

LiteEdit

Controller monitoring and configuration tool

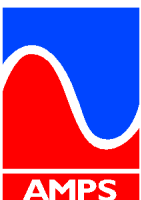
Global Guide

September 2014

Software version 5.1.0

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1 Document information

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1.1 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 unproper function of the equipment if not performed correctly and may not be clear at first sight.

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1.3 Document information

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1.3.1 Document history

Number	Related firmware	Date
1	5.1	22-9-2014
2	5.0	1-8-2014
3	4.6	9-11-2013
4	4.4	23-10-2009
5	4.3	28-2-2009
6	4.2	12-11-2008
7	4.1	10-9-2008
8	4.0	23-5-2008
9	3.2	20-3-2008

1.3.2 Conformity declaration

	The following described machine complies with the appropriate basic safety and health requirement of the EC Low Voltage Directive No: 73/23 / EEC and EC Electromagnetic Compatibility Directive 89/336 / EEC based on its design and type, as brought into circulation by us.
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2 Getting started

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2.1 Welcome

Welcome to **LiteEdit** from ComAp a.s.

LiteEdit is an on-line/off-line monitoring and configuration tool for use with various ComAp controllers, [See "Supported controllers" on the next page.](#)

LiteEdit runs on various versions of Microsoft® Windows™, [See "Installing LiteEdit" on page 7.](#)

The main four chapters of this guide reflect the primary functions of LiteEdit:

- [Communication links](#) - making the connection to the controller.
- [Monitoring and adjustment](#) - viewing real-time operation and making setpoint adjustments.
- [Configuration window](#) - making fundamental hardware and software settings.
- [Additional features](#) - language changes, firmware upgrades and cloning.

2.2 Help

Within LiteEdit you can access help in several ways:

- For information about the LiteEdit application itself, select **Help** and choose the **LiteEdit help** option.
- For setpoints, values and input/output function listings for the currently connected controller, either:
 - Select **Help** and choose the **Controller help** option.
 - Select the setpoint, value or input/output within the LiteEdit window and press the **F1** key on your keyboard. If help is available for the current controller/item, it will be displayed as context sensitive help.

2.3 Supported controllers

LiteEdit can be used with the following controllers:

- IntelliLite,
- IntelliLite^{NT},
- IntelliCompact^{NT},
- MainsCompact^{NT},
- IntelliATS^{NT},
- IntelliATS^{NT} PWR,
- IntelliDrive Lite,
- IntelliDrive EM,
- IntelliDrive FLX
- IntelliPro

2.4 Installing LiteEdit

2.4.1 Requirements

LiteEdit can run on PCs equipped with any of the following versions of Microsoft® Windows™:

- Windows 2000,
- Windows XP,
- Windows Vista,
- Windows 7,
- Windows 8 and 8.1.

There are no special requirements for the PC hardware other than the need for a suitable communication link to the controller plus a minimum of 15 MB of free storage space.

2.4.2 Installation procedure

1. Download the ComAp PC Suite installation package file (e.g. LiteEdit 5.1 Installation Suite) from the ComAp website (www.comap.cz).
2. Execute the downloaded file and follow the on-screen instructions:



3. If your system already has LiteEdit installed, the installation program will offer an upgrade (if your current version is older) or re-installation (if your current version is identical). If your current version is older, then it is recommended to perform the upgrade because the controller firmware that you are about to install may not be compatible with older LiteEdit versions.







3 Communication links

In this chapter:

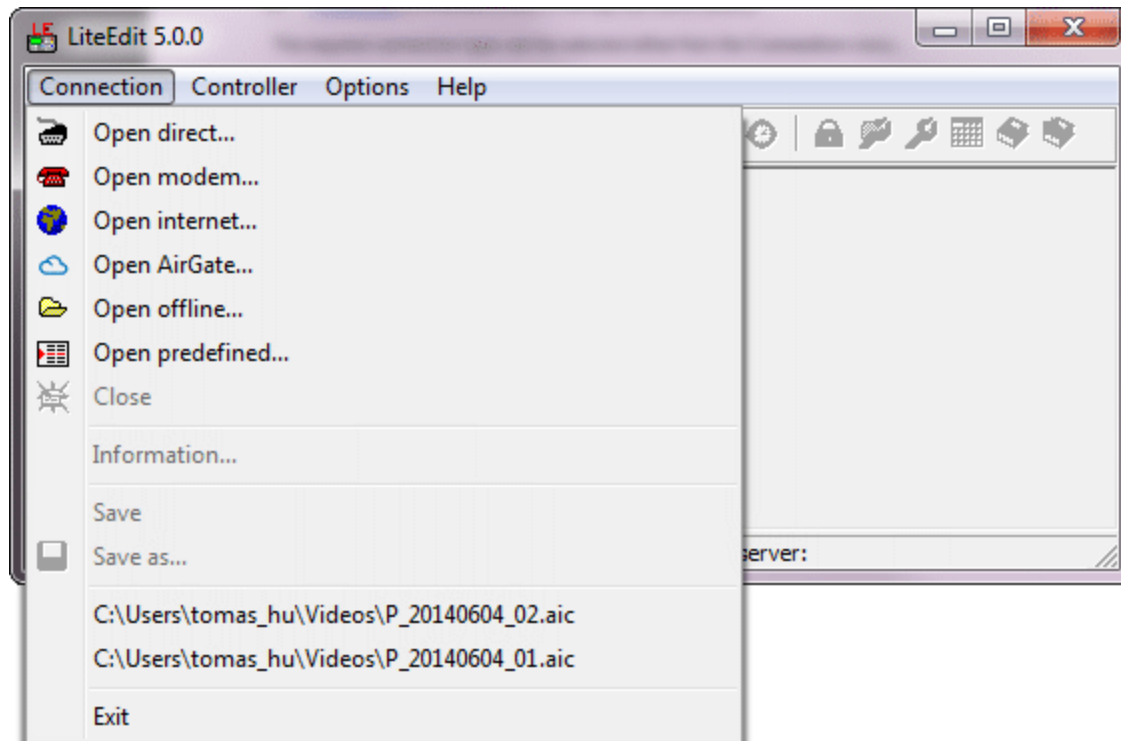
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3.1 Link types

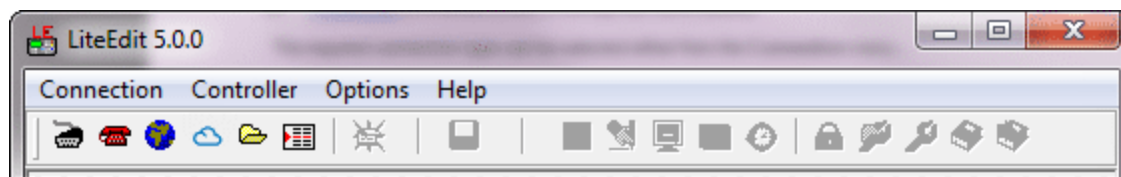
The following links can be used to join LiteEdit to a supported controller:

-  [Direct](#) cable connection (RS232, RS485 or USB)
-  [Modem](#) connection
-  [Internet](#) (wired or wireless network) connection
-  [AirGate](#) (ComAp proprietary protocol) connection
-  [Offline](#) (open an archived configuration file)
-  [Predefined](#) (a shortcut to any of the top four items above)

The required connection type can be selected either from the **Connection** menu...



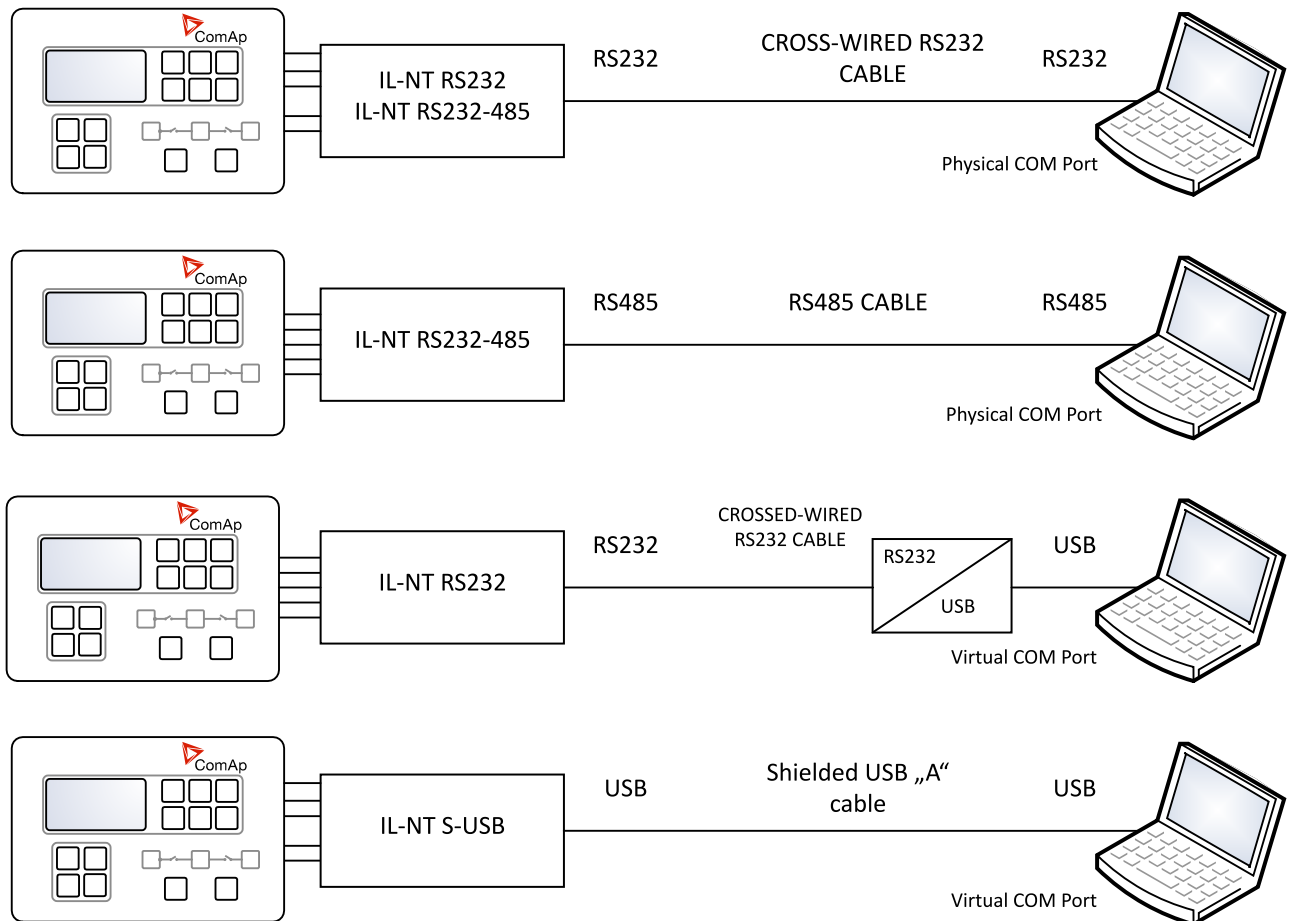
...or the icons on the toolbar:




Communication links between LiteEdit and the controllers are facilitated by DDE (Dynamic Data Exchange) as a background task. In normal operation it should not be necessary to concern yourself with the operation of DDE as its operation is automatic and almost transparent. However, for further details about DDE and its error messages, [See "DDE server" on page 23.](#)

3.2 Direct connection

The following direct cable connections are supported by LiteEdit:




3.2.1 To make a direct connection

1. On controllers such as the IntelliLite NT and IntelliCompact NT (and their derivatives) fit a suitable communication module (see www.comap.cz for details).
2. Connect an RS232, RS485 or USB cable between the controller and PC (a third-party Serial to USB converter may also be required).
3. In the LiteEdit application on the PC, go to **Options > Communication** to select the appropriate COM port on the PC. Only the COM ports that are actually installed and present in the computer will be displayed. If a USB connection is used (either external USB to RS232 converter or USB „communication module“), the USB must be handled as a virtual COM port of your computer, which is created by the USB module driver. You are recommended to attach the USB module to the same USB socket on the PC. This will help to avoid the computer operating system from assigning different COM port number to the same module.
4. Use **Connection > Open direct...** (or click the  icon) to begin communication with the controller.

*Note: If you wish to be asked for address/port parameters at each connection, tick the **Ask for address** and/or **Ask for COM** checkboxes. If the items are not checked, your current parameters will automatically be used each time.*

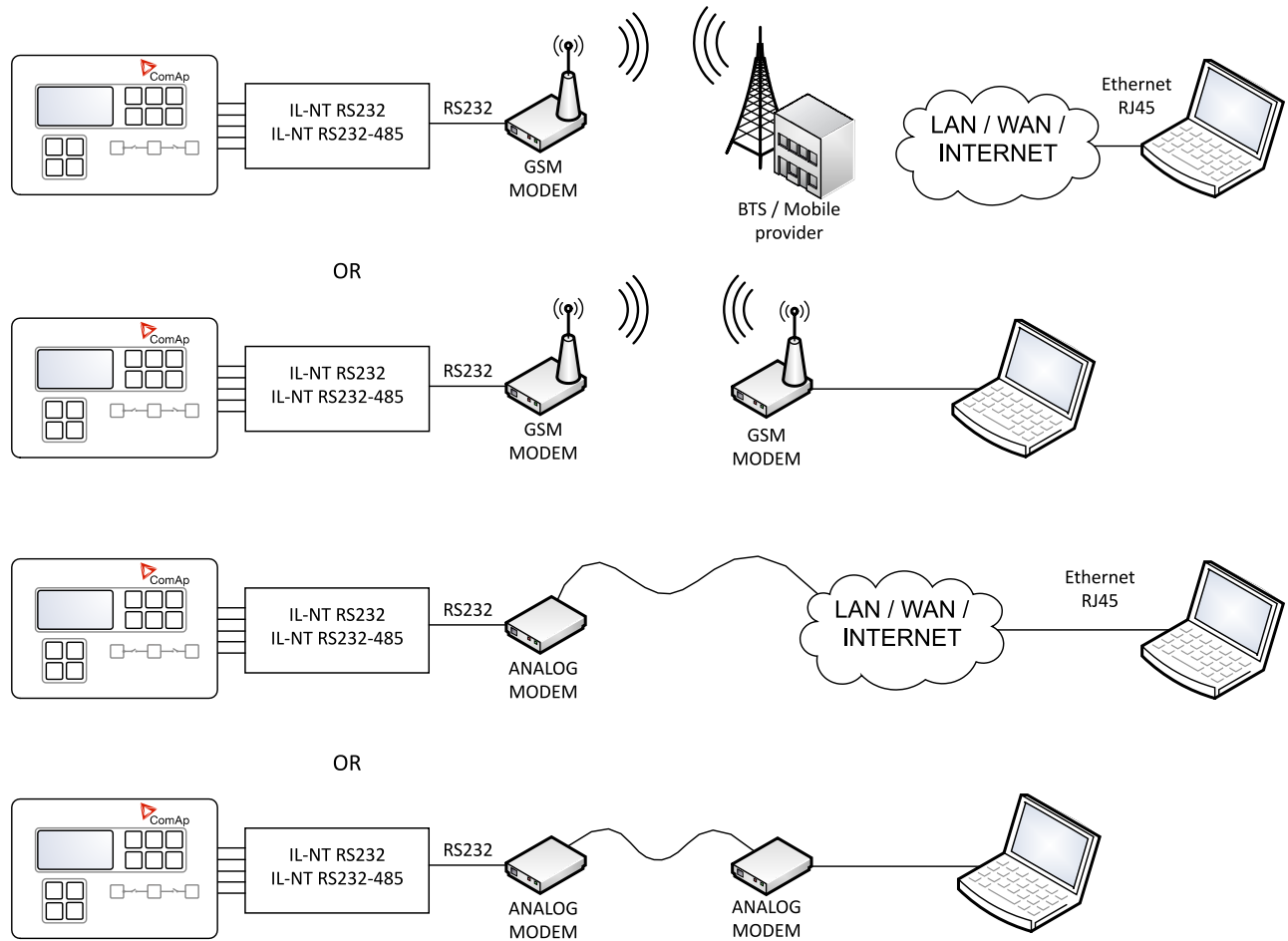
3.2.2 To end a direct connection

1. In the LiteEdit application, use **Connection > Close** (or click the  icon) to terminate the connection.
2. You will be asked whether you wish to '...save archive?'. If you'd like to store the connection data (including the configuration info) into an archive file, click the **Yes** button; otherwise, click the **No** button. Archive files

are saved with automatic name in the format: **<gen-set name>_yyyymmdd_vv.ai***, where **vv** is the ordinal number and the file extension is **.AIL**, **.AIC** or **.AIP**, depending on the controller type.

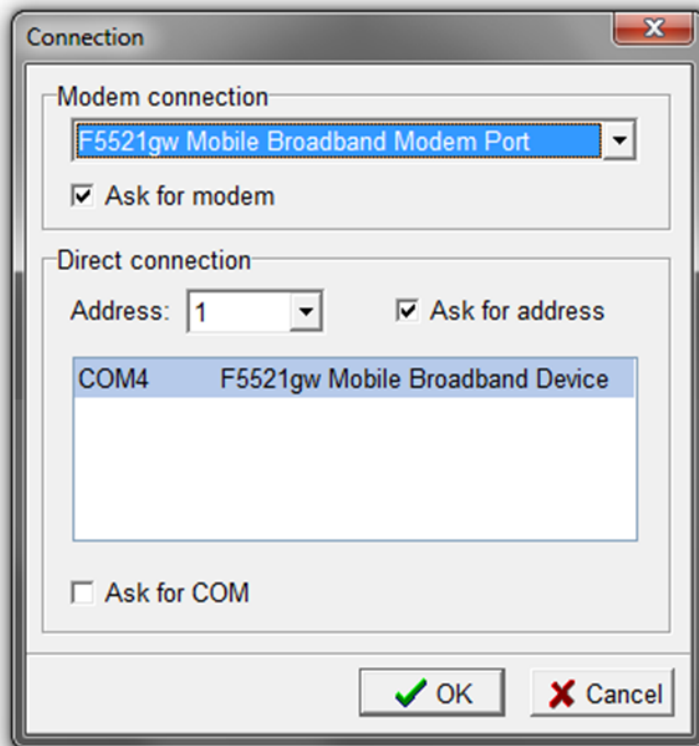
3.3 Modem connection

The following modem connections are supported by LiteEdit:

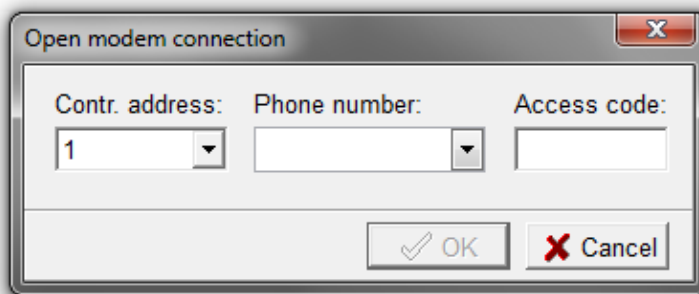


3.3.1 To make a modem connection

1. On controllers such as the IntelliLite NT and IntelliCompact NT (and their derivatives) fit a suitable RS232 communication module (see www.comap.cz for details).
2. Connect the controller to a suitable modem and do the same for the PC.
3. In the LiteEdit application on the PC, use **Options > Communication** to select which of installed modems should be used as the default modem:




4. Use **Connection > Open modem...** (or click the  icon) to begin communication via the modem:



5. Within the dialog, enter the controller address, phone number and access code - and click the **OK** button. LiteEdit will use your details to attempt connection with the controller.

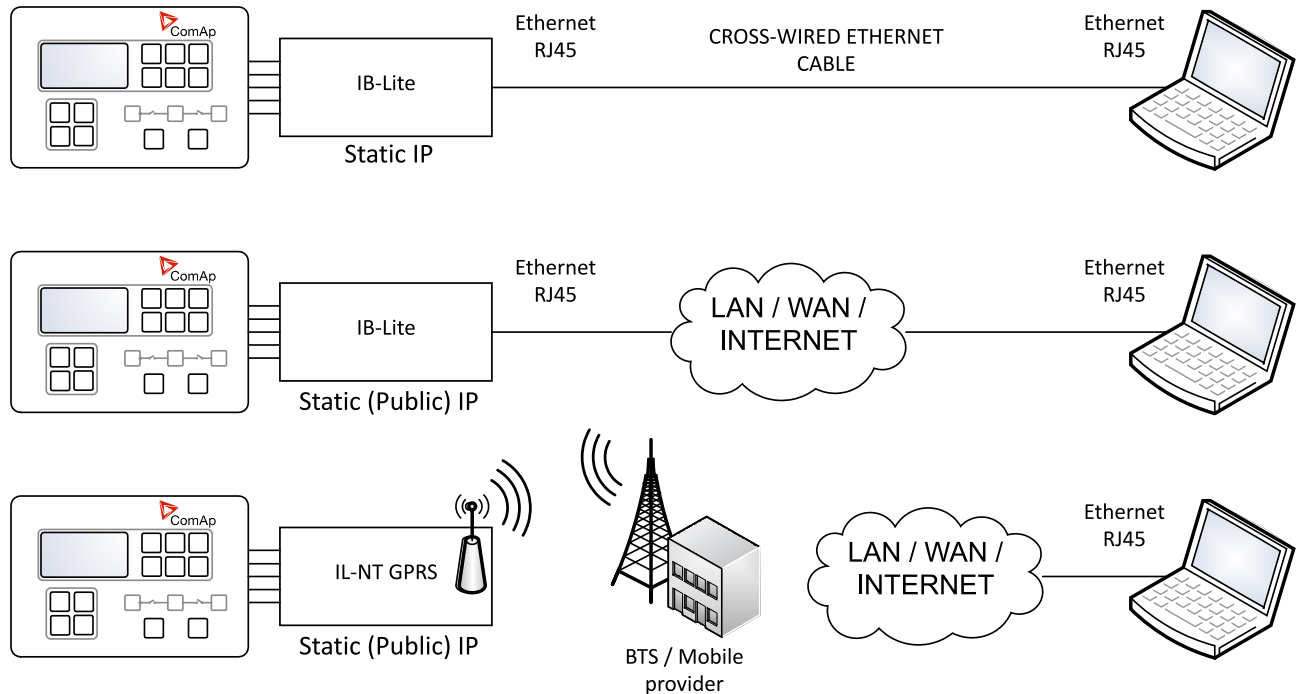
*Note: If you wish to be asked for the modem details at each connection, tick the **Ask for modem** checkbox. If the item is not checked, your current parameters will automatically be used each time.*

3.3.2 To end a modem connection


1. In the LiteEdit application, use **Connection > Close** (or click the  icon) to terminate the connection.
2. You will be asked whether you wish to '...save archive?'. If you'd like to store the connection data (including the configuration info) into an archive file, click the **Yes** button; otherwise, click the **No** button. Archive files are saved with automatic name in the format: **<gen-set name>_yyyymmdd_vv.ai***, where **vv** is the ordinal number and the file extension is **.AIL**, **.AIC** or **.AIP**, depending on the controller type.

