

1. Available firmware, archives and documentation

Firmware

Mhx file
IL-NT-MRS19-VA-1.4.mhx

Archives

Archives
IL-NT-MRS19-VA-1.4.aix

Documentation

PDF files	Description
IL-NT-VAutodetect-1.0.pdf	Manual for IntelliLite NT Voltage Autodetect application (MRS19 gen-set controller)
IL-NT-VAutodetect-1.4 New Features.pdf	List of new features for software update

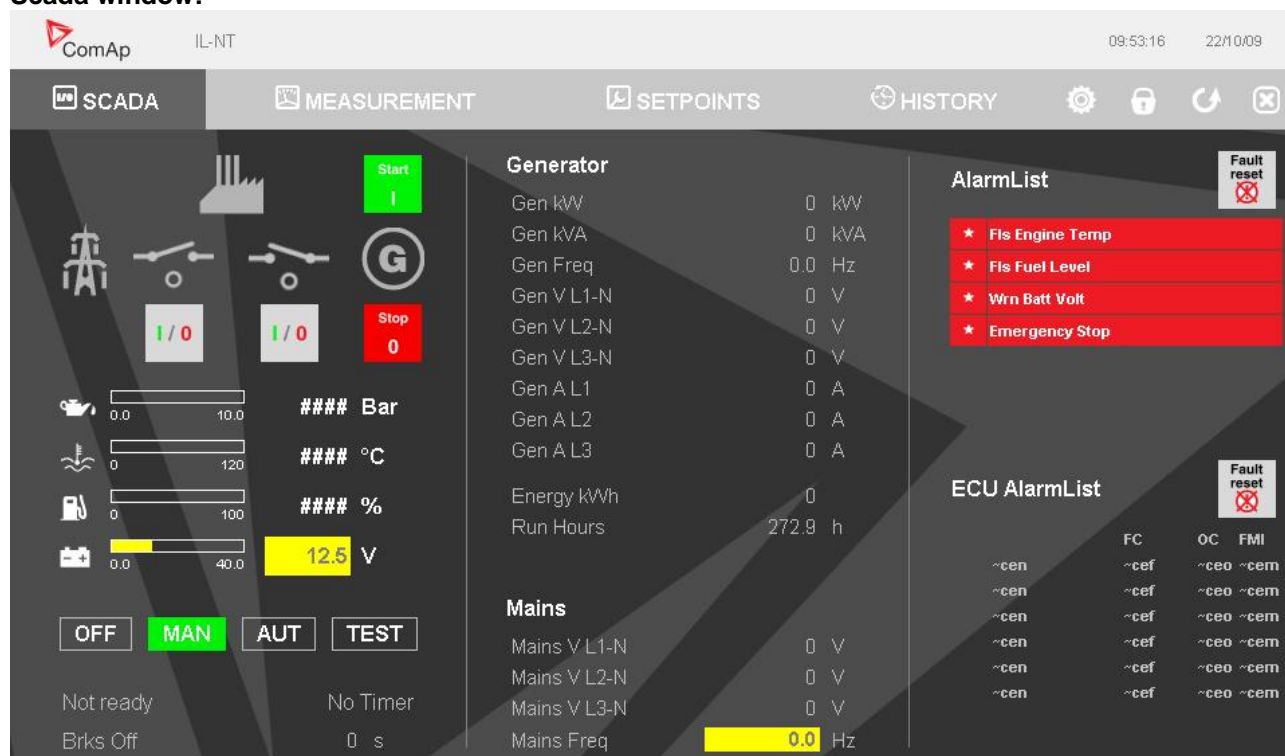
2. Main changes in IL-NT-Vautodetect-1.4

