

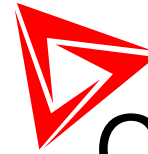
InteliMonitor

Monitoring and SCADA software

To be used with ComAp controllers from following product lines:

InteliGen, InteliSys, InteliLite, InteliGen-NT, InteliSys-NT, InteliLite-NT, InteliCompact-NT, InteliPro

SW version 3.0, June 2013



ComAp

LEADER IN GEN-SET
COMMUNICATION SOLUTION

REFERENCE GUIDE



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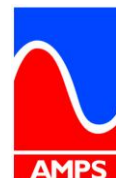


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Document information

INTELI-MONITOR - REFERENCE GUIDE

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DOCUMENT HISTORY

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1	2.4	25.9.2009
2	2.5	24.2.2010
3	2.5.1	15.4.2010
4	2.6	21.12.2010
5	2.7	30.8.2011
6	3.0	3.6.2013

Clarification of notation

NOTE:

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

CAUTION!

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

WARNING!

This type of paragraph indicates things, procedures, adjustments etc. which need high level of attention, otherwise can cause personal injury or death.

General guidelines

What is IntelliMonitor?

IntelliMonitor is Windows 2000/XP/Vista/Win7 based software which provides following main functions:

- Online [monitoring](#) of a controller or site - single line diagram
- Special fullscreen [SCADA](#) mode
- Browsing of all measured and computed [values](#)
- Browsing of controller [history](#) records
- Adjusting [setpoints](#)
- Receiving [active calls](#)

NOTE:

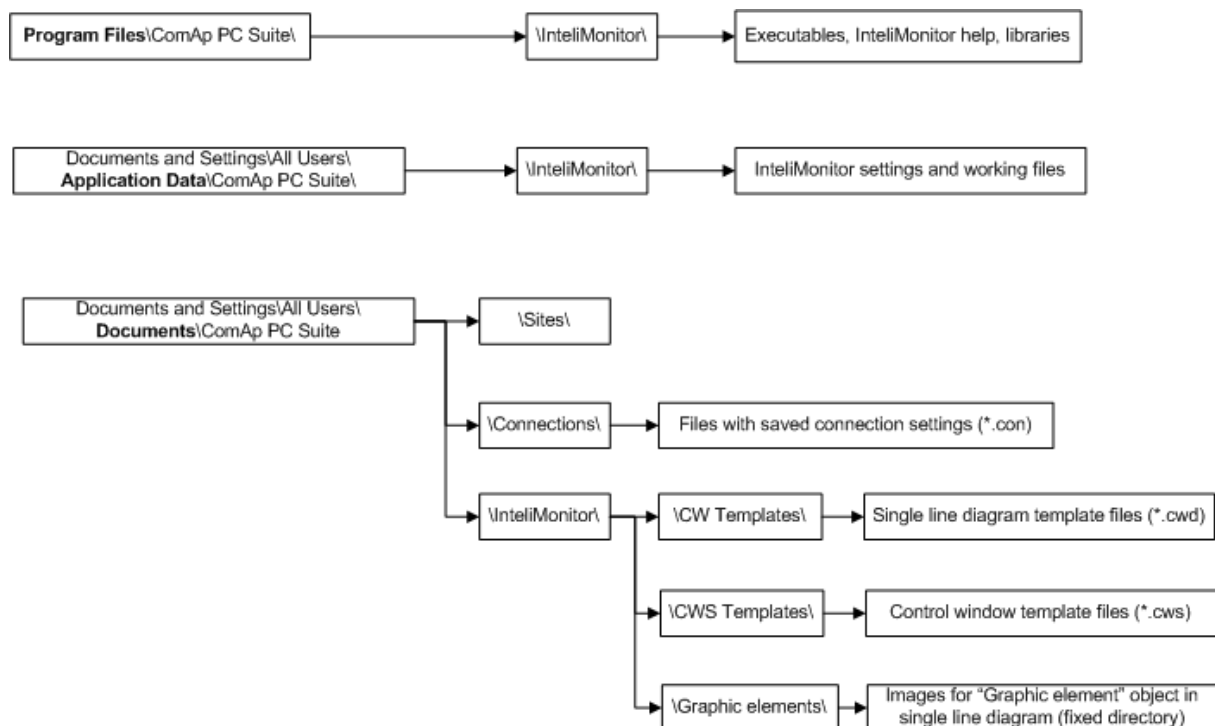
IntelliMonitor supports **IntelliGen-NT®**, **IntelliSys-NT®**, **IntelliMains-NT®**, **IntelliLite-NT®**, **IntelliPro®**, **IntelliCompact-NT®**, **MainsCompact-NT®**, **IntelliGen Classic** and **IntelliSys Classic** controllers.

Installation

Execute the "ComAp PC Suite" installation package (e.g. *IGS-NT-Install-Suite-2.4.exe*) to install IntelliMonitor, controller firmware and other components into your computer. If there is IntelliMonitor already 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, as the controller firmware, that you are about to install, may not be compatible with older IntelliMonitor version.

IntelliMonitor directories



INTELLIMONITOR DIRECTORY STRUCTURE

PC Hardware requirements

InteliMonitor is based on Windows 2000/XP/Vista/Win 7 platform. Use PC suitable for this platform. There are no special requirements for the PC hardware.

File types and extensions

InteliMonitor works with following file types (extensions):

FILE EXTENSION	FILE TYPE	DESCRIPTION
*.ANT	IGS-NT archive	Archives contain setpoints, values, history and configuration saved from the particular controller. Archives are located in the genset folder. See also the Sites chapter.
*.AIG	IG-Classic archive	
*.AIS	IS-Classic archive	
*.AIL	IL-NT archive	
*.AIC	IC-NT archive	
*.AST	Archive set	Archive sets are located in the site folder and contain links to archives from all active gensets of the site which were saved at the same time. Archive sets are created by Save all or Save all as functions and used by Multi-offline connection.
*.ZST	Zipped archive set	Zipped archive sets are used for sending of complete archive sets to the ComAp technical support.
*.CWD	Single-line diagram drawing.	
*.CWS	Control window definition file.	

How to check version?

Use *Help->About* to display window with current InteliMonitor version.



Working with IntelliMonitor

IntelliMonitor is a tool for monitoring and adjustment of a controller. It can be either connected online to the controller or can work offline with previously saved archive(s).

Single vs. multiple connection

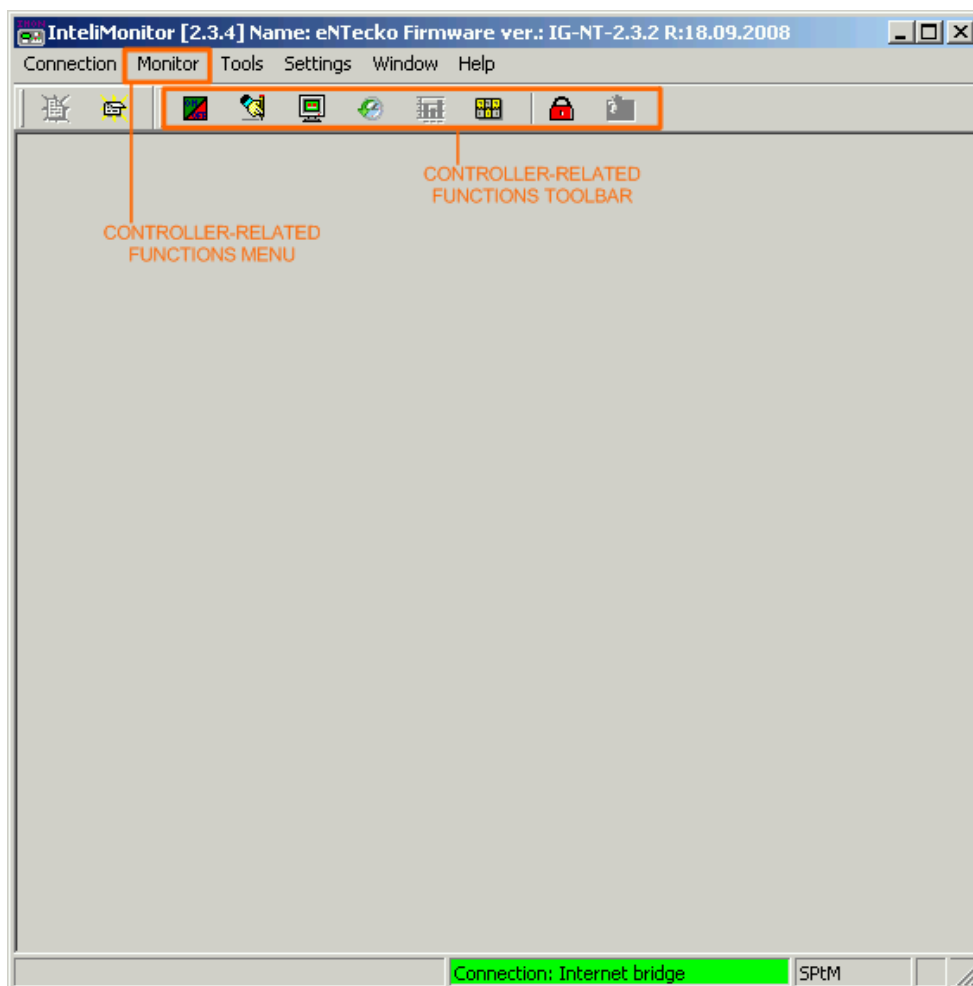
IntelliMonitor allows connection to one single controller or to the whole site at one moment. A connection to one controller is called *single*, connection to the whole site at one time is called *multiple*. The program behavior is slightly different in these two modes.

NOTE:

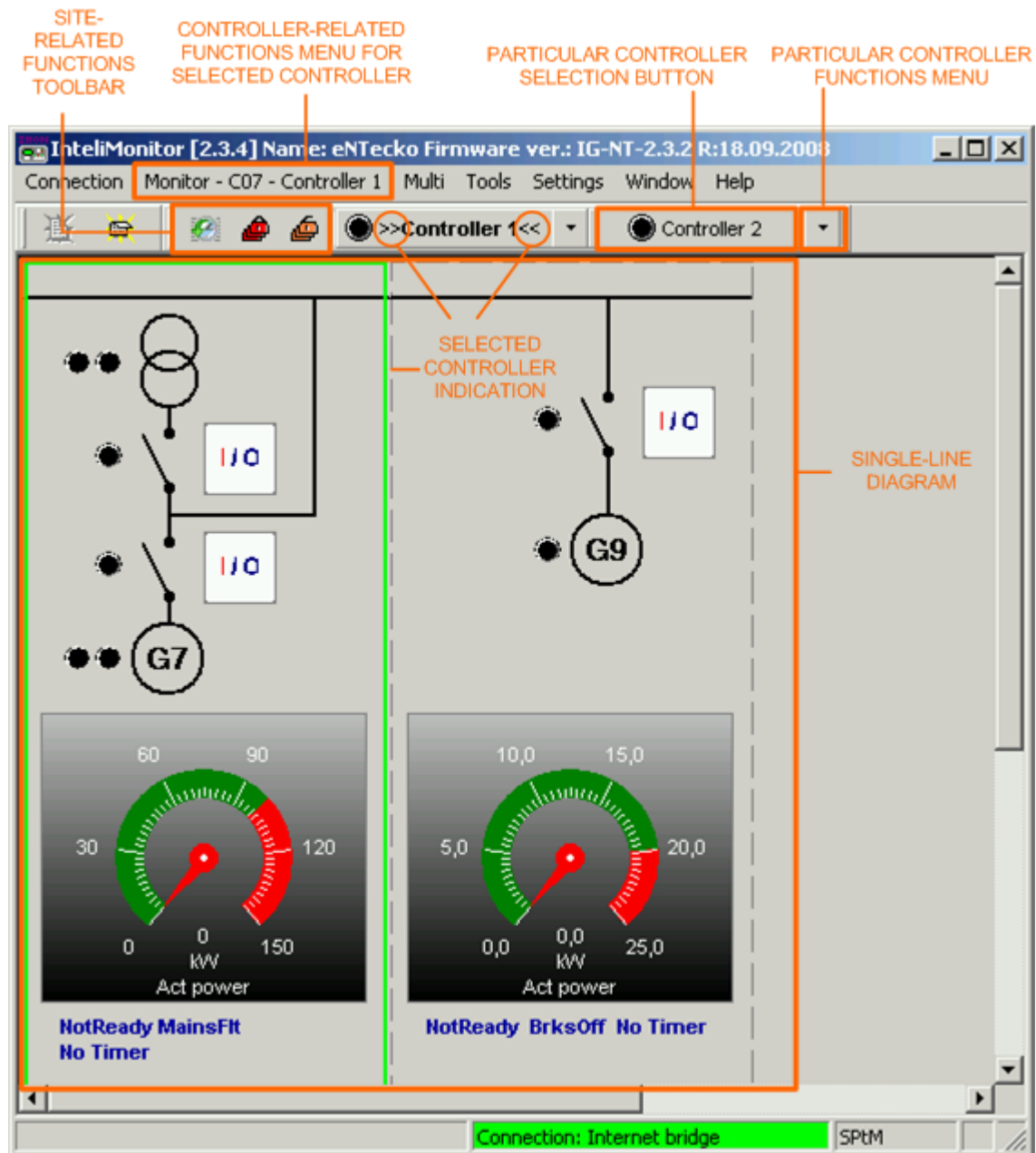
The connection is handled as multiple even if the particular site contains only one gen-set.

The main differences are:

- The background of the main IntelliMonitor window displays the single-line diagram ("multicontrol" window) in multiple connection. In single connection it is blank.
- The appearance of the toolbar panel is different. In the multiple connection there is a set of buttons for selection of the particular controller together with a button activating the pull-down menu containing functions related to the particular controller.
- In multiple connection the menu **Monitor** is always related to the currently selected controller.




INTELLIMONITOR MAIN WINDOW IN SINGLE CONNECTION



INTELI-MONITOR MAIN WINDOW IN MULTIPLE CONNECTION

Connection to the controller

Go to the menu **Connection** -> **Open connection** or click to the icon  to display the open connection dialog window.

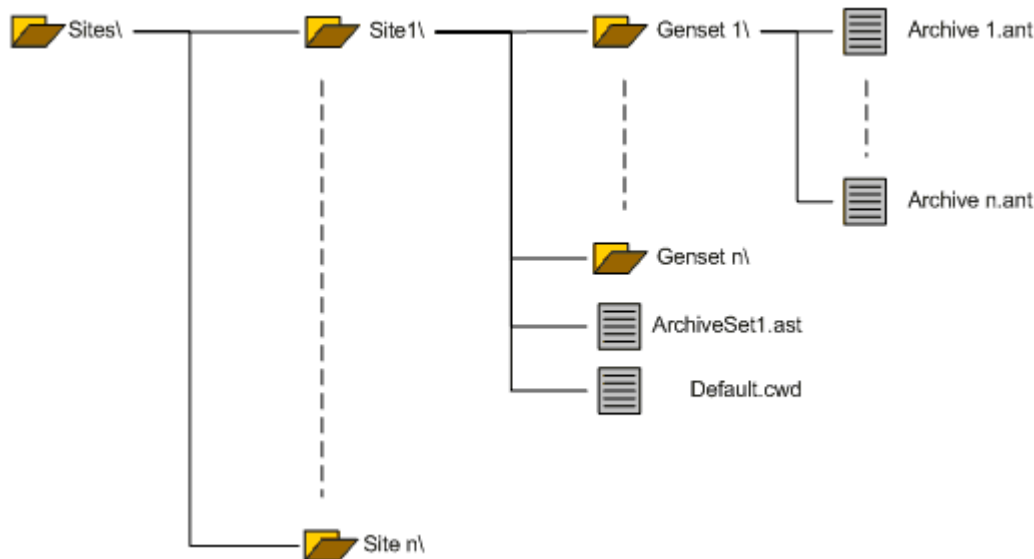
Using sites

The philosophy of the program is to use data structures that fit to the real situation in the field. That is why a system of folders, called *Sites* and created according to real structure of the user's applications, is used for storage of all user data.

The root directory, which is located in the "ComAp PC Suite" subfolder of the Windows shared documents folder, contains subfolders, where each of them represents one site. Each of these "site" subfolders contains next level of subfolders, where each of them represents one genset and contain data of the particular genset.

NOTE:

All the folders mentioned above are created by the IntelliMonitor when a site or genset is created in the **Open connection** window. There is **no need to create them manually** using a file manager like Windows Explorer.



Create a site

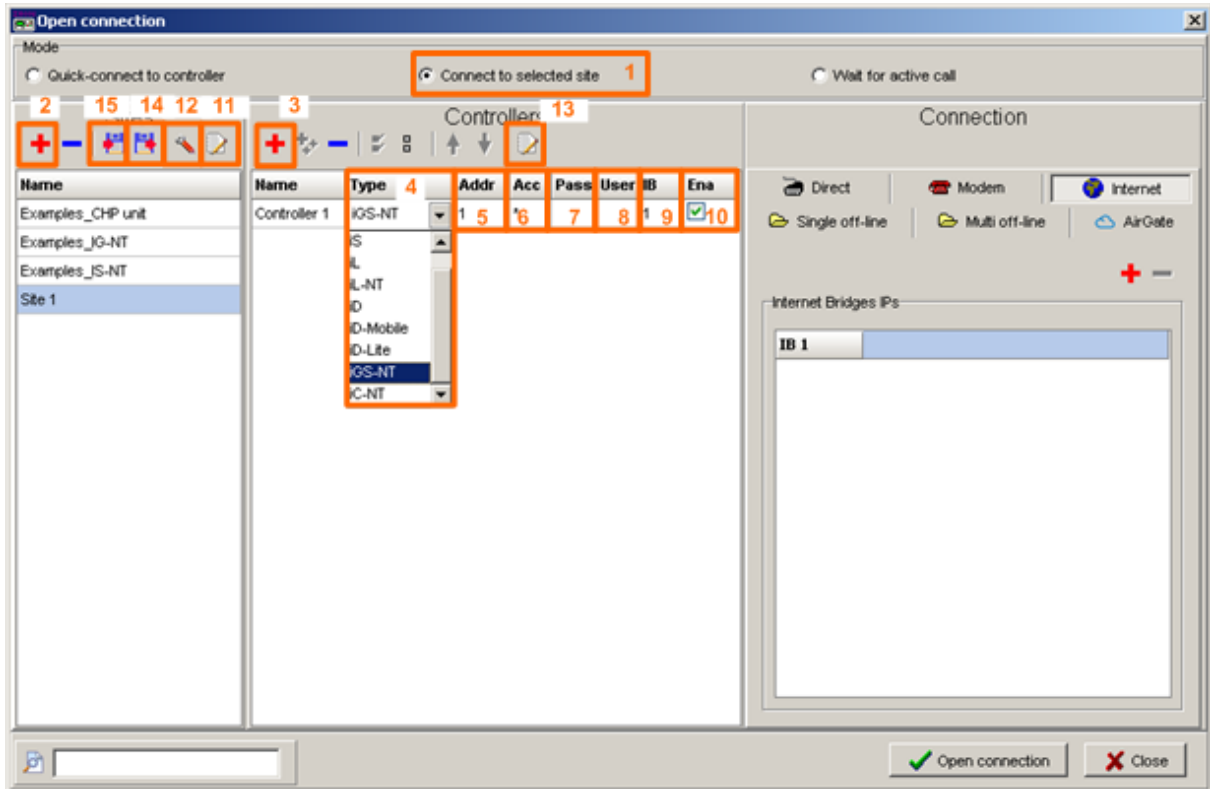
1. Select the radiobutton (1) to switch the connection window into "Sites" mode.
2. Use the button (2) to add a site. Enter a suitable name into the dialog window that appears after the button is pressed.
3. You may use the button (14) to import whole site from a ZIP file into which the site was previously exported by using the button (15). This function may be helpful when a site is to be transferred from one computer to another one.
4. Use the button (3) to add a gen-set into the site. Enter a suitable name into the dialog window that appears after the button is pressed.
5. Select the controller type in the field (4).

NOTE:

Select IGS-NT type for IM-NT, IC-NT type for MC-NT, IG for IM-Classic and IL-NT for IA-NT.

6. Enter the controller address into the field (5). The controller address must be unique for each controller within the site and must correspond to the *ControllerAddr* setpoint in the controller.
7. Enter the controller access code into the field (6). The access code is not required for [direct](#) and [offline](#) connections.
8. Enter controller password into the field (7) - optional field.
9. In case of IGS-NT controller enter user name the password is valid for - optional field.
10. In case of Internet/Ethernet connection enter the index of the IP address to which the controller is connected into the field (9). This field is required for Internet/Ethernet connection only.

11. You can disable the communication with a certain controller temporarily by unchecking the box (10). Use this function to avoid communication errors when a controller is switched off e.g. because of maintenance works.
12. Click to the button (12) to open site properties dialog, where you can adjust properties needed for proper generation of the default [single line diagram](#).
13. The buttons (11,13) open a dialog windows where notes for the selected site and/or genset can be made. These notes are stored in plain text files in the site resp. genset directory.
14. Use the button (15) to export an existing site into a ZIP file. You can export the complete site as well as only archives or only [Single line diagram](#) files. This export function is intended for transferring complete site or particular data to another computer or e.g. for sending it to the Technical support.



CREATE SITE

Site properties

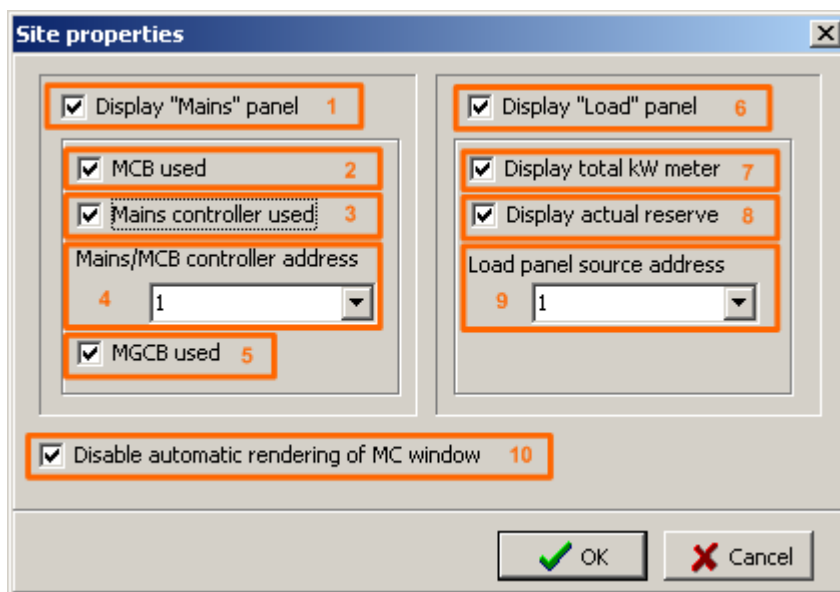
This dialog is used for entering information needed for proper generation of the default [single line diagram](#).