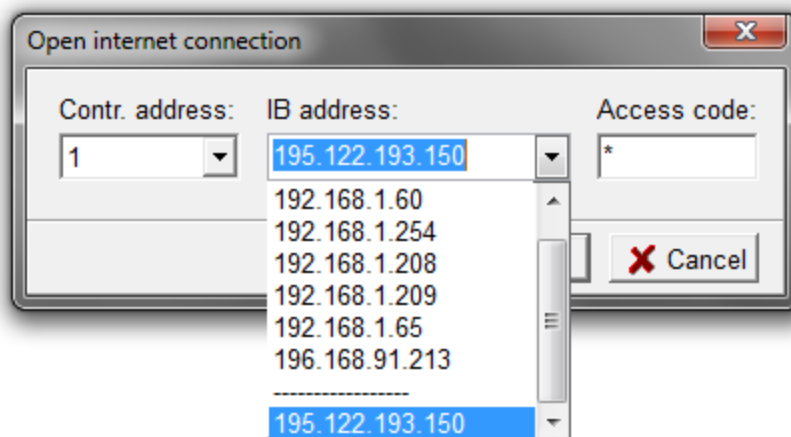
3.4 Internet connection

The following network connections are supported by LiteEdit:



3.4.1 To make an internet connection


1. On controllers such as the IntelliLite NT and IntelliCompact NT (and their derivatives) fit a suitable communication module (see www.comap.cz for details).
2. Make the required network link(s) between the controller and the PC, either directly via a cross-over cable or via suitable network switches.
3. In the LiteEdit application on the PC, use **Connection > Open internet...** (or click the ) to display the following dialog:



4. Within the dialog, enter the controller address, the IP address of the Internet Bridge and the access code - and click the **OK** button. LiteEdit will use your details to attempt a network connection with the controller.

Note: The final (separated) IP address is a public address dedicated for testing connection to controller situated in ComAp office. Feel free to try it.

3.4.2 To end an internet connection

1. In the LiteEdit application, use **Connection > Close** (or click the  icon) to terminate the connection.
2. You will be asked whether you wish to '...save archive?'. If you'd like to store the connection data (including the configuration info) into an archive file, click the **Yes** button; otherwise, click the **No** button. Archive files are saved with automatic name in the format: **<gen-set name>_yyyymmdd_vv.ai***, where **vv** is the ordinal number and the file extension is **.AIL**, **.AIC** or **.AIP**, depending on the controller type.

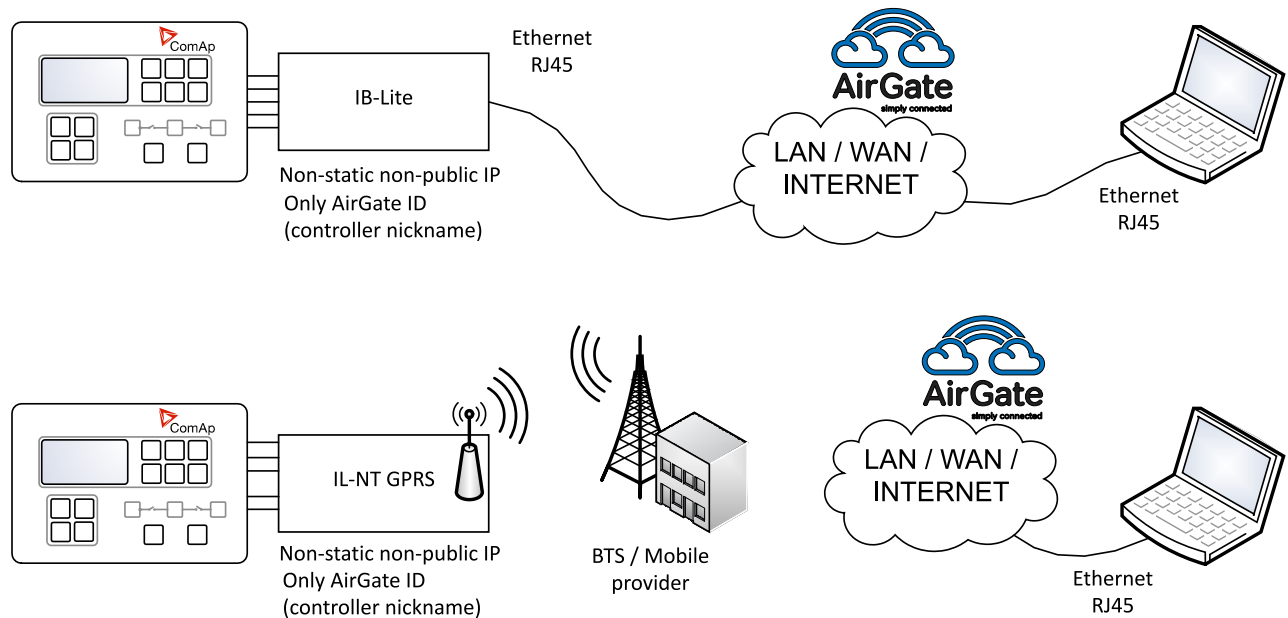
3.4.3 Supporting multiple users

Where multiple users are simultaneously connected to a controller, only one of them is allowed to change setpoints and control the genset (the first one who performs this action). The other users will be switched to "monitoring mode", which is shown in the LiteEdit application title. Return back to normal mode is automatic after the previous user finishes changing setpoints or commanding the controller.


3.5 AirGate connection

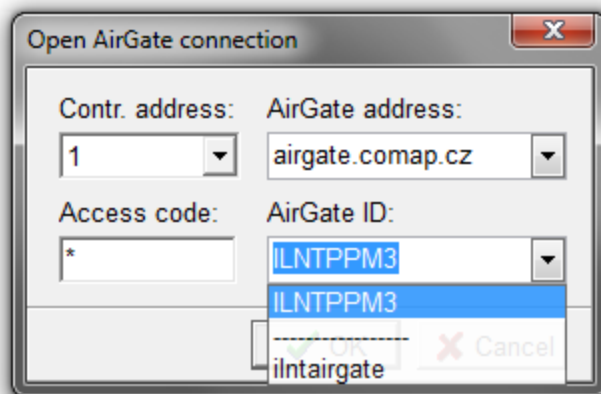
AirGate connection technology makes access to the internet as simple as possible. AirGate technology was designed to overcome the issues commonly faced when trying to connect remote equipment using internet based communications.

AirGate allows ComAp's controllers to connect to the internet using the existing network infrastructure, negotiating firewalls and VPN systems and removing the requirement for static IP addresses.




3.5.1 To make an AirGate connection

1. On controllers such as the IntelliLite NT and IntelliCompact NT (and their derivatives) fit a suitable communication module such as the IB-Lite or IL-NT GPRS (see www.comap.cz for details).
2. Make the required network links between the controller and the PC via a suitable network.
3. In the LiteEdit application on the PC, use **Connection > Open AirGate...** (or click the  icon) to display the following dialog:



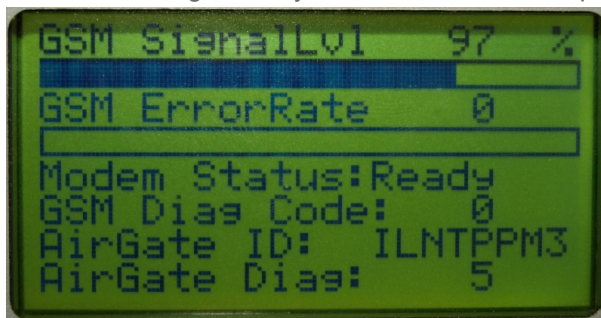
4. Enter the controller address, the AirGate address (enter 'airgate.comap.cz' as standard), the access code and your **AirGate ID** code (see above) - and click the **OK** button. LiteEdit will use your details to attempt a network connection with the PC, via the AirGate system.

3.5.2 To end an AirGate connection

1. In the LiteEdit application, use **Connection > Close** (or click the  icon) to terminate the connection.
2. You will be asked whether you wish to '...save archive?'. If you'd like to store the connection data (including the configuration info) into an archive file, click the **Yes** button; otherwise, click the **No** button. Archive files are saved with automatic name in the format: **<gen-set name>_yyyymmdd_vv.ai***, where **vv** is the ordinal number and the file extension is **.AIL**, **.AIC** or **.AIP**, depending on the controller type.

3.5.3 To obtain an AirGate ID

1. Connect the communication module (IB-Lite or IL-NT GPRS) to the controller according to their relevant guides. In the case of IB-Lite connect the internet cable.
2. Turn on the controller and configure the Communication modules according to their relevant guides. See either: [IB-Lite Reference Guide](#); [IL-NT, IA-NT, IC-NT Communication Guide](#) or [IL-NT-GPRS Quick Guide](#).
3. On the controller, setup the **Comms Settings** and make an initial connection to gain an AirGate ID:
 - a. Press the **Page** button until the main menu page is displayed. Use the arrow buttons (**▲▼**) to highlight **Comms Settings** and press **Enter** to select.
 - b. Use the down arrow button (**▼**) to scroll down and ensure that the **AirGate** entry is set as **ENABLED**.
 - c. Ensure that the **AirGate IP** entry is set to **airgate.comap.cz**.
 - d. Wait a short while or power cycle the controller off and on. From the controller's main screen, press the up arrow button (**▲**) to view **GSM/Modem status** screen (see below). If the communication module is working correctly, the controller should report an **AirGate ID** - make a note of this ID.



4. On the PC, enter the **AirGate ID** within the **Open AirGate connection** dialog.


Note: When the IL-NT GPRS module is used, it is not possible to change the controller's configuration. It is only possible to change setpoints and monitor the control unit.

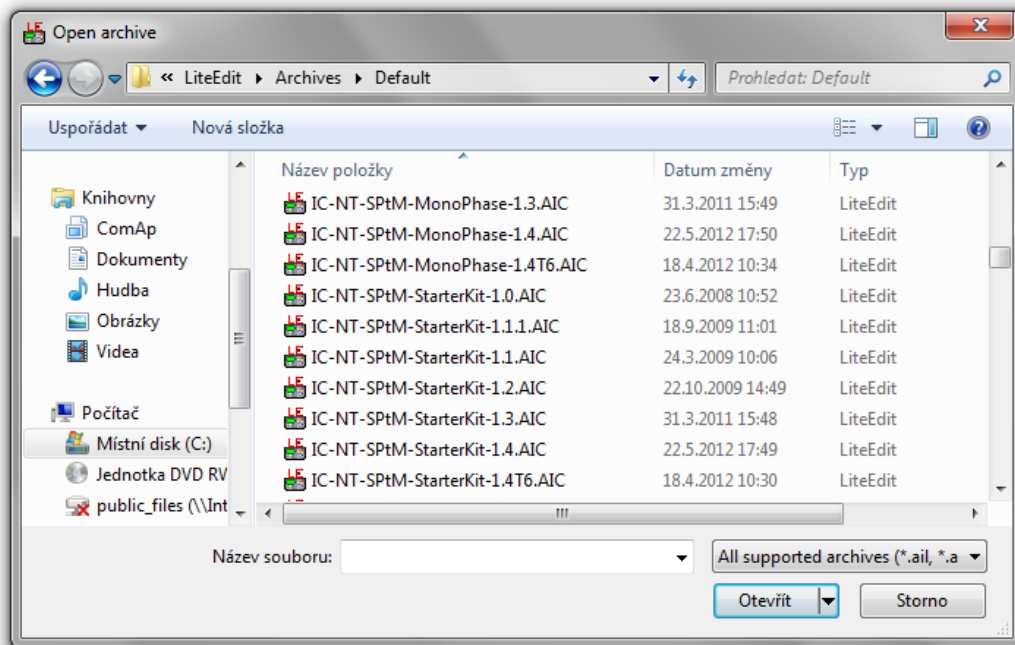
3.6 Offline connection

The Offline connection option allows you to open, inspect and edit previously saved archive files. Archive files from different controller types use the following file extensions:

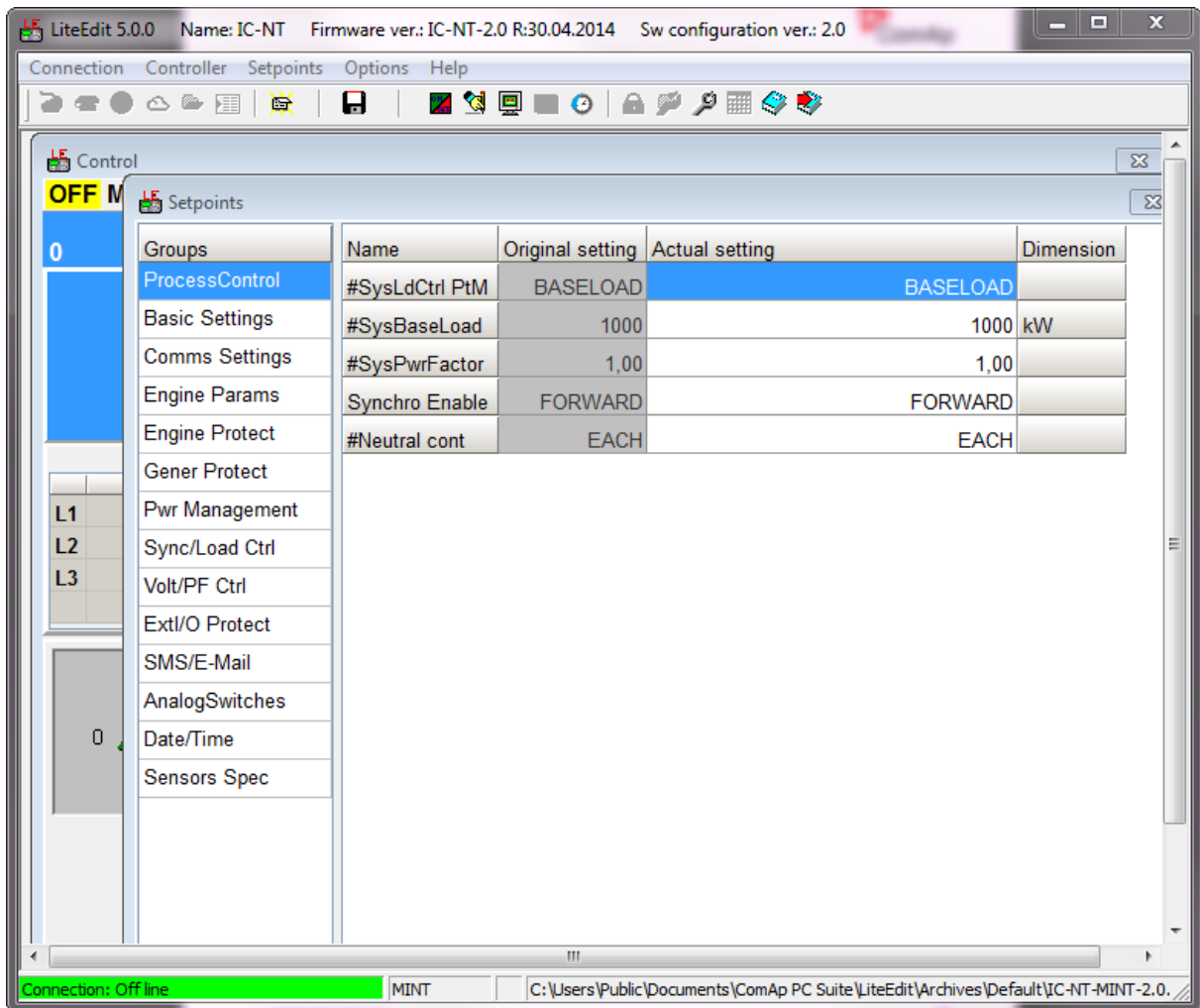
- IntelliLite controllers use *.ail
- IntelliCompact controllers use *.aic
- IntelliPro controllers use *.aip

3.6.1 To make an offline connection (open an archive file)

1. In the LiteEdit application on the PC, use **Connection > Open offline...** (or click the  icon) to display the Open archive dialog:



2. Locate the required archive file and click the **Open** button.
3. Using offline mode you can change/pre-set all setpoints as required:



4. When the prepared archive is finished, use **Connection > Save** (or click the  icon) to archive your changes to the file.

3.6.2 To end an offline connection

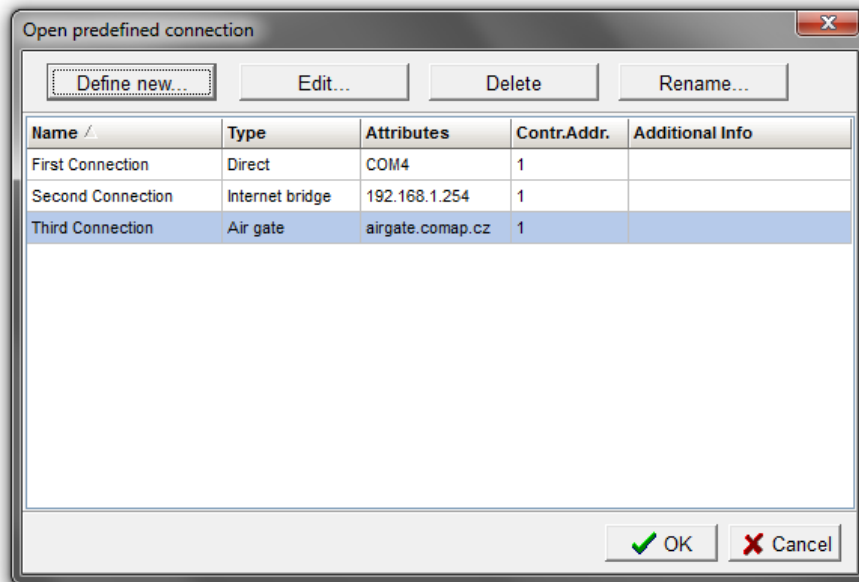
1. In the LiteEdit application, use **Connection > Close** (or click the  icon) to terminate the connection.

3.7 Predefined connection

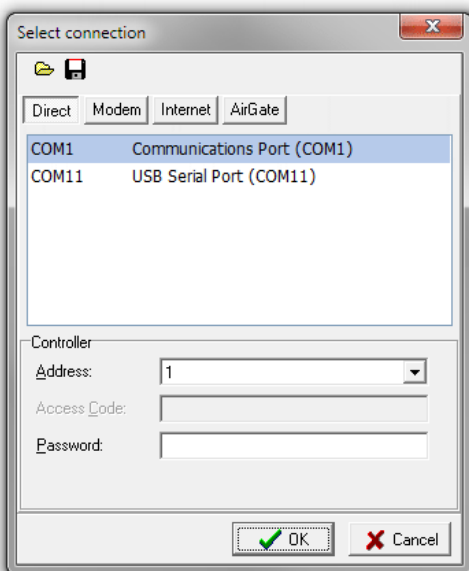
To save time with regularly used connections, LiteEdit allows you to predefine one or more sets of connection details which can be rapidly deployed.