New features

- **Webserver for IB-Lite supported in IL-NT:**

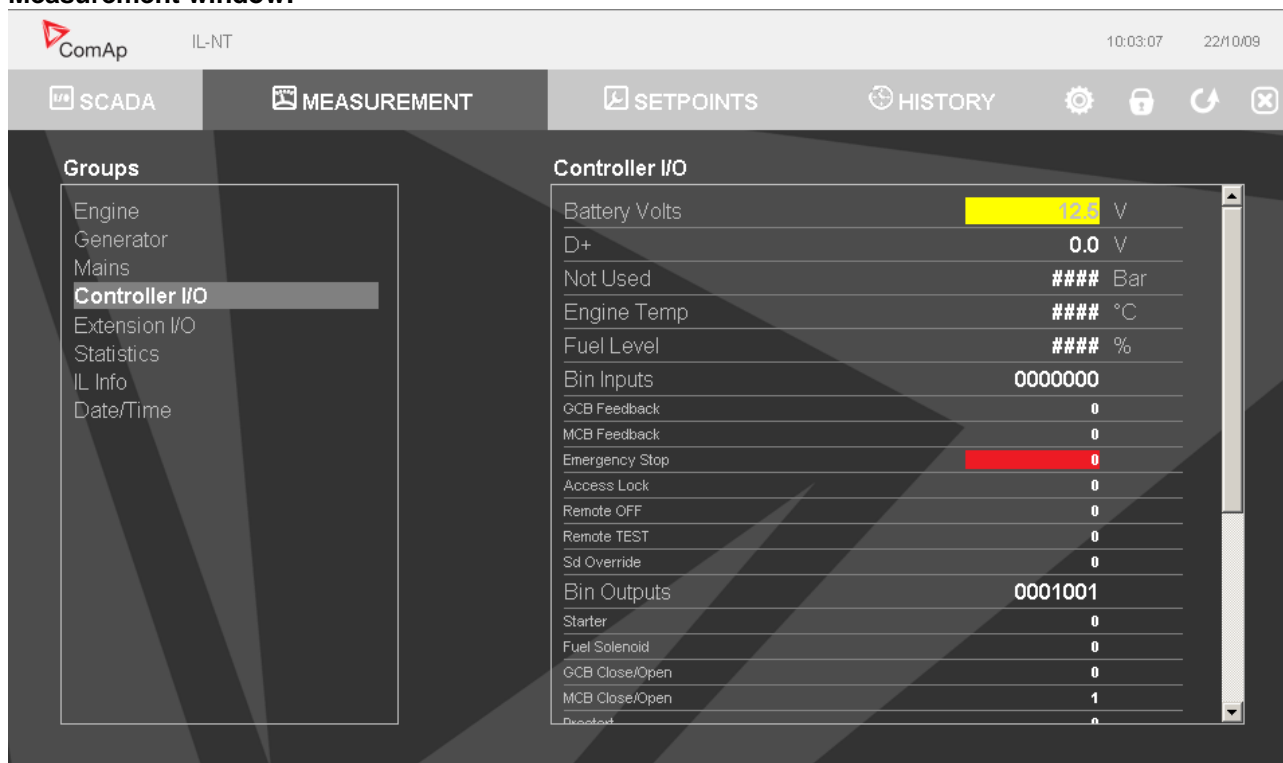
New secured way of monitoring and controlling the genset from any point in world using your web browser! Clear overview control of the state of engine, its settings and history. Easy and user friendly usage.

Scada window:



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Measurement window:



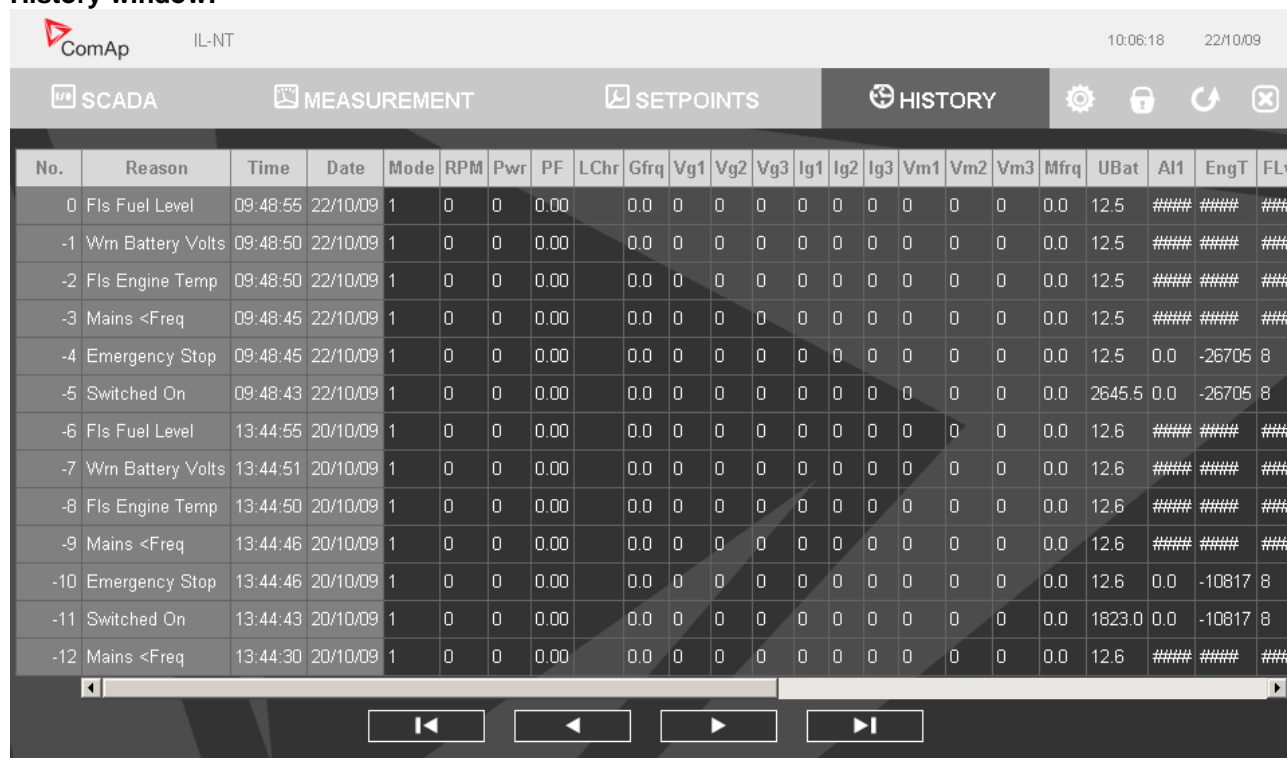
Battery Volts	12.0	V
D+	0.0	V
Not Used	####	Bar
Engine Temp	####	°C
Fuel Level	####	%
Bin Inputs	0000000	
GCB Feedback	0	
MCB Feedback	0	
Emergency Stop	0	
Access Lock	0	
Remote OFF	0	
Remote TEST	0	
Sd Override	0	
Bin Outputs	0001001	
Starter	0	
Fuel Solenoid	0	
GCB Close/Open	0	
MCB Close/Open	1	
Reserved	0	

Setpoints window:



Gen-set Name (-)	IL-NT
Nominal Power (1 - 5000)	100 kW
Nomin Current (1 - 10000)	350 A
CT Ratio (1 - 5000)	2000 /5A
PT Ratio (0.1 - 500.0)	1.0 /1
Vm PT Ratio (0.1 - 500.0)	1.0 V/V
NomVolts Ph-N (80 - 20000)	231 V
NomVolts Ph-Ph (138 - 35000)	400 V
Nominal Freq (45 - 65)	50 Hz
Gear Teeth	120

History window:



No.	Reason	Time	Date	Mode	RPM	Pwr	PF	LChr	Gfrq	Vg1	Vg2	Vg3	Ig1	Ig2	Ig3	Vm1	Vm2	Vm3	Mfrq	UBat	AI1	EngT	FL
0	Fls Fuel Level	09:48:55	22/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	12.5	####	####	###
-1	Wrn Battery Volts	09:48:50	22/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	12.5	####	####	###
-2	Fls Engine Temp	09:48:50	22/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	12.5	####	####	###
-3	Mains <Freq	09:48:45	22/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	12.5	####	####	###
-4	Emergency Stop	09:48:45	22/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	12.5	0.0	-26705	8
-5	Switched On	09:48:43	22/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	2645.5	0.0	-26705	8
-6	Fls Fuel Level	13:44:55	20/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	12.6	####	####	###
-7	Wrn Battery Volts	13:44:51	20/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	12.6	####	####	###
-8	Fls Engine Temp	13:44:50	20/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	12.6	####	####	###
-9	Mains <Freq	13:44:46	20/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	12.6	####	####	###
-10	Emergency Stop	13:44:46	20/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	12.6	0.0	-10817	8
-11	Switched On	13:44:43	20/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	1823.0	0.0	-10817	8
-12	Mains <Freq	13:44:30	20/10/09	1	0	0	0.00		0.0	0	0	0	0	0	0	0	0	0	0.0	12.6	####	####	###

Hint: This feature requires IB-Lite optional plug-in module and visible connection of controller to ethernet.

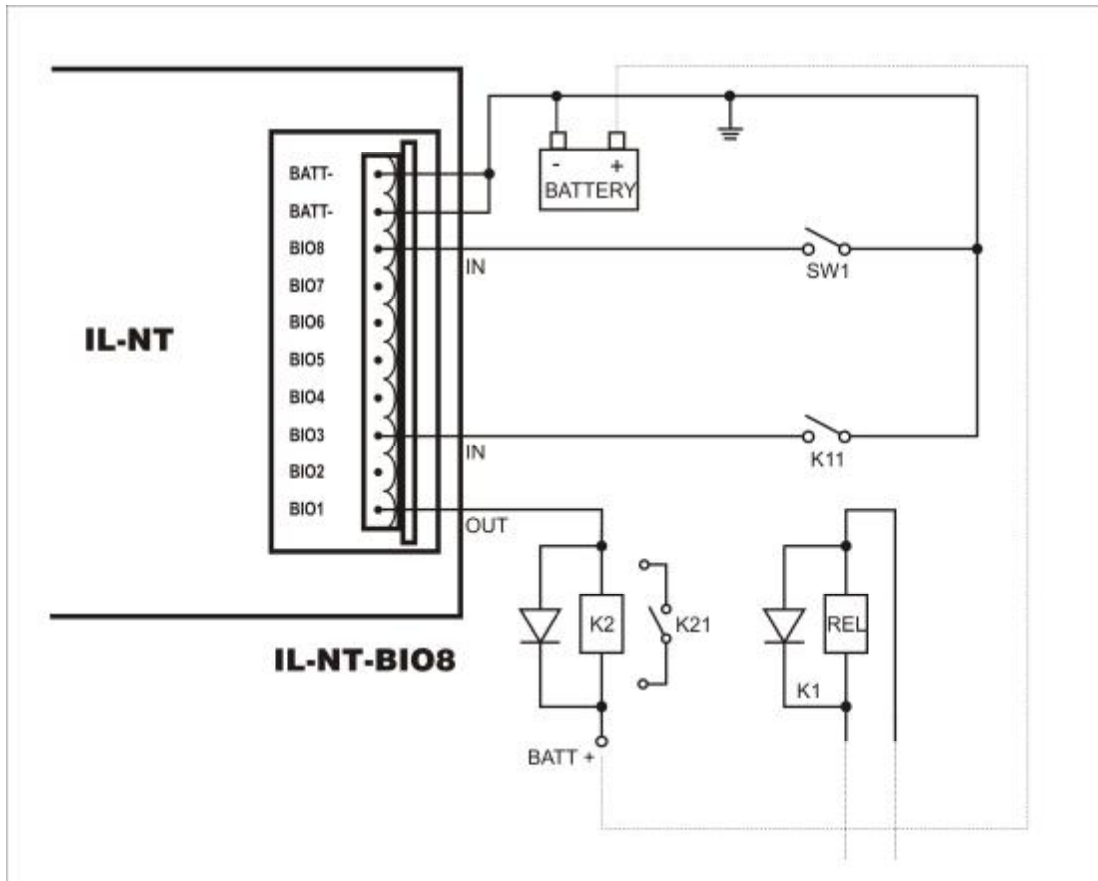
• **IL-NT BIO8 Hybrid binary input/output module available**

IL-NT BIO8 is optional plug-in card. Through this card controller can accommodate up to 8 binary inputs or outputs. In LiteEdit PC configuration tool (version 4.4 and higher) it is possible to easily choose if particular I/O will be binary input or output.