- Check the box (1) to show the "mains" panel at the very left position of the single line diagram. The panel contains the mains symbol and additionally it can contain also MCB and IntelliMains objects.
- Check the box (2) if you do not have mains controller (IntelliMains, MainsCompact) and you want to show the MCB in the mains panel. The information of MCB position is taken from the controller with address adjusted in the field (4).
- Check the box (3) if you have a mains controller in your site and you want to show it's panel in the single line diagram. Adjust the mains controller address in the field (4).
- Check the box (5) to show the "mgcb" panel in the left part of the diagram. This panel can be displayed only if there is a mains controller with MGCB application in the site.
- Check the box (6) to show the "load" panel in the left part of the diagram. The panel contains the "house" symbol and can also contain analog meters with several different values related to the object load.
- Check the box (7) to show the analog meter with the total genset power.

- Check the box (8) to show the analog meter with current reserve.
- The field (9) is used for adjusting controller address from which the reserve and total genset power values will be read.
- If you use the default single line diagram (e.g. generated by the IntelliMonitor), then normally the diagram is automatically regenerated every time you connect to the site. This ensures the diagram will always reflect all possible changes that were made at the site, however it may take certain time. If you want Intelimonitor to generate the diagram only once and then reuse it for all next connections without regeneration, check the box (10).

NOTE:

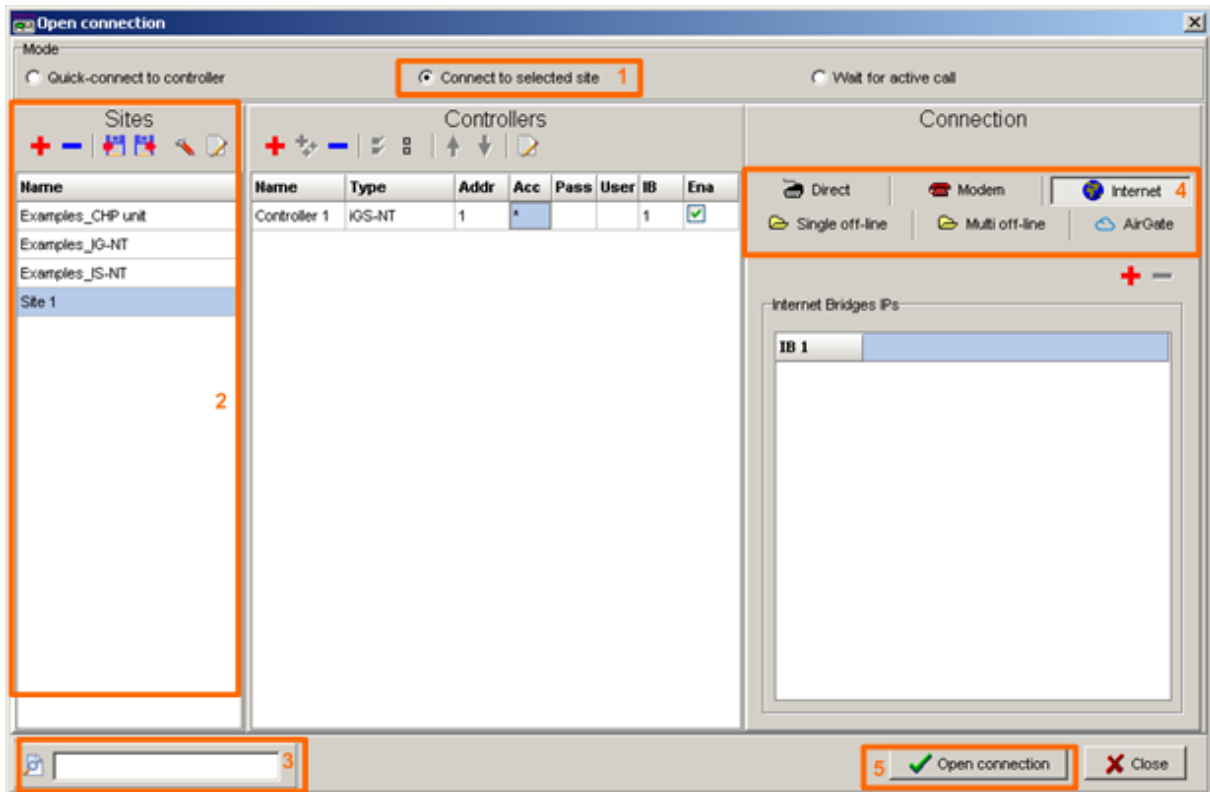
Once you have edited your diagram manually using the single line diagram, IntelliMonitor will use that diagram and **NOT** rewrite it with an automatically generated one.



SITE PROPERTIES

Connection to a site

1. Select the radiobutton (1) to switch the connection window into "Sites" mode.
2. Select the desired site in the left panel (2) or use the field (3) to filter the sites to those that contain specified substring.
3. Select the desired [connection type](#) in the right panel (4) and adjust connection parameters.
4. Open the connection by clicking to the **Open connection** button.



CONNECTION TO A SITE

Quick connection

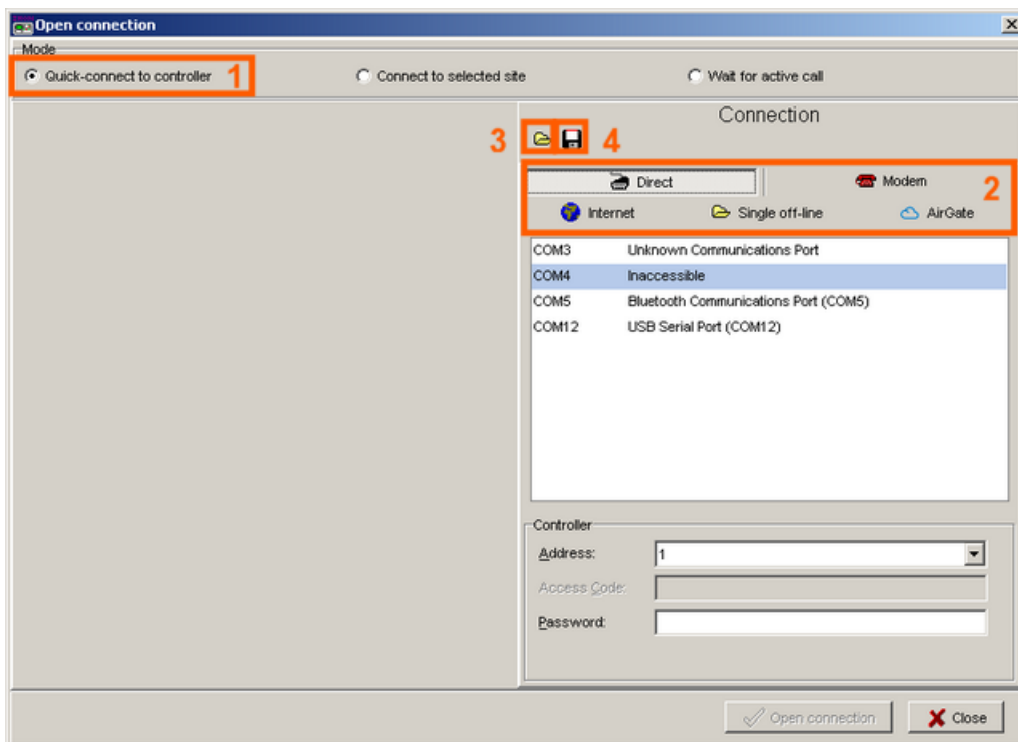
The quick connection is used for fast connection to a single controller without the need to define new site and genset.

1. Select the radiobutton (1) to switch the connection window into the "Quick connection" mode.
2. Select the desired [connection type](#) in the right panel (2) and adjust connection parameters **OR** open a previously saved connection definition by clicking on the button (3) and then selecting desired connection definition file (*.CON).

NOTE:

The same connection definition file can be used except IntelliMonitor also for GenConfig and LiteEdit.

3. Once the connection type is selected and connection parameters adjusted, the connection definition can be saved by clicking to the button (4) to a *.CON file and used later again.
4. Open the connection by clicking to the **Open connection** button.



QUICK CONNECTION

Receive active calls

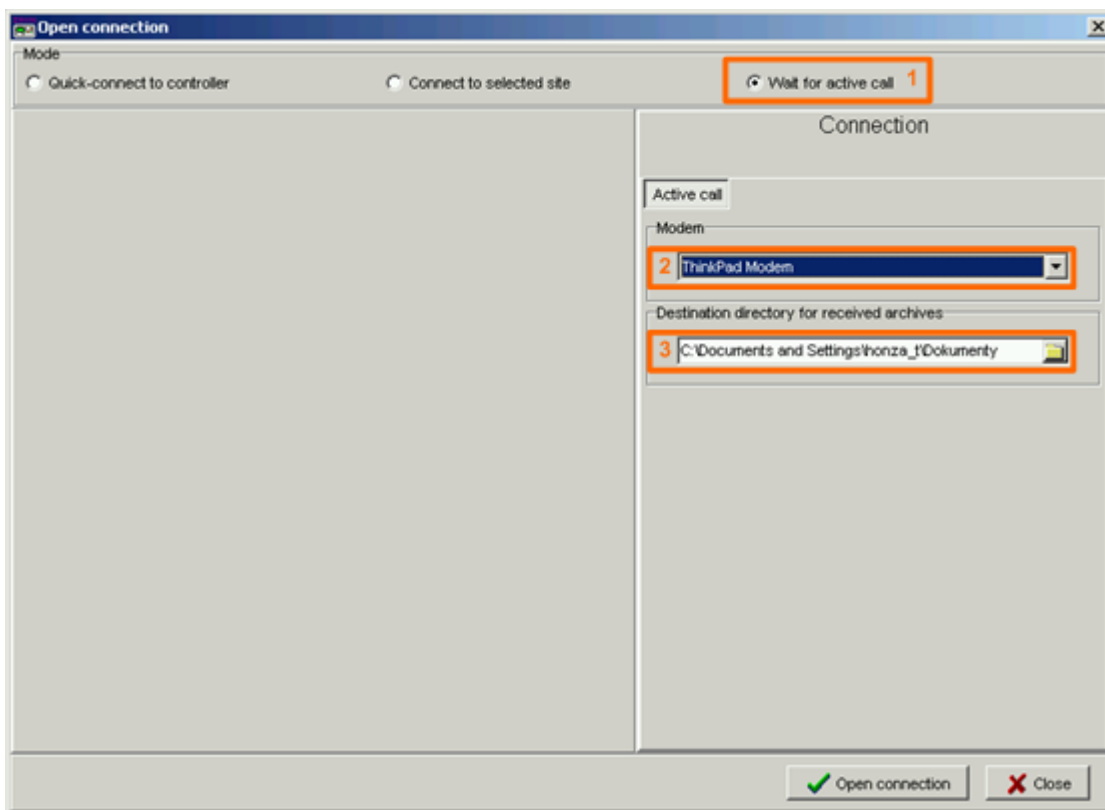
Active calls are modem connections initiated by the controller self when specified event type (alarm type) occurred in the controller. When the event (or more events in the same time) occurs, the controller will dial adjusted phone number, where a PC with IntelliMonitor in active calls receiving mode must be present, and send an archive to the PC.

1. Select the radiobutton (1) to switch the connection window into the "Active calls receiving" mode.
2. Select the modem (2), which will be used for receiving of active calls. This modem can't be used for any other program such as dial-up internet connection while receiving of active calls is running.

NOTE:

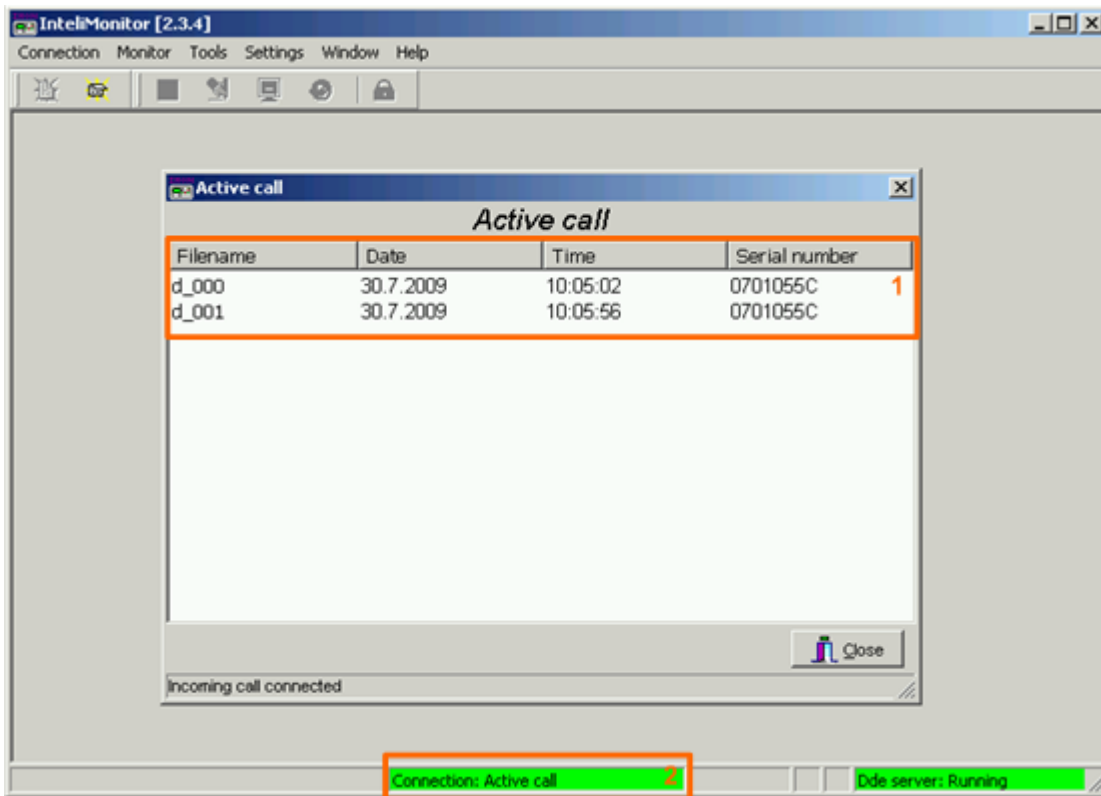
The modem must be correctly installed in your system to see it in the modem list. See the documentation of the modem for more information about how to install it.

3. Select the folder (3), where the incoming archives will be stored.
4. Start receiving the active calls by pressing the **Open connection** button.



START RECEIVING ACTIVE CALLS

When you started receiving of active calls, the window with received archive list will appear. The window contain a list of received active calls (1) with their filename, date/time and controller serial number. The color of the bottom line of the main window (2) indicates current status - green indicates that an active call is being received, gray means the program is waiting for an incoming call and yellow mean the program is preparing for receiving calls.



ACTIVE CALL WINDOW

Connection types

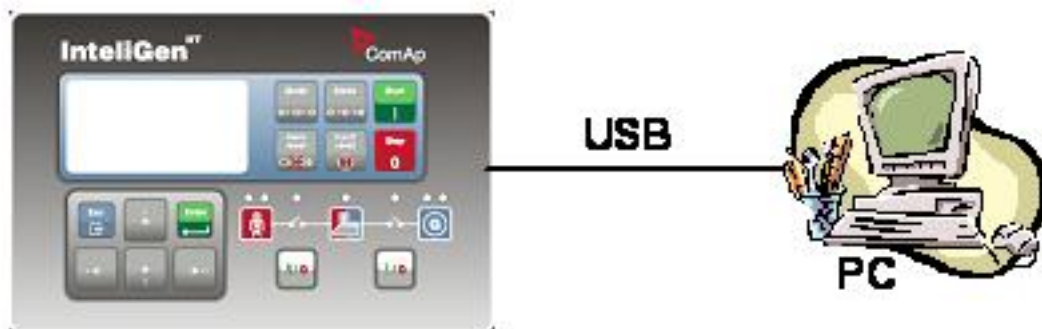
There are several possible ways how to connect to a controller in order to monitor or adjust it. These kinds of connection are called **online**.

Current data from the controller can be in any moment during the online connection saved into a file, which is called *archive*. In addition to the online connections, there is also possibility to open the previously saved archive and display the data from the moment when the archive was saved. This "connection" is called **offline**.

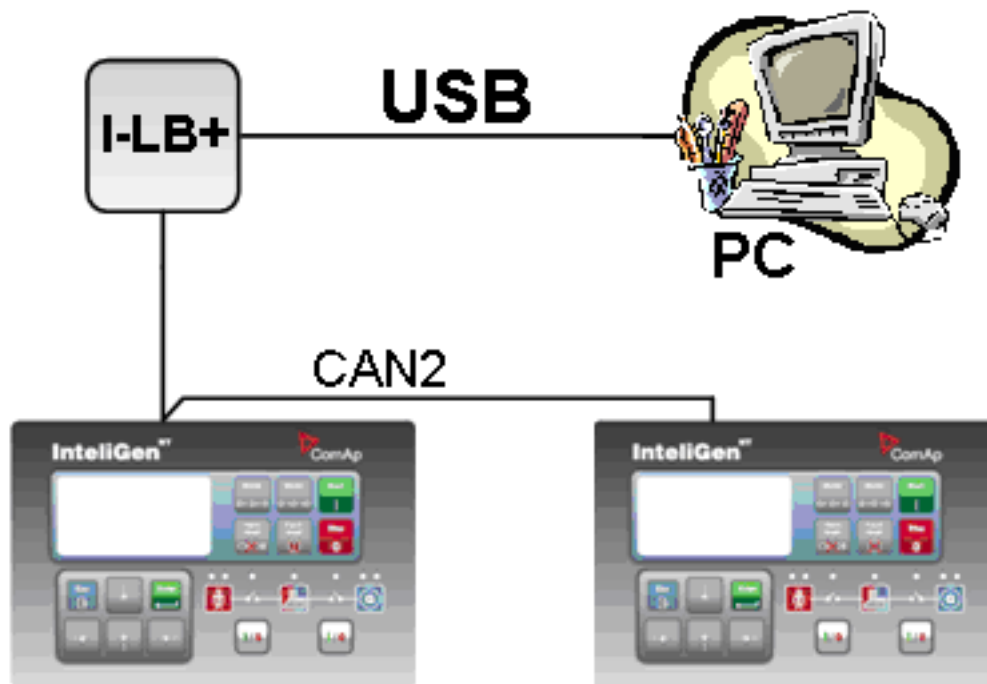
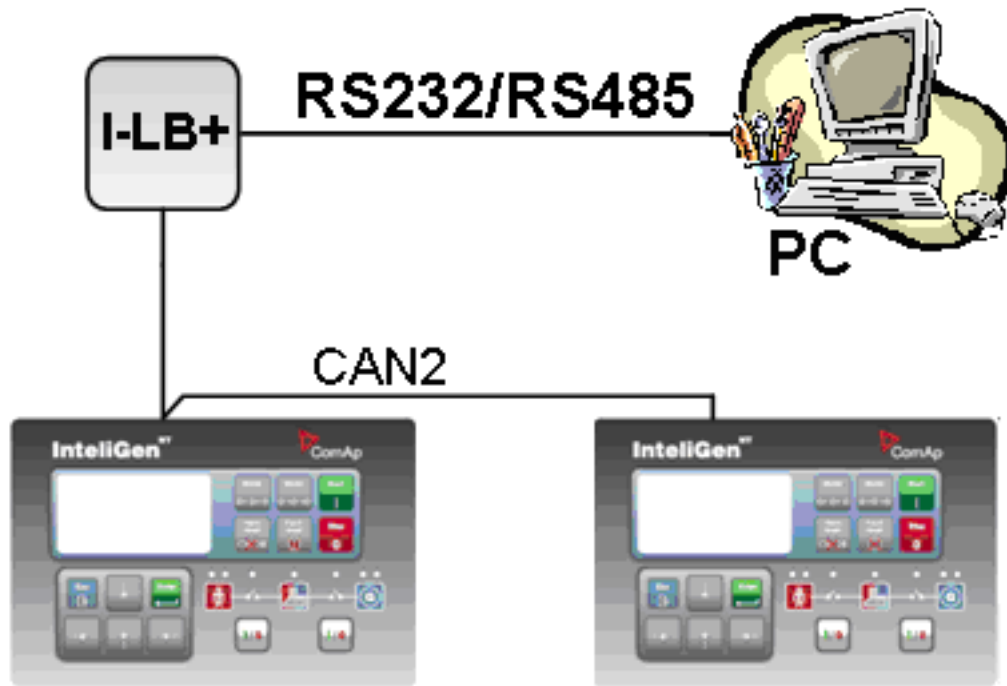
In principle there is no difference between online and offline connections regarding the program control and behavior, except the fact, that the data are static during offline connection and some functions, which needs the controller to be connected, are disabled.

Direct connection

Direct connection is a cable connection through a serial COM port of the PC and serial or USB port on the controller.