3.7.1 To predefine a connection



1. In the LiteEdit application on the PC, use **Connection > Open predefined...** (or click the  icon) to display the following dialog:



2. Any currently defined connections will be displayed. Click the **Define new...** button. Within the resulting dialog, enter a name for your new predefined connection and click the **OK** button. The **Select connection** dialog will be displayed:

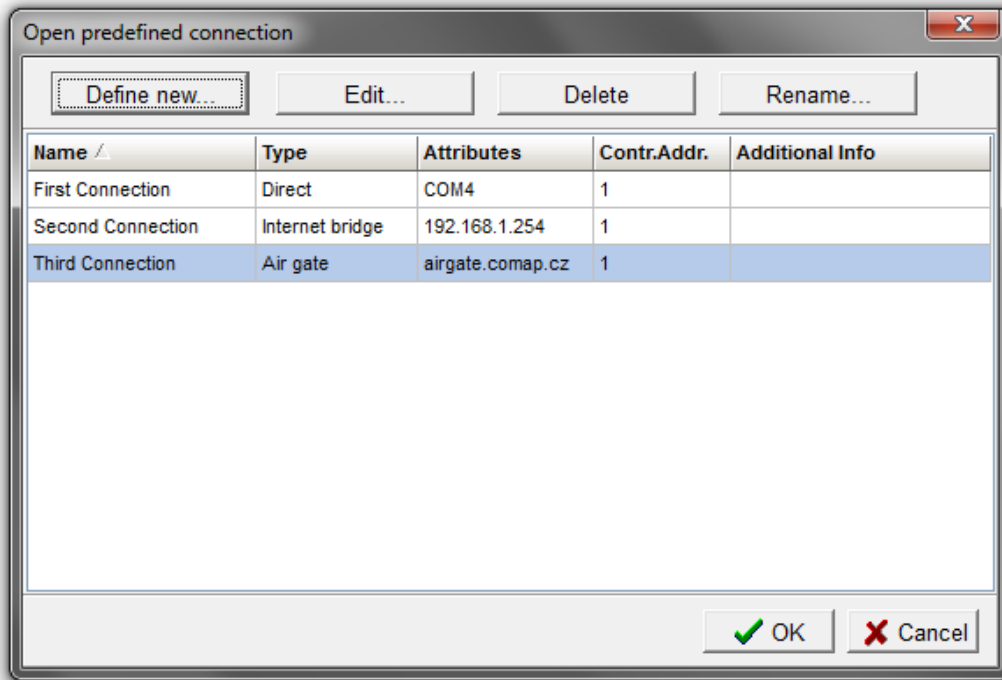


3. Click one of the four buttons to select the required connection type: **Direct**, **Modem**, **Internet** or **AirGate**. The options shown in the dialog will change according to the chosen connection type.
4. Enter the required details for the connection type and click the **OK** button to add your entry to the list of predefined connections.

*Note: If required, you can save your connection settings to an external file or import connection details from a previously created file. In the dialog, click the  icon to save a file or click the  icon to load a file (with a *.con extension).*

3.7.2 To use a predefined connection

1. In the LiteEdit application on the PC, use **Connection > Open predefined...** (or click the  icon) to display the following dialog:



2. Double click any entry within the list to initiate a connection using the saved settings.

3.8 Password protection


ComAp controllers use a single level protection system to protect various aspects of operation:

- **Commands and setpoints** - You can determine whether password protection should be applied to all commands and setpoints; just to some, or to none at all.
- **Firmware and configuration changes** - These are always password protected and this state cannot be altered.

Entering the password in LiteEdit permits access to setpoints from LiteEdit only, not from the controller front panel, and vice versa.

Passwords for controllers can be changed within LiteEdit or directly on the controller via the front panel. Please refer to the relevant guide for the controller regarding front panel password changes.

3.8.1 To enter the controller password

1. In the LiteEdit application on the PC, open any valid communication link to the controller.
2. Choose **Controller > Enter password...** (or click the  icon) to display the password dialog.
3. Enter the correct password for the controller. ComAp controllers use a default password of '0'. You are strongly recommended to create a new, strong password at the earliest opportunity.

3.8.2 To change the controller password

1. In the LiteEdit application on the PC, link to the controller and enter the current password, as described above.
2. Choose **Controller > Change password...** to display the change password dialog.
3. Enter your new password and then repeat it in the **Confirm** field.

Note: Passwords cannot exceed 9999.

4. Click the **OK** button.

3.9 DDE server

The communication link(s) between LiteEdit and the controller(s) is facilitated by DDE (Dynamic Data Exchange) as a background task. In normal operation it should not be necessary to concern yourself with the operation of DDE as its operation is automatic and almost transparent.

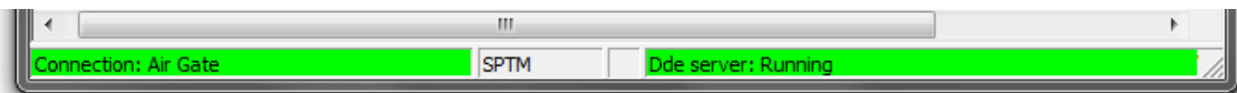
When you initiate a link between LiteEdit and a controller, you notice the status bar at the base of the LiteEdit window change color and mention the Dde server status, while this happens a second window (the Inteli DDE Server) will open. The Inteli DDE Server is opened and close automatically by LiteEdit and must remain running while any connections are active.

3.9.1 DDE server status

There are two opportunities to check the DDE server status: The status line at the bottom of the LiteEdit window and within the DDE server window itself.

LiteEdit status line

The status line is visible at the bottom of the LiteEdit window and uses a highlight color to visually reinforce the status message being given:



Status message	Highlight color	Meaning
Preparing	yellow	The DDE server is establishing the connection with the controller
Reading history #%	yellow	The DDE server has established the connection and is reading history for the first time while connected
Running	green	The connection is running, no problems occurred
Running - wrong setpoints	green	The connection is running, but the checksum of the setpoints is not valid (occurs typically after firmware is upgraded)
Running (reading history)	green	The connection is running and history is being read
Error	red	The connection failed. Use ALT-TAB, select DDE Server and press the "Last errors" button at the controller with appropriate address to see more information

Table 1 - LiteEdit status line messages

To view more detailed communication status messages, either double click on the status bar or choose **Connection > Information...**

DDE server error messages

Within the DDE server window you can view any current or historical error messages. Click the **Last errors** button to view. The possible messages are as follows:

Status message	Meaning
Timeout (continuous)	Connected controller does not answer to DDE server requests. Probable reasons: The controller is not connected or switched off The communication cable is wrong The COM port number is not correctly selected Setpoints in the controller related to the communication are not correctly adjusted The communication module in the controller is damaged
Timeout (time to time)	Occasional timeouts can be caused by overloading of your operating system
TAPI: requested modem (#) not found	The selected modem is not attached or properly installed
TAPI: unavailable modem	Communication port is being used by other communication device
TAPI: Line unexpectedly closed	Modem is configured in Windows, but it is not connected or it is failed
TAPI: Can't create connection	It is not possible to open the connection. Probable reasons: When "beeping" is audible during start of the connection, the line quality is bad or the other modem is not compatible with the originating one. When busy tone is audible during start of connection, the destination number is busy or wrong. When no tone is audible, no phone line is connected to the Modem
Pop-up window with a message Can't open COM	The selected COM port is occupied by other program or is not installed. Check if there is other program using the COM port running or select proper COM port

Table 2 - DDE server error messages

4 Monitoring and adjustment

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4.1 LiteEdit monitoring and adjustment functions

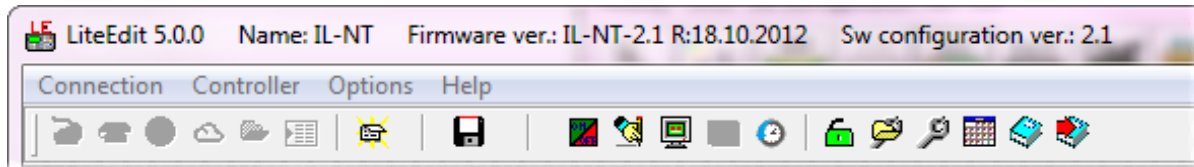
LiteEdit can be used to monitor and adjust one or more ComAp controllers:












- Online real-time monitoring via the [Control window](#),
- View and adjust [setpoints](#),
- View [values](#) and [history](#) logs,
- View and setup [statistics](#),
- [Export data](#) for use within spreadsheets.

See "[Configuration window](#)" on [page 40](#) for details about making fundamental controller configuration changes.

4.2 The LiteEdit menu bar

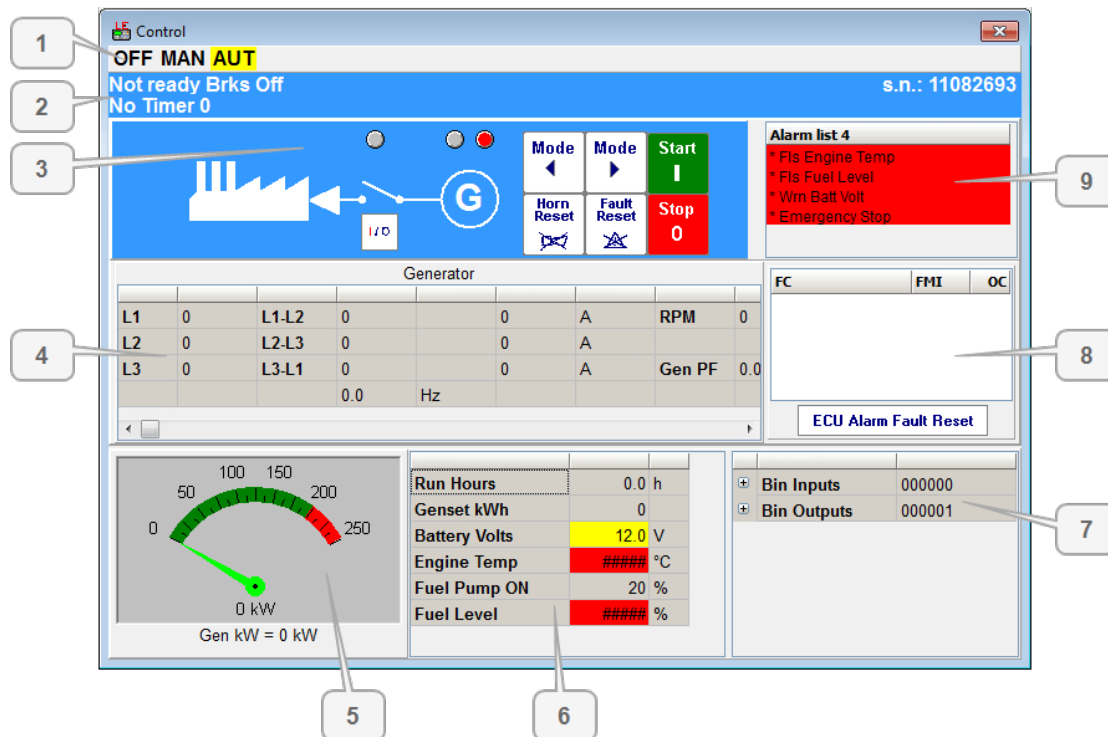
Many of LiteEdit's functions are accessible by clicking the various icons arranged along its menu bar:




-  Save archive.
-  [Open the Control window.](#)
-  [Open the Setpoints window.](#)
-  [Open the Values window.](#)
-  [Open the History window.](#)
-  [Enter/deactivate a password.](#)
-  [Open/edit a configuration archive file.](#)
-  [Open/edit the controller configuration.](#)
-  [Open the Blocking conditions window.](#)
-  [Open the Languages and translator window.](#)
-  [Open the Import language window.](#)

4.3 Control window

The Control window is available whenever a valid link is made to a controller or when an offline connection to an archive files is open. The Control window provides a mixed overview of certain front panel items as well as key values and alarms. A typical Control window layout is shown below:



The Control window will be displayed automatically whenever a new link to a controller is made (unless the **Show Control window automatically** option is unticked within **Options > Settings > Miscellaneous**). Alternatively, use **Controller > Control** (or click the  icon) to open the Control window at any time during a controller link session.

Note: For AirGate connections, when retrieving the history from the controller, the Control window will be disabled until the history has been fully downloaded.

4.3.1 Control window features

As labeled in the screenshot above, the Control window has numerous distinct areas, each with their own functions:

- [1] **Mode indicator** - Directly mimics the current setting of the controller's mode indicator.
- [2] **Status message area** - Displays status messages that mimic those shown on the controller screen. These are related to the status of breakers, the engine and also the current process timer.
- [3] **Partial front panel mimic** - Recreates part of the controller front panel to show the indications being given and also to allow you to 'remotely' press some of the controller buttons.
- [4] **Mains/Generator output values** - Provides voltage, current, RPM and general Power Factor readings for the mains/generator power.
- [5] **Generator total output meter** - Provides an overall generator output meter reading for quick visual confirmation.
- [6] **Values area** - Provides a selection of important values as measured by the controller. The entries here can be edited to include the most relevant to your installation. See *The values area* section below.

- [7] **Binary input/output area** - Displays the current values of the various binary inputs and outputs. Click the small buttons to show/hide the individual items.
- [8] **Engine Control Unit area** - Where the controller has an ECU function, this area will display messages produced by that sub-section.
- [9] **Alarm list** - Displays a list of current alarms as issued by the controller (see the *Color highlights in the Control window* section below).

4.3.2 Color highlights in the Control window

Color highlights are used in various areas of the Control window to provide quick visual feedback. The meanings of the highlights used differ slightly between areas, as follows:

Alarm list area

- **Red** highlight means active alarm (the alarm is also prefixed with “*”).
- **White** highlight means non active alarm (the alarm is also prefixed with “*”).
- **Orange** highlight means active alarm after you press the **Fault reset** button.

Non-active alarms will be removed from the alarm list when you press the **Fault reset** button, but will remain listed in the History log.

All other listing areas

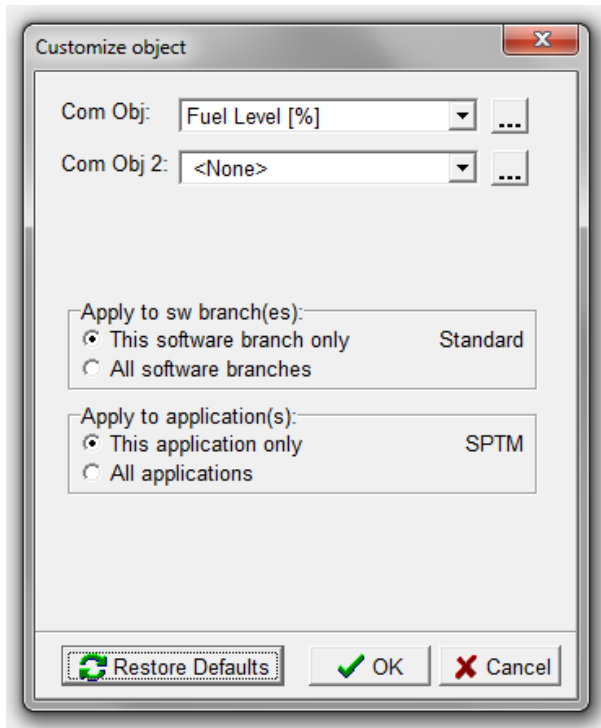
- **Red** highlight means no value or error reading value from the controller.
- **Yellow** highlight means the value is below or above the protection limit.

4.3.3 The values area

You can customize the Values area (labeled as [6] in the screenshot above) so that it includes entries that are the most relevant to your installation.

To customize the values area

1. Right click in the Values area (on a particular entry if you wish to edit that entry). A list of three options will be displayed, select the appropriate one:
 - **Edit row...** - Displays the *Customize object* dialog (shown below) so that you can choose the appropriate changes to the entry that you right-clicked on.
 - **Add new row** - Displays the *Customize object* dialog (shown below) so that you can choose an appropriate value or setpoint entry to add.
 - **Restore defaults** - Returns the Values area to its original arrangement.



2. Click the **Com Obj** down arrow to choose a new entry from the standard list - or click the ... button to choose from a wider list of possible setpoints and values. The **Com Obj 2** field is used to display only the quantity of each value without showing the value's label and is not normally required as **Com Obj** displays both.
3. If required, alter the **Apply to...** options:
 - **Apply to sw branch(es)** - determines whether your changes to the values area will apply only to connected controllers with matching firmware versions or to all connected controllers.
 - **Apply to application(s)** - determines whether your changes to the values area will apply only to specific controller applications (e.g. SPTM, MRS 16, etc) or to all controller applications.
4. Click the **OK** button to exit the dialog and save your changes.

4.4 Setpoints window


The Setpoints window enables you to view and adjust each setpoint present in the controller. It is possible to choose whether some or all setpoints require password protection from unauthorized changes (See "[Setpoint password protection](#)" on page 60). When displayed within the window, any password protected setpoints will be shown with a gray background and will remain uneditable until a password of proper level is entered. In off-line mode, setpoints can be altered without a password, however, a password will be required later when the modified archive is written into the controller.

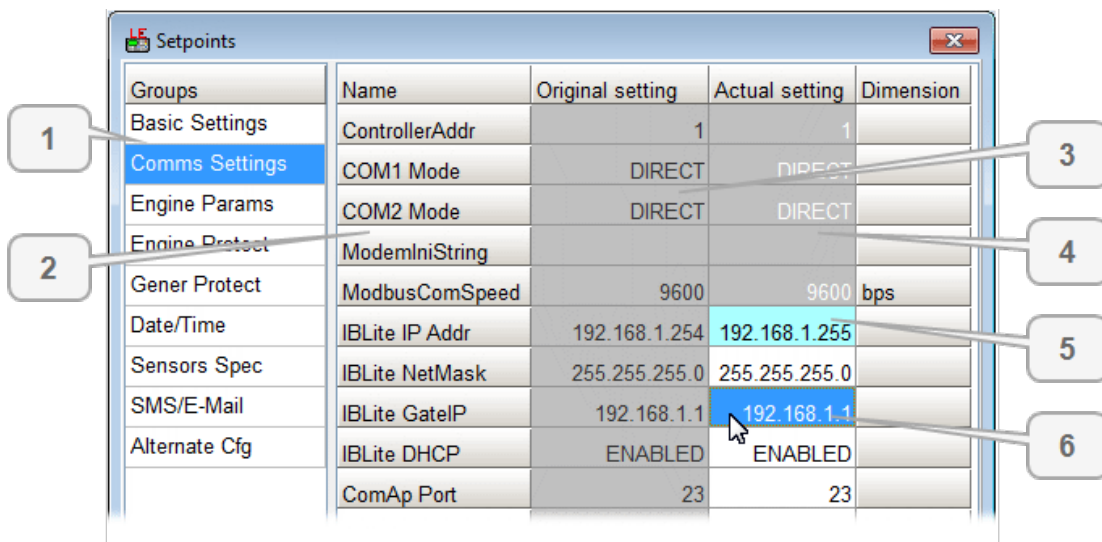
In cases where you need to copy across one or more setpoint values from an archive file, use the [Alternative setpoints](#) feature to provide assistance.

You can view context help for each setpoint: Highlight the appropriate setpoint and press the F1 key on your keyboard.

Note: For AirGate connections, when retrieving the history from the controller, the Setpoint window will be disabled until the history has been fully downloaded.

4.4.1 To open the Setpoints window

1. Initiate a controller connection, either:
 - Online ([Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#)), or
 - Offline ([Archive file](#)).
2. Select **Controller > Setpoints** (or click the  icon) to open the Setpoints window:

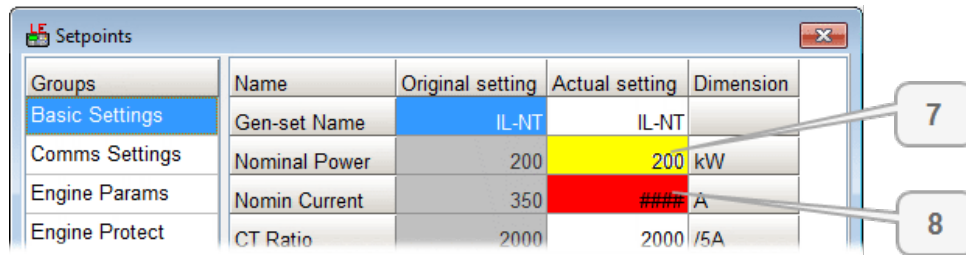


Groups	Name	Original setting	Actual setting	Dimension
Basic Settings	ControllerAddr	1	1	
Comms Settings	COM1 Mode	DIRECT	DIRECT	
Engine Params	COM2 Mode	DIRECT	DIRECT	
Engine Protect	ModemIniString			
Gener Protect	ModbusComSpeed	9600	9600	bps
Date/Time	IBLite IP Addr	192.168.1.254	192.168.1.255	
Sensors Spec	IBLite NetMask	255.255.255.0	255.255.255.0	
SMS/E-Mail	IBLite GatelP	192.168.1.1	192.168.1.1	
Alternate Cfg	IBLite DHCP	ENABLED	ENABLED	
	ComAp Port	23	23	

As labeled in the screenshot above, the Setpoints window uses multiple columns and uses color highlights to convey meaning:

- [1] **Groups** - This column allows you to select the required group of setpoints.
- [2] **Setpoint names** - This column shows the name of each setpoint in the current group.
- [3] **Original settings** - This column shows the value of each setpoint at the moment that the window was opened.
- [4] **Actual settings** - This column is where you can edit the values of each setpoint. If a cell has a dark gray highlight, it is password protected (see [Password protection](#)).
- [5] **Recently changed item** - Whenever you change a setpoint value its highlight will change to a light blue.
- [6] **Current selection** - The position of the current selection is signified by a dark blue highlight.

Other highlight colors are used within the Setpoint window to signify error states:



Groups	Name	Original setting	Actual setting	Dimension
Basic Settings	Gen-set Name	IL-NT	IL-NT	
Comms Settings	Nominal Power	200	200 kW	
Engine Params	Nomin Current	350	### A	
Engine Protect	CT Ratio	2000	2000	/5A

- [7] **Out of range** - A yellow highlight signifies that the current setpoint value is out of range.
- [8] **Not valid** - A red highlight signifies that the current setpoint is not valid in this controller firmware or branch.