To insert the module, you must open the cover first (use screwdriver to open) and then insert the module into slot. Once you have inserted it, the module will snap under plastic teeth. It is supposed to be installed permanently. Should you need to remove it, the safest way is to remove whole back cover and than remove module manually.

Installing IL-NT BIO8 module is similar to installing RS 232 module. The difference is that module fits to "extension module" slot and after installing IL-NT BIO8 you do not put back the small cover.




Technical details:

IL-NT BIO8 plugs into IC-NT controller EXTENSION MODULE port.
8 dedicated pins of the plug-in card's terminal can be configured as binary inputs or outputs.

Binary inputs

Number of inputs	8
Input resistance	4.7 kΩ
Input range	0-36 VDC
Voltage level for close contact indication (Logical 1)	< 0.8 VDC
Voltage level for open contact indication (Logical 0)	> 2 VDC
Max voltage level for open contact indication	8-36 VDC

Binary open collector outputs

Number of outputs	8
Maximum current per pin	0.5 A
Maximum switching common current	2 A
Maximum switching voltage	36 VDC

Hint:

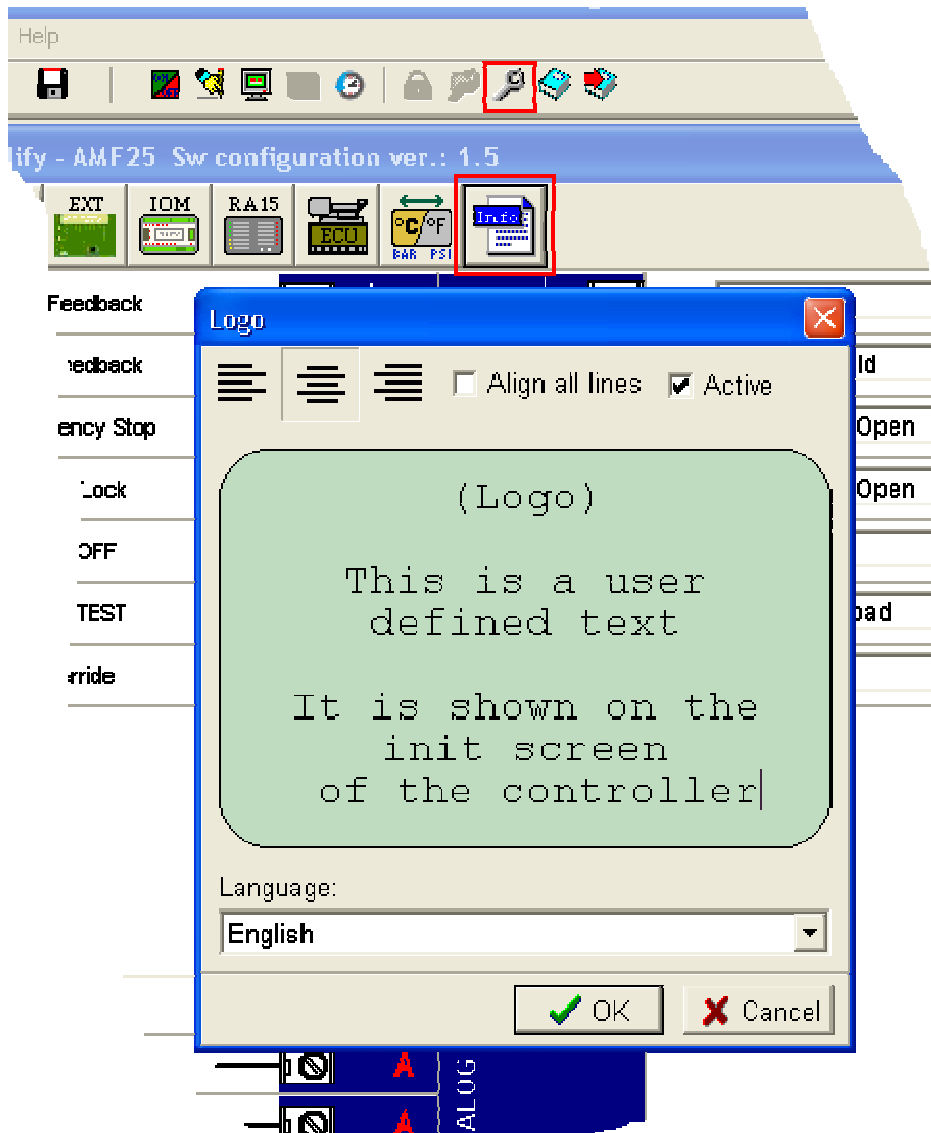
Binary inputs are not galvanically isolated.