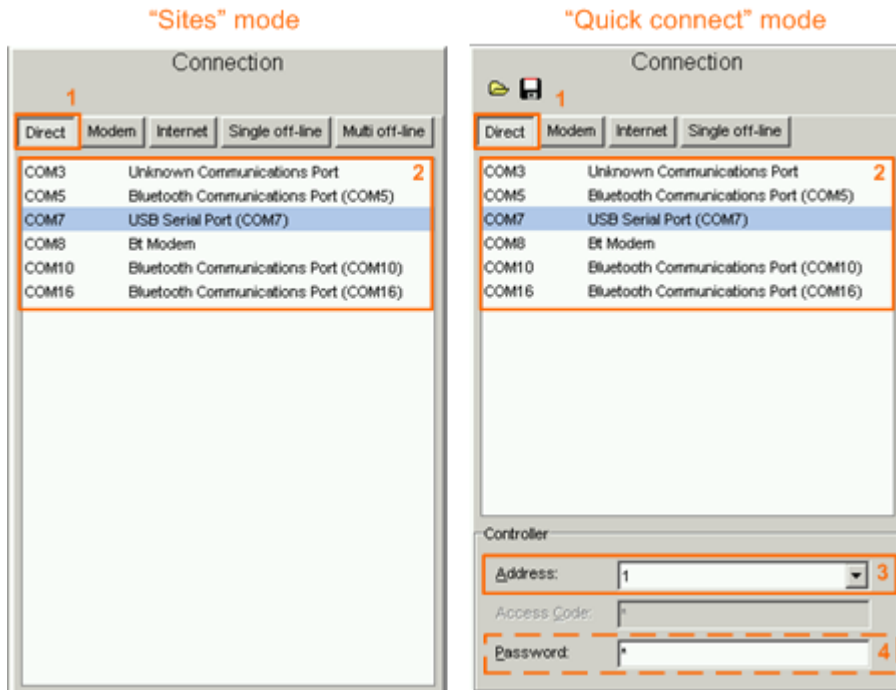
DIRECT CONNECTION TO A SINGLE GEN-SET



DIRECT CONNECTION TO A SITE

1. Click to the button (1) to select direct connection.

2. Select the COM port, to which the controller is attached. The port can be either physical (physical COM port card in the PC) or virtual (created by the driver of an USB/RS232 converter).
3. In the "Quick connection" mode you have to select the controller address in the box (3) and optionally enter the controller password in the box (4). However, the password can be entered also later while the connection is already running.



DIRECT CONNECTION SETTINGS

Modem connection

Modem connection is a point-to-point connection between a PC and a controller or site using modems. The modems at both sides must be of the same kind, e.g. both analog, ISDN or GSM CSD.

NOTE:

Please note, that certain technologies which use "modems", such as GPRS, EDGE, CDMA, UMTS and others, are used for dial-up network (internet) connections only and may not support point-to-point connection, which is needed for modem connection in InteliMonitor.

1. Click to the button (1) to select modem connection.
2. Select the modem (2) which will be used for the connection.

NOTE:

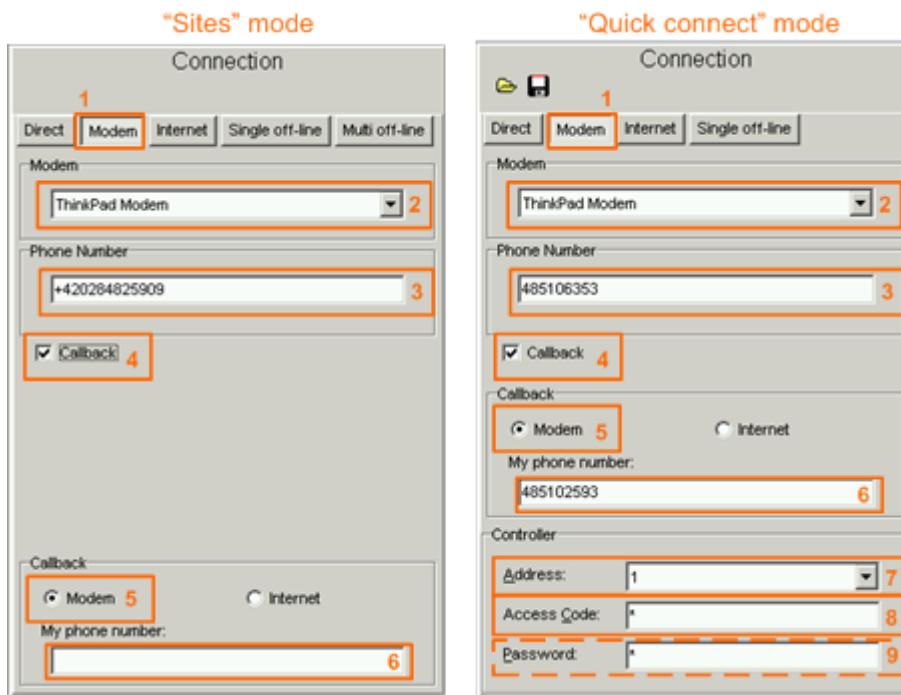
The modem must be correctly installed in your system to see it in the modem list. See the documentation of the modem for more information about how to install it.

3. Enter the phone number (3) of the controller. Use number format suitable for your local telephone network, i.e. the same format you would use to dial the number by a phone.
4. Check the **Callback** box (4) if you want the connection to be originated from the controller side, i.e. the connection fees will be charged to the owner of the controller.

NOTE:

This function is supported only if the controller(s) are connected to the modem via IG-MU or I-LB(+).

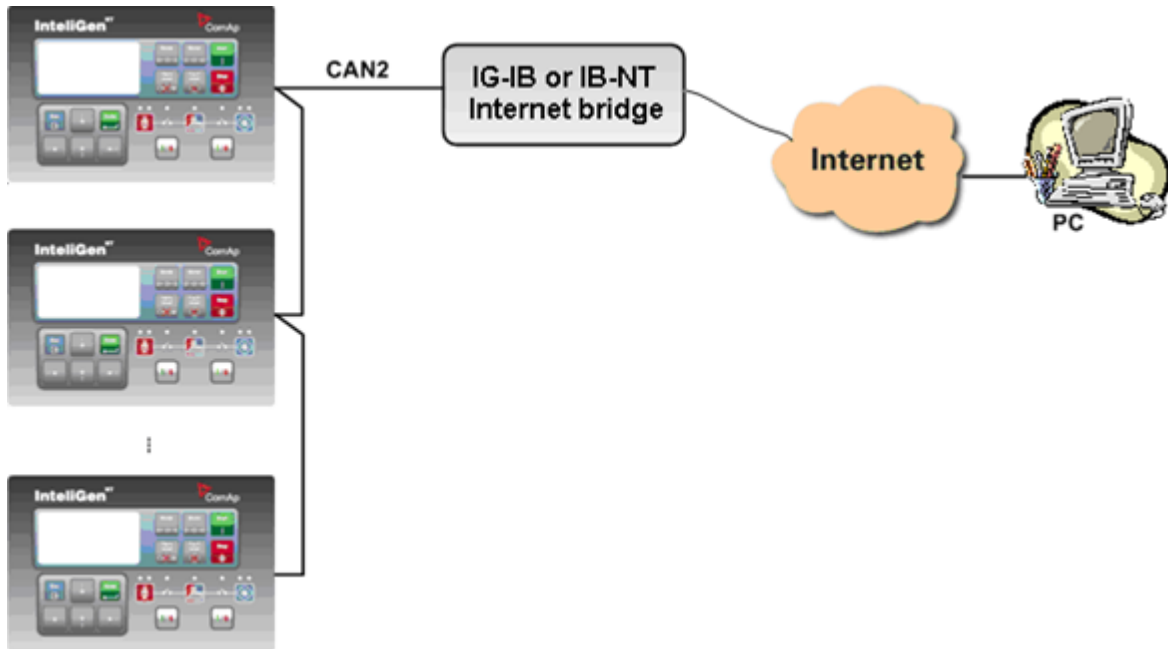
5. If you checked the callback, you have to check the modem callback mode in the box (5) and fill-in your phone number (6).
6. In the "Quick connection" mode you have to select the controller address and access code in the boxes (7),(8) and optionally enter the controller password in the box (9). However, the password can be entered also later while the connection is already running.



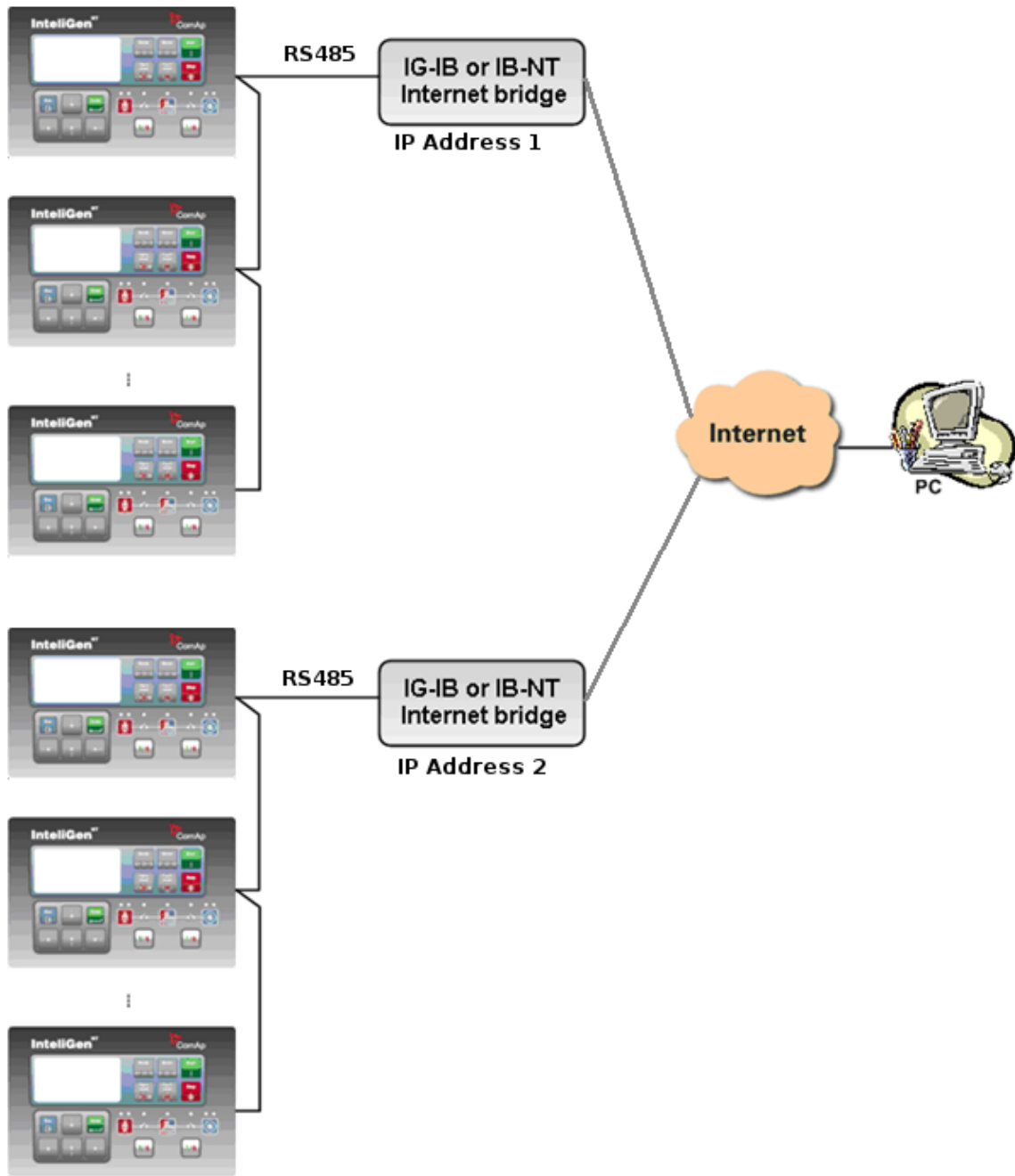
MODEM CONNECTION SETTINGS

Internet (Ethernet) connection

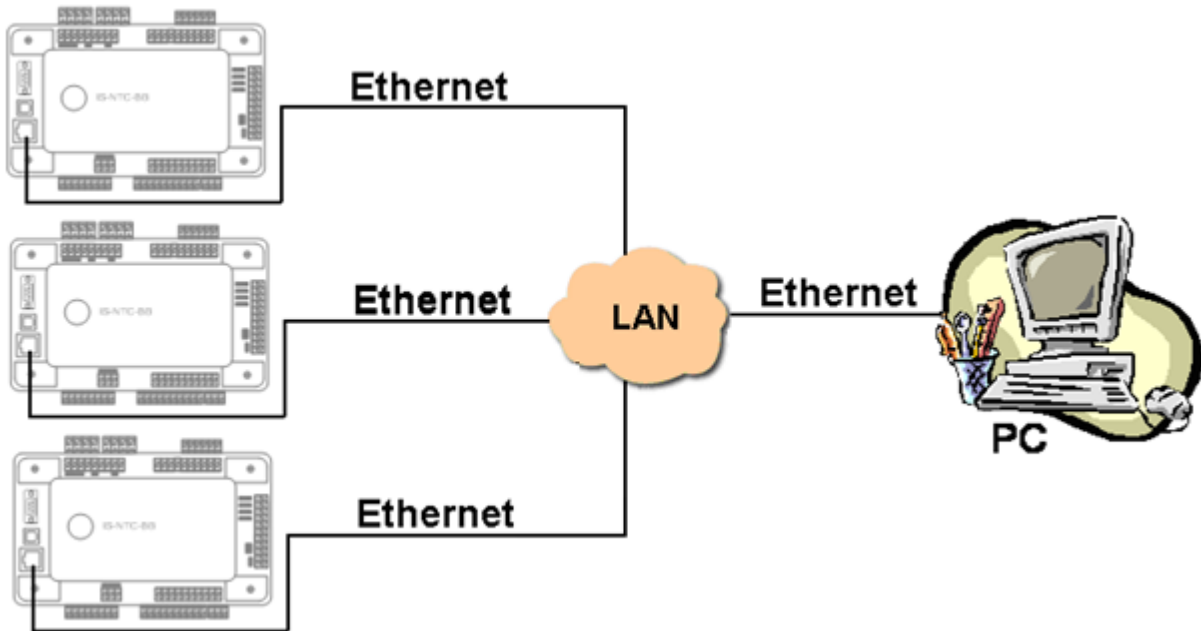
The Internet (Ethernet) connection is a point-to-point connection between a PC and a controller or site via a TCP/IP protocol-based network. The physical configuration of such network can be a small local area ethernet network as well as the Internet.



CONNECTING A SITE VIA ONE IG-IB/IB-NT MODULE

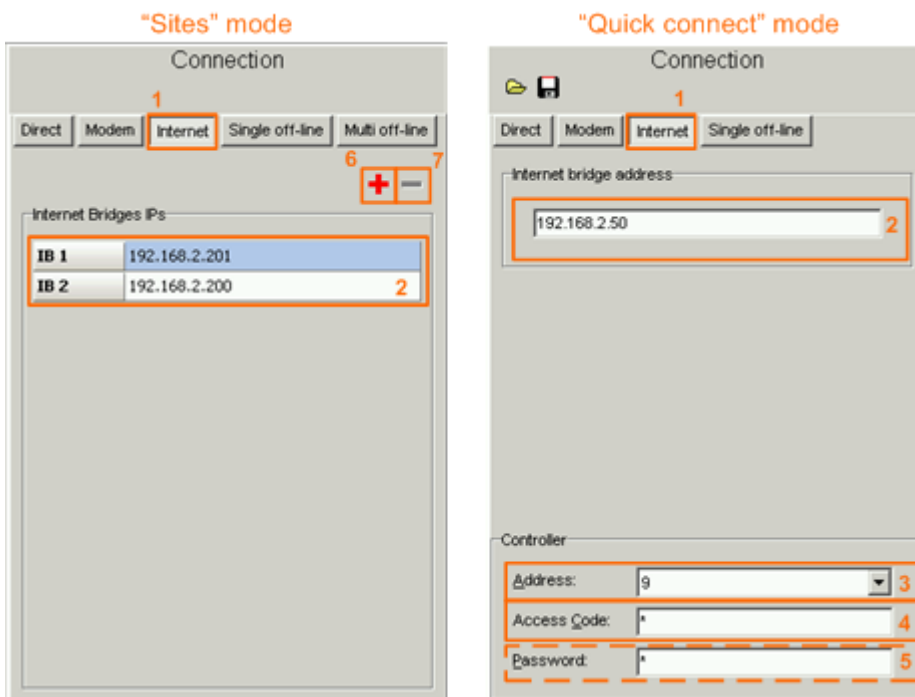


CONNECTING A SITE VIA MORE IG-IB/IB-NT MODULES



CONNECTING A SITE VIA IB-LITE OR IB-COM MODULES

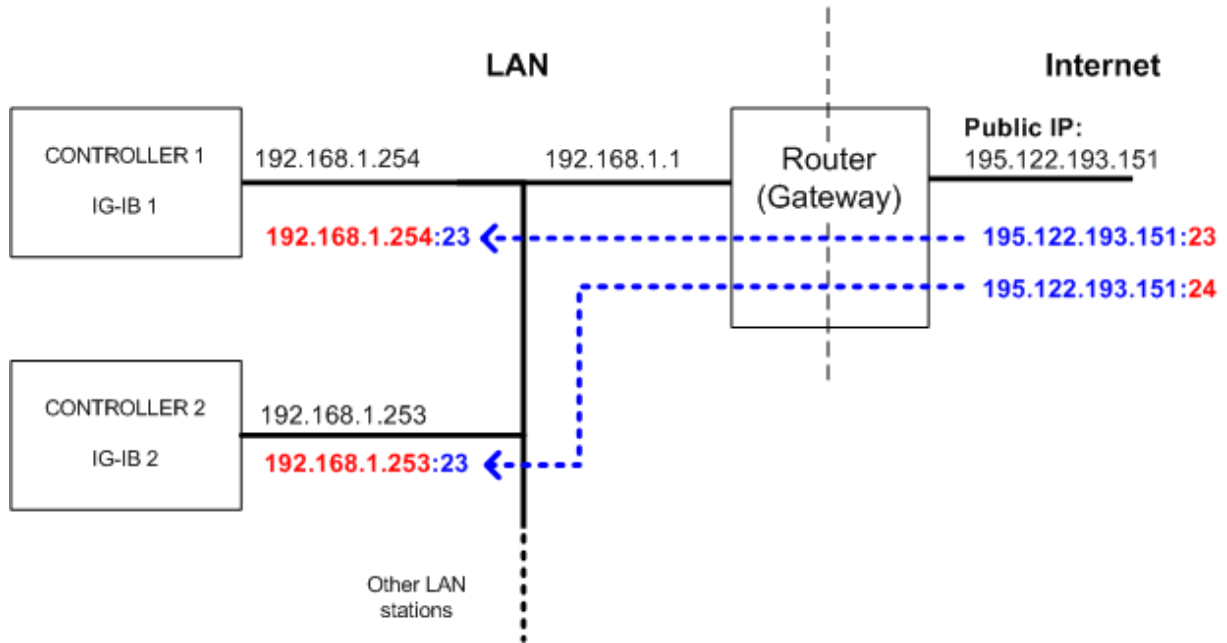
1. Click to the button (1) to select internet connection.
2. If you are using "quick connection", enter the IP address of the gen-set (site) into the field (2). In "sites" mode you have to define all IP addresses that are used at the particular site and then assign the IPs to the particular gen-sets in the site. Refer to the chapter [Create site](#) of this manual.
3. Add/remove IP addresses using the buttons (6), (7).
4. In the "Quick connection" mode you have to select the controller address and access code in the boxes (3),(4) and optionally enter the controller password in the box (5). However, the password can be entered also later while the connection is already running.



INTERNET CONNECTION SETTINGS

NOTE:

The IP addresses of the controllers must be accessible from the remote computer. If the remote computer is connected into another LAN segment than the gen-sets are, there must be a gateway(s) that enable direct traffic between the segments. If the remote computer is connected via Internet, then the internet gateway of the LAN where gen-sets are connected must have public IP address, must allow incoming traffic and must provide port forwarding from the external public IP to the different internal gen-set IPs according to the port used.



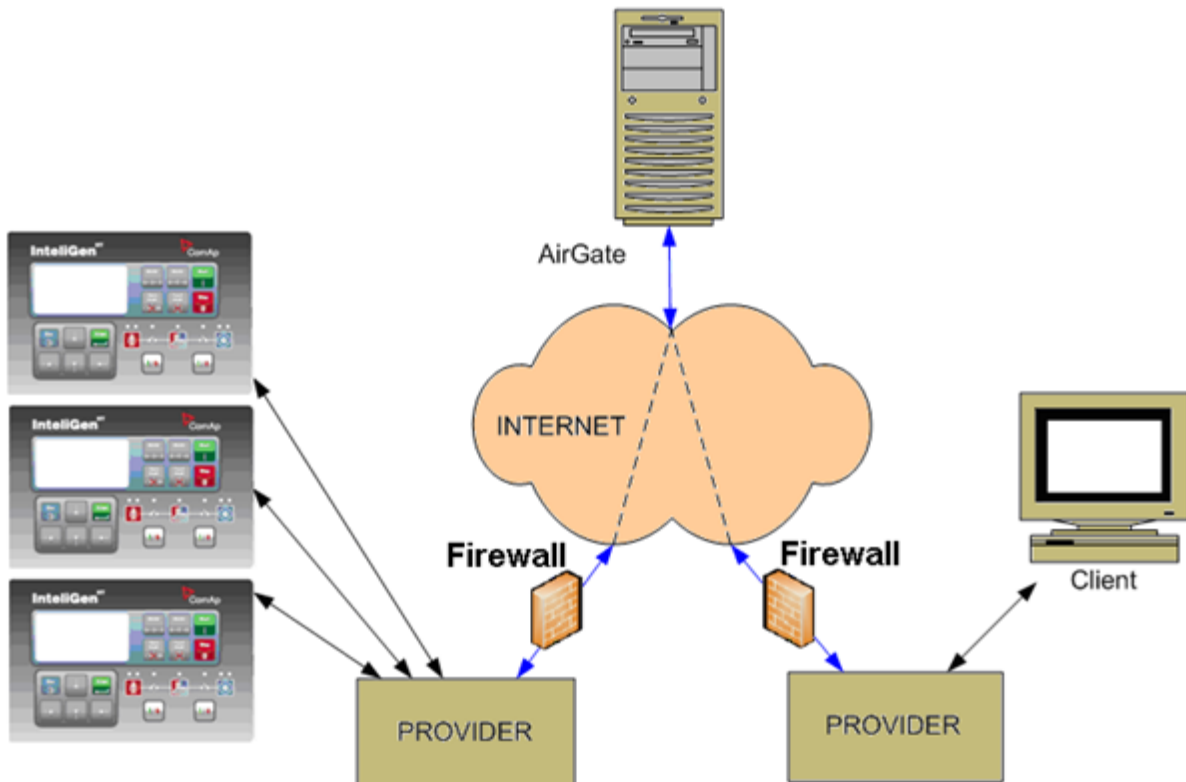
INTERNET GATEWAY CONFIGURATION EXAMPLE (PORT FORWARDING)

Internet connection via AirGate server

This connection type is used for connection to controllers/sites, that are connected to the Internet, however they do not have public and static IP address. The controllers connect by themselves to the AirGate server and cyclically ask whether there is a connection request from a client or not. On the other side the clients (InteliMonitor) connect to the AirGate server and instead of connecting directly to the controller. The server then creates a "tunnel" between the client and the controller.