4.4.2 To edit a setpoint

1. In the Setpoint window, click the required **Group** name to display all related setpoints.
2. In the **Actual setting** column, click the cell adjacent to the required setpoint in order to highlight it (in dark blue). Note: If the cell has a dark gray highlight then it is password protected and you'll first need to enter a valid password (see [Password protection](#)).
3. Click the cell again to make it editable and make your value change.

Note: In cases where you need to copy across one or more setpoint values from an archive file, use the [Alternative setpoints](#) feature to provide assistance.

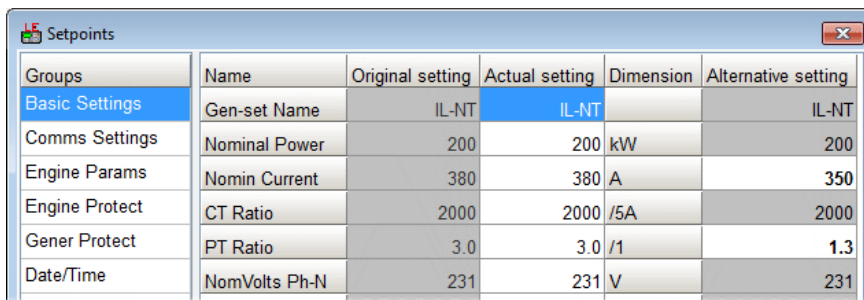
4. Continue with other changes. When you close the Setpoint window, the changed values will automatically be written to the controller (or the offline file).

4.4.3 Alternative setpoints

Alternative setpoints is a LiteEdit feature that can help you to import one or more selected setpoint values from an archive file.

To use alternative setpoints

1. Open the Setpoints window for the chosen controller or archive file. (see [Setpoints window](#) for details).
2. Select **Setpoints > Open alternative setpoints**. In the subsequent file dialog, locate and open the controller archive that contains the setpoint values you need to copy across. An Alternative setting column will be added to the right side of the Setpoints window. Values that are different to your current controller/archive file will be shown with a white background and their values will have a bold typeface. All other (equal) values will be shown with a dark gray background:



Groups	Name	Original setting	Actual setting	Dimension	Alternative setting
Basic Settings	Gen-set Name	IL-NT	IL-NT		IL-NT
Comms Settings	Nominal Power	200	200	kW	200
Engine Params	Nomin Current	380	380	A	350
Engine Protect	CT Ratio	2000	2000	/5A	2000
Gener Protect	PT Ratio	3.0	3.0	/1	1.3
Date/Time	NomVolts Ph-N	231	231	V	231

Note: The alternative settings for certain setpoints, such as IP addresses, etc. will be shown with bold type and a dark gray background, to signify that they are different but would not be included in a group import action (as detailed below).


3. You can now bring across the alternative settings in several ways:
 - To import a single alternative setting - either double-click on the entry in the **Alternative setting** column, or click once on it and then press Ctrl + W on your keyboard (or select **Setpoints > Import selected setpoint**). The original setpoint will change to the new, alternative value.
 - To import all alternative settings - select **Setpoints > Import alternative setpoints** or press Ctrl + I on your keyboard. The values of the alternative setpoints that are shown with a white background will be imported into the current controller (or archive file).
4. Close the Setpoints window as usual to save your changes.

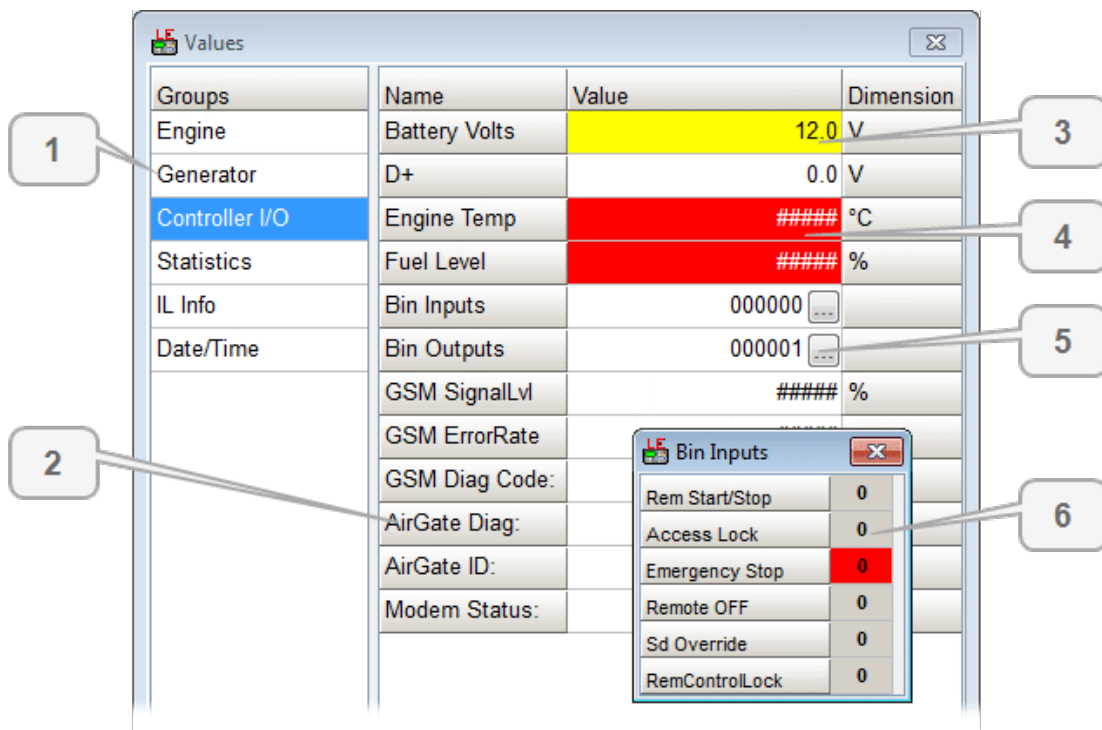
4.5 Values window

The Values window allows you to view current measured and computed values. The values are separated into groups according to their meaning.

You can view context help for each value: Highlight the appropriate value and press the F1 key on your keyboard.

4.5.1 To open the Values window

1. Initiate a controller connection, either:
 - Online ([Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#)), or
 - Offline ([Archive file](#)).
2. Select **Controller > Values** (or click the  icon) to open the Values window:



Groups	Name	Value	Dimension
Engine	Battery Volts	12.0	V
Generator	D+	0.0	V
Controller I/O	Engine Temp	####	°C
Statistics	Fuel Level	####	%
IL Info	Bin Inputs	000000	...
Date/Time	Bin Outputs	000001	...
	GSM SignalLvl	####	%
	GSM ErrorRate		
	GSM Diag Code:		
	AirGate Diag:		
	AirGate ID:		
	Modem Status:		

Bin Inputs	
Rem Start/Stop	0
Access Lock	0
Emergency Stop	0
Remote OFF	0
Sd Override	0
RemControlLock	0

As labeled in the screenshot above, the Values window uses multiple columns and uses color highlights to convey meaning:

- [1] **Groups** - This column allows you to select the required group of values.
- [2] **Names** - This column shows the name of each value in the current group..
- [3] **Out of range** - A **yellow** highlight signifies that the current value is out of range.
- [4] **Not valid** - A **red** highlight signifies that the current value is not valid in this controller firmware or branch.
- [5] **See more** - Click the ... button to view each set of inputs or outputs.
- [6] **Input/output display** - After you click the ... button, this popup window will show the current states of binary inputs or outputs.

In case of some (BIO) extension plug-in modules, their channels can be configured as binary input (labeled as IN:) or binary output (labeled as OUT:). If a channel of the BIO module is not configured, its value will neither be 0 or 1, so it will take the value "x".

Note: If the BIO module is configured, the IN: and OUT: prefixes will also be visible in the Control window.


4.6 History window

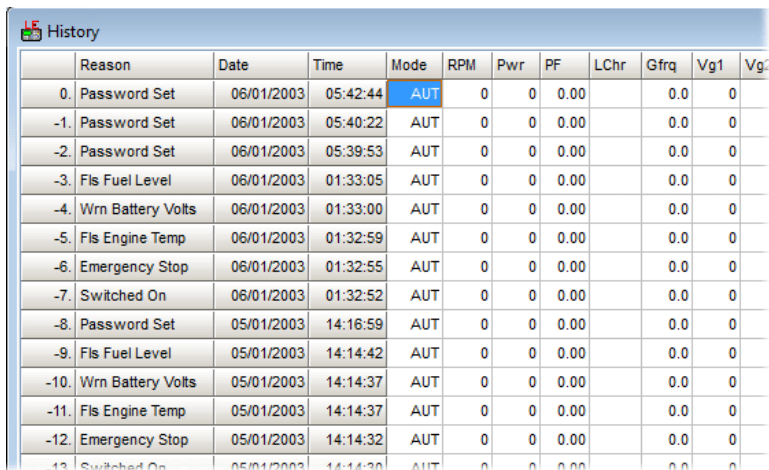
The History window displays the history log held within the controller. The history log is displayed as a table, where each row contains one record (event) and the columns contain data values recorded in the moment that the event occurred.

Columns of history are partially customizable. It is possible to add or delete some of columns associated with ECU, External or Plug-in modules. This can be done by ticking the 'Add to history' option when configuring ECU, External or Plug-in modules in Configuration window.

Note: The history log is not available in all types of controllers.

4.6.1 To open the History window

1. Initiate a controller connection, either:
 - Online ([Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#)), or
 - Offline ([Archive file](#)).
2. Select **Controller > History** (or click the  icon) to open the History window:



	Reason	Date	Time	Mode	RPM	Pwr	PF	LChr	Gfrq	Vg1	Vg2
0.	Password Set	06/01/2003	05:42:44	AUT	0	0	0.00		0.0	0	
-1.	Password Set	06/01/2003	05:40:22	AUT	0	0	0.00		0.0	0	
-2.	Password Set	06/01/2003	05:39:53	AUT	0	0	0.00		0.0	0	
-3.	Fis Fuel Level	06/01/2003	01:33:05	AUT	0	0	0.00		0.0	0	
-4.	Wrn Battery Volts	06/01/2003	01:33:00	AUT	0	0	0.00		0.0	0	
-5.	Fis Engine Temp	06/01/2003	01:32:59	AUT	0	0	0.00		0.0	0	
-6.	Emergency Stop	06/01/2003	01:32:55	AUT	0	0	0.00		0.0	0	
-7.	Switched On	06/01/2003	01:32:52	AUT	0	0	0.00		0.0	0	
-8.	Password Set	05/01/2003	14:16:59	AUT	0	0	0.00		0.0	0	
-9.	Fis Fuel Level	05/01/2003	14:14:42	AUT	0	0	0.00		0.0	0	
-10.	Wrn Battery Volts	05/01/2003	14:14:37	AUT	0	0	0.00		0.0	0	
-11.	Fis Engine Temp	05/01/2003	14:14:37	AUT	0	0	0.00		0.0	0	
-12.	Emergency Stop	05/01/2003	14:14:32	AUT	0	0	0.00		0.0	0	
-13.	Switched On	05/01/2003	14:14:30	AUT	0	0	0.00		0.0	0	

3. An additional **History** option is added to the LiteEdit menu bar when the History window is open. The menu contains two options:
 - Read history - Use this option to reload the latest history log from the controller.
 - Find... - Use this option (also available using the Ctrl + F shortcut) to locate particular words or phrases used in the log.

Each record contains the date and time it was recorded plus a short text string describing the reason of the record.

The most recent record is displayed in the first row of the table with progressively older records shown below.

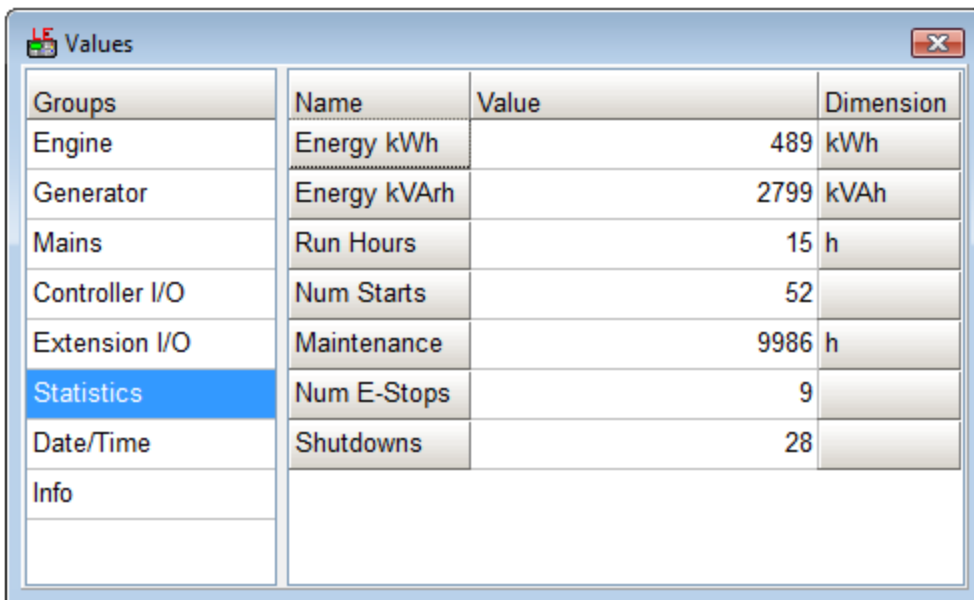
Note: The first history record after the controller is switched on, programmed or watchdog reset occurs contains diagnostic values instead of operational. Some fields in these records seem to have nonsense values. Do not take these values into account.

4.7 Statistics

Statistic values (counters) are one of groups available in the [Values window](#). The difference from other values is that statistics can be reset to zero or be preset to some value and they are also retained in the controller even when the power is off.


4.7.1 To view statistics

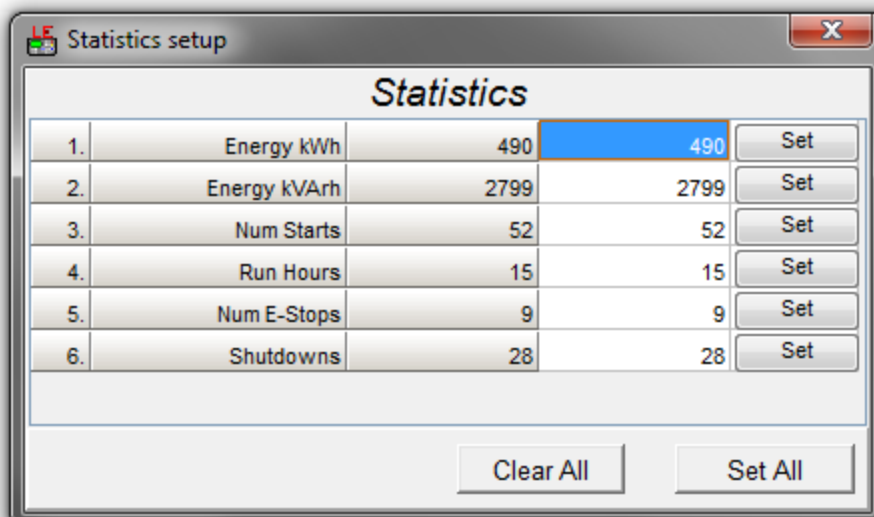
1. Open the Values window as usual (See "[Values window](#)" on page 33).
2. Select the **Statistics** group:



Groups	Name	Value	Dimension
Engine	Energy kWh	489	kWh
Generator	Energy kVAh	2799	kVAh
Mains	Run Hours	15	h
Controller I/O	Num Starts	52	
Extension I/O	Maintenance	9986	h
Statistics	Num E-Stops	9	
Date/Time	Shutdowns	28	
Info			

4.7.2 To setup statistics

1. Initiate a controller connection, either:
 - Online ([Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#)), or
 - Offline ([Archive file](#)).
2. Select **Controller > Enter password...** (or click the  icon) to open the Password dialog. Enter a valid password for the controller/archive and click the **OK** button.
3. Select **Controller > Set statistics...** to display the Statistics setup window:



Statistics				
1.	Energy kWh	490	490	Set
2.	Energy kVAh	2799	2799	Set
3.	Num Starts	52	52	Set
4.	Run Hours	15	15	Set
5.	Num E-Stops	9	9	Set
6.	Shutdowns	28	28	Set

4. For each entry, enter your new value in the white column, then either:
 - Click the adjacent **Set** button, or
 - Continue changing all required values and then click the **Set All** button.
 - In both cases, wait until the value in the adjacent gray column changes to match (signifying that the new value has been written to the controller/archive file).
5. When you have finished, close the window.

*Note: All statistic values can be reset to zero using **Clear All** button.*

4.8 Data export

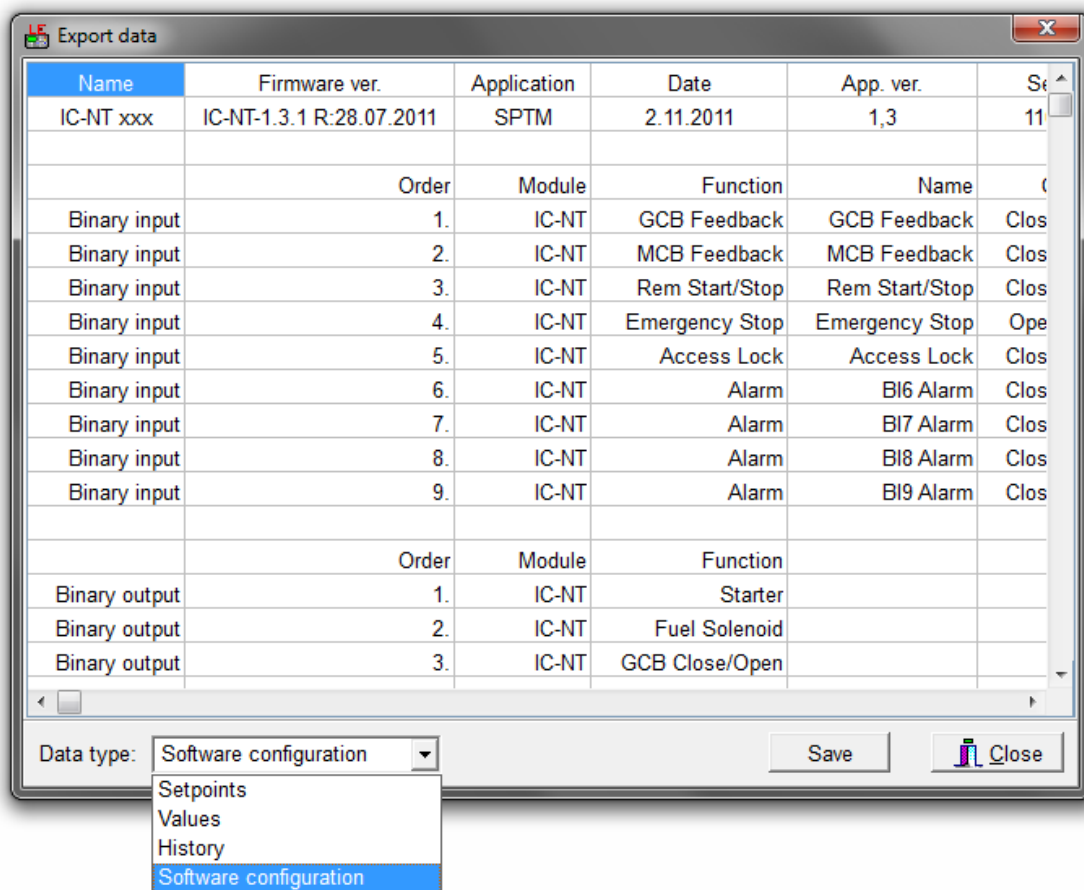
LiteEdit allows you to export spreadsheet style files containing any or all of the following:

- Setpoints
- Values
- History
- Software configuration

The chosen data can be saved in either Microsoft® Excel™ format (*.xls) or in Comma Separated Values format (*.csv).

4.8.1 To export data

1. Initiate a controller connection, either:
 - Online ([Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#)), or
 - Offline ([Archive file](#)).
2. Select **Controller > Export data...** to open the Export data window:




3. Use the **Data type** drop list to choose the required data for export: Setpoints, Values, History or Software Configuration.
4. Click the **Save** button to reveal a file dialog.
5. Choose a suitable location, filename and file extension (*.xls or *.csv) for the text file and click the **Save** button.