- **Customer Logo screen added**

Screen dedicated to information provided by customers such as contact numbers, service technician contact and customer message for end users of gen-set has been added. Configuration of this screen is only done by LiteEdit PC software (v. 4.4 and higher).

Information is displayed on so called "Init Screens" which are displayed after controller is switched on or reprogrammed. It is also possible to call these screens from any measurement

screen by pressing ENTER and PAGE buttons concurrently and then only PAGE button separately.



- **GM E-Control ECU Support**
- Speed correction via binary inputs. New binary inputs "ECU Speed Up" and "ECU Speed Down". These inputs adjust setpoint value "ECU Speed Adj". One step is 2% of setpoint value, which is approximately 0,4% of nominal Speed.
- Specifically for ECU E-Control is value "Fuel Rate ECU" and predictive timer to low fuel condition hidden, as it is used for gas engines where such value would require different algorithm, settings and senders.
- Support for Chinese font was removed for operation reasons.

Repairs

- Analog input curves in default archive were corrected.
- Problem with limits for analog protection setpoints fixed - „Wrn Wtemp Low“, AI warning and shutdown setpoints are now inheriting its limits from the limits of relevant analog input characteristic curve, which is configured. Only in default archive are default limits setted to -100 .. 10000.

3. Main changes in IL-NT-Vautodetect-1.3.1

Repairs

- Controller did not respect binary input Remote Start/Stop. When engine runned in manual mode and it was switched to automatic mode it continued to run even when Remote Start/Stop input was inactive. By changing state of Remote Start/Stop to active and inactive again it stopped as well it worked correctly in manual mode – problem fixed.
- In american date format were months interpreted incorrectly – problem fixed.

4. Main changes in IL-NT-Vautodetect-1.3

- Three level passwords enabled
- Support of remote alarm messaging
If a GSM modem and/or Internet bridge is connected to the controller, the controller can send SMS messages and/or emails in the moment when a new alarm appears in the Alarm list. The message will contain a copy of the Alarm list.

To enable this function, you should select with setpoints Yel Alarm Msg and Red Alarm Msg, which levels of alarms shall be announced (red/yellow/both) and also enter valid GSM phone number and/or e-mail address to the setpoints TelNo/Addr Ch1 and TelNo/Addr Ch2. It is possible to put either a GSM number or e-mail to both setpoints.

- Texts updated according to last IL-NT standard version
- Switchable User Interface in controller – two modes “User” and “Engineer”

InteliLite NT controller enables to choose the user interface as customer prefers. There are two choices available: USER or ENGINEER interface.

USER interface is meant for customers, who prefer simple and easy menu and don't wish to list in complex menu or change the settings of controller. In USER interface controller displays measuring, alarm and init screens.

ENGINEER interface is dedicated for engineers and allows changing the settings of controller, reviewing the history, measurement, alarms and grant the full access to all controllers screens which are available. This mode is default.