CAUTION!

To avoid unauthorized access to the controller change the access code and keep it secret!



PRINCIPLE OF AIRGATE CONNECTION

NOTE:

The controller firmware and/or communication module must support the AirGate connection type.

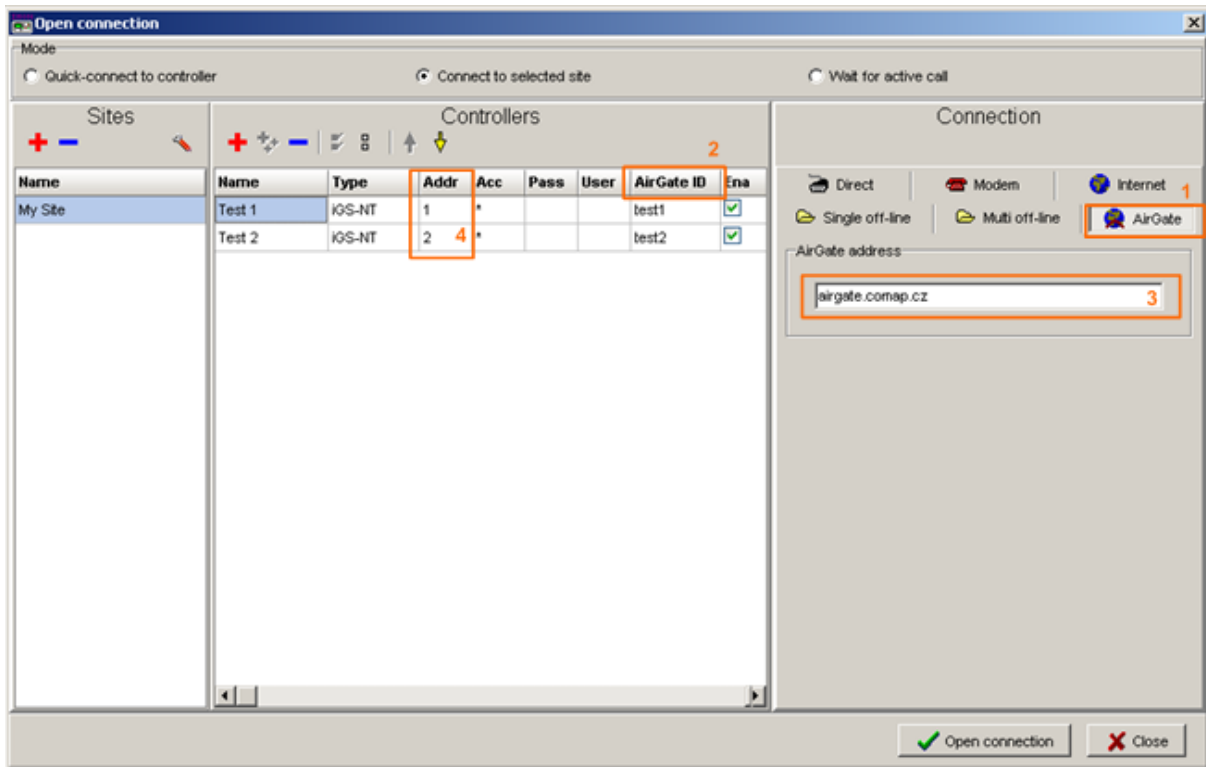
1. Select the AirGate connection type.
2. Fill-in the correct AirGate ID for each controller. The AirGate ID is displayed on the controller screen when the controller has connected at the AirGate server. The ID is assigned to the respective controller by the server in the moment of the registration and remains the same in any time the controller connects to the server again.
3. Enter the AirGate server address. Use the same server as in the controller.

NOTE:

There is a public free AirGate server at "airgate.comap.cz".

NOTE:

Although the controllers in your site are not connected together by the CAN2 bus they must have different controller addresses (4).



AIRGATE CONNECTION SETTINGS

Offline connection

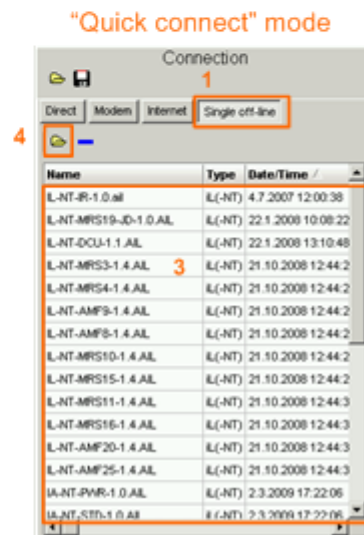
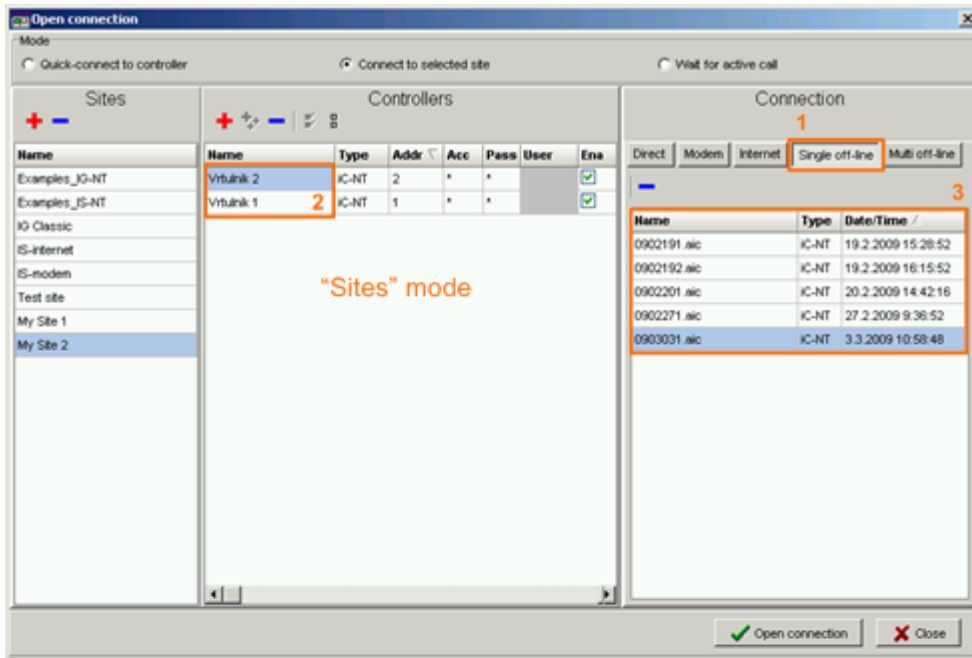
An offline connection displays data from a previously saved archive or archive set.

- **Archive** is a file with different extensions (".aig", ".ais", ".ant"..), which contains all data from the one controller from the moment the archive was saved. Archives are stored in the particular gen-set folder of the particular site folder. See the picture in the chapter [Using sites](#). In the quick connection mode the location where archives are stored can be selected by the user.
- **Archive set** is a file with ".ast" extension, which contains links to archives from all active controllers in the site, that were saved at one moment using the function [Save all](#) or [Save all as...](#). Archive sets can be saved in sites mode only and are stored in the particular site folder.

Single Offline

The single offline connection opens and displays one archive from one gen-set.

1. Click to the button (1) to select the single offline connection.
2. Select the gen-set in the list (2), from which you want to open an archive.
3. Then select the desired archive in the list (3). The list contains all archives from the folder of the particular gen-set.
4. If you are opening a quick offline connection, you have to select the folder, where your archives are located (4) and then select the archive from the list (3).



SINGLE OFFLINE CONNECTION

NOTE:

The [single-line diagram](#) is not displayed in single offline connection.

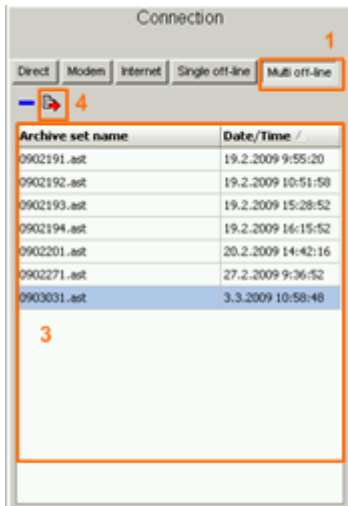
Multi Offline

The multi offline connection opens and displays all archive from selected archive set. I.e. you will see data from all gensets which were saved in the same moment.

1. Click to the button (1) to select the multi offline connection.
2. Select the desired archive set in the list (2).
3. Use the button (3) to export the selected archive set (i.e. the ".ast" file as well as the related archives) into one file, which is called "zipped" archive set. This file has ".zst" extension and is specially designed for sending to ComAp technical support if needed.

NOTE:

The multi offline connection is not available in the quick connection mode.



MULTI OFFLINE CONNECTION


Users and password

All ComAp controllers offer password protection for certain functions and adjustment points. In most cases the level of password protection for the particular function or setpoint is configurable using the PC configuration tool (GenConfig, WinEdit, LiteEdit). Please see the configuration tool manual or controller manual for details about password protection for the particular controller type.

- **IS-Classic, IG-Classic** - there are three levels of password. If a valid password of certain level is entered, the user gets access to items that have configured the same or lower password level.
- **IL-NT, IC-NT** - there is one level of password. If a valid password is entered, the user gets access to all protected items.
- **IGS-NT** - there are seven different users and seven different access groups. Each user has access to selected groups and has own password. Each item, which is to be protected by password, belongs to one of these seven access groups. If a valid password is entered, the user gets access to all items that belong to a group to which he has granted access. The user #0 is an "Administrator" and has access to all protected items as well as the rights for managing other users.



Entering password

If the [Sites](#) connection mode is used, then the passwords for each controller can be entered in advance into the gen-sets list (see the chapter [Create site](#)). If the [Quick](#) connection mode is used, then the passwords for the particular controller can be entered before the connection is opened.

Single connection: To enter the password while the connection is already running, go to the menu **Monitor** -> **Enter password** or click to the icon . In case of IGS-NT you also have to select the user, for whom the password is being entered.

Multiple connection: To enter the password while the connection is already running, in the toolbar select the gen-set to which you want enter the password and then go to the menu **Monitor** -> **Enter password** or use the item **Enter password** from the pull-down menu of the desired controller. In case of IGS-NT you also have to select the user, for whom the password is being entered.


Deactivating password

Click to the icon  resp.  or use the menu item **Monitor** -> **Deactivate password** to deactivate the currently entered password (in case of IGS-NT log-out the current user).

Manage users

NOTE:

This function is available in IGS-NT controllers only.

Log-in as the administrator and click to the icon  or use the menu **Monitor** -> **Admin users** to open the window where you can manage the other users of the controller.

1. Select the user that you want to edit in the list (2). The name of the user can be changed after clicking into the name field. The name of the currently selected user is indicated in the label (3).

NOTE:

To change user name and levels user must be enabled first in section (1).

2. Select the top access level for this user by double-clicking on the appropriate rectangle in the access level map (4). All lower levels will be selected automatically. To select levels individually, hold the Ctrl key and click on level field.
3. Uncheck the "Enabled" item (1) if you want to disable the selected user, i.e. the user will not have any access level assigned.
4. You can reset password to default for all users except the administrator by clicking on the button (5) or reset password only for the selected user by clicking on the button (6).

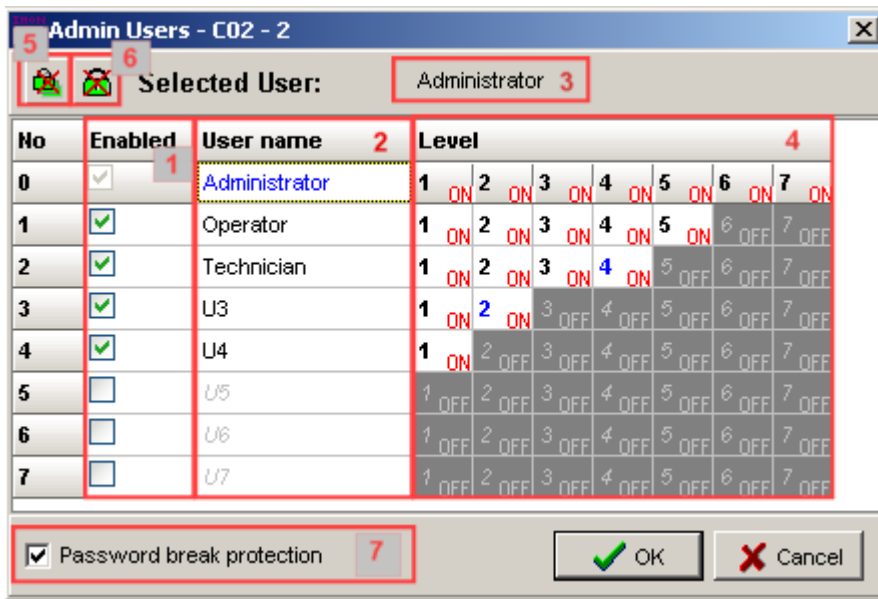
NOTE:

Default password is "0" (zero).

5. Enable/Disable function *Password break protection* function (7). Initial status is DISABLED.

NOTE:


Warning "PassInsertBlick" appears in alarm list when controller is blocked. It is not allowed to insert the password in case that controller is blocked. There is information that controller is blocked for next password attempt and time remaining till the end of blocation instead of password input window at the terminal screen. The controller is locked for 5 minutes when the password is 6 times wrong entered (in case of next 6 wrong attempts (correct password was not inserted at all) for 30, 60, 120, 240 minutes). Incorrect password message appears in the history of the controller when the invalid password is used.



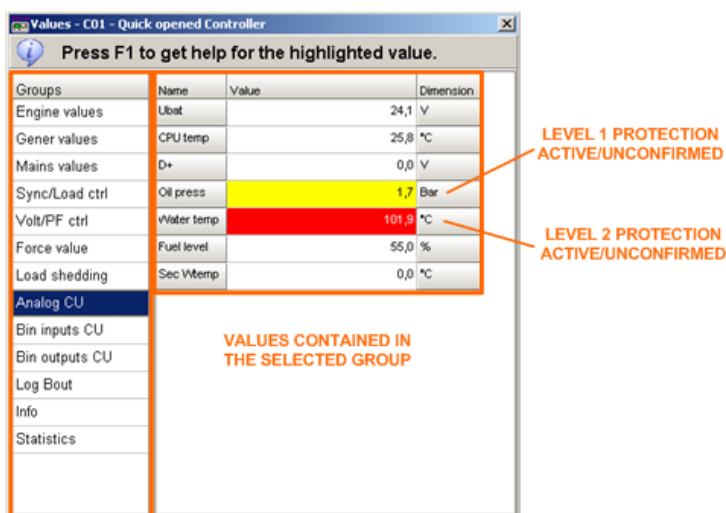
MANAGE USERS WINDOW

Browsing values

The values window is used to display currently measured values (in online connections) or values measured at the moment of saving the archive (in offline connection).

Click to the button  or go to the menu **Monitor** -> **Values** to open the *Values* window. If you are connected to multiple gen-sets, you have to select the requested genset first or use the item **Values** from the particular gen-set pulldown menu.

- **Yellow** colour of the background indicates that there is an active protection of the **level 1** (e.g. warning) or previously active protection which is still not confirmed for this particular value.
- **Red** colour of the background indicates that there is an active protection of the **level 2** (e.g. slow stop, shutdown etc.) or previously active protection which is still not confirmed for this particular value.




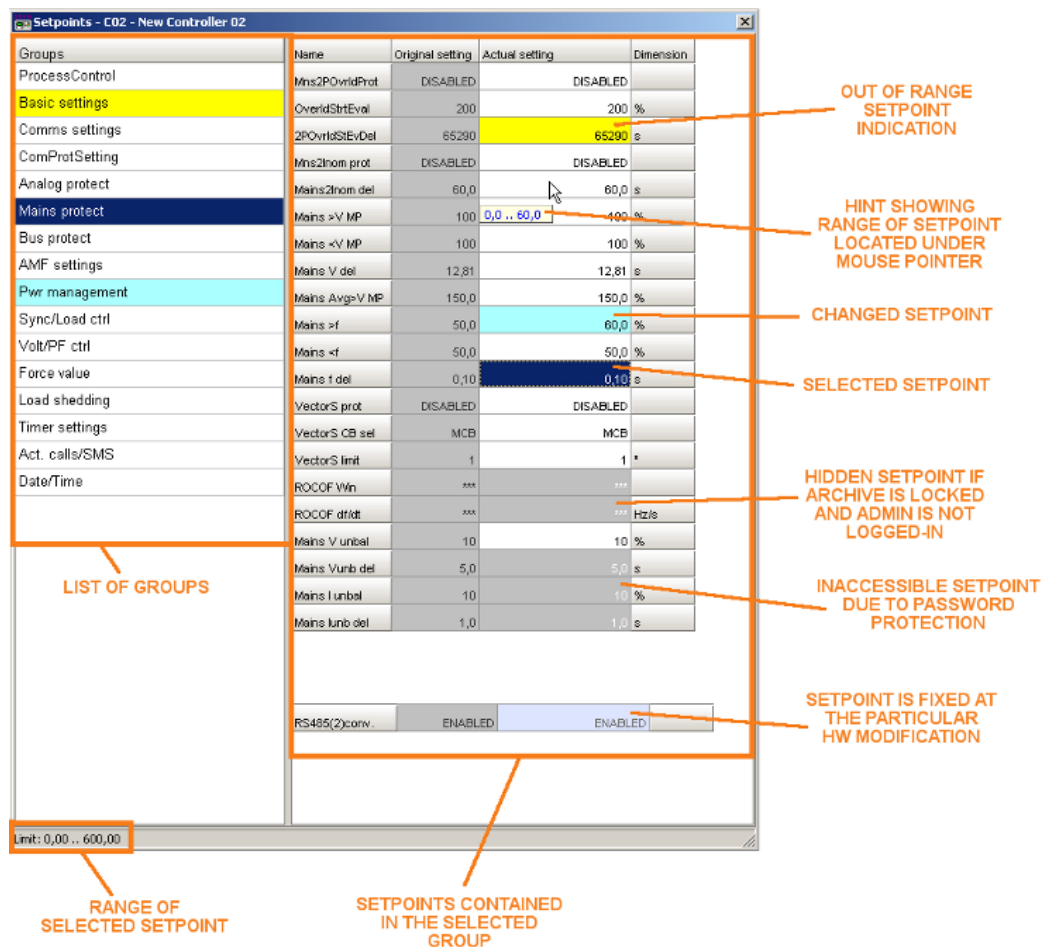
LIST OF GROUPS

VALUES WINDOW

Adjusting setpoints

The setpoints window is used to displaying and/or adjust setpoints in the controller. The setpoints can be adjusted one by one manually or all setpoints can be imported at once from another archive.

1. Click to the button  or go to the menu **Monitor** -> **Setpoints** to open the *Setpoints* window. If you are connected to multiple gen-sets, you have to select the requested genset first or use the item **Setpoints** from the particular gen-set pulldown menu.
2. Select the setpoint group in the group list to display the setpoints located in the particular group.
3. Double-click on the setpoint value to modify it. If the setpoint value has gray background, then the setpoint requires higher level password than the currently entered is.
4. If a setpoint has yellow background, then it's value is out of allowed range and should be readjusted properly. This situation can occur after firmware upgrade.
5. There are situations in which certain setpoints are fixed and can't be changed. Typically if you use a hardware modification which does not have the particular feature which is the setpoint related to. Such setpoints are gray with lightblue background. E.g. if you have IG-NT controller modification you can not switch the AC voltage inputs to 100V range as this controller modification supports only 277V.
6. If the configuration is locked and administrator is not logged-in, then all setpoints belonging to the group 7 are displayed with gray background and there are star symbols displayed instead of the setpoint.
7. The column **Original setting** contains the setting how it was in the moment the setpoints window was opened. If you want to restore this original setting doubleclick on the respective cell in this column.