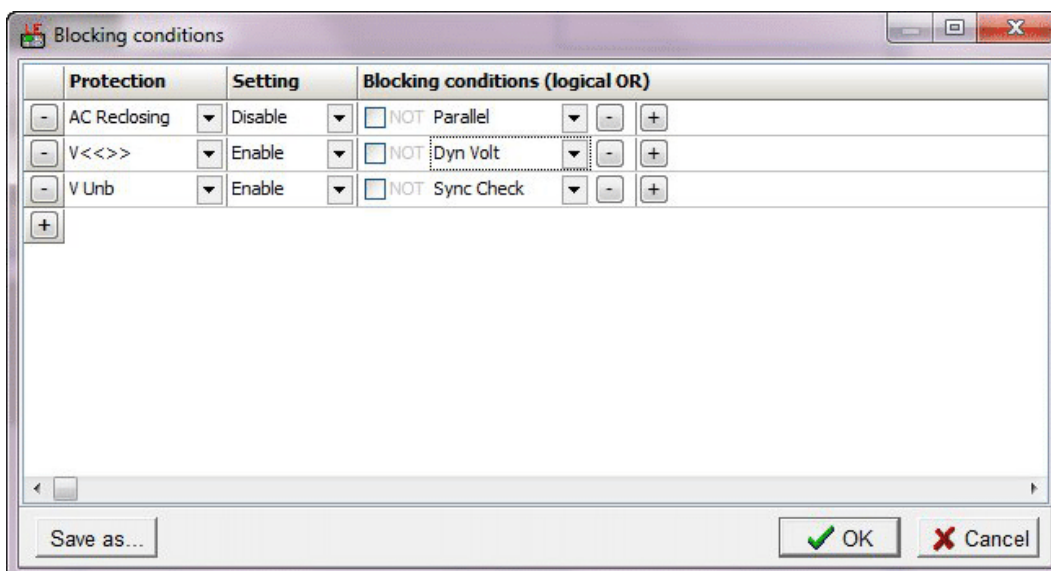
4.9 Blocking conditions window

Blocking conditions are used by the IntelliPro protection relay to specify the conditions under which certain protections should be enabled/disabled. The Blocking conditions window is available only when an IntelliPro controller is connected. This feature replaces the selection of the disable/enable option in the IntelliPro “General” group of setpoints, as well as the selection of blocking binary inputs for selected functions.

Note: Blocking conditions can be saved as a part of an archive and uploaded to another controller that has an equal firmware version. However, blocking conditions that are saved in an archive cannot be transferred from older to newer IntelliPro firmware versions due to possible inconsistencies in the range of available functions.

4.9.1 To open the Blocking conditions window

1. Initiate a controller connection, either:
 - Online ([Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#)), or
 - Offline ([Archive file](#)).
2. Select **Controller > Configuration > Blocking conditions...** (or click the  icon) to open the Blocking conditions window:



3. Add/edit the entries within the columns (Use the + button to add new rows and/or new conditions within a row; use the - button to remove items):
 - a. Specify the **Protection** (e.g. AC Reclosing, V Unb, etc.).
 - b. Determine the **Setting** (i.e. whether the protection should be enabled or disabled when the related condition is met).
 - c. Set the **Blocking conditions** that will determine whether the specified protection should be enabled or disabled, (e.g. Parallel, Sync Check, etc.).
4. When all blocking conditions have been set, click the **OK** button to exit the window and save your changes.

4.10 Configuration image generation

For remote control and monitoring purposes LiteEdit allows you to generate text files containing configuration data from the various memory and communication subsystems used by the controllers.

4.10.1 To generate configuration images

1. Initiate a controller connection, either:
 - Online ([Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#)), or
 - Offline ([Archive file](#)).
2. Select **Controller > Generate Cfg image** to reveal a flyout menu.
3. As required, choose the appropriate option:
 - **Generate Cfg Image (Comm. Objects)...** - choose this item to create a text file listing all controller/archive file memory items.
 - **Generate Cfg Image (Modbus Registers - all)...** - choose this item to create a text file listing all Modbus registers.
 - **Generate Cfg Image (Modbus Registers - used)...** - choose this item to create a text file listing the Modbus registers that have been used.
 - **Generate SNMP MIB table...** - (not supported by all controllers) choose this item to create a text file listing the Management Information Base (MIB) used by the controller to implement the Simple Network Management Protocol (SNMP).
4. In the subsequent file dialog, choose a suitable location and filename for the text file and click the **OK** button. The file will be saved and also opened for viewing on screen.

5 Configuration window


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5.1 The Configuration window

This chapter deals with the sections of LiteEdit that directly affect the fundamental (hardware) settings of the controller and its connected modules. These tasks are all carried out via the Configuration window.

5.1.1 To open the Configuration window

1. Initiate a controller connection, either:
 - Online ([Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#)), or
 - Offline ([Archive file](#)).
2. Select **Controller** > **Enter password...** (or click the  icon) to open the Password dialog. Enter a valid password for the controller/archive and click the **OK** button.

Note: A password is not required when configuring an offline archive file.

3. Open the configuration window for either the connected controller or a stored archive:
 - Connected controller - Select **Controller** > **Configuration** > **Modify...** (or click the  icon).
 - Stored archive - Select **Controller** > **Configuration** > **Select...** (or click the  icon).

The Configuration window will be opened:



4. The [Binary inputs](#), [Binary outputs](#), [Analog inputs](#) and [Analog outputs](#) are shown within the Configuration window (as appropriate to the currently connected controller). For other items, use the buttons at the top of the Configuration window to select the required page:



[Controller functions](#) - allows you to simplify the interface by hiding unused controller functions.



[Setpoints](#) - allows you to determine which setpoints should be password protected.



[Extension modules](#) - configures optional modules that are mounted internally.



[Analog input/output module](#) - configures the optional external Intel AIO module.



[Input/output modules](#) - configures optional modules that are external to the controller.



[RA15](#) - allows you to configure the optional remote annunciator panel.



[ECU](#) - allows you to optionally declare which engine electronic control unit is connected.



[Units and formats](#) - determines which measurement units should be used.

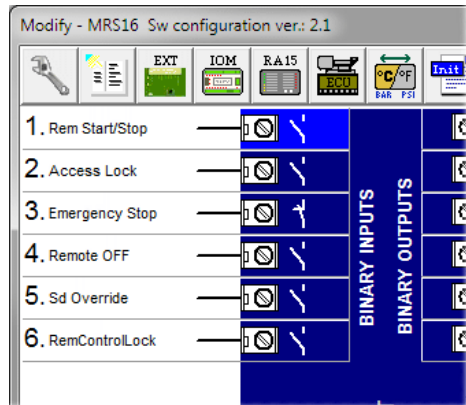


[Init screen](#) - allows you to edit the text displayed on the controller's initial startup screen.

5. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

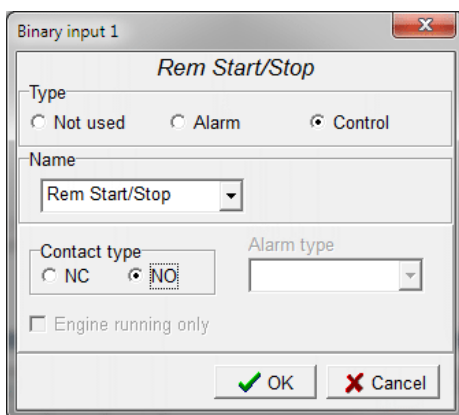
5.2 Binary inputs

The controller's physical binary inputs are represented by the contacts in the top left corner of the Configuration window diagram:



5.2.1 To configure a binary input

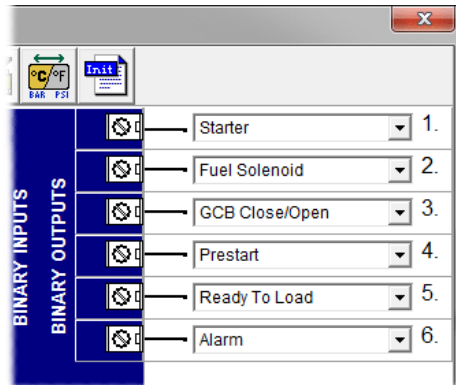
1. Open the [Configuration window](#).
2. Double click on the required binary input to open a popup:



3. Use the various fields to configure the chosen binary input:
 - Choose the appropriate **Type** for the input - Alarm (e.g. Low oil level) or Control (e.g. GCB feedback).
 - For Control inputs, select the function from the **Name** list.
 - For Alarm inputs, enter the alarm title in the **Name** field.
 - For Alarm inputs, choose the appropriate **Alarm type** and select whether the alarm should be active at **Engine running only** (e.g. oil pressure).
 - Select the **Contact type**: NO = Normally Open (active when closed). NC = Normally Closed (active when opened).
4. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
5. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

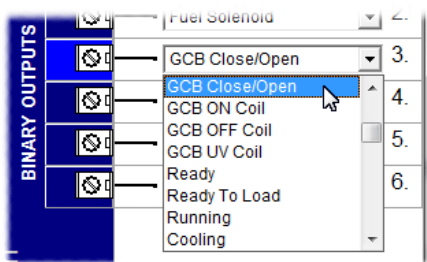
5.3 Binary outputs

The controller's physical binary outputs are represented by the contacts in the top right corner of the Configuration window diagram:



5.3.1 To configure a binary output

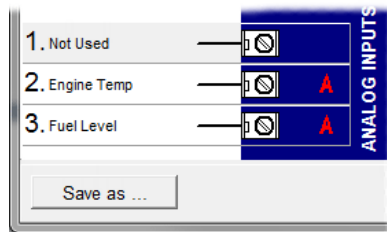
1. Open the [Configuration window](#).
2. Click the drop-down list button to show the available output options:



3. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
4. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

5.4 Analog inputs

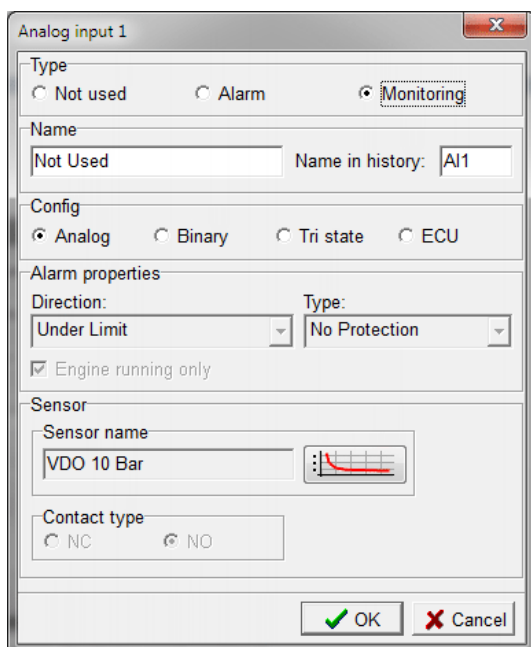
The controller's physical analog inputs are represented by the contacts in the lower left corner of the Configuration window diagram:



Note: Analog input 1 is usually dedicated to monitoring oil pressure unless an ECU (Engine Control Unit) is attached, in which case oil pressure is monitored via the ECU and analog input 1 is free for other uses.

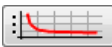
5.4.1 To configure an analog input

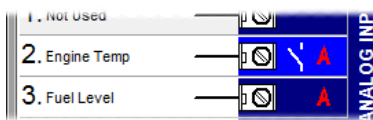
1. Open the [Configuration window](#).
2. Double click on the required analog input to open a popup:



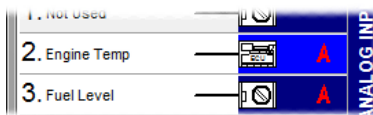
3. Use the various fields to configure the chosen analog input:
 - Choose the appropriate **Type** for the input: Alarm or Monitoring.
 - For Alarm inputs, enter the alarm title in the **Name** field and also confirm its **Name in history** for the history log.
 - Select the nature of the input signal in the **Config** field: Analog, Binary, Tri state or ECU. When set to Binary or Tri state, the threshold level will be set at 750 Ohms. For Tri state, values less than 10 Ohms and greater than 2.4 KOhms will be treated as a sensor failure (short or open circuit, respectively).
 - For Alarm inputs, choose the appropriate **Alarm properties: Direction** - Choose whether the alarm should be activated when the analog value drops below (UnderLimit), or goes over the set limit (OverLimit). You can also choose UnderLimit+Fls or OverLimit+Fls - these settings will configure the controller to evaluate and report sensor failures* (highlighted in red within the Control window) as well as monitoring for under and over limits (highlighted in yellow within the Control window). * A *sensor failure* is defined as a situation where the measured value at an input is out of the permitted range for the

defined sensor - such a situation might occur when the sensor cable is interrupted or shorted - or the sensor itself is damaged.

- For Alarm inputs, choose the appropriate **Alarm properties: Type** - This determines the alarm response type that should be given when the alarm value (Direction) is met or exceeded. Options include Warning, Wrn + Sd, Wrn + BOC, Wrn + Stp. **Sd** = Shut down - The GCB will be opened and the engine stopped immediately without cooling. **BOC** = Breaker Open and Cool down - Used for built-in alarms assigned to the generator electrical values (voltage, current, power, etc.). The GCB will be opened immediately but the engine will be made to perform a standard stop procedure, including a cooling cycle. **Stp** = Slow stop - This differs from the BOC in that the gen-set will perform, if possible, a soft unload before opening the GCB. After that the standard stop procedure will occur, including a cooling cycle.
 - For Alarm inputs, select whether the alarm should be active at **Engine running only** (e.g. oil pressure).
 - If the **Config** option is set to **Analog**, optionally determine the **Sensor name** and its response curve. Click the  button to adjust settings. See "Analog input response curves" on the next page.
 - Select the **Contact type** (not available when the **Config** option is set to **Analog**): NO = Normally Open (active when closed). NC = Normally Closed (active when opened).
4. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
- If you set the input **Type** to either Binary or Tri state, it will be shown with an additional switch symbol in the diagram:



- If you set the input **Type** to ECU, it will be shown with its screw terminal changed to an ECU image in the diagram:



In both of the above, the red 'A' signifies that the input is set as an alarm input.

5. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.




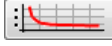
5.5 Analog input response curves

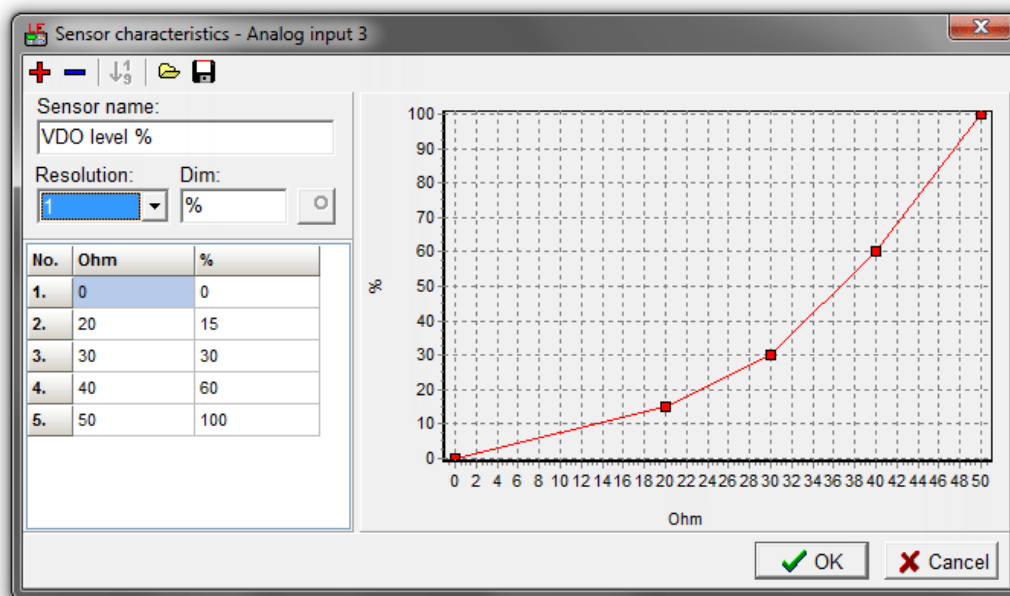
Response curves are used within the controller to accurately determine how external analog electrical signals should be converted to internal numerical values. By adjusting the response curve for an analog input you can ensure that the controller behaves correctly across the range of values, in tune with the external sensor.





There are individual response curves for every analog input. These are accessed via the popup windows that are displayed when you double click on an analog input connection within the Configuration window (or one of external module windows within it).

5.5.1 To adjust an analog input response curve

1. Open the [Configuration window](#).

2. [Optional step for an input on an external module] - Click either the ,  or  buttons to open the module window.
3. Double click on the required analog input to open a popup.
4. Ensure that the input **Config** is set to **Analog** and click the  button to display the Sensor characteristics popup:

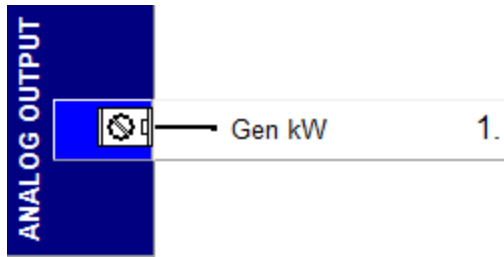


5. Use the options within the popup to make necessary adjustments:
 - Click the  icon to load a predefined curve from a file.
 - Click the  icon to save your alterations to a file.
 - Use the  or  buttons to add or remove points on the graph.
 - Where necessary, edit the **Sensor name**. For some older versions of IL-classic and IntelliLite NT the Sensor name is not editable, it is a selection instead. You must either select a predefined sensor or a user-definable sensor (Curve A, Curve B, Curve C). When you select a predefined sensor, you cannot modify points. For user-definable sensors, you can modify everything as described below.
 - Choose the appropriate **Resolution** and dimensions (**Dim**) for the curve. The resolution is limited to the range 0 to 15 KOhms.
 - Additional step for inputs on IOM/PTM modules: Choose the appropriate sensor type: Ohm, mA or V. Native controller analog inputs are resistive (Ohm) only.

- Adjust the values within the table so that, for each entry there is a valid response value for each external signal characteristic, e.g. 20 Ohms equates to 15%, 30 Ohms equates to 30%, etc.
6. Click the OK button to save your changes and return to the previous popup window. Note that your changes are only stored within LiteEdit at this stage.
 7. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

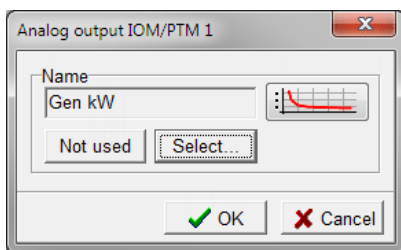
5.6 Analog outputs

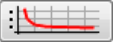
For controllers that natively support one or more analog outputs, they are represented by the contacts in the bottom right corner of the Configuration window diagram:



5.6.1 To configure an analog output

1. Open the [Configuration window](#).
2. Double click on the required analog output to open a popup:



3. Configure the chosen analog output:
 - Use **Select** to choose the appropriate controller value that will drive the analog output.
 - Optionally, click the  button to adjust the response curve. See ["Adjusting analog output response curves" on the next page](#).
4. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
5. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.




5.7 Adjusting analog output response curves

Response curves are used within the controller to accurately determine how internal numerical values should be converted to external analog electrical signals. By adjusting the response curve for an analog output you can ensure that the external actuator behaves correctly across the range of values, in tune with the controller. Usually analog output is an open collector (low side switch) type that uses Pulse Width Modulation (PWM). This means that the output is always expressed as a percentage, where 0% OUT means no current flows through the output, while 100% means maximum current flows. The actual maximum current is determined by the supply voltage and the resistance of the attached gauge. You can find further information about analog output wiring within the Installation section of the specific controller guide.

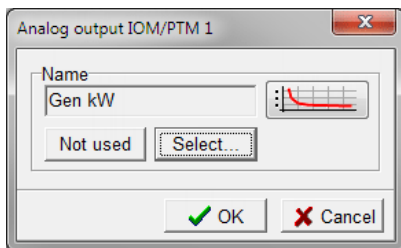
There are individual response curves for every analog output. These are accessed via the popup windows that are displayed when you double click on an analog output connection within the Configuration window (or one of external module windows within it).

5.7.1 To adjust an analog output response curve

1. Open the [Configuration window](#).

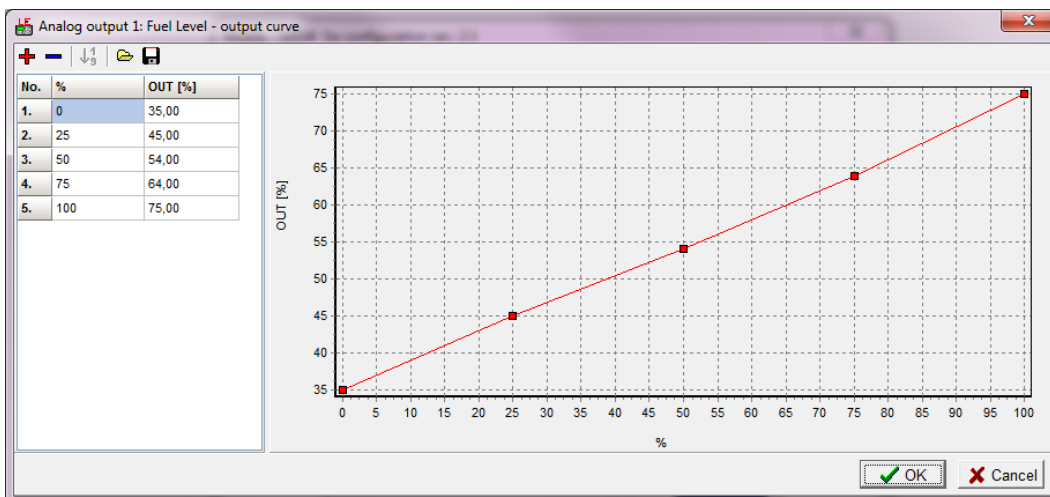
2. [Optional step for an input on an external module] - Click either the ,  or  buttons to open the module window.



3. Double click on the required analog output to open a popup:



4. Configure the chosen analog output:
 - Use **Select** to choose the appropriate controller value that will drive the analog output.

5. Click the  button to display the Analog output curve popup:



6. Use the options within the popup to make necessary adjustments:
 - Click the  icon to load a predefined curve from a file.
 - Click the  icon to save your alterations to a file.


