logger support.
- Change source address of frames read from MIC to 0x34 (52).

▶ Heartbeat

- In order to enable hearbeat control of communication between ID-mobile Logger and IS-NT, there are two new binaries.
- "Heartbeat" Binary output in Logger eng
- "Heartbeat" Binary input in MIC+2Varistep+Logger
- Dataloger heartbeat check – There is BIN from Dataloger in ECU values called Heartbeat. This BIN is automatically configured as input to new HBeatChek function. Output from this function is new LBO HBeatError, this LBO is activated when Heartbeat signal from dataloger is not cycling or cycling slowly. If needed Shutdown can be activated based on this signal. Warning is issued automatically when Heartbeat signal from dataloger is not cycling or cycling slowly.

▶ Protocol support of MIC changed from AIO to J1939 Motortech

- Particular changes has been made to support J1939 Motortech protocol according to MIC3/MIC4/MIC5 J1939 Motortech documentation ver. 0.9.

▶ Logger engine support

- Engine data logger
  - Support of Logger-EngJ1939 cloned from ECU list - Mobile 6.0.0 and added into ECU list - Motortech.
  - This unit is meant to be configured in DriveConfig.
  - Support of Logger-EngJ1939 modified in the way that all the values are configurable in DriveConfig.

▶ Visual separator for multi module ECU support

- Visual separator divide particular groups of analog and binary inputs and outputs of ECU. These separators has no logical function. They serve as visual hint for GenConfig or DriveConfig user.

► Fault reset to MIC

- New analog output "ECU Fault reset" added - PGN 0xFF4D - MIC setup. This analog output enables user to send any 1 byte number to the MIC in order to acknowledge the warnings or errors. MICFaultReset function is used in the firmware for control.

► NOx sensor support removed

- Complete support of aftertreatment NOx sensor has been removed.

► Global timing correction frame change

- Changed sending period of frame GTI - 0xEF00 containing value "Global Timing Correction" from 1000 ms to 100 ms Change PGN of the frame from 0xEF00 to 0xEF34.

► Timeout setting changed

- Timeout of all received frames changed to 1000 ms.

► Conflict and non-standard PGN change

- These frames were dedicated to fan controller. It will not be used any more.
- ET1tx
  - Frame ET1tx transmits value Coolant temperature - SPN 110 from AIO.
  - Frame removed.
- IC1tx
  - Frame IC1tx trasmits value Intake Manifold Temp - SPN 105 from AIO.
  - Frame removed
- ET3tx
  - Frame ET3tx trasmits value Engine Charge Air Cooler 1 Outlet Temperature - SPN 2630 from AIO.
  - Frame removed
- EEC1tx
  - Frame removed

4.2 Repairs

▶ Increase period of MIC frames

● Increase timeout period of incoming frames from MIC frames in order to prevent "comm. fail".

▶ MIC setup PGN change

● PGN for MIC setup used mainly for Fault reset function had wrong PGN number. PGN changed from 0xFFD4 to 0xFF4D.

Information about firmware version and parameter settings.

Unit	FW version	HW version
Varistep2	1.5.1	1.3
Varistep3	0.25	1.2
MIC4	1.0.1	1.4
MIC3	1.4	1.0
MIC5	1.0.2	1.4
InteliDrive Mobile Logger	1.7.0	1.2
InteliSyste NT AFR	2.4.0	2.0

5 Changes in the version 1.3.0

5.1 New features

▶ New values transmitted on CAN1

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Name	SPN	Type	Factor	Offset	Const	Dim	Dec	Low	High	Nittype
Coolant Temperature	110	anaout				°C	0	-40	210	met
Engine Charge Air Cooler 1 Outlet Temperature	2630	anaout				°C	0	-273	1735	met
Intake Manifold Temp	105	anaout				°C	0	-40	210	met
Engine Speed	190	anaout				RPM	0	0	5000	

- Functionality is implemented in all esf files:
  - MIC
  - MIC+VariStep
  - MIC+2VariStep
  - VariStep
  - 2xVariStep

6 Changes in the version 1.2.0

6.1 New features

▶ Inteli Drive Mobile Logger support

- Support of Inteli Mobile Logger was added. Reading values from logger unit.

  - Support was cloned from Logger-CtrlJ1939.esc and added to MIC+2VariStep.esc file.

  - Values from Logger are not configured automatically in GenConfig. User has to configure them in GenConfig if needed.

▶ Frame with pgn="0xFF00" has been changed to pgn="0xFF0D" in all files containing support of MIC.

- list of affected files:

  - MIC.esc

  - MIC+VariStep.esc

  - MIC+2VariStep.esc

- The reason for this change is that mentioned conflict frame had been used in both ECUs but for different purposes. Pgn="FF00" was used for MIC as well as for Logger.

▶ Fault reset alarm confirmation

- Fault reset function sending added. When fault reset button is pressed at IS-NT-AFR then there is an information sent to MIC over CAN. There is a confirmation sent in frame with pgn="FF4D".

- list of affected files:

  - MIC.esc

  - MIC+VariStep.esc

  - MIC+2VariStep.esc

▶ New version numbering system applied - Major.Minor.Patch.Build. Only M.N.P numbers are visible - in this case 1.2.0.

▶ Name of MIC ignition unit change

- Name has been changed from former MIC850 to MIC. Ignition unit MIC is intended generally for MIC series.

- list of affected files:

  - MIC.esc

  - MIC+VariStep.esc

  - MIC+2VariStep.esc

  - ECU list - Motortech.esl

▶ After treatment NOx sensor

- Added support of reading information from after treatment NOx sensor unit. i.e. *Intake NOx, Intake %O2, Intake gfas Sens Pwr in Range,* etc. Values added for all VariStep files.

- list of affected files:
  - VariStep.esc
  - 2VariStep.esc
  - MIC+VariStep.esc
  - MIC+2VariStep.esc
- New transmitted value Global Timing Correction
  - Now available new transmitted value for timing correction. It is broadcasted in frame with pgn="0xEF00".

6.2 Repairs

- Description hint text for VariStep in GenConfig has been corrected .
  - Addressed in hints for VariStep is now 90 and 91.

7 Related information

7.1 Available files

ECU list (ECU list - Motortech.igc)
For HW
IS-NT family

Table 7.1 Available firmware

ECU files (*.esc)		
ECU file	**version**	**purpose**
MIC+2VariStep+Logger	1.6.0	MIC ignition unitMIC ignition unit plus 2x VariStep

Table 7.2 Available ECU files

7.2 Available related documentation

Documents	Description
IS-NT-AFR manual	InteliSysNT AFR Gen-set Controller.

Table 7.3 Available documentation

8 Notes

8.1 ECU list dedication

ECU list - Motortech is dedicated for Motortech GmbH.

8.2 E.g. Required changes to comply with standards

ECU list - Motortech can be used only with IS-NT-AFR firmwares.

> **IMPORTANT: ECU list - Motortechfrom version 1.2.0 is compatible only with MIC firmware from version (Motortech GmbH to specify!!!) above. Information such as Firing enabled, Ready, Firing, Firing Locked, Self-test, etc. will appear as #### with older firmware version in MIC.**

8.3 Docu ment history

Revision number	Related sw. version	Date	Author
6	1.6.0	Fubruary 2018	Jan Horáček
5	1.5.0	November 2017	Jan Horáček
4	1.4.0	April 2017	Jan Horáček
3	1.3.0	November 2015	Lubomir Broz
2	1.2.0	August 2015	Jan Horáček
1	1.1.0	June 2012	Miroslav Dvořák