Setpoints - C02 - New Controller 02

Groups	Name	Original setting	Actual setting	Dimension
ProcessControl	Mns2POvridProt	DISABLED	DISABLED	DISABLED
Basic settings	OverridStrtEval	200	200	%
Comms settings	2POvridStEvDel	65290	65290	s
ComProtSetting	Mns2Inom prot	DISABLED	DISABLED	DISABLED
Analog protect	Mains2Inom del	60,0	60,0	s
Mains protect	Mains >V MP	100	0,0 .. 60,0	%
Bus protect	Mains <V MP	100	100	%
AMF settings	Mains V del	12,81	12,81	s
Pwr management	Mains Avg>V MP	150,0	150,0	%
Sync/Load ctrl	Mains >f	50,0	60,0	%
Volt/PF ctrl	Mains <f	50,0	50,0	%
Force value	Mains f del	0,10	0,10	s
Load shedding	VectorS prot	DISABLED	DISABLED	DISABLED
Timer settings	VectorS CB sel	MCB	MCB	MCB
Act. calls/SMS	VectorS limit	1	1	*
Date/Time	ROCOF VIn	***	***	Hz/s
	ROCOF dIn	***	***	Hz/s
	Mains V unbal	10	10	%
	Mains V unbal del	5,0	5,0	s
	Mains I unbal	10	10	%
	Mains I unbal del	1,0	1,0	s
	RS485(2)conv.	ENABLED	ENABLED	

Annotations:

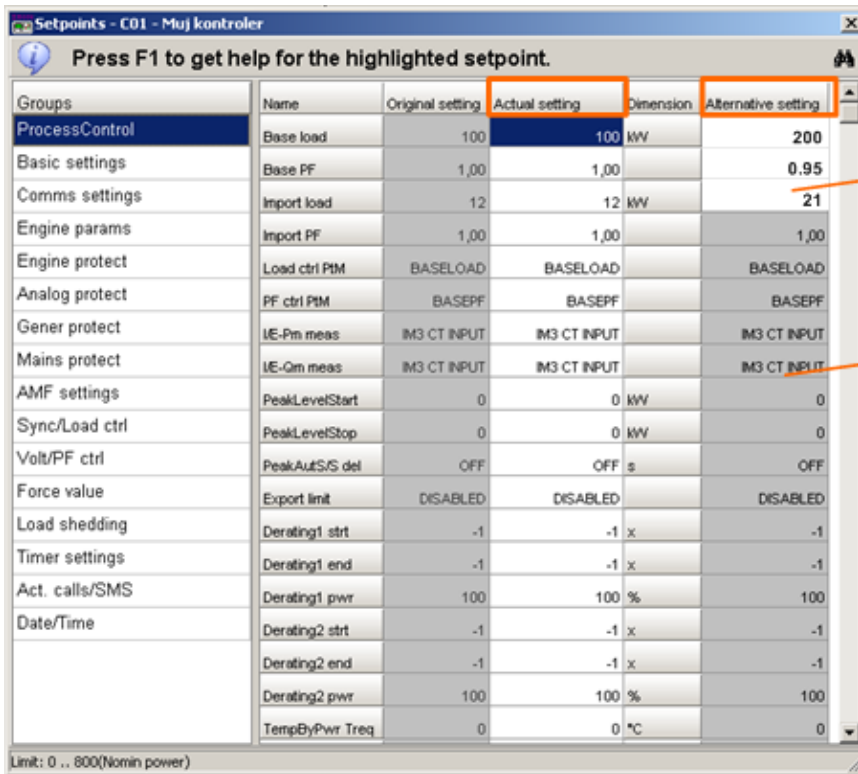
- OUT OF RANGE SETPOINT INDICATION:** Points to the yellow background of the 'Actual setting' cell for 'OverridStrtEval'.
- HINT SHOWING RANGE OF SETPOINT LOCATED UNDER MOUSE POINTER:** Points to the tooltip '0,0 .. 60,0' shown over the 'Actual setting' cell for 'Mains >V MP'.
- CHANGED SETPOINT:** Points to the cyan background of the 'Actual setting' cell for 'Mains >f'.
- SELECTED SETPOINT:** Points to the blue background of the 'Actual setting' cell for 'Mains f del'.
- HIDDEN SETPOINT IF ARCHIVE IS LOCKED AND ADMIN IS NOT LOGGED-IN:** Points to the gray background and star symbol in the 'Actual setting' cell for 'ROCOF VIn'.
- INACCESSIBLE SETPOINT DUE TO PASSWORD PROTECTION:** Points to the gray background and star symbol in the 'Actual setting' cell for 'Mains I unbal del'.
- SETPOINT IS FIXED AT THE PARTICULAR HW MODIFICATION:** Points to the light blue background of the 'Actual setting' cell for 'RS485(2)conv.'.
- RANGE OF SELECTED SETPOINT:** Points to the text 'Limit: 0,00 .. 600,00' at the bottom left.
- SETPOINTS CONTAINED IN THE SELECTED GROUP:** Points to the list of setpoints under the 'Basic settings' group.

SETPOINTS WINDOW

Import setpoints

The setpoints can be imported all at once from another archive. Use the menu **Setpoints** -> **Open alternative setpoints** and select the archive which you want the setpoints to be imported from. The alternative values will appear in a separate column of the setpoints window.

- Use the menu **Setpoints** -> **Import alternative setpoints** to import all setpoints at once.
- Double-click on an alternative setpoint to import the particular setpoint only.



Groups	Name	Original setting	Actual setting	Dimension	Alternative setting
ProcessControl	Base load	100	100	kW	200
Basic settings	Base PF	1,00	1,00		0.95
Comms settings	Import load	12	12	kW	21
Engine params	Import PF	1,00	1,00		1,00
Engine protect	Load ctrl PTM	BASELOAD	BASELOAD		BASELOAD
Analog protect	PF ctrl PTM	BASEPF	BASEPF		BASEPF
Gener protect	IE-Pm meas	IM3 CT INPUT	IM3 CT INPUT		IM3 CT INPUT
Mains protect	IE-Qm meas	IM3 CT INPUT	IM3 CT INPUT		IM3 CT INPUT
AMF settings	PeakLevelStart	0	0	kW	0
Sync/Load ctrl	PeakLevelStop	0	0	kW	0
Volt/PF ctrl	PeakAutS/S del	OFF	OFF	s	OFF
Force value	Export limit	DISABLED	DISABLED		DISABLED
Load shedding	Derating1 strt	-1	-1	x	-1
Timer settings	Derating1 end	-1	-1	x	-1
Act. calls/SMS	Derating1 pwr	100	100	%	100
Date/Time	Derating2 strt	-1	-1	x	-1
	Derating2 end	-1	-1	x	-1
	Derating2 pwr	100	100	%	100
	TempByPwr Treq	0	0	°C	0

ALTERNATIVE SETPOINT HAS DIFFERENT VALUE (INDICATED IN BOLD)

ALTERNATIVE SETPOINT HAS IDENTICAL VALUE (INDICATED BY GRAY BACKGROUND)

SETPOINTS WINDOW WITH THE ALTERNATIVE SETPOINTS COLUMN

Use the menu **Setpoints** -> **Close alternative setpoints** to hide the column with alternative setpoints.

Multi-setpoints

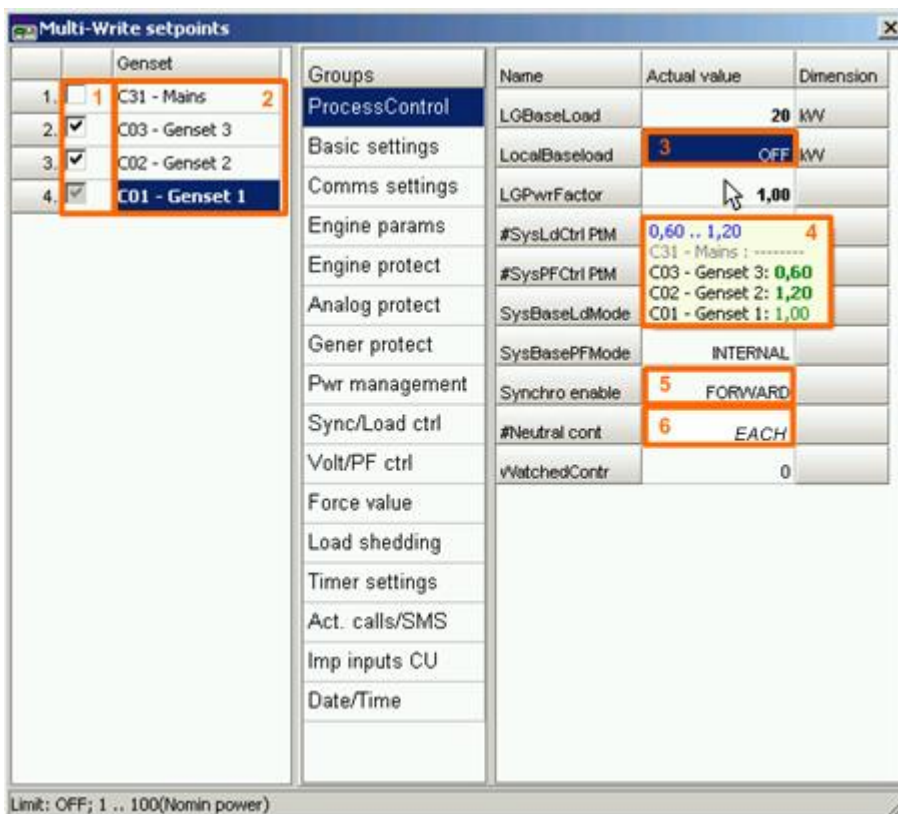
If you are connected to a site (i.e. multiple connection), you have an option to write selected setpoints into more controllers at once. This operation is called *Multi-write setpoints*. Use the menu **Multi** -> **Multi setpoints** to open the multi-setpoints window.

- From the list (1) select the controllers where you want to change setpoint(s).

NOTE:

It is possible to select more gensets at once. Click to the first genset you want to select (column "Genset"). Then press and hold shift key and click to the last genset you want to be selected. All gensets located between the two gensets will be selected.

- In the list (2) double-click to the controller, which will act as a "master", i.e. whose setpoints will be displayed in the right part of the window.
 - Double-click onto a setpoint value to change it and write into all selected controllers.
 - If you place the mouse pointer over a setpoint, the hint will show you current setting in all selected controllers (4)
- If a setpoint is displayed in bold (3), that means it's setting is different in some of selected controllers.
 - If a setpoint is displayed in italic (6), that means the particular setpoint is not available in some of selected controllers.



Groups	Name	Actual value	Dimension
ProcessControl	LGBaseLoad	20	kW
Basic settings	LocalBaseload	3 OFF	kW
Comms settings	LGPwrFactor	1,00	
Engine params	#SysLdCtrl PTM	0,60 .. 1,20	
Engine protect	#SysPFCtrl PTM	C31 - Mains : 0,60 C03 - Genset 3: 0,60 C02 - Genset 2: 1,20 C01 - Genset 1: 1,00	
Analog protect	SysBaseLdMode	INTERNAL	
Gener protect	SysBasePFMode	INTERNAL	
Pwr management	Synchro enable	5 FORWARD	
Sync/Load ctrl	#Neutral cont	6 EACH	
Volt/PF ctrl	vWatchedContr	0	


MULTI-SETPOINTS WINDOW

Browsing history

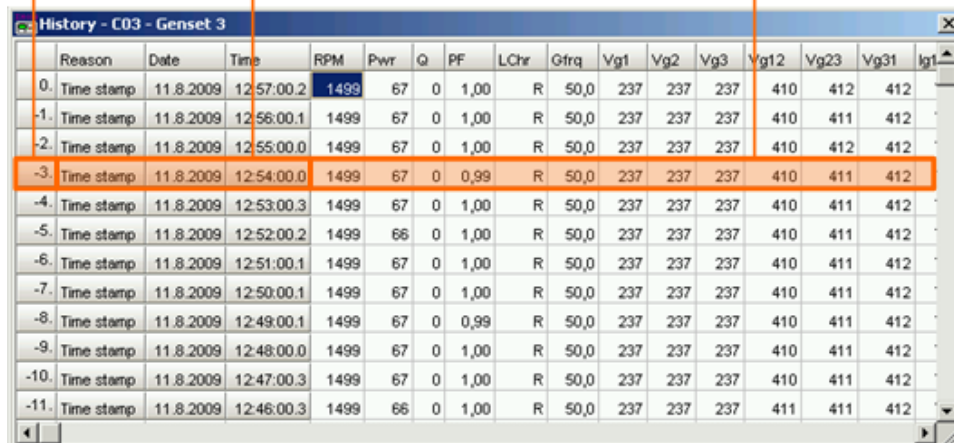
Most of ComAp controllers contain a block in the non-volatile memory, where certain number of recent important events are stored together with their date/time of occurrence and important data recorded in the moment the event occurred. This memory block is called *History*.

NOTE:

See also the chapter [History settings](#).

Click to the button  or go to the menu **Monitor** -> **History** to open the History window. If you are connected to multiple gen-sets, you have to select the requested gen-set first or use the item **History** from the particular gen-set pulldown menu.

RECORD NUMBER RECORD HEADER RECORD BODY

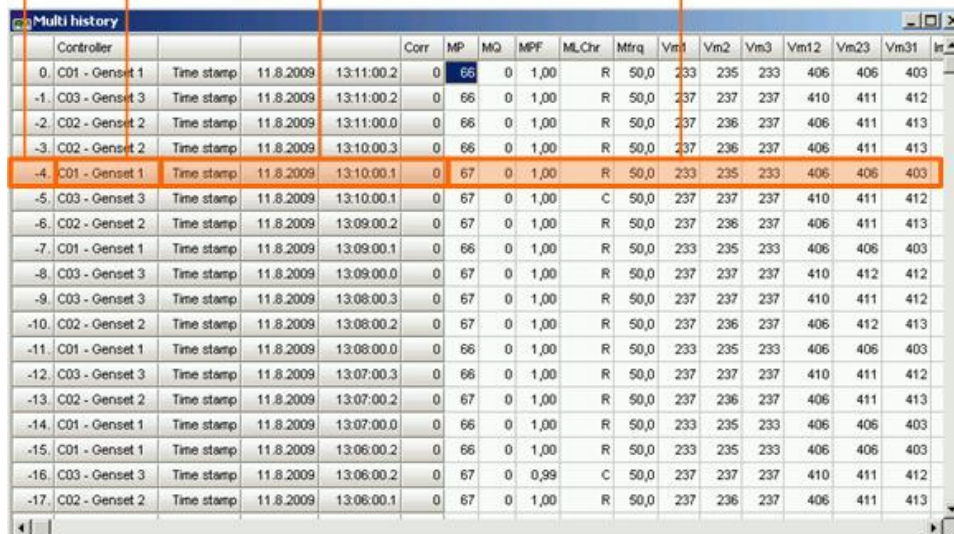


Reason	Date	Time	RPM	Pwr	Q	PF	LChr	Gfrq	Vg1	Vg2	Vg3	Vg12	Vg23	Vg31	lg1
0. Time stamp	11.8.2009	12:57:00.2	1499	67	0	1,00	R	50,0	237	237	237	410	412	412	
-1. Time stamp	11.8.2009	12:56:00.1	1499	67	0	1,00	R	50,0	237	237	237	410	411	412	
-2. Time stamp	11.8.2009	12:55:00.0	1499	67	0	1,00	R	50,0	237	237	237	410	412	412	
-3. Time stamp	11.8.2009	12:54:00.0	1499	67	0	0,99	R	50,0	237	237	237	410	411	412	
-4. Time stamp	11.8.2009	12:53:00.3	1499	67	0	1,00	R	50,0	237	237	237	410	411	412	
-5. Time stamp	11.8.2009	12:52:00.2	1499	66	0	1,00	R	50,0	237	237	237	410	411	412	
-6. Time stamp	11.8.2009	12:51:00.1	1499	67	0	1,00	R	50,0	237	237	237	410	411	412	
-7. Time stamp	11.8.2009	12:50:00.1	1499	67	0	1,00	R	50,0	237	237	237	410	411	412	
-8. Time stamp	11.8.2009	12:49:00.1	1499	67	0	0,99	R	50,0	237	237	237	410	411	412	
-9. Time stamp	11.8.2009	12:48:00.0	1499	67	0	1,00	R	50,0	237	237	237	410	411	412	
-10. Time stamp	11.8.2009	12:47:00.3	1499	67	0	1,00	R	50,0	237	237	237	410	411	412	
-11. Time stamp	11.8.2009	12:46:00.3	1499	66	0	1,00	R	50,0	237	237	237	411	411	412	

HISTORY WINDOW

If you are connected to a site (i.e. multiple connection), you have an option to see combined history from all controllers in one table. This is called *Multi history*. Use the menu **Multi** -> **Multi history** to open the multi-setpoints window.

RECORD NUMBER CONTROLLER WHERE THE EVENT OCCURED RECORD HEADER RECORD BODY



Controller	Time stamp	Date	Time	Corr	MP	MQ	MPF	MLChr	Mfrq	Vm1	Vm2	Vm3	Vm12	Vm23	Vm31	lg1
0. C01 - Genset 1	Time stamp	11.8.2009	13:11:00.2	0	66	0	1,00	R	50,0	233	235	233	406	406	403	
-1. C03 - Genset 3	Time stamp	11.8.2009	13:11:00.2	0	66	0	1,00	R	50,0	237	237	237	410	411	412	
-2. C02 - Genset 2	Time stamp	11.8.2009	13:11:00.0	0	66	0	1,00	R	50,0	237	236	237	406	411	413	
-3. C02 - Genset 2	Time stamp	11.8.2009	13:10:00.3	0	66	0	1,00	R	50,0	237	236	237	406	411	413	
-4. C01 - Genset 1	Time stamp	11.8.2009	13:10:00.1	0	67	0	1,00	R	50,0	233	235	233	406	406	403	
-5. C03 - Genset 3	Time stamp	11.8.2009	13:10:00.1	0	67	0	1,00	C	50,0	237	237	237	410	411	412	
-6. C02 - Genset 2	Time stamp	11.8.2009	13:09:00.2	0	67	0	1,00	R	50,0	237	236	237	406	411	413	
-7. C01 - Genset 1	Time stamp	11.8.2009	13:09:00.1	0	66	0	1,00	R	50,0	233	235	233	406	406	403	
-8. C03 - Genset 3	Time stamp	11.8.2009	13:09:00.0	0	67	0	1,00	R	50,0	237	237	237	410	412	412	
-9. C03 - Genset 3	Time stamp	11.8.2009	13:08:00.3	0	67	0	1,00	R	50,0	237	237	237	410	411	412	
-10. C02 - Genset 2	Time stamp	11.8.2009	13:08:00.2	0	67	0	1,00	R	50,0	237	236	237	406	412	413	
-11. C01 - Genset 1	Time stamp	11.8.2009	13:08:00.0	0	66	0	1,00	R	50,0	233	235	233	406	406	403	
-12. C03 - Genset 3	Time stamp	11.8.2009	13:07:00.3	0	66	0	1,00	R	50,0	237	237	237	410	411	412	
-13. C02 - Genset 2	Time stamp	11.8.2009	13:07:00.2	0	67	0	1,00	R	50,0	237	236	237	406	411	413	
-14. C01 - Genset 1	Time stamp	11.8.2009	13:07:00.0	0	66	0	1,00	R	50,0	233	235	233	406	406	403	
-15. C01 - Genset 1	Time stamp	11.8.2009	13:06:00.2	0	66	0	1,00	R	50,0	233	235	233	406	406	403	
-16. C03 - Genset 3	Time stamp	11.8.2009	13:06:00.2	0	67	0	0,99	C	50,0	237	237	237	410	411	412	
-17. C02 - Genset 2	Time stamp	11.8.2009	13:06:00.1	0	67	0	1,00	R	50,0	237	236	237	406	411	413	

MULTI HISTORY WINDOW

Pre-mortem history

The controller IS-NTC-BB contains a special memory buffer for cca 50 records of "pre-mortem" history. Every 3 seconds a new record is written into this buffer, whereas the latest record overwrites the oldest one. If a red alarm occurs (i.e. any alarm of 2nd level) the pre-mortem buffer, which contains at the moment records from last several minutes, is copied into the normal history file. IntelliMonitor displays these pre-mortem records in italic on lightblue background and orders them just **before** the initiating event.