- Use the **+** or **-** buttons to add or remove points on the graph.
 - Adjust the values within the table so that, for each entry there is a valid PWM (Pulse Width Modulation) output response value for each internal value, e.g. 200 RPM equates to 66%, 450 RPM equates to 48%, etc.
7. Click the OK button to save your changes and return to the previous popup window. Note that your changes are only stored within LiteEdit at this stage.
 8. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

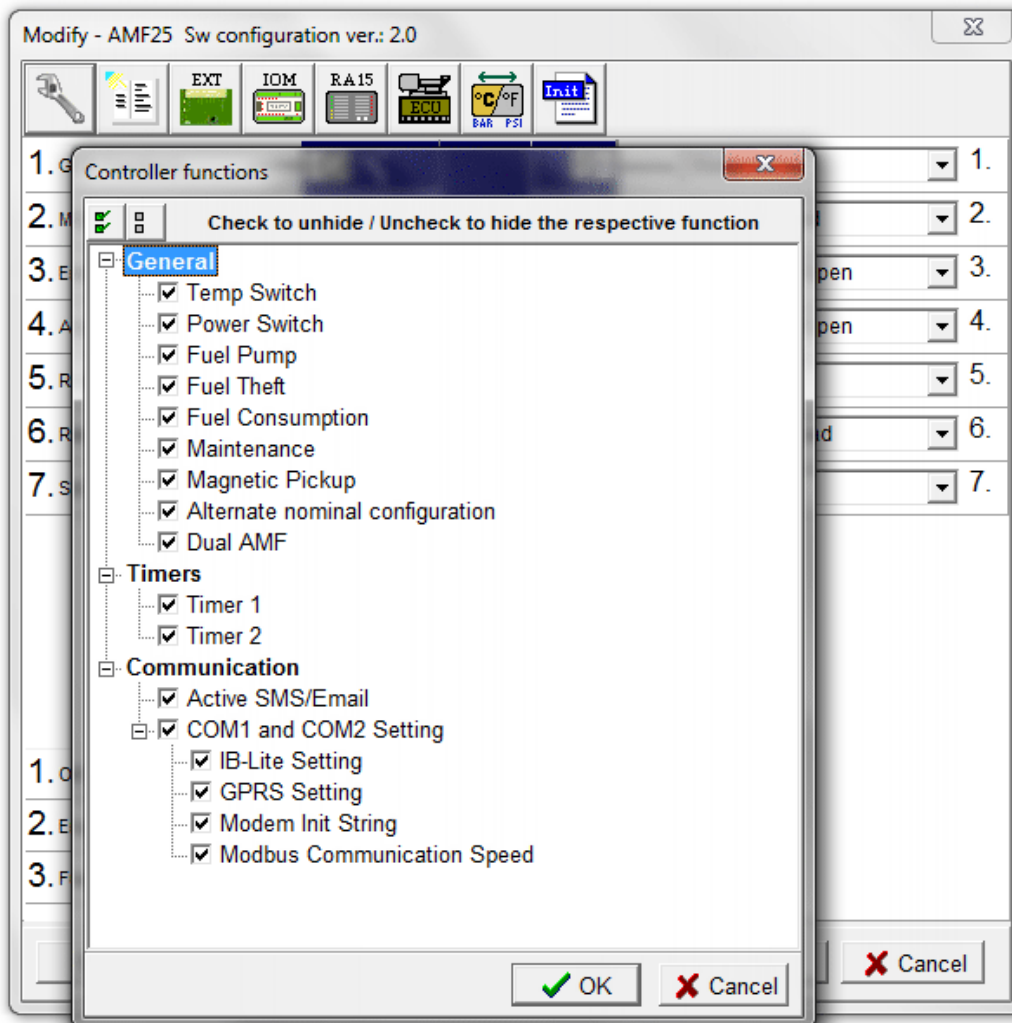
5.8 Controller functions

The Controller functions popup allows you to hide and disable any functions that are not being used in the current installation so that the controller interface can be kept as simple and uncluttered as possible.

Note: The Controller functions popup is not supported by all ComAp controllers. Also, the status of certain hardware items, such as analog inputs, extension modules, ECU, etc. will be determined elsewhere within the Configuration window and so will not be affected by changes made within this popup.

5.8.1 To open the Controller functions popup

1. Open the [Configuration window](#).
2. Click the  button to open the Controller functions popup:



3. Determine which functions should be shown/hidden within the controller interface:
 - Individually - Click the checkbox adjacent to the function to include/exclude it.
 - Collectively - Use the Select all / Unselect all buttons in the top left corner.
4. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
5. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

5.9 Extension modules

When plug-in extension modules are fitted internally within the controller, you need to inform the controller how it should organize their additional inputs and outputs. The available internal extension modules include:

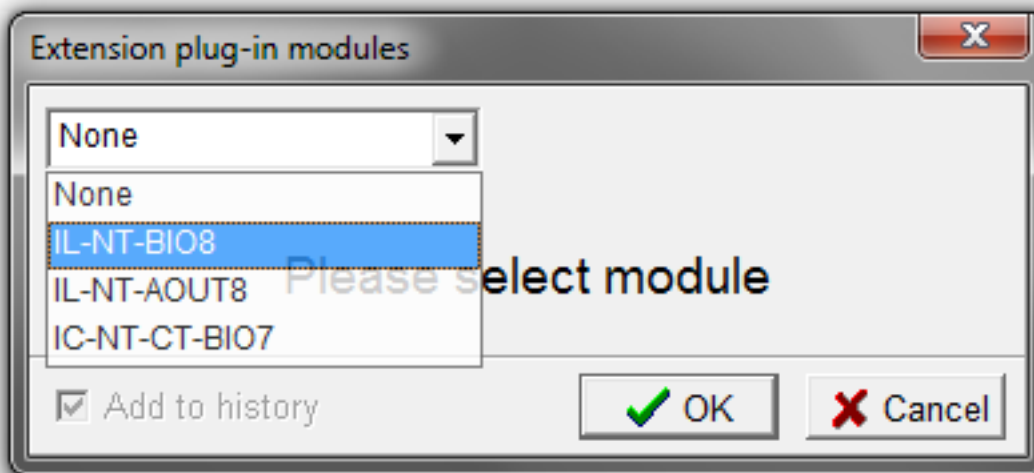
- IL-NT-AOUT8
- IL-NT-BIO8
- IC-NT-CT-BIO7
- IL-NT-IO1
- IL-NT-AIO, etc.

For modules that are external to the controller, such as IG-IOM and IGS-PTM, see the [IOM and PTM modules](#) section.

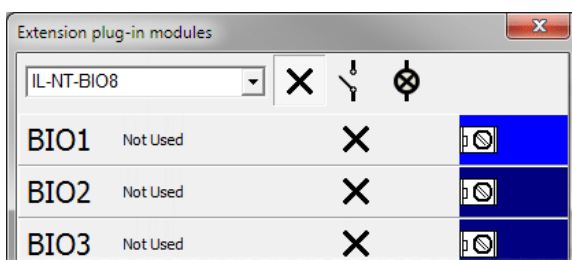
5.9.1 To configure an internal extension module

1. Open the [Configuration window](#).




2. Click the  button to open a popup:





3. Choose the model name that matches the installed module and click the **OK** button. The popup will expand to show a graphical representation of the module's input and output ports:



4. Click the port (e.g. BIO1, AIO3, etc.) and then click the appropriate button at the top of the popup to determine what kind of port it should be (not all will be available at once):

-  Click to make the chosen port a binary input.
-  Click to make the chosen port a binary output.
-  Click to make the chosen port an analog input.

-  Click to make the chosen port an analog output.
 -  Click to disable the chosen port.
5. Next, you need to assign a specific function to the port. Depending on whether it is an input or output, this is done either via a drop down list (as per native controller [Binary outputs](#)) or via a popup (as per native [Binary inputs](#), [Analog inputs](#) or [Analog outputs](#)).
 6. Tick the **Add to history** checkbox if the extension module values should be included in controller history.
*Note: Analog inputs are included in controller history only if they are configured and the **Add to history** box is checked. Unconfigured analog inputs are not included in controller history even if the **Add to history** box is checked.*
 7. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
 8. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

5.10 IOM and PTM modules

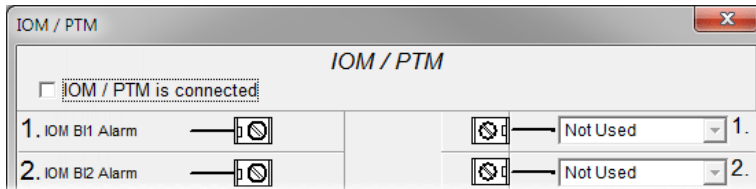
When external modules, such as the IG-IOM or IGS-PTM modules are connected, you need to inform the controller how it should organize their additional inputs and outputs.

For internally fitted extension modules, such as IL-NT-AOUT8, IL-NT-BIO8, etc. see the [Extension modules](#) section.

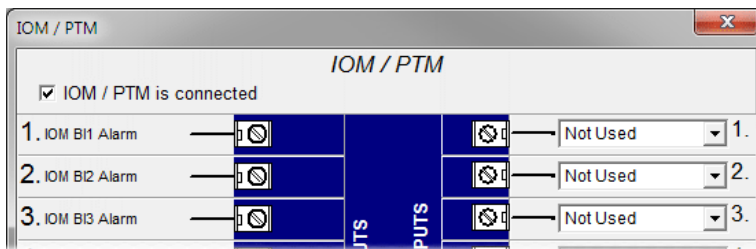
5.10.1 To configure an external module

1. Open the [Configuration window](#).

2. Click the  button to open a popup:



3. Tick the **IOM / PTM is connected** option. The various ports will become editable:




4. You can now assign a specific function to each port, as required. Depending on whether the port is a binary/analog input or output, this is done either via a drop down list (as per native controller [Binary outputs](#)) or via a popup (as per native [Binary inputs](#), [Analog inputs](#) or [Analog outputs](#)).
5. Tick the **Add to history** checkbox if the external module values should be included in controller history.
6. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
7. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

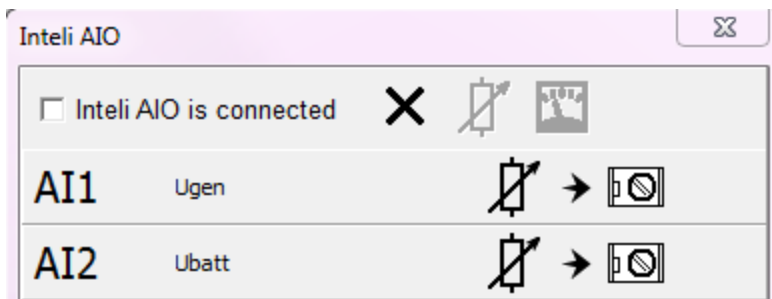
5.11 Intel AIO module

When the optional Intel AIO external module is linked to a supported controller, you need to inform that controller how it should organize the additional analog inputs and outputs. Currently this option is only visible for ID-FLX-Lite controllers that have firmware versions 1.4 or greater.

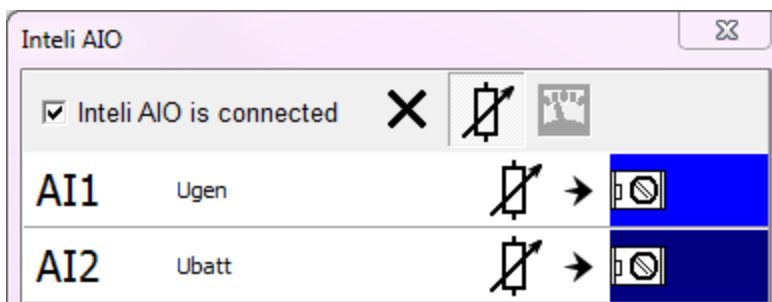
For internally fitted extension modules, such as IL-NT-AOUT8, IL-NT-BIO8, etc. see the [Extension modules](#) section.




5.11.1 To configure an Intel AIO module

1. Open the [Configuration window](#).
2. Click the  button to open a popup:



3. Tick the **Intel AIO is connected** option. The various ports will become editable:




4. Click the port (e.g. AI1, AI2, etc.) and then click the appropriate button at the top of the popup to determine what kind of port it should be:
 -  Click to make the chosen port an analog input.
 -  Click to make the chosen port an analog output.
 -  Click to disable the chosen port.
5. Tick the **Add to history** checkbox if the external module values should be included in controller history.
6. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
7. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

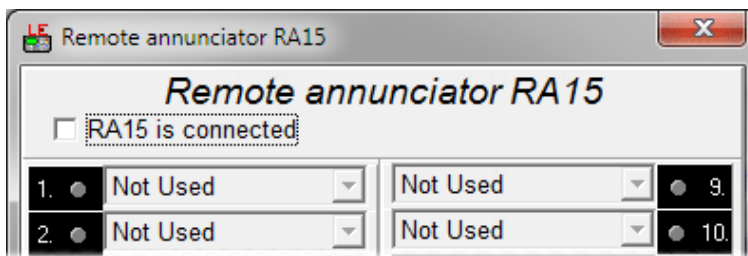
5.12 Remote annunciator

The IGL-RA15 remote annunciator is an externally connected (and usually remote) module that has fifteen LED indicators, each located next to a written label. Each of the indicators can be assigned to a different status or alarm output in order to provide a consolidated operator overview.

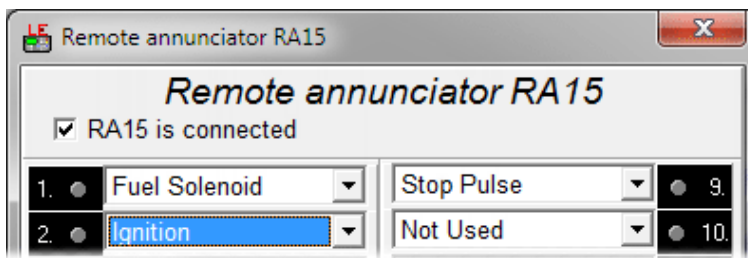
The RA15 option within the Configuration window allows you to control how the various status and alarm outputs are assigned to a connected remote annunciator panel.

5.12.1 To configure a remote annunciator

1. Open the [Configuration window](#).
2. Click the  button to open the RA15 popup:



3. Tick the **RA15 is connected** option. The various ports will become editable:



4. You can now assign a specific controller function to each port, as required. Simply click the down arrow adjacent to the required indicator and choose the function from the list.
5. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
6. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

5.13 Engine control unit

When the controller is used in conjunction with an engine control unit, the ECU section of the Configuration window allows you to easily register the engine type.

The range of engines supported can be increased by importing updated ESL files (containing all necessary engine details). See "ESL files" on page 73.

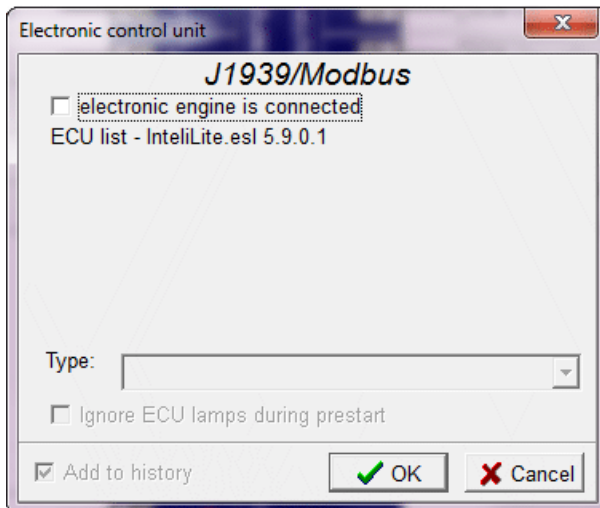
Note: When an ECU is configured, the oil pressure will be read from the ECU, leaving Analog input 1 of the IntelliLite controller free to be used for any other measurement.

Note: It is important that the units and formats used within the ComAp controller match those expected by the connected ECU. See "Units and formats" on page 61

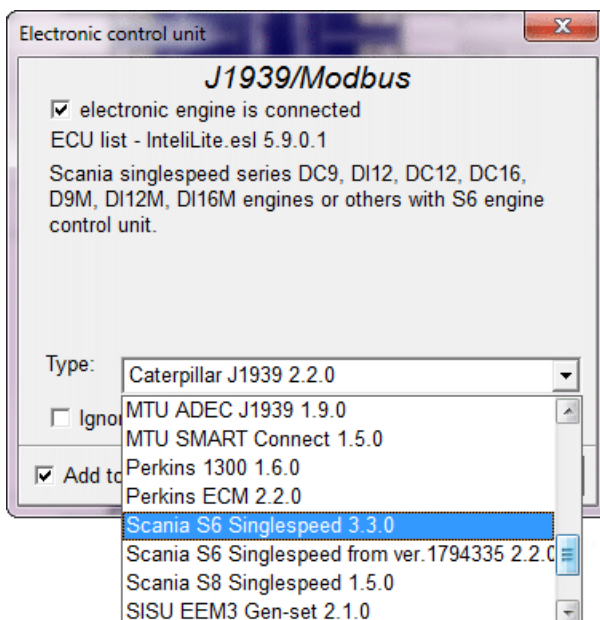
5.13.1 To register an ECU

1. Open the [Configuration window](#).

2. Click the  button to open the ECU popup:



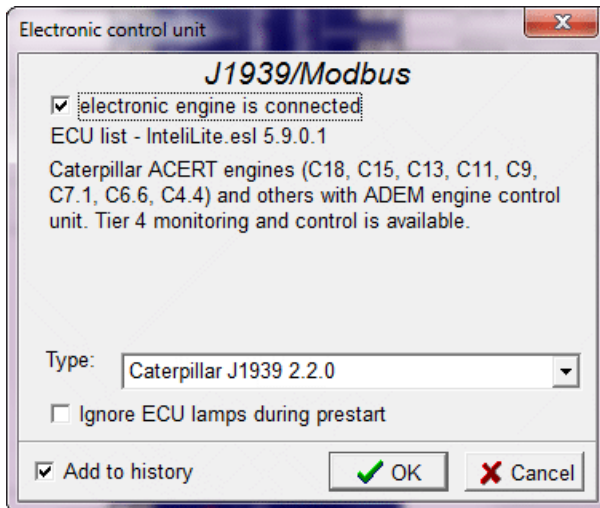
3. Tick the **electronic engine is connected** option. The **Type** list will become available:



4. Click the **Type** list drop down button and choose the appropriate engine from the list.

Note: If the required engine type is not listed and the ECU communication protocol is based on SAE J1939, use the "Standard J1939 engine" entry.

5. Tick the **Add to history** checkbox if the ECU values (FC and FMI) should be included in controller history.
6. [Optional step] If the chosen ECU entry provides the 'Ignore ECU lamps during prestart' option and you wish the ECU yellow and red warnings to be ignored during prestart, tick the 'Ignore ECU lamps during prestart' checkbox:




7. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
8. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

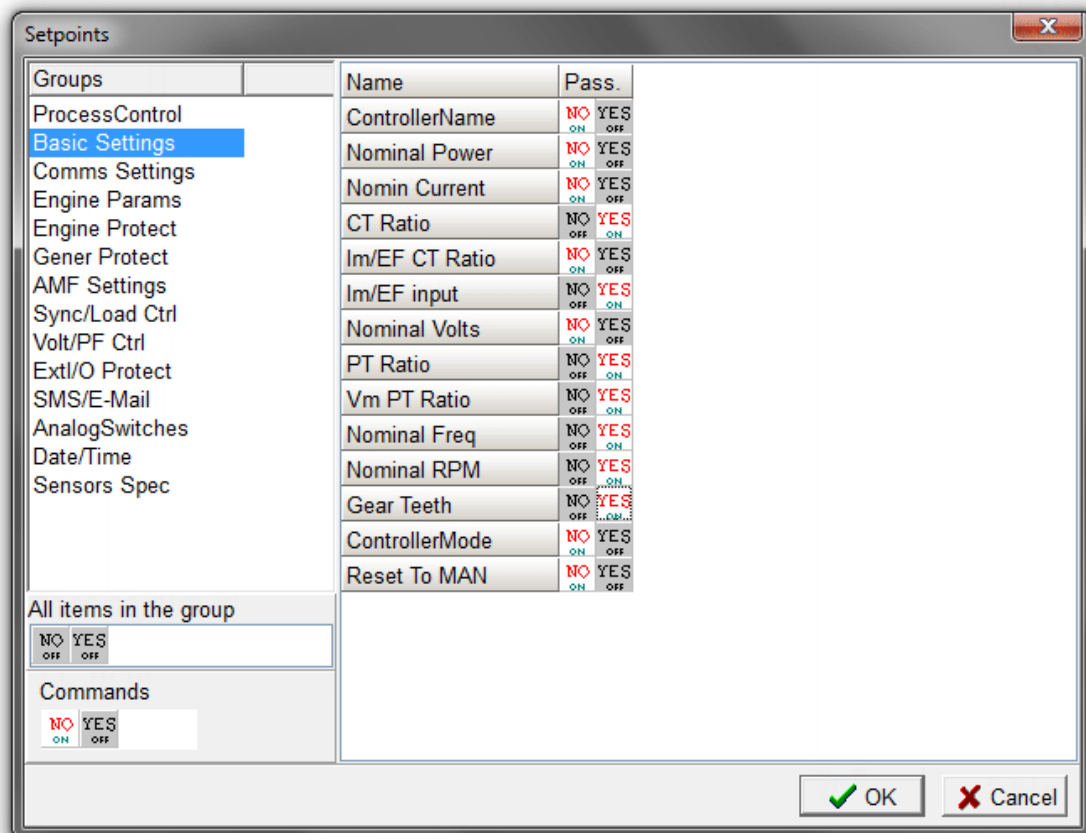
5.14 Setpoint password protection

Setpoints are key to the correct operation of the controller but some setpoints are more critical than others. For this reason, it is possible to customize how password protection is applied to suit your installation; from selected individual setpoints to full groups of setpoints.