- Power and current are counted with decimal depending on CT ratio value
- Added value of cumulative fuel consumption “TotFuelConsum” in gallons for EFI engines that provide at least one of the values Total Fuel Used or Fuel Rate. In the second case the controller computes cumulative consumption by itself.
- Empty fuel tank prediction
Based on the volume of the fuel tank given by setpoint “FuelTankVolume”, fuel level value read on the third analog input (in the range 0 – 120%) and average fuel consumption the controller computes remaining time till *alarm Sd Low Fuel will be issued*. See the last controller screen with statistic values or Values window in LiteEdit – “TimeTillEmpty” values [days, hours, minutes]. Time is computed based on floating average consumption over last 30 minutes.
- Added input Lang Selection for switching between configured languages
- The range of delay setpoints for controller and IG-IOM analog inputs extended to 0-900s
- Engine running hours are counted and displayed with one decimal

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- Active call function:

New function will enable controller to connect to monitoring PC with running IntelliMonitor (will be supported in new version) and download there an archive from IL-NT upon any new alarm in alarmlist. This will enable to analyze problems on site right on time.

New setpoints related: "CHx Type" [DISABLED, DATA, SMS, E-MAIL]. Setting DATA will enable active call function. Valid number in "TelNo/Addr Chx" and modem connected to controller required.

- Support of blocking of fault codes (for Isuzu engines)

5. Main changes in IL-NT-VAutodetect-1.2

New features

- Improved characteristics of electrical measurement
- Support for COM terminal at analog inputs – support of HW version 1.3
- Support of dual port communication modules, such as IL-NT RS232+RS485
- Support internet module IB-Lite
- New ECU List 4.6
- New setpoints "COM2 Mode", "ModemIniString", "ModbusComSpeed"
- Changed list of options at setpoint "COM1 Mode"
- One password level
- Support for ISUZU electronic engines
- Updated Iveco Vector electronic engine features
- Slightly altered statistic screen
- New handling of confirmation ECU alarms. For confirmation press Fault reset in the same way as for standard alarm list. It works from any controller standard screen and both alarm lists are confirmed.
- Changed NextServiceTime range from 0 to 10000 enginehours. Default value is 9999 enginehours. At setted value 10000 enginehours the value at statistic screen disappear and timer is not counted down. This is for customers who do not use this timer.

Repairs

- Fixed handling of setpoint "WtBfAcceptRPM"
- Fixed presentation of setpoint choices from 8 signs to 9 signs

6. Main changes in IL-NT-VAutodetect-1.1

New features

- Improved characteristics of electrical measurement
- Support for COM terminal at analog inputs – support of HW version 1.3
- Support of dual port communication modules, such as IL-NT RS232+RS485
- Register oriented modbus added
- New ECU List 4.3
- New setpoints "COM2 Mode", "ModemIniString", "ModbusComSpeed"
- Changed list of options at setpoint "COM1 mode"

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- Changed properties of BO “ECU CommError”, output is active until relevant alarm in alarmlist is not fault reseted, even if it is inactive.

Repairs

- Fixed handling of setpoint “WtBfAcceptRPM“

7. Main changes in IL-NT-VAutodetect-1.0.4**New features**

- Improved characteristics of electrical measurement

8. Main changes in IL-NT-VAutodetect-1.0.3**Repairs**

Malfunction of WtBfAcceptRPM parameter has been fixed.

9. Main changes in IL-NT-VAutodetect-1.0.2**Repairs****Inappropriate fault messages**

Problem with the following inappropriate fault messages has been fixed:

ML1 NEG
ML2 NEG
ML3 NEG
MPH +L3 NEG

10. Main changes in IL-NT-VAutodetect-1.0.1**New features****CAN Communication Timeout has changed**

Mechanism for CAN communication drop-out solving has been changed to ensure compatibility with John Deere ECUs:

- timeout for “ECU Comm wrn” has been increased from 600 ms to 3.5 sec approx. (only if John Deere ECU is used)
- controller will be switched to internal RPM measuring after 600 ms drop-out duration
- if communication reappear during next 20 sec the warning will be automatically removed from warning list.
- after drop-out duration longer then 20 sec the warning will stay permanently

Repairs**Overspeed Shutdown**

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Problem with rare random "SD Overspeed" announcing has been fixed
Mhx file
IL-NT-MRS19-VA-1.0.1.mhx