	Reason	Date	Time	RPM	Pwr	Q	PF	LChr	Gfrq	Vg1	Vg2	Vg3	Vg12	Vg23	Vg31	Ig1	Ig2	Ig3
0	Not ready	18.7.2011	9:40:04.6	0	0	0	0,00		0,0	0	0	0	0	0	0	0	0	0
-1	Gen stop	18.7.2011	9:39:54.7	1500	0	0	0,00		50,0	230	230	228	398	396	397	0	0	0
-2	GCB opened	18.7.2011	9:39:25.1	1542	675	-51	1,00	R	51,4	234	230	230	402	397	405	983	964	9
-3	Cooling	18.7.2011	9:39:24.8	1476	679	-33	1,00	R	49,3	232	232	230	403	401	401	972	976	9
-4	BOC Overload	18.7.2011	9:39:24.7	1476	680	-33	1,00	R	49,2	232	232	230	403	400	401	972	976	9
0	<i>PreAlarm stamp</i>	18.7.2011	9:39:22.2	1500	227	-9	1,00	R	50,0	232	232	230	402	400	402	327	323	3
-1	<i>PreAlarm stamp</i>	18.7.2011	9:39:19.2	1500	227	-9	1,00	R	50,0	232	232	230	402	400	401	327	323	3
-2	<i>PreAlarm stamp</i>	18.7.2011	9:39:16.2	1500	226	-9	1,00	R	50,0	232	232	230	402	400	401	322	329	3
-3	<i>PreAlarm stamp</i>	18.7.2011	9:39:13.2	1500	227	-9	1,00	R	50,0	232	232	230	402	401	402	327	323	3
-4	<i>PreAlarm stamp</i>	18.7.2011	9:39:10.2	1500	227	-9	1,00	R	50,0	232	232	230	402	400	401	322	329	3
-5	<i>PreAlarm stamp</i>	18.7.2011	9:39:07.2	1500	231	-9	1,00	R	50,0	232	232	230	402	400	401	322	329	3
-6	<i>PreAlarm stamp</i>	18.7.2011	9:39:04.2	1500	227	-9	1,00	R	50,0	232	232	230	402	401	401	322	329	3
-7	<i>PreAlarm stamp</i>	18.7.2011	9:39:01.2	1500	226	-9	1,00	R	50,0	232	232	230	402	400	401	327	323	3
-8	<i>PreAlarm stamp</i>	18.7.2011	9:38:58.2	1500	227	-9	1,00	R	50,0	232	232	230	403	400	401	322	336	3
-9	<i>PreAlarm stamp</i>	18.7.2011	9:38:55.2	1500	228	-9	1,00	R	50,0	232	232	230	402	400	401	327	323	3
-10	<i>PreAlarm stamp</i>	18.7.2011	9:38:52.2	1500	226	-9	1,00	R	50,0	232	232	230	402	400	401	322	329	3
-11	<i>PreAlarm stamp</i>	18.7.2011	9:38:49.2	1500	227	-9	1,00	R	50,0	232	232	230	402	400	401	327	329	3
-12	<i>PreAlarm stamp</i>	18.7.2011	9:38:46.2	1500	235	-9	1,00	R	50,0	232	232	230	402	400	401	327	329	3
-13	<i>PreAlarm stamp</i>	18.7.2011	9:38:43.2	1500	243	-10	1,00	R	50,0	232	232	230	402	400	401	334	329	3
-14	<i>PreAlarm stamp</i>	18.7.2011	9:38:40.2	1500	235	-10	1,00	R	50,0	230	230	228	398	396	397	352	366	3
-15	<i>PreAlarm stamp</i>	18.7.2011	9:38:37.2	1500	226	-9	1,00	R	50,0	232	232	230	402	401	401	327	323	3
-16	<i>PreAlarm stamp</i>	18.7.2011	9:38:34.2	1500	227	-9	1,00	R	50,0	232	232	230	402	401	401	327	329	3
-17	<i>PreAlarm stamp</i>	18.7.2011	9:38:31.2	1500	226	-9	1,00	R	50,0	232	232	230	402	400	401	322	329	3
-18	<i>PreAlarm stamp</i>	18.7.2011	9:38:28.2	1500	227	-9	1,00	R	50,0	232	232	230	402	400	401	327	323	3
-19	<i>PreAlarm stamp</i>	18.7.2011	9:38:25.2	1500	228	-9	1,00	R	50,0	232	232	230	402	400	401	322	329	3
-20	<i>PreAlarm stamp</i>	18.7.2011	9:38:22.2	1500	233	-9	1,00	R	50,0	230	230	228	398	396	397	358	360	3
-21	<i>PreAlarm stamp</i>	18.7.2011	9:38:19.2	1500	227	-8	1,00	R	50,0	232	232	230	402	400	401	322	329	3
-22	<i>PreAlarm stamp</i>	18.7.2011	9:38:16.2	1500	226	-9	1,00	R	50,0	232	232	230	402	400	401	322	323	3
-23	<i>PreAlarm stamp</i>	18.7.2011	9:38:13.2	1500	226	-9	1,00	R	50,0	232	232	230	402	400	401	322	323	3
-24	<i>PreAlarm stamp</i>	18.7.2011	9:38:10.2	1500	226	-9	1,00	R	50,0	232	232	230	403	400	401	327	323	3
-25	<i>PreAlarm stamp</i>	18.7.2011	9:38:07.2	1500	226	-9	1,00	R	50,0	232	232	230	403	400	401	327	323	3
-26	<i>PreAlarm stamp</i>	18.7.2011	9:38:04.2	1500	243	-9	1,00	R	50,0	232	232	230	402	400	401	327	329	3
-27	<i>PreAlarm stamp</i>	18.7.2011	9:38:01.2	1500	226	-9	1,00	R	50,0	232	232	230	402	401	401	327	329	3
-28	<i>PreAlarm stamp</i>	18.7.2011	9:37:58.2	1500	226	-9	1,00	R	50,0	232	232	230	402	400	402	327	323	3
-29	<i>PreAlarm stamp</i>	18.7.2011	9:37:55.2	1500	226	-9	1,00	R	50,0	232	232	230	402	401	402	327	323	3
-30	<i>PreAlarm stamp</i>	18.7.2011	9:37:52.2	1500	244	-10	1,00	R	50,0	230	230	228	398	397	397	365	360	3
-31	<i>PreAlarm stamp</i>	18.7.2011	9:37:49.2	1500	226	-10	1,00	R	50,0	232	232	230	402	401	401	327	323	3
-32	<i>PreAlarm stamp</i>	18.7.2011	9:37:46.2	1500	238	-10	1,00	R	50,0	232	232	230	402	401	401	334	323	3
-33	<i>PreAlarm stamp</i>	18.7.2011	9:37:43.2	1500	227	-9	1,00	R	50,0	232	232	230	402	401	401	327	329	3
-34	<i>PreAlarm stamp</i>	18.7.2011	9:37:40.2	1500	227	-8	1,00	R	50,0	232	232	230	402	400	401	327	329	3
-35	<i>PreAlarm stamp</i>	18.7.2011	9:37:37.2	1500	243	-10	1,00	R	50,0	232	232	230	402	400	401	322	323	3
-36	<i>PreAlarm stamp</i>	18.7.2011	9:37:34.2	1500	227	-9	1,00	R	50,0	232	232	230	402	400	402	327	329	3
-37	<i>PreAlarm stamp</i>	18.7.2011	9:37:31.2	1500	227	-9	1,00	R	50,0	232	232	230	402	400	402	322	323	3
-38	<i>PreAlarm stamp</i>	18.7.2011	9:37:28.2	1500	227	-8	1,00	R	50,0	232	232	230	402	400	401	322	329	3
-39	<i>PreAlarm stamp</i>	18.7.2011	9:37:25.2	1500	227	-9	1,00	R	50,0	232	232	230	402	400	401	322	323	3
-40	<i>PreAlarm stamp</i>	18.7.2011	9:37:22.2	1500	227	-9	1,00	R	50,0	232	232	230	402	401	401	327	323	3
-41	<i>PreAlarm stamp</i>	18.7.2011	9:37:19.2	1500	227	-9	1,00	R	50,0	232	232	230	402	400	401	322	329	3
-42	<i>PreAlarm stamp</i>	18.7.2011	9:37:16.2	1500	245	-10	1,00	R	50,0	230	230	228	398	396	397	365	360	3
-43	<i>PreAlarm stamp</i>	18.7.2011	9:37:13.2	1500	226	-9	1,00	R	50,0	232	232	230	403	400	401	327	329	3
-44	<i>PreAlarm stamp</i>	18.7.2011	9:37:10.2	1500	226	-9	1,00	R	50,0	232	232	230	403	400	401	327	329	3
-45	<i>PreAlarm stamp</i>	18.7.2011	9:37:07.2	1500	227	-8	1,00	R	50,0	232	232	230	402	401	401	327	323	3
-46	<i>PreAlarm stamp</i>	18.7.2011	9:37:04.2	1500	231	-9	1,00	R	50,0	232	232	230	402	401	401	327	329	3
-47	<i>PreAlarm stamp</i>	18.7.2011	9:37:01.2	1500	226	-9	1,00	R	50,0	232	232	230	402	401	401	322	323	3
-48	<i>PreAlarm stamp</i>	18.7.2011	9:36:58.2	1500	226	-10	1,00	R	50,0	232	232	230	402	401	401	322	323	3
-49	<i>PreAlarm stamp</i>	18.7.2011	9:36:55.2	1500	240	-10	1,00	R	50,0	232	232	230	402	400	401	322	323	3
-5	Time stamp	18.7.2011	9:39:00.0	1500	226	-9	1,00	R	50,0	232	232	230	402	400	401	322	323	3
-6	Time stamp	18.7.2011	9:38:00.3	1500	226	-9	1,00	R	50,0	232	232	230	402	400	401	322	323	3
-7	Time stamp	18.7.2011	9:37:00.2	1500	226	-9	1,00	R	50,0	232	232	230	402	401	401	322	329	3
-8	Time stamp	18.7.2011	9:36:00.2	1500	227	-9	1,00	R	50,0	232	232	230	402	401	401	327	329	3
-9	Time stamp	18.7.2011	9:35:00.1	1500	236	-10	1,00	R	50,0	232	232	230	402	400	402	327	329	3
-10	Time stamp	18.7.2011	9:34:00.1	1500	240	-10	1,00	R	50,0	230	230	228	398	397	398	358	360	3
-11	Time stamp	18.7.2011	9:33:00.0	1500	227	-9	1,00	R	50,0	232	232	230	402	400	402	327	329	3
-12	Time stamp	18.7.2011	9:32:00.2	1500	245	-10	1,00	R	50,0	230	229	228	399	396	398	365	354	3

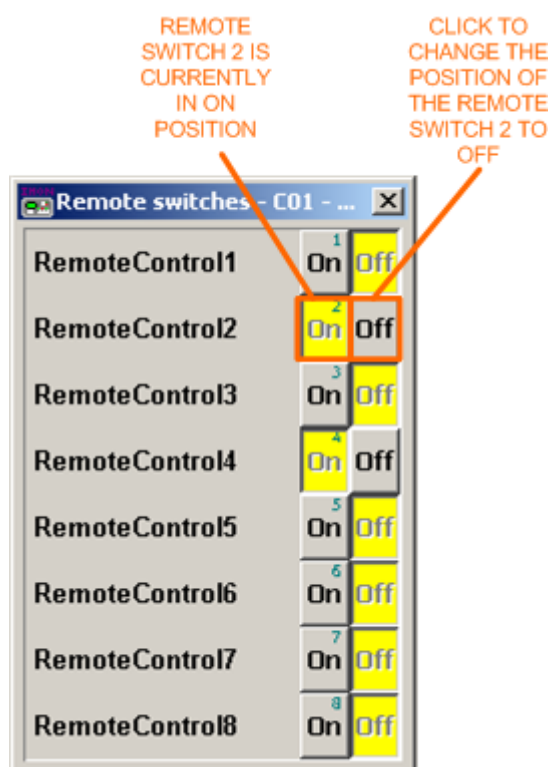
PRE-MORTEM HISTORY

Remote switches

The Remote switches window is used for control of the *Remote switch* outputs that are available in IGS-NT controllers. Click to the particular remote switch to change state of the respective controller output remotely.

NOTE:


The remote switch outputs are controlled via remote communication only and does not depend on the control loop of the controller, controller mode etc.



REMOTE SWITCHES WINDOW

Control window

The *control window* is used for control of the gen-set (controller) and fast overview of measured values, alarms, breaker position etc.

Click to the button  or go to the menu **Monitor** -> **Control** to open the Control window. If you are connected to multiple gen-sets, you have to select the requested gen-set first or use the item **Control** from the particular gen-set pulldown menu.



CONTROL WINDOW


Single-line diagram

If IntelliMonitor is currently connected to a site, i.e. the currently opened connection is [multiple](#), the single-line diagram (multicontrol window) of the site is displayed on the background of the main IntelliMonitor window.

NOTE:

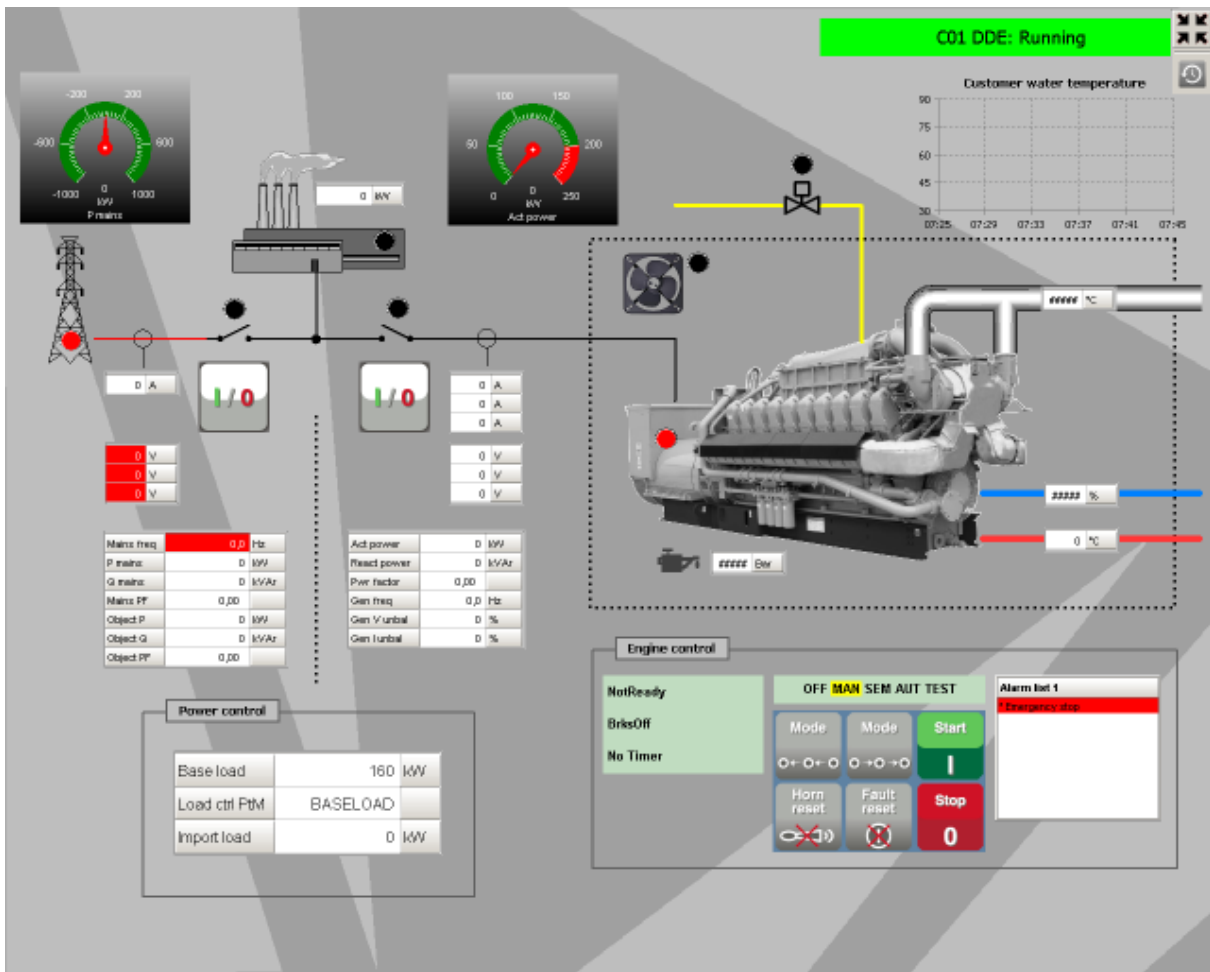
The single-line diagram is displayed even if the particular site contains only one gen-set. If you want to see the single-line diagram in offline connection, you have to use [Save all](#) or [Save all as](#) for saving of the archive set (although you have actually one gen-set only) and then open [Multioffline](#) connection instead of [single offline](#).

The diagram shows a symbolic single-line schematic of the site, current status of the breakers, main gen-set values and others. It also provide control buttons for manual control of the gen-sets.

- The diagram is stored in the `default.cwd` file, which is located in the site home directory. This name is obligatory even if the diagram is modified or created by the user.
- The initial single-line diagram **is created automatically** according to the adjusted [site properties](#) and can be edited later with the [Single line diagram editor](#).
- If the single-line diagram was modified while connection to the particular site is opened, the single-line diagram **can be then updated** (file `default.cwd` is read from disk and applied) by right clicking to the SLD icon .
- The files related to the single-line diagram can be [exported](#) to a ZIP file and then [imported](#) again into another site or transferred to another computer.




AUTOMATICALLY GENERATED SINGLE LINE DIAGRAM EXAMPLE




CUSTOM SINGLE LINE DIAGRAM EXAMPLE IN SCADA MODE

SCADA

The single line diagram can be switched to fullscreen (SCADA) mode by the button . The same button is used to switch the diagram back to normal mode. Switching back can be protected by numeric password (PIN). This feature is to activate in the menu **Settings** -> **SCADA** -> **Fullscreen mode protected**.

There is a virtual keyboard available for SCADA mode. It is to be activated in the menu **Settings** -> **SCADA** -> **Touch panel mode**. The virtual keyboard pops-up automatically whenever the operator clicks on any instrument where a numeric value is to be entered. This function is intended especially for touchscreen panels.

The button  allows to open the multistory window directly from SCADA without the need to go back to normal mode and open it from the main menu or toolbar.

Single-line diagram editor

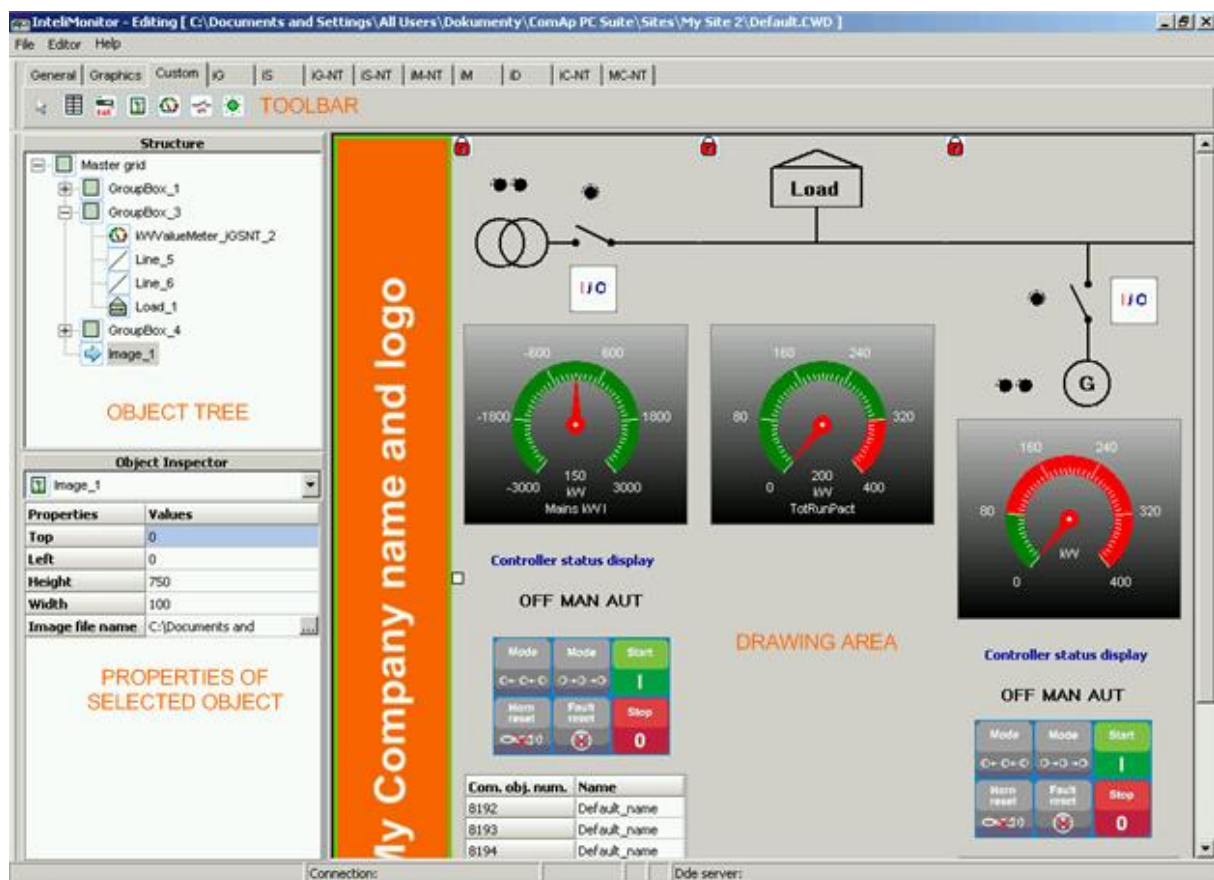
The *single-line diagram editor* (previously called *multicontrol window editor*) is designed for creating user-specific [single-line diagrams](#) or for editing the automatically created diagrams.

The editor is launched from the menu **Tools** -> **Single line diagram editor**.

NOTE:

If the editor is launched while a connection to a site is running, then the diagram of that site is automatically opened (file `default.cwd` from the site directory).

Editor window



EDITOR WINDOW

- **Toolbar** - contains tabs with common objects and objects predefined for different types of controllers
- **Objects tree** - contains tree of all objects and shows dependencies. An object can be selected by clicking on it in the tree.
- **Object properties** - contains properties of the currently selected object. Most of properties can be edited here.
- **Drawing area** - This area is used to create the drawing.

Diagram structure

A diagram can be single-level or multi-level.

- The basic level is the window itself (background), which is called *Master grid* in the Object tree.
- Next level can be created by putting an object [panel](#) to the drawing. The main purpose of a panel is to group all objects related to one controller (= objects with the same address). A panel can be **locked** and then it behaves as an object, i.e. can be moved as one entity, but not edited. To edit a panel, you have to **unlock** it by double-clicking on the "lock" icon in the upper-left corner of the panel.

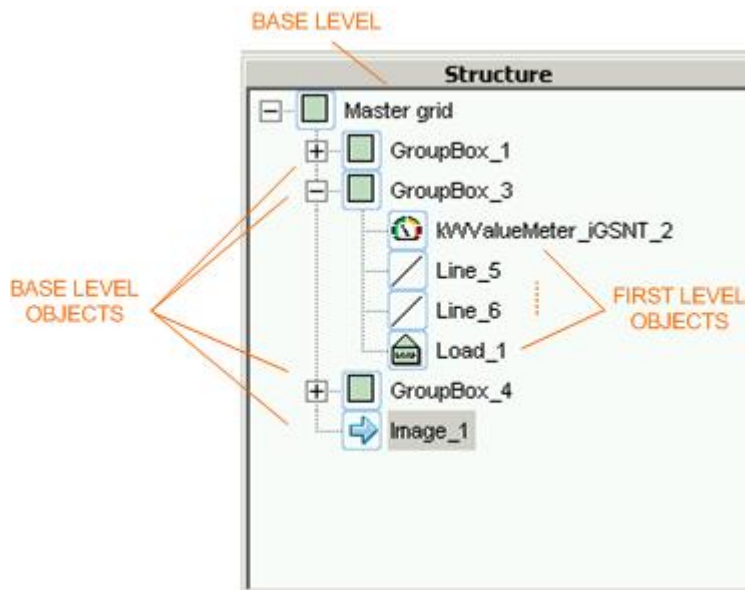


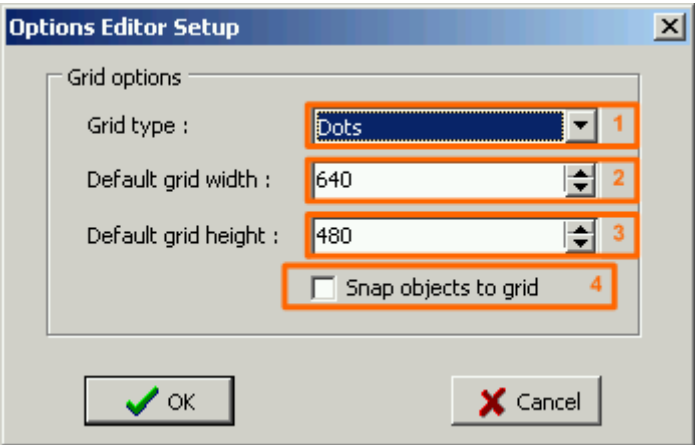
DIAGRAM STRUCTURE

Editor menu

File

New drawing	Creates a new drawing. Currently opened drawing will be closed.
Load drawing from ...	Opens an existing drawing. If the editor is started while a connection to a site is running, then the drawing of that site is offered for editing by default.
Save drawing to ...	Saves current drawing to a file. The file, which has to be used as the single line diagram for a particular site, must be named default.cwd . NOTE: If you have edited an automatically created drawing or you have created one manually, it won't be overwritten with a new automatically created drawing next time you will connect to the site. You will be asked before overwriting. Check the box (10) in the site properties dialog to avoid this question to appear again.
Import drawing	Imports a drawing from a file as a panel into the current drawing.
Close drawing	Closes the current drawing.
Exit	Exits the editor.

Editor

Clear drawing	Delete all contents of the current drawing.
Setup editor	 <ol style="list-style-type: none"> 1. Select grid type. 2. Adjust width in pixels, which is applied to newly created drawings. 3. Adjust height in pixels, which is applied to newly created drawings. 4. Check the box if you want the objects to be attached to the grid. <p>NOTE: If you want to change size of the current drawing, select the <i>Master grid</i> object in the object tree (structure) and then change it's width and height in the property editor. See also description of the editor window.</p>

Editor toolbars



The toolbar contains objects, that can be placed into your drawing. The objects are separated into tabs according to their meaning.