The actual password to be used is determined elsewhere within LiteEdit. See "Password protection" on page 22.

5.14.1 To configure setpoint protection

1. Open the [Configuration window](#).
2. Click the  button to open the Setpoints popup:




3. Choose the required Setpoint group from the list on the left side.
4. Determine how password protection should be assigned:
 - Individual setpoints - Click the **YES** option adjacent to the setpoint name.
 - Whole group - Click the **YES** option in the section labeled **All items in the group**.
 - Commands - Allows you to password protect certain commands that are used for remote control via communication channels such as Modbus, e.g. Engine start, Engine stop, etc. Click the **YES** option in the section labeled **Commands**.
5. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
6. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

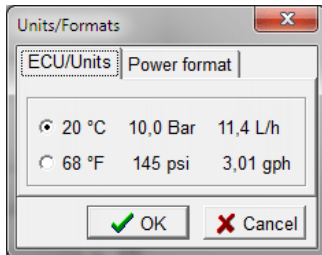
5.15 Units and formats

It is important that the units and formats used within the ComAp controller match those that are expected by the connected ECU. This section allows you to choose the appropriate sets.

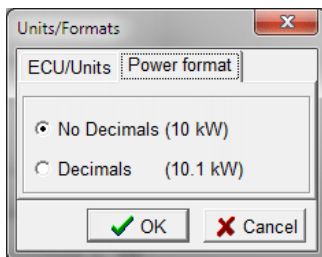
5.15.1 To configure units and formats

1. Open the [Configuration window](#).

2. Click the  button to open the Units/Formats popup:



3. Choose the required set of units:
 - Centigrade, Bar and Liters per hour, or
 - Fahrenheit, PSI and Gallons per hour.
4. Click the **Power format** tab:




5. Choose whether values should be rounded to the nearest whole integer or displayed with decimal places.
6. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
7. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

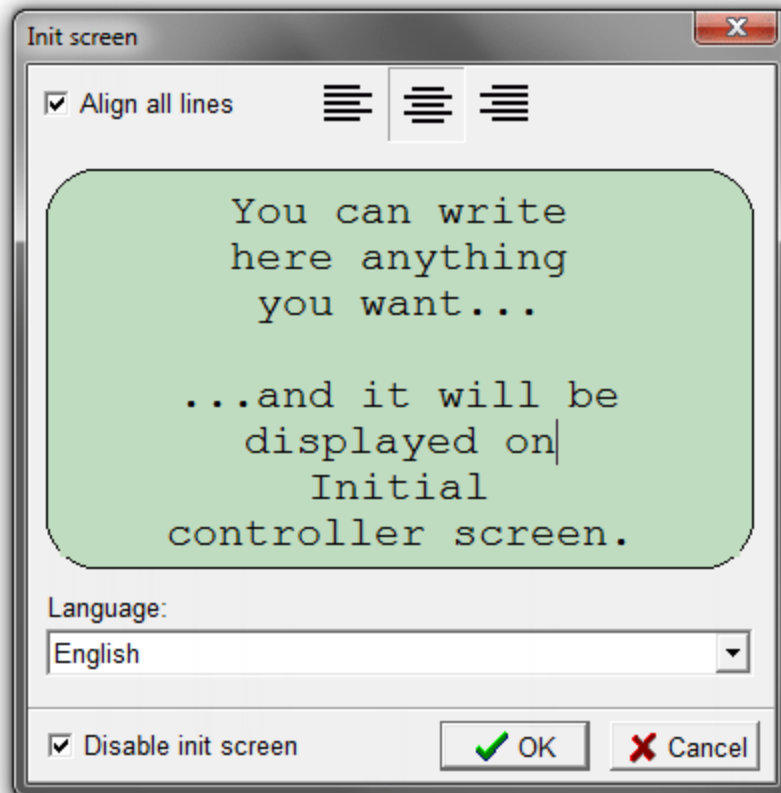
5.16 Init screen

The initial screen of the controller (shown as the unit powers up) is fully customizable with your own text.

5.16.1 To configure the initial screen

1. Open the [Configuration window](#).

2. Click the  button to open the Init screen popup:



3. Enter/edit each line of text that you wish to display:
 - Use the **Language** option to change the language used.
 - Use the alignment buttons to left, center or right justify each line individually - or tick the **Align all lines** option to affect the whole display.
 - Tick the **Disable init screen** option to suppress the init screen when the controller powers up.
4. Click the **OK** button to save your changes (only within LiteEdit at this stage) and close the popup.
5. Once all changes within the Configuration window have been made, click the **Write to controller** button. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

6 Additional features

In this chapter:

6.1 Languages	64
6.2 Firmware upgrades	69
6.3 Archive-Configuration update	74
6.4 Cloning	76

6.1 Languages

ComAp controllers are used worldwide and so LiteEdit provides facilities to support multiple languages, although a maximum of two languages may be held concurrently within the controller, one of which is permanently set to English.

Using LiteEdit you can add a new language to the controller in two main ways:

- See "Importing and uploading a language" below,
- See "Adjusting and re-uploading a language" on page 66.


Note: It is not possible to import a language that is already present in controller.

The older IntelliLite Classic models have only one language slot and so their translation method is slightly different. See "Translating a language for the IL Classic" on page 68

6.1.1 Importing and uploading a language

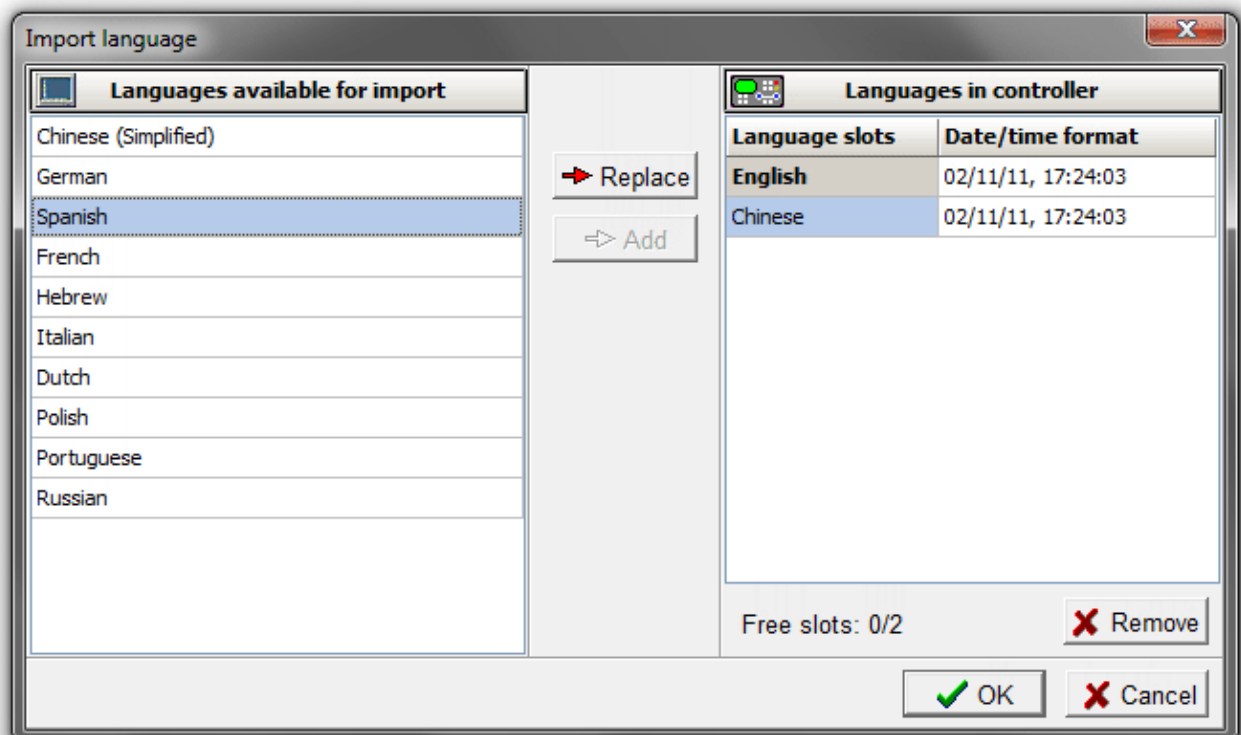
LiteEdit is supplied with a selection of alternative languages that can be used with the supported ComAp controllers.

To import and upload a language to the controller

1. Initiate a controller connection, either:
 - Online ([Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#)), or
 - Offline ([Archive file](#)).
2. Select **Controller > Enter password...** (or click the ) to open the Password dialog. Enter a valid password for the controller/archive and click the **OK** button.

Note: A password is not required when configuring an offline archive file.

3. Click the  icon to open the Import language dialog:

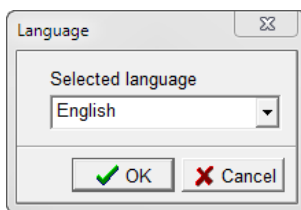


4. Use the dialog options to choose and load the required language into slot 2 on the controller (slot 1 is dedicated for English):
 - If Language slot 2 is occupied, click on the required language from the left side list and click the **Replace** button.
 - If Language slot 2 is empty, click on the required language from the left side list and click the **Add** button.
 - To delete a language from slot 2, click the **Remove** button.
5. Click the **OK** button and confirm the next step. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.
6. If required, you can now optionally make changes to any prompts within the newly loaded language. See ["Adjusting and re-uploading a language" on the next page.](#)

To select the new language for use within the Control window

Once you have imported and uploaded your new language to the controller, you can also choose to display it within the LiteEdit Control window each time the controller is linked (if the chosen language is still available within the controller).

1. Initiate a controller connection, either:
 - Online ([Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#)), or
 - Offline ([Archive file](#)).
2. Select **Controller > Language...** to display the Language popup:




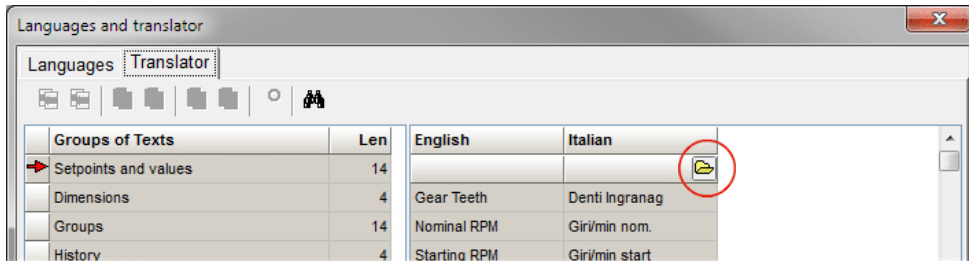
3. Choose the required language and click the OK button.

6.1.2 Adjusting and re-uploading a language

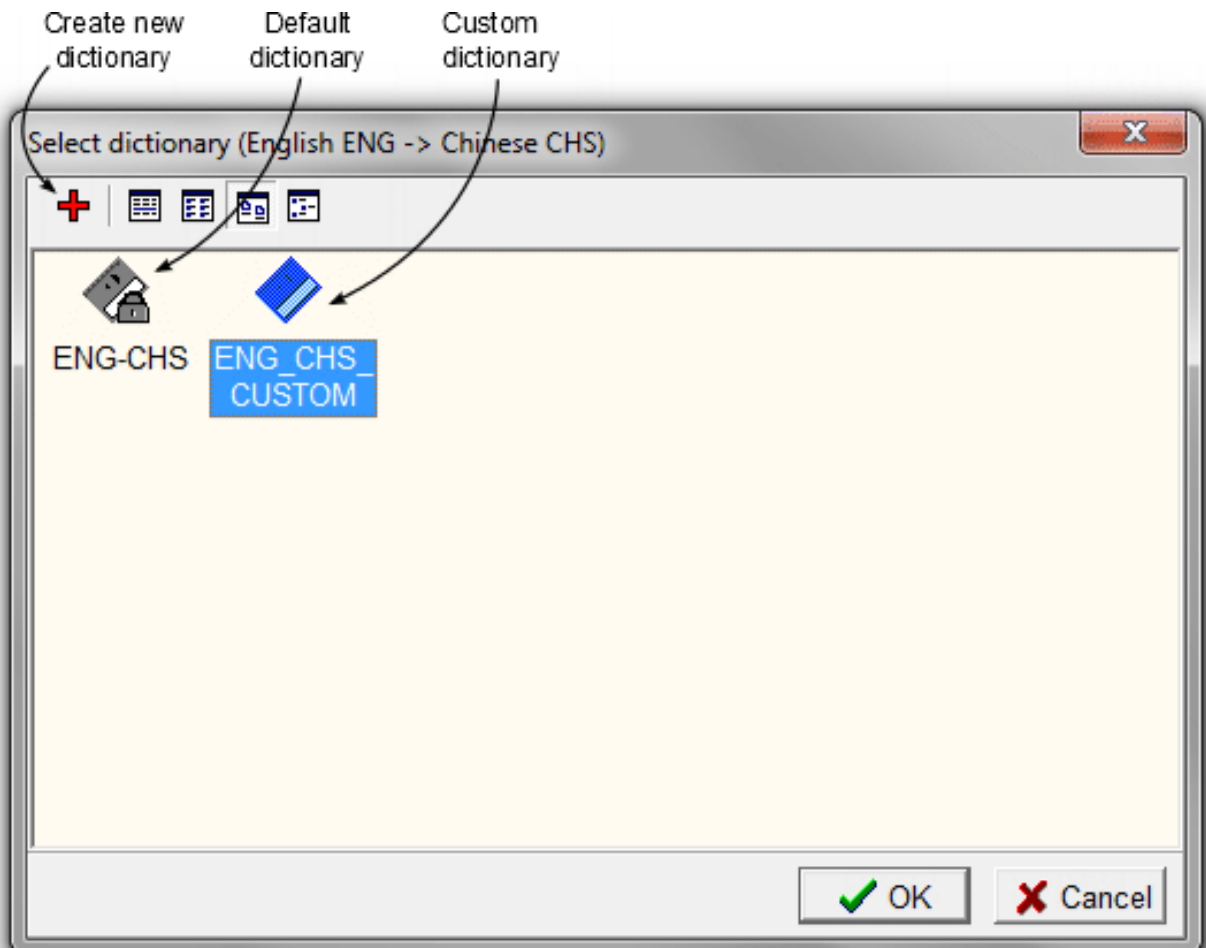
When you import and upload a language to the controller, it may sometimes be necessary to alter one or more prompts/names to suit your requirements. In certain cases this may go as far as creating a whole new translation set for a previously unsupported language. LiteEdit provides a tool to assist you.


To adjust and re-upload a language

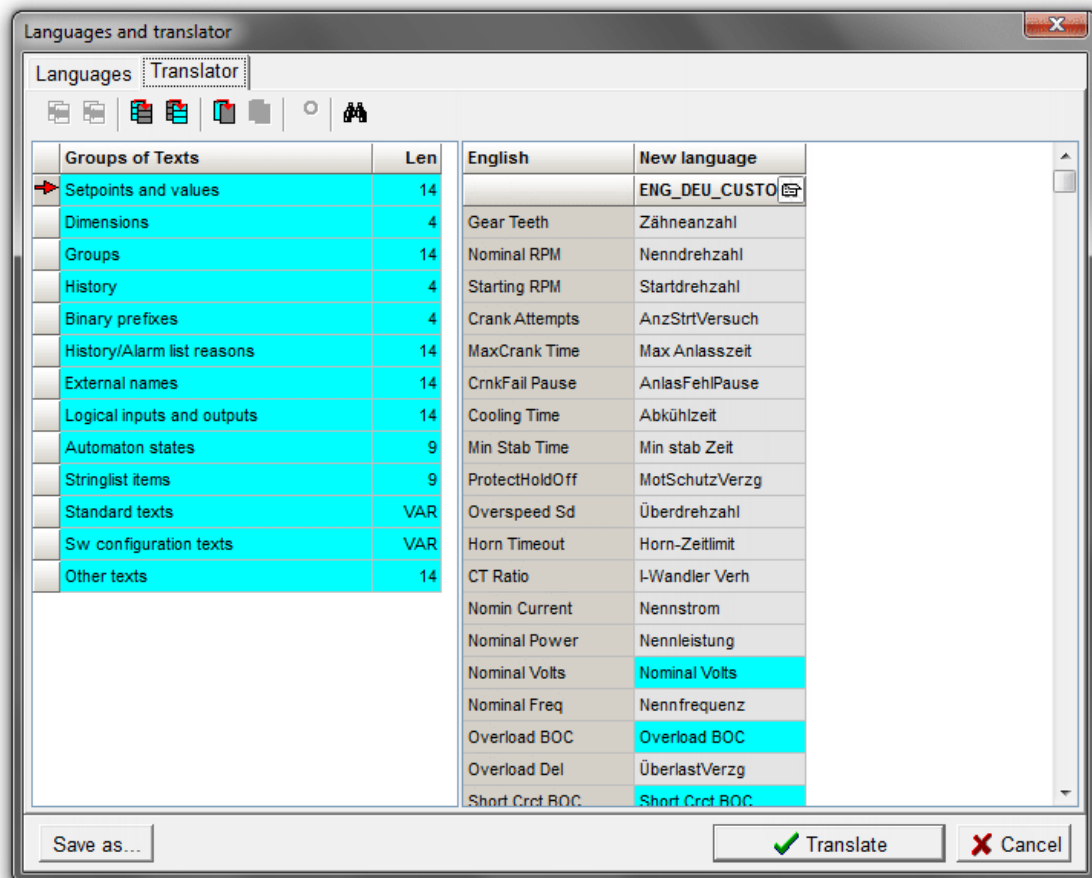
1. Choose and upload a language, See "Importing and uploading a language" on page 64
2. Select **Controller > Configuration > Translator...** (or click the  icon) to open the Languages and translator dialog - and click the **Translator** tab:



3. Click the  icon at the top right of the new language column to display the Select dictionary dialog:



4. Choose the displayed default dictionary for the language, click the  icon to create a custom copy and then click the **OK** button. The translator will now become editable, with any untranslated items highlighted in cyan:




5. Groups are listed on the left and individual entries within those groups on the right. Where necessary, click on and edit the highlighted items (and any others that you need to alter). Changed items will be automatically added to the dictionary. Go through all groups of texts (select group in the left part of the window).
6. Using icons in the toolbar of the Languages window you can mark all or one text as translated while leaving the original text. It is also possible to revert a translated item to its original text and mark it as untranslated.
7. When all items are complete, click the **Write to controller** button to upload your new language file. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.

6.1.3 Translating a language for the IL Classic

The now discontinued IntelLite Classic controllers have only one slot for a language and so use this method to change languages on these units.

To translate a language for the IL Classic

1. Initiate a controller connection, either:
 - Online ([Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#)), or
 - Offline ([Archive file](#)).
2. Select **Controller > Enter password...** (or click the  icon) to open the Password dialog. Enter a valid password for the controller/archive and click the **OK** button.

Note: A password is not required when configuring an offline archive file.
3. Click on the icon to open a dictionary. A window with a list of dictionaries will open. Select proper one or create new if it does not exist.
4. Now untranslated items (that are not present in the dictionary) are shown in cyan color, translated are white.
5. You can also work without a dictionary, but next time you will have to make all translation again, it won't be stored.
6. Translate untranslated items by editing them directly in the column Translated text. Items are added to the dictionary automatically. Go through all groups of texts (select group in the left part of the window).
7. Using icons in the toolbar of the Languages window you can mark all or one text as translated while leaving the original text. It is possible also revert translated item to original text and mark it as untranslated back.

6.2 Firmware upgrades

LiteEdit can be used to upgrade the firmware of all supported ComAp controllers. See ["Supported controllers" on page 6](#).