- **General** tab contains objects that are common for all controller types.
- **Graphics** tab contains pure graphic objects that do not have relation to controllers.
- **Custom** tab contains general-purpose objects, that are not pre-adjusted to any specific purpose and can be used for various controller types and purposes.
- All the remaining tabs contain objects that are specific to the particular controller type or general-purpose objects preadjusted to the particular purpose and controller type.

Editor functions

Modify drawing

If you want to modify the existing drawing of a particular site, open a connection to that site (can be also multi-offline) and then start the editor. The appropriate cwd file is then opened automatically and you do not need to search manually the proper cwd file in your sites directory structure. Once you have edited your drawing the automatic reendering will recognize this fact and you will be asked about overwriting of the edited drawing next time you will connect to that site. It is recommended to check the box (10) in the [site properties](#) dialog to avoid this question to appear repeatedly.

Create new drawing

A new drawing is created automatically after the editor is started or can be created manually using the menu item **File** -> **New drawing**. Size of the new created drawing is given by default values in the Editor setup. If you want to change size of the drawing, select the *Master grid* object in the object tree (structure) and then change it's width and height in the property editor.

Import drawing

An existing drawing can be imported as a panel to the currently edited drawing. Go to menu **File** -> **Import drawing** and select CWD file that you want to be imported. A new panel will be created in the current drawing and the contents of the imported file will be placed into the panel.

Editing objects

NOTE:

If a panel is locked, it behaves as one object and can be moved, resized and other it's properties can be changed. To edit a panel, you have to unlock it by double-click on the "lock" icon. To lock the panel again, double-click on the "lock" icon again.

Select an object: Click on the object in the drawing or select it in the object tree.

Select multiple objects: Hold down CTRL key and select desired objects by clicking on them in the drawing or object tree.

Select objects in a rectangular area: In the diagram draw a rectangle by mouse while holding left mouse button.

Adding an object to the drawing: Select appropriate tab from the toolbar and select appropriate object. Then click to the drawing to place the object into the drawing.

Drawing line: Select the Line object, then click into the drawing to start the line, move the mouse to the next point of the line and click again to put the point to the drawing. Put next point the same way or finish the line by clicking of the right mouse button.

Drawing rectangle or ellipse: Select the proper object then click into the drawing to put the upper left corner, move the mouse to desired position of the lower right corner and click to put the point to the drawing.

Delete an object: Select the object and then press DEL key.

Edit properties of an object: Select the object and then use the properties editor in the lower left corner of the editor window.

Change structure, e.g. to move an object from one level (panel or base) to another one: go to object tree and drag the object to the desired level (panel or base).

NOTE:

If you move an object from one panel to another one (smaller), the moved object can be invisible, because it's coordinates can be out of border of the destination panel. In that case you have to correct the coordinates manually in the Object inspector.

Lock/unlock panel: Double click on the "lock" icon in the upper left corner.

Move/resize object: Select the object and drag it to desired position or edit position/size properties. It is also possible to use arrow keys for fine position tuning (overrides grid adjustment) as well as CTRL + arrow keys for moving in the grid. To resize object, drag one of resize marks located in corners to achieve requested size.

NOTE:

Sometimes it can occur that an object is not visible or visible only partially i.e. the object is outside the panel/window border. This can be caused by resizing of a panel/window or by editing the position/size manually. In such a case it is not possible to move the object by drag and drop. The position has to be corrected manually by editing of object position/size properties.

Using clipboard

It is possible to use standard windows clipboard operations for manipulation with the objects in the drawing.

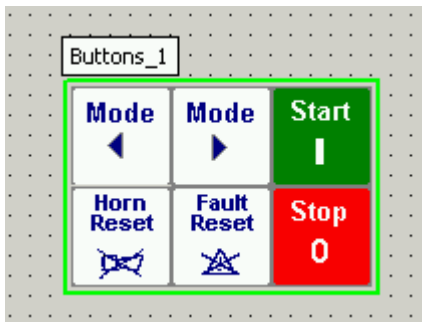
- **CTRL+C** copies the selected block into the clipboard. The object can be a panel (which can contain other objects) or a single object.
- **CTRL+X** cuts the selected block from the drawing and puts it into the clipboard.
- **CTRL+V** pastes the object from the clipboard into the drawing. If a panel is currently selected in the drawing, then the object is pasted into this panel, otherwise the object is pasted to the background (master grid).

Objects description

Control buttons

The object Control buttons is used for gen-set control. This panel is functionally equal to the respective panel on the controller front facia.

Use the property **Button type** to select which buttons of the particular Control buttons object will be visible. This allows to place e.g. start/stop buttons to a different position than e.g. alarm reset button.



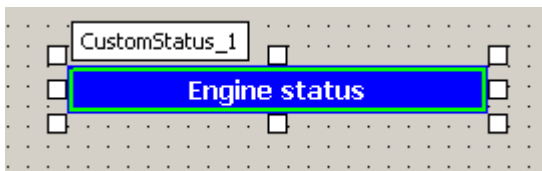
Mode selector

The Mode selector object is used for switching of the controller mode. The available items modes in the design time are default (OFF-MAN-AUT), but the object is automatically updated according to real available controller modes in the moment the connection is created.



Status line

The Status line object is used for displaying one of the controller status texts - the same texts that are also displayed on the controller main screen.



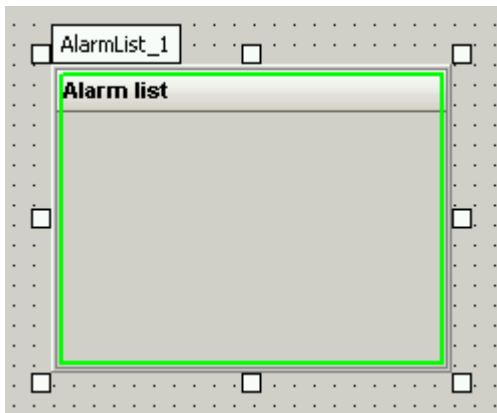
The property **Display data** is used to select which status text will be displayed: engine status, breaker status or timer status.

NOTE:

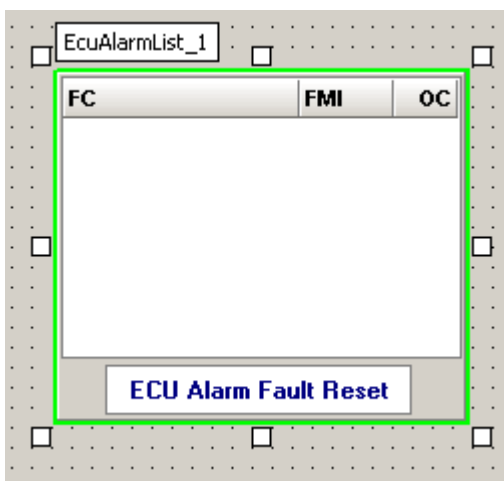
Some controllers do not provide all of these status texts, e.g. IntelliMains do not provide engine status. If the object is switched to nonexisting status text, an empty box will be displayed.

Alarmlist

The object Alarmlist is equal to the alamlist on the controller screen. It displays up to 16 active and/or unconfirmed alarms. In IG-NT and IS-NT controllers this alarmlist contain both alarms read-out from an ECU unit as well as alarms issued by the controller itself.



IC-NT and IL-NT controllers have separated alarmlist for ECU alarms.

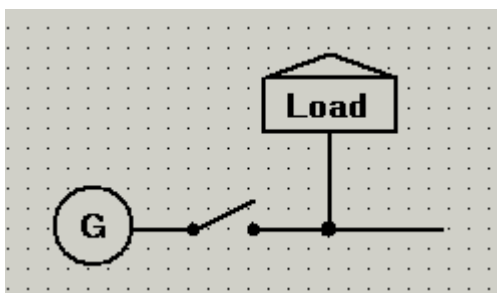


Line

The Line object is used for drawing wires or for creating of any user graphic.

Junction

The Junction object is used for creation of a wire junction (connection). It can change its' color according to a single bit value. This feature can be used, together with the object [Busbar](#), to animate whether a power line is under voltage or not.



Rectangle

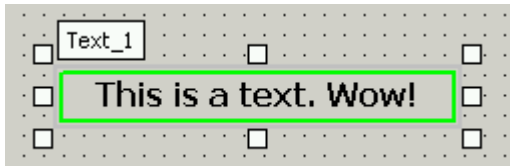
The Rectangle object is used to draw squares and rectangles.

Ellipse

The Ellipse object is used to draw circles and ellipses.

Text

The object Text is used to insert text into the drawing. Text color, text size and border color are adjustable.

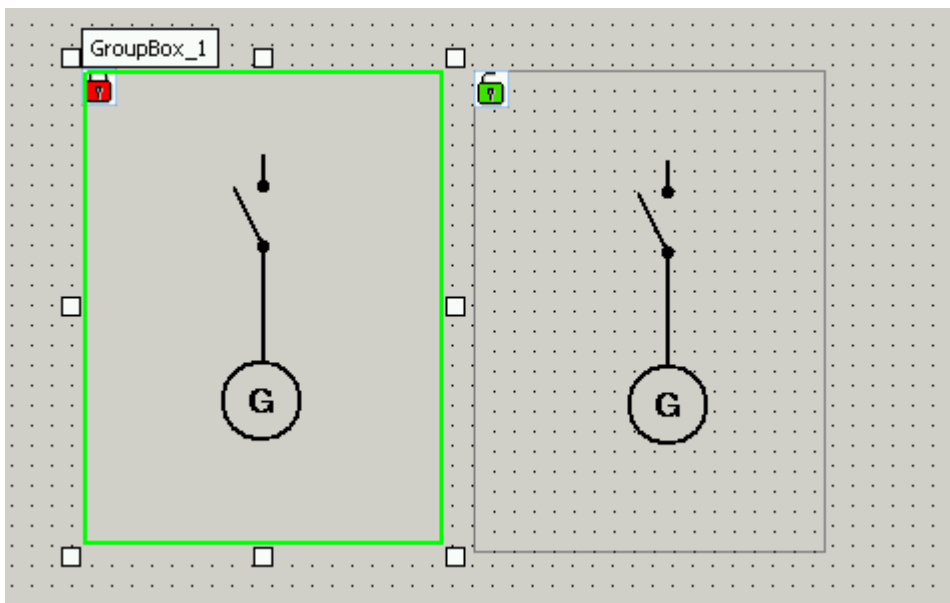


Panel

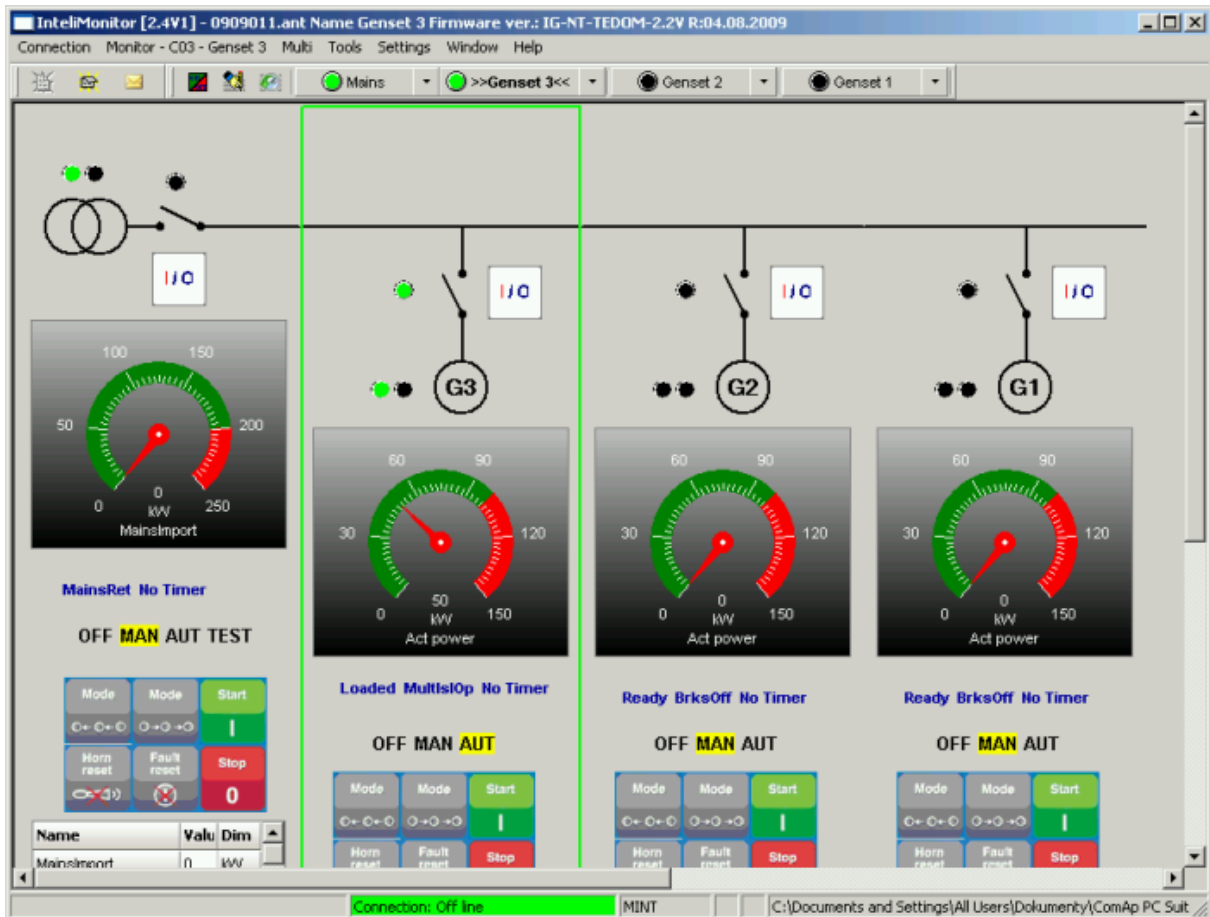
The Panel object is a container for grouping objects of one controller. All the objects located in a panel **take controller address property from the panel's property**. In online mode if a controller is selected related panel is bordered by green line. This border can be disabled by the property `Highlight enabled`.

The panel object can contain a **background image** (preferably png or jpg format). The image is placed into the upper-left corner and is neither stretched nor resized, i.e. it should be of the same size as the panel to fill the full panel area.

If a panel is **locked**, it behaves as one object and can be moved, resized and other it's properties can be changed. To edit objects in the panel, you have to **unlock** it by double-click on the "lock" icon. To lock the panel again, double-click on the "lock" icon again.



LOCKED AND UNLOCKED PANEL



PANEL OF THE SELECTED CONTROLLER IS BORDERED BY GREEN LINE

Generator symbol

This object is a symbolic image of a generator.

Load symbol

This object is a symbolic image of a load.

Mains symbol

This object is a symbolic image of a mains input (transformer).

Engine symbol

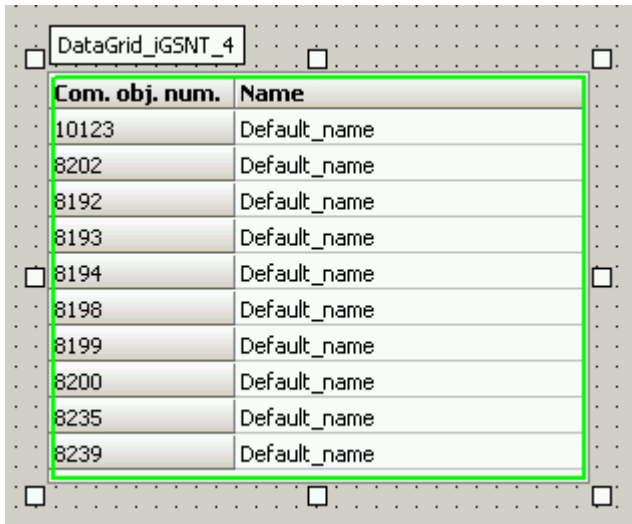
This object is a symbolic image of an engine.

Data grid

This object is used for displaying of one or more values or setpoints from one controller in the form of a table. There is a general-purpose data grid available in the **custom** tab and there are data grids in the controller-related tabs preset to display most important values of the particular controller type.

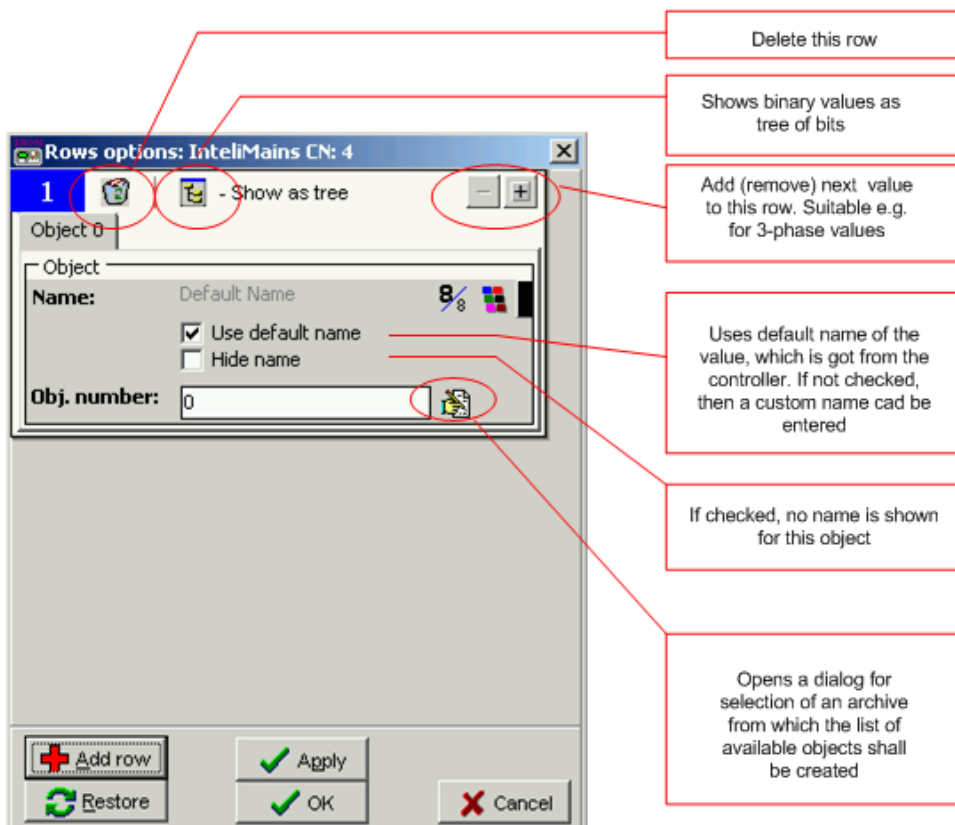
NOTE:

The datagrid object can be used also as an analog gauge containing single value or as an adjuster for single setpoint.



Com. obj. num.	Name
10123	Default_name
8202	Default_name
8192	Default_name
8193	Default_name
8194	Default_name
8198	Default_name
8199	Default_name
8200	Default_name
8235	Default_name
8239	Default_name

- The content of a datagrid is to be modified in the property **Comm. objects**.
- There are properties to hide various parts of the datagrid as e.g. titles, value names etc.
- It is possible to adjust font size and row height. This may be helpful to make the grid large if it is used for adjusting setpoints on touchscreen panels.



Delete this row

Shows binary values as tree of bits

Add (remove) next value to this row. Suitable e.g. for 3-phase values

Uses default name of the value, which is got from the controller. If not checked, then a custom name could be entered

If checked, no name is shown for this object

Opens a dialog for selection of an archive from which the list of available objects shall be created

Image

This object is used to insert a custom image into the drawing. The image file should be located in the [site directory](#) (where also the file default.cwd is stored).

Graphic element

This object is a pair of image files. Which of the two images is currently displayed in the diagram is switched over by a single bit from any binary value. The both images must have identical resolution. The object is intended for using as instrumentation symbols, either static or animated.

If the object is to be used as **static symbol** of an element (device) the property **Image file name** must contain the image file name and the properties for alternative image file name, communication object, controller address and bit index can be left empty.

If the object is to be used as **animated symbol** of an element (device) the property **Image file name** must contain the image file name for logical 0 and **Alt.img. file name** for logical 1. The properties **Comm.Obj for value** and **Bit index** define the control bit that is used for switching over the two images.

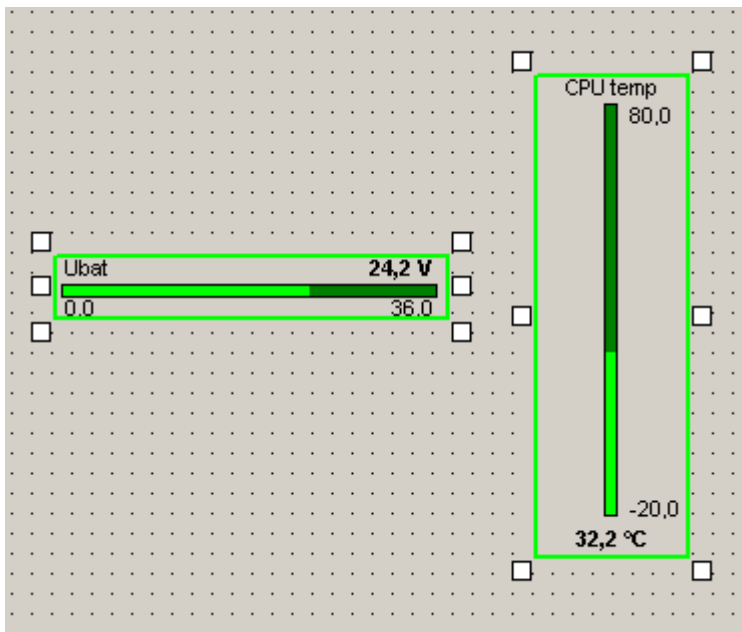
NOTE:

There are several predefined image files, however new custom images can be added by the user as well. **The directory**, where all image files for the "Graphic element" object are stored, **is fixed**:

```
c:\Documents and Settings\All Users\Documents\ComAp PC Suite\InteliMonitor\Graphic elements\
```

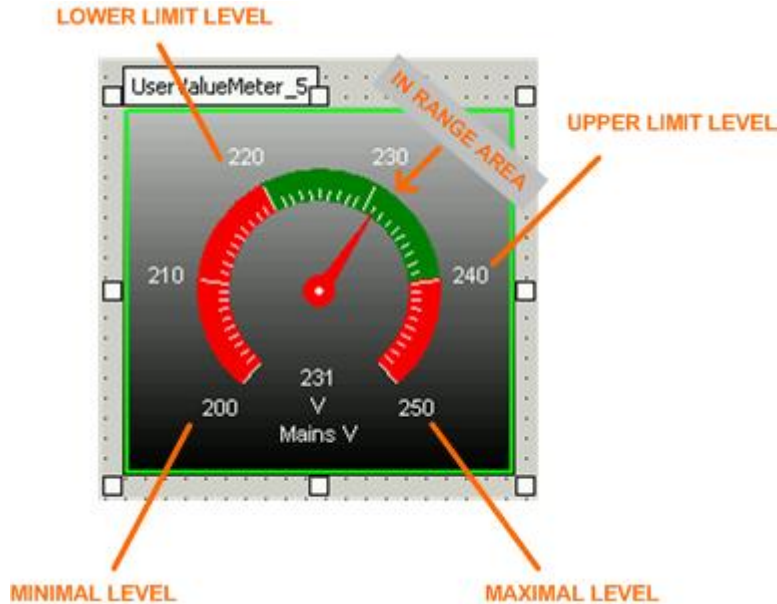
Analog bargraph

The object Analog bargraph is a general-purpose object used for displaying of an analog value. The scale range is adjustable manually or is automatic according to the displayed communication object. It is possible to switch off various parts of the bargraph (e.g. scale, name etc.) and organize several bargraphs into one "multibargraph".