If a firmware upgrade is interrupted midway, it could leave the controller in an unresponsive state. In such situations you may need to use an alternative method to rescue the controller. See ["Upgrading an unresponsive controller" on page 72](#)

6.2.1 Automatic firmware upgrades

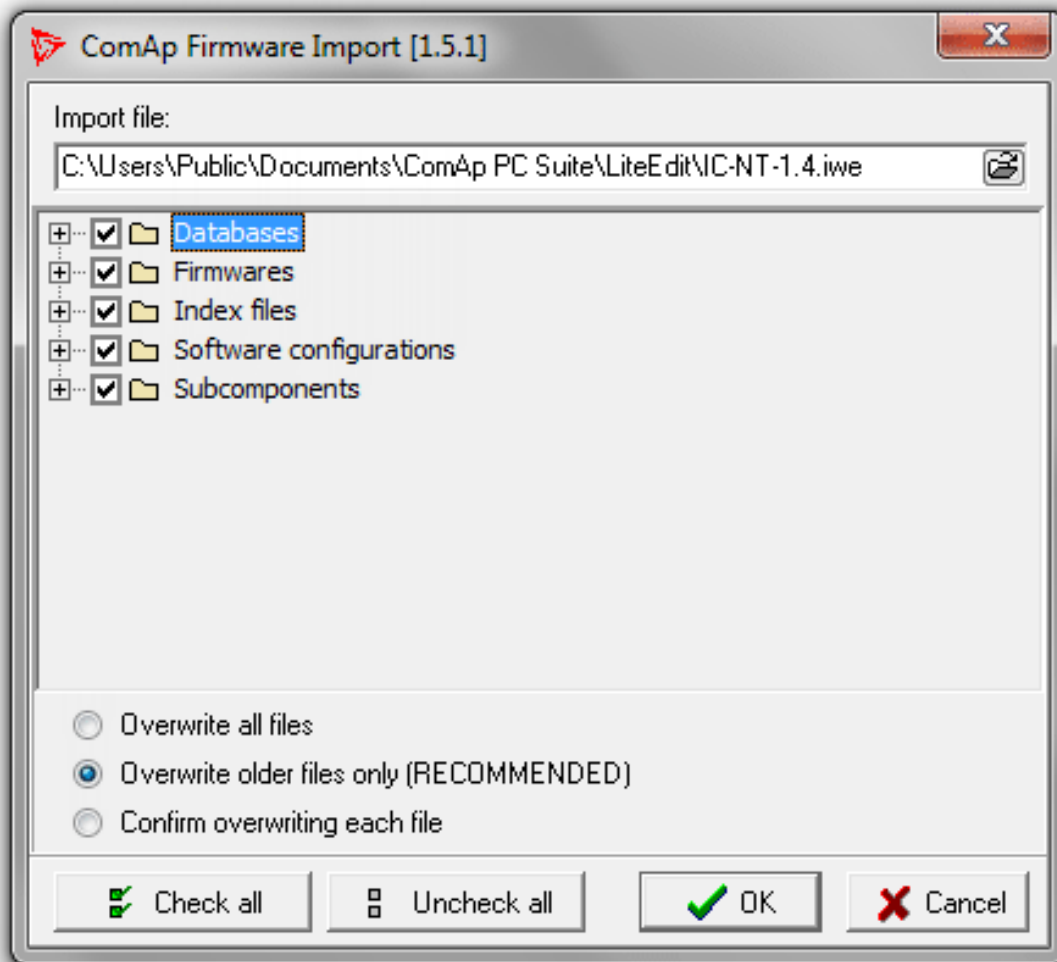
When a controller is linked with your computer, LiteEdit will compare its current firmware version with those that are held in storage. If a newer version is located, LiteEdit will offer to perform an automatic firmware upgrade. Click the **OK** button (in the popup) to proceed, whereupon an archive will first be made of the controller prior to the new firmware being uploaded.


6.2.2 Importing new firmware

To perform a firmware upgrade you first need to obtain the latest IWE file that contains all of the necessary files. IWE files are available from the ComAp website (www.comap.cz).

To import new firmware

1. Go to the Download section of www.comap.cz to obtain the latest IWE file for your controller.
2. Close any current connection to the controller.
3. Select **Options > Import firmware...** to display the Import dialog:




4. Click the  icon, choose the file that you downloaded and click the **OK** button to import the necessary items into LiteEdit.


6.2.3 Uploading the firmware

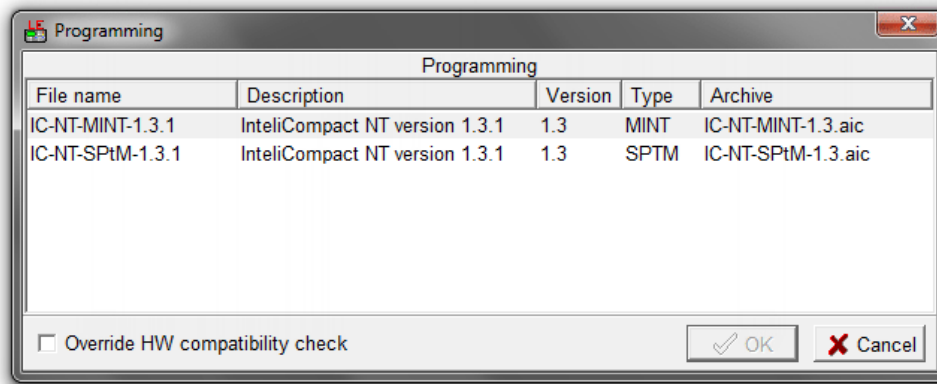
Once the firmware has been imported into LiteEdit, you can then upload it to the controller. LiteEdit automatically detects whether the firmware in the connected controller is up-to-date in relation to imported ones; if it is not, LiteEdit will automatically offer the newer version.

To upload the firmware

1. Initiate a controller connection, either [Direct](#), [Modem](#), [Network/Internet](#) or [AirGate](#).
2. Select **Controller > Enter password...** (or click the  icon) to open the Password dialog. Enter a valid password for the controller/archive and click the **OK** button.

IMPORTANT: Before you start the firmware upload process you are strongly recommended to save an archive of the current controller.

3. Create an archive of the current controller: Click the  icon and choose a file name/location using the resulting dialog.
4. Select **Controller > Programming and cloning > Programming...** to display the Programming dialog:



5. From the list, select the required firmware. The firmware files that are not compatible with the currently connected controller are shown with a gray highlight.
6. Click the **OK** button to upload the chosen firmware to the controller. The controller operation will be halted while your alterations are transferred. A confirmation message will be displayed once the operation is complete.
7. After programming is finished, open the [Configuration window](#) and perform the configuration process manually. There is no compatibility of the configuration between different firmware versions.
8. Open the [Setpoints window](#) and then select **Setpoints > Open alternative setpoints** menu. Then select the archive that you saved at the beginning of the upload process.
9. Select **Setpoints > Import alternative setpoints** to import saved setpoints. Some setpoints, such as controller name and controller address, are not written by cloning. These setpoints must be adjusted manually.
10. In some cases the "wrong setpoints" message can occur in the DDE server status line at the base of the window and the controller becomes blocked, showing "Init" state. To return the controller to normal operation, select **Controller > Reset from Init state**. Check that the setpoints have not been affected.

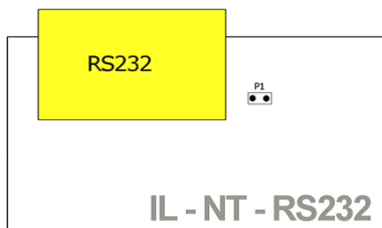
IMPORTANT: Check the statistic value "Engine hours" after firmware upgrade. Readjust the value if necessary. The last valid value can be found in the archive saved before upgrading the firmware.

6.2.4 Upgrading an unresponsive controller

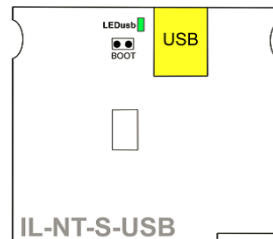
In situations where a controller is unresponsive, for example, where a previous firmware upgrade has failed, use this procedure to revive and reprogram it.

To upgrade an unresponsive controller

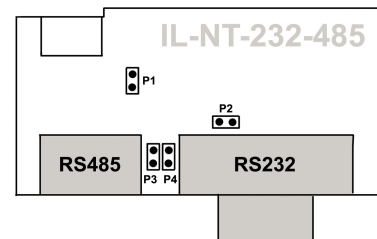
1. Disconnect power from the controller.
2. On the controller's communication module (install a new one if necessary), fit the Boot Jumper - this is model dependent, see below:




IL-NT-RS232 communication module with boot jumper (P1)



IL-NT-S-USB communication module with boot jumper



IL-NT-232-485 communication module with boot jumper (P4)

3. Connect a suitable communication cable between the controller and PC.
4. Power on the controller and run LiteEdit on the PC.
5. Initiate a [Direct](#) controller connection.
6. Select **Controller > Enter password...** (or click the  icon) to open the Password dialog. Enter a valid password for the controller/archive and click the **OK** button.
7. Select **Controller > Programming and cloning > Programming**, choose the appropriate firmware from the list and click the **OK** button.
8. Follow the on screen instructions and finally click the **OK** button. Confirmation will be given when the programming operation is complete.

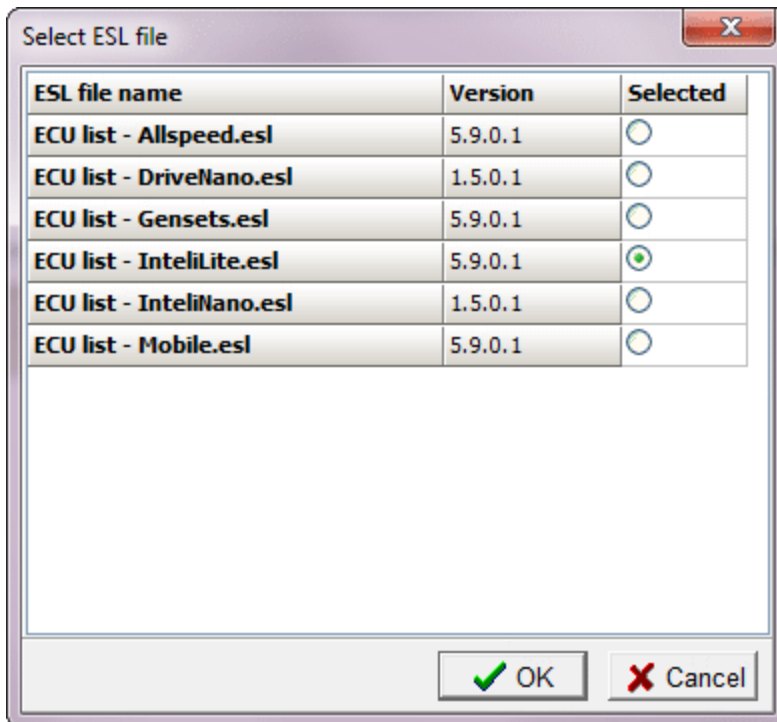
6.2.5 ESL files

ESL files contain details of supported ECU (Engine Control Unit) models. LiteEdit imports ESL files automatically as part of the standard firmware *.IWE files, available from the ComAp website.

A range of ESL files are available to cover the various controller/application types. In general, no intervention is required, but it is possible to choose which ESL file should be used.

To select an ESL file

1. Close any current connection with the controller.
2. Select **Options > ESL files...** to open the Select ESL file dialog:



3. Choose the required ESL file from the list, for instance:
 - Select "ECU list - Gensets.esl" for genset controllers (default setting),
 - Select "ECU list - Allspeed.esl" for DCU controllers.
4. Click the **OK** button to save and exit.

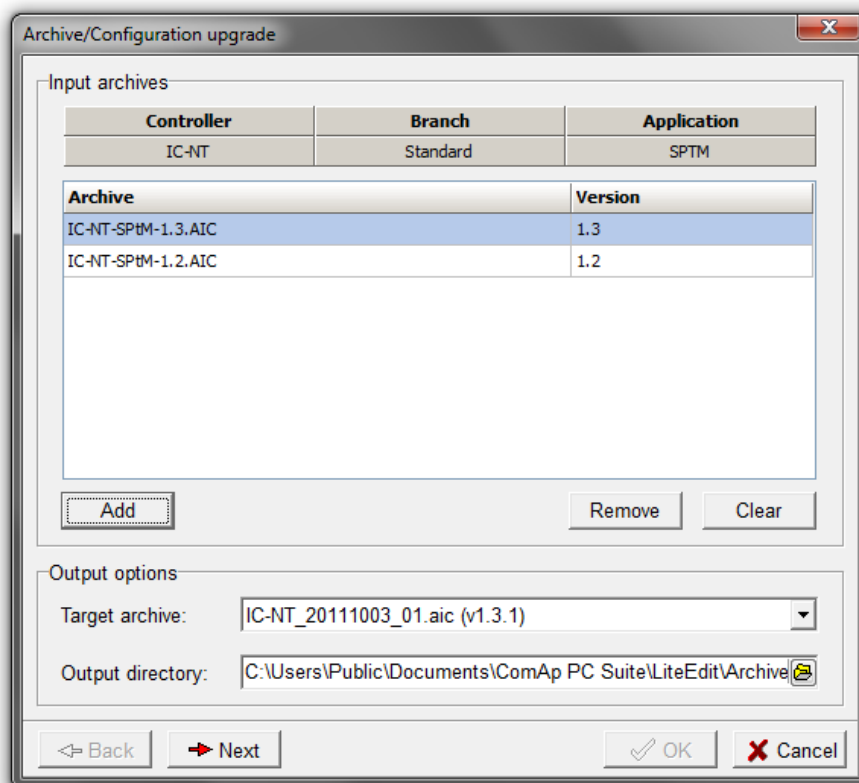
6.3 Archive-Configuration update

LiteEdit provides a facility to selectively upgrade any stored archive to a newer firmware release in preparation for re-installation into a controller. The following limitations apply to updating archive configuration files:

- Archive upgrades are supported for all software versions based on the Intelilite NT controller. Intelilite Classic controller archives are NOT supported.
- Archives must use configuration format 4 or higher. To check an archive configuration format: Open it as an [offline connection](#), then choose Controller > Controller/Archive info... to display an information dialog. The format type will be listed therein.
- Only one TYPE of archive can be upgraded simultaneously, i.e. AMF, MRS, SPtM, MINT, etc.
- Source archives may be chosen anywhere on your PC, however, where multiple upgrades are carried out simultaneously, ensure that no archive names are duplicated (in different folders).
- The target software version must be chosen from files that are resident on the PC.
- It is not possible to convert one type of application to another one (AMF to MRS, AMF25 to AMF20, SPtM to MINT, etc.).

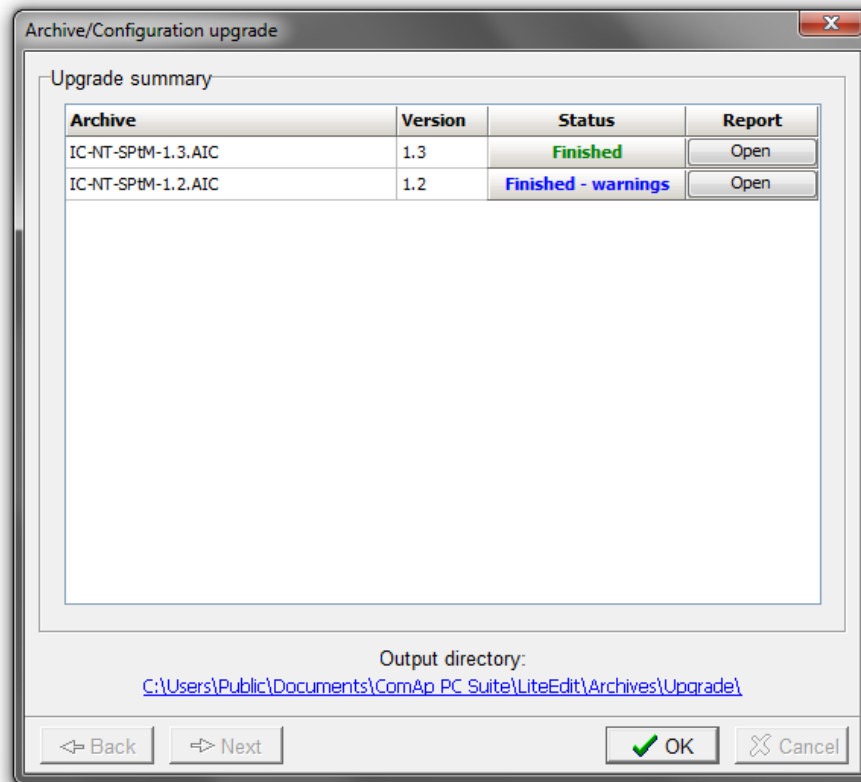
6.3.1 To update an archive

1. Within LiteEdit, select **Controller > Programming and cloning... > Archive/Configuration upgrade...**. The Archive/Configuration upgrade dialog will be displayed:



2. Click the **Add** button to choose archive(s) to include. All archives chosen for simultaneous treatment must be of the same application type, i.e. AMF, MRS, SPtM, MINT, etc. The chosen archives will be listed within the 'Input archives' section.
3. Choose the **Target archive** (the target software version).

4. Choose the **Output directory**, where all the upgraded archives will be stored (including upgrade reports in case of error).
5. Click the **Next** button. An Upgrade summary dialog will be displayed. If changes are required to the list, click the **Back** button to return to the previous dialog and adjust the list using the **Add**, **Remove** or **Clear** buttons as necessary.
6. Click the **Next** button to begin the upgrade process. The Status column will indicate the upgrade progress:



7. Once the process is complete, check the Status column for each file. If any errors were encountered, click the adjacent **Open** button to view the warning report. Warning reports are also stored as .txt files in the target directory.

6.4 Cloning

Cloning allows you to create an identical copy of a controller. This function is useful in situations such as when replacing a controller on site or installing multiple identical gen-sets.


The following items will be transferred during the cloning procedure:

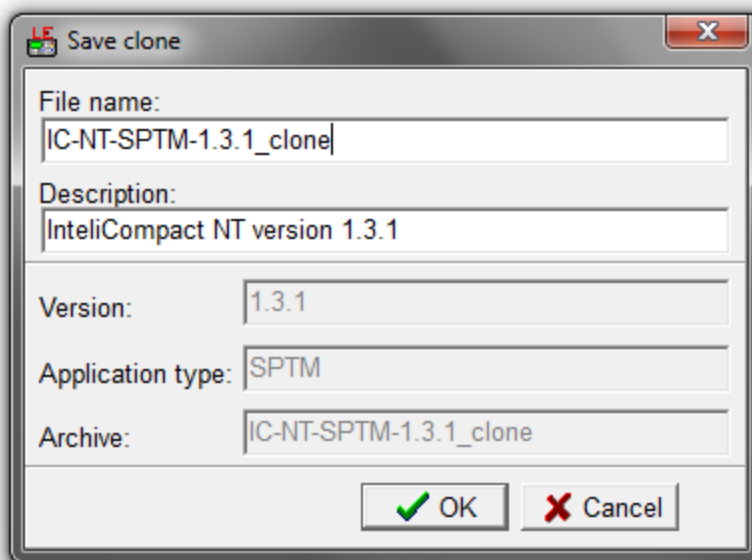
- Firmware,
- Configuration,
- Setpoints,
- Passwords and access code.

In order to successfully clone a controller's settings, the appropriate firmware for that controller needs to be stored on your PC.

You can either copy the source clone files from a connected controller or import them from a previously stored file. To import, select **Controller > Programming and cloning > Import/export clone...**, choose the required file and then jump to step 7 below.


6.4.1 To clone a controller

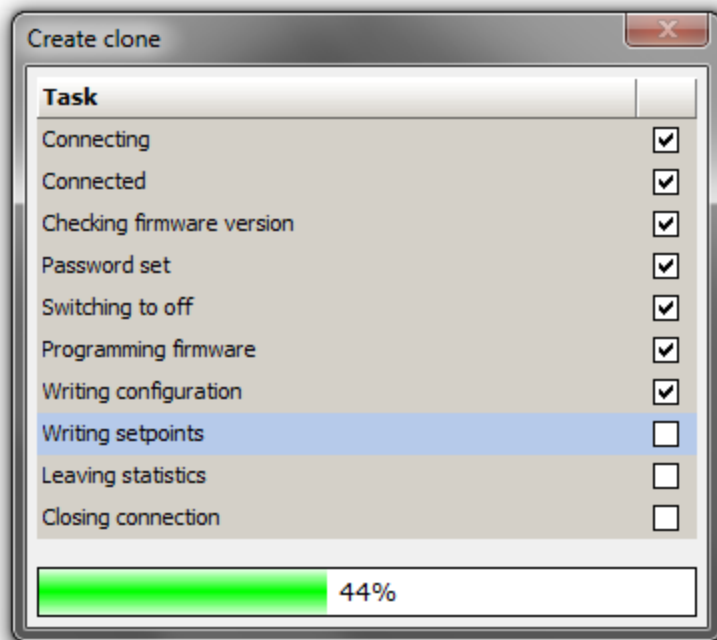
1. Initiate a [Direct](#) connection to the source controller that will provide the information.
2. Select **Controller > Enter password...** (or click the  icon) to open the Password dialog. Enter a valid password for the controller/archive and click the **OK** button.
3. Select **Controller > Programming and cloning > Save for cloning**. The Save clone dialog will be displayed:



*Note: If LiteEdit returns the error message 'Firmware xxxxx was not found' the necessary controller firmware is not stored on your PC. You will need to download the appropriate *.IWE file from the ComAp website. See [Importing new firmware](#) for details.*

4. If necessary, change the File name and/or Description. The downloaded data will be stored in a 'Clones' subfolder within the LiteEdit home folder.
5. Click the **OK** button to extract and save the data from the connected controller.
6. Power down and disconnect the source controller from the PC. Connect and power up in its place the new controller.

7. Initiate a [Direct](#) connection to the new controller.
8. Select **Controller > Enter password...** (or click the  icon) to open the Password dialog. Enter a valid password for the controller/archive and click the **OK** button.
9. Select **Controller > Programming and cloning > Cloning....** The Select source file dialog will be displayed with a list of all stored clone files that are appropriate for the connected controller type.
10. Highlight the required clone file and click the **OK** button. LiteEdit will establish the connection with the controller.
11. Enter the password for the controller and click the **OK** button. LiteEdit will now program the controller with the appropriate firmware, configuration, setpoints, passwords and access code. The task list will show the current operation:



12. When the operation is complete, you will be asked whether you wish to 'Create next clone?'. Click **Yes** or **No**, as appropriate.

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