Analog meter

This object is used for displaying of an analog value. There is a general-purpose analog meter available in the `custom` tab and there are analog meters in the controller-related tabs preadjusted to display some typical values as e.g. gen-set power.



The object has following specific properties:

1	COMM. OBJ. FOR VALUE	Number of the communication object whose value the meter will display. To select the communication object click on the button <code>...</code> , then select an archive from the appropriate controller and then select required value.
2	AUTO SCALE	If this property is set to true, then the minimal/maximal levels as well as lower/upper limit levels of the meter are adjusted to the lower/upper range of the communication object (1). The properties 4-12 are not functional.
3	VALUE DIM	The value name and dimension. It is set automatically from the communication object according to the property 1 and does not need to be set manually.
4	AUTO SCALE COMM. OBJ.	If this property is set to a communication object (i.e. it is nonzero), then the the meter is adjusted fully automatically. The minimal level as well as lower limit level are set to 0, upper limit is set to current value of this communication object and maximal level is set a bit higher than the upper limit. The properties 5-12 are not functional.
5	SCALE 0%	Manually adjusted leftmost level of the meter's scale.
6	SCALE 0% COMM. OBJ.	If this property is set to a communication object (i.e. it is nonzero), then the leftmost level of the meter's scale is set to current value of this communication object. Property 5 is not functional.

7	SCALE 100%	Manually adjusted rightmost level of the meter's scale.
8	SCALE 100% COMM. OBJ.	If this property is set to a communication object (i.e. it is nonzero), then the rightmost level of the meter's scale is set to current value of this communication object. Property 7 is not functional.
9	LOWER LIMIT LEVEL	Leftmost value of the "in range" area in the meter's scale.
10	LOWER LIMIT LEVEL COMM. OBJ.	If this property is set to a communication object (i.e. it is nonzero), then the leftmost level of the "in range" part of the scale is set to current value of this communication object. Property 9 is not functional.
11	UPPER LIMIT LEVEL	Rightmost value of the "in range" area in the meter's scale.
12	UPPER LIMIT LEVEL COMM. OBJ.	If this property is set to a communication object (i.e. it is nonzero), then the rightmost level of the "in range" part of the scale is set to current value of this communication object. Property 11 is not functional.
13	UNDER LIMIT COLOR	Color of the scale below the "in range" area.
14	IN RANGE COLOR	Color of the "in range" area.
15	OVER LIMIT COLOR	Color of the scale over the "in range" area.
16	SCALE DENSITY	This property adjusts into how many sectors the scale will be divided. It helps to get "round" numbers to the scale labels. Default scale density is 5, so if the scale range is e.g. 180, the labels will be 0-36-72-108-144-180. Increasing the scale density to 6 will give rounded labels 0-30-60-90-120-150-180

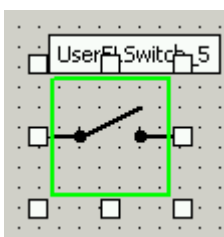
NOTE:

If the meter scale is not set manually, i.e. it is set according to a communication object range or value, the final scale is automatically updated to show "round" values.

Switch

The object Switch is used for visualization of a contact, breaker etc. There is a general-purpose switch available in the `custom` tab and there are predefined switches in the controller-related tabs for visualization of circuit breakers.

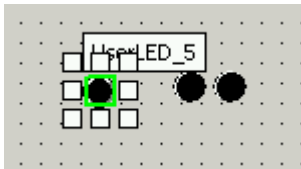
- The general purpose switch is driven by a single bit. It requires a communication object and bit index to be set in it's properties.
- The predefined switches are fixedly set to appropriate objects/bits.
- Different colours can be assigned to closed and opened state.



Led

The object Led is used for visualization of a contact, breaker or any other single-bit information. There is a general-purpose Led available in the `custom` tab and there are predefined Leds in the controller-related tabs for visualization of circuit breakers and other status information. The predefined Leds are equal to the Leds on the controller front panel.

- The general purpose Led is driven by a single bit. It requires a communication object and bit index to be set in its properties.
- The predefined Leds are fixedly set to appropriate objects/bits.



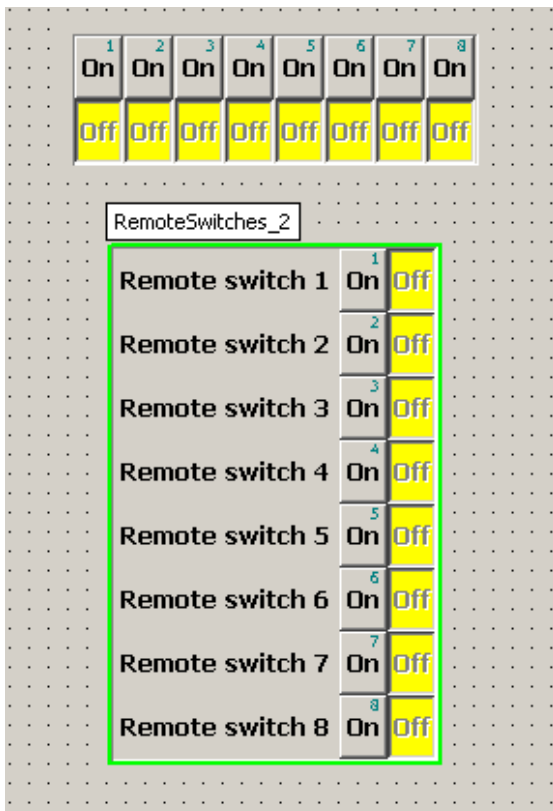
Remote switches

The object Remote switches is used at IGS-NT controllers for remote control of binary outputs *Remote Switch X*. The object contains by default all 8 switches, however each switch within the object can be made hidden or visible separately. It is possible to have more Remote switches objects with identical controller address in one drawing.

The property `Show labels` selects whether the object is displayed horizontally without labels or vertically with labels.

NOTE:

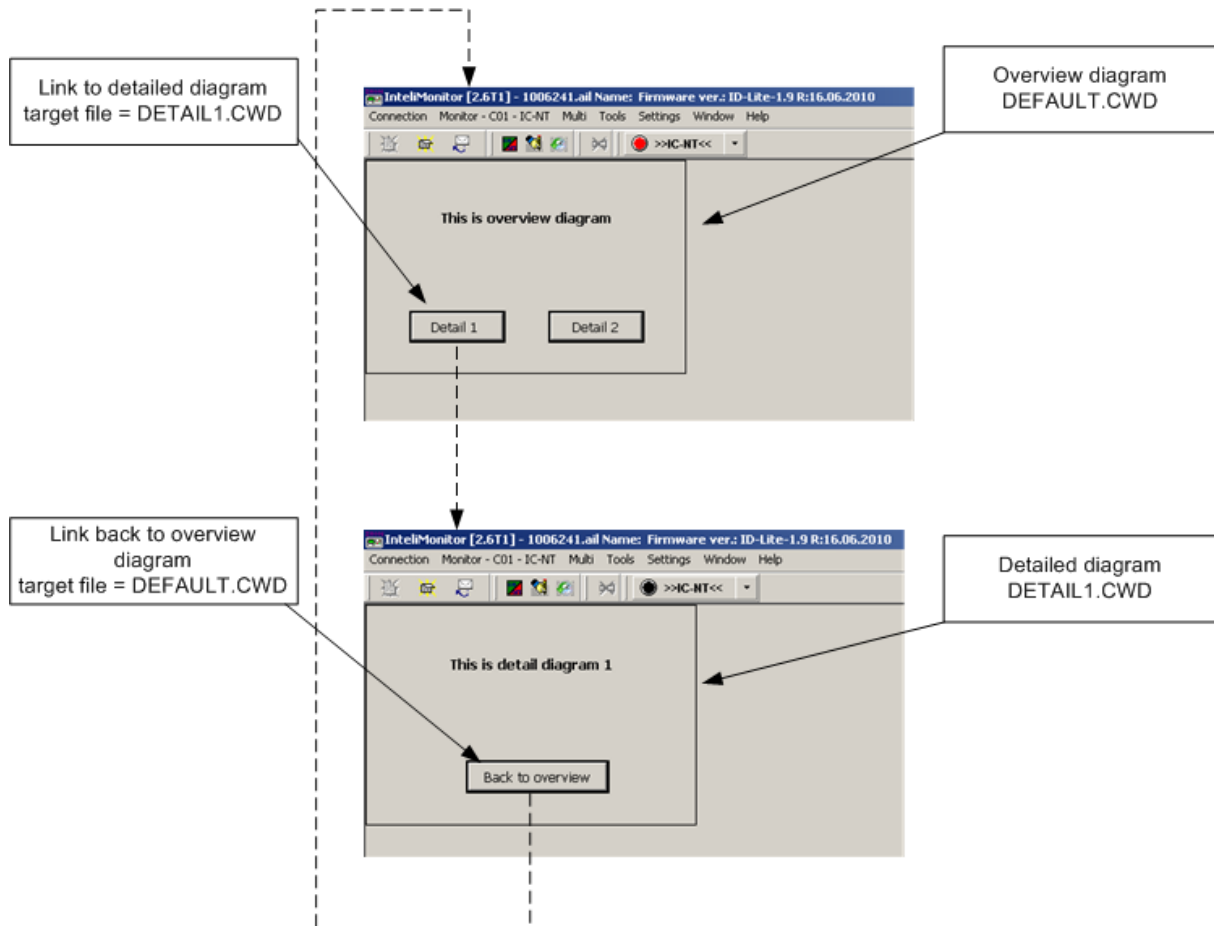
The labels can be changed using GenConfig (ver. 2.5 or higher).



Link

This object is a button that shows user-defined text or image, which switches the single line diagram to another CWD file within the same site directory.

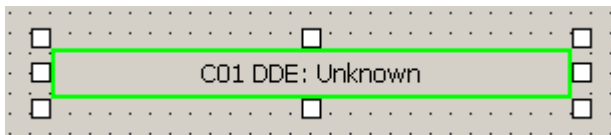
The object is intended for creating more-level diagrams, e.g. one overview diagram and several other diagrams with details of certain parts of the technology. The overview diagram contains links to the detail ones and these contain links back to the overview.



PRINCIPLE OF LINK OBJECT

Communication status

The object indicates communication status of the DDE server with the particular controller.

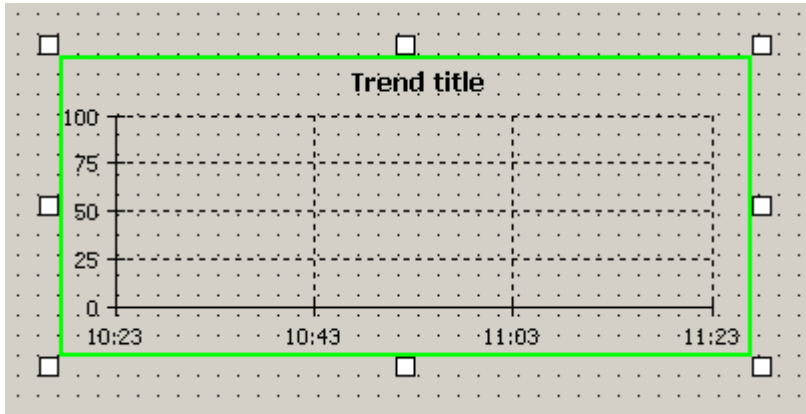


Trend

The object Trend is used to display trend line for any value.

NOTE:

Trend line is cleared when SCADA screen is changed.



1	COMM. OBJ. FOR VALUE	Number of the communication object whose value the meter will display. To select the communication object click on the button <input type="button" value="..."/> , then select an archive from the appropriate controller and then select required value.
2	TITLE	Choose Title of Trend.
3	RANGE	Select Range (Lo and Hi limits) for displayed value.
4	TIME RANGE	Select Time range for X axis in minutes. This period is displayed in Trend.
5	GRID DENSITY	Select Grid density for X and Y axis.

Login

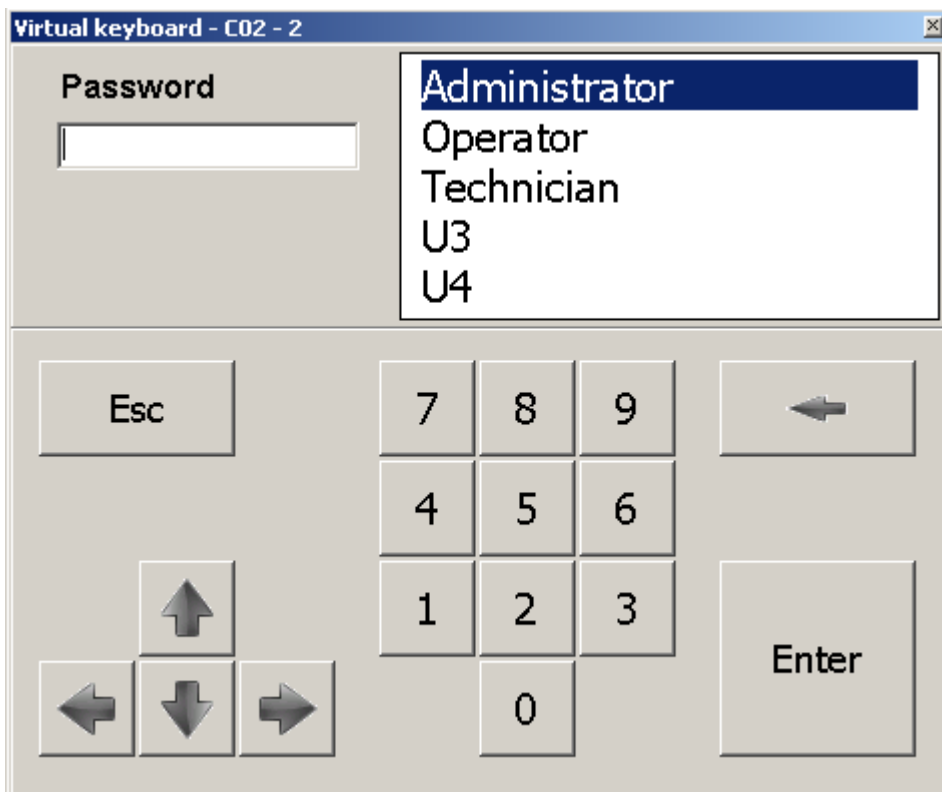
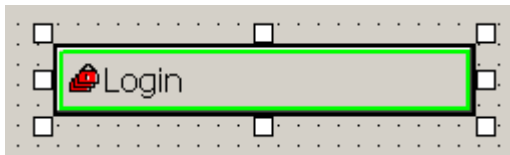
The object Login is used to login into controllers. In properties it is possible define Login button only for one controller specified by its CAN address or into all available controllers.

To login into all controllers by one button **Login to all contr.** in properties must be checked. Option "All" is than displayed in **Controller addr.** field instead controller address. When Login button with this setting is used in SCADA, system will try to login into all available controllers simultaneously. The same User/Password settings for all controllers is expected.

If user is logged in into at least one controller, "Logout text" is displayed and icon is in orange color. If user is logged in into all available controllers, icon is in green color.

NOTE:

To display on screen keyboard to enter password, select "Touch panel mode" in **InteliMonitor** -> **Settings** -> **SCADA**.



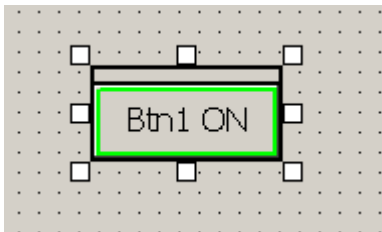
VIRTUAL KEYBOARD IN SCADA

Soft Key Command

The SoftKeyCommand object is a instrument to assign a specific controller function and indicate status of the function by color of bar, text and picture. is a predefined list of available functions, such as engine start/stop, breaker open/close or the function can be assigned by it's command number and argument. Functionality of this object is very similar to the SoftKeyCommand implemented in IntelliVision 5 and 8.

As first, **Data archive** and **Commands** must be selected. For standard commands, **Command number** and **Command argument** are filled automatically. It is possible to use color indication - red, green and yellow colors are available. Proper source of binary signals must be selected in that case. Yellow color is displayed if enabled and Red and Green source bits are active.

Also source for **Active text** and **Active image** can be set to change it based on binary signal by **Active Comm. obj.** parameter. If source is set to "0", active text and image is displayed if Red, Green or Yellow indication is active - this is the same functionality as on IntelliVision 5 and 8. If any other source (binary value) is used for this parameter, active text and image is controlled by this binary value. Only text or image is displayed on the button regarding on setting **Show image**.



SOFT KEY COMMAND


Main menu description

'Connection' menu

Open connection

See the chapter [Connection to the controller](#).

Close connection

Use the menu **Connection** -> **Close connection** or the toolbar button  to close the currently running connection. If the data have been changed, you will be asked if you want to save the archive.

CAUTION!

In online connection you will be asked about saving archive even if you saved it just before closing the connection. This is because the data from the controller change very fast and the saved archive would be different every second. So if you previously saved the archive (e.g. if you wanted to have an archive showing a specific phenomenon in the history) and then answer **Yes** to the question about saving archive, your previous archive will be overwritten!

Save

Use the menu **Connection** -> **Save** to save archive from the controller (single connection) or from the [selected controller](#) (multiple connection).

- The archive is saved under present name. If there isn't any name assigned (first save after a connection has been created), the name is assigned automatically.
- In a quick connection the destination folder can be selected by the user before saving.
- In a "site" connection the destination folder is the [respective genset folder](#) within the sites structure.

Save as

Use the menu **Connection** -> **Save as** to save archive from the controller (single connection) or from the [selected controller](#) (multiple connection).

- The user is prompted to enter the archive file name. The archive will further keep this file name and path until the "save as" function is used again.
- The destination folder can be selected by the user before saving.

Save all

Use the menu **Connection** -> **Save all** to save an archive set, i.e. all archives and the .ast file.

- This function is available in [multiple connection](#) only.
- This function saves all archives under their present names as well as the archive set file (*.ast file). If the names are still not assigned, new names are assigned automatically.
- The archives are saved to the [respective genset folder](#) within the sites structure, the archive set file is saved to the respective site folder.

Save all as

Use the menu **Connection** -> **Save all as** to save an archive set, i.e. all archives and the .ast file.

- This function is available in [multiple connection](#) only.

- This function lets the user to select name for the archive set. The archives are saved under new automatically assigned names. Both archive set and archives will further keep these new names until the "save as" or "save all as" is performed again.
- The archives are saved to the [respective genset folder](#) within the sites structure, the archive set file is saved to the respective site folder.

Save archive(s) and send by e-mail

This function helps you with sending current data to ComAp technical support by e-mail. Microsoft e-mail client (Outlook, Outlook Express) is required for this operation. The function saves archive (in single connection) or archive set (in multiple connection), opens a new e-mail message and attaches the saved data to the message. E-mail recipient is preset to ComAp technical support. Please describe your problem into the e-mail body and then send the e-mail.

'Monitor' menu

Control

See the chapter [Working with IntelliMonitor: Control window](#).

Setpoints

See the chapter [Working with IntelliMonitor: Setpoints](#).

Values

See the chapter [Working with IntelliMonitor: Values](#).

History

See the chapter [Working with IntelliMonitor: History](#).

Remote switches

See the chapter [Working with IntelliMonitor: Remote switches](#).

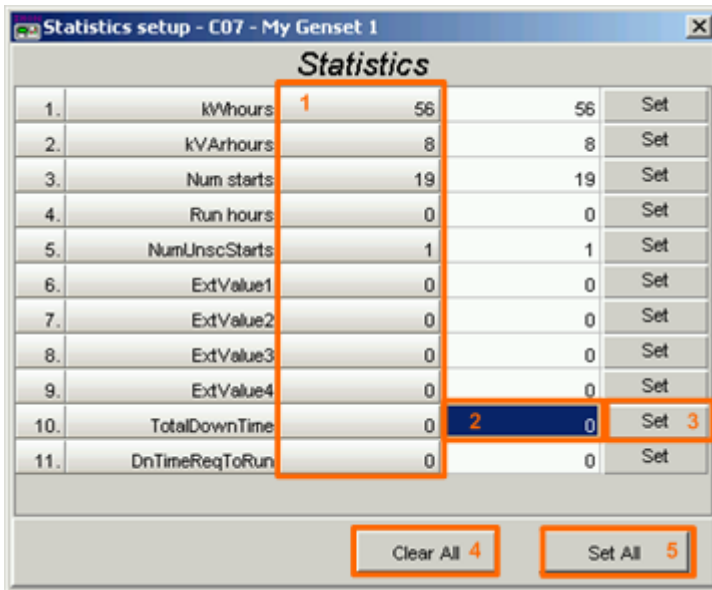
Language selection

This menu is used for selection of language in which all the controller texts as e.g. setpoint or value names will appear. The list contains only languages that are present in the controller.

Set statistic

Use the menu [Set statistic](#) to change or clear statistic counters in the controller.

1. The column (1) contains current values of the statistic counters.
2. Double-click to the column (2) to change value of a statistic counter.
3. Click on the button (3) to write the new value of the particular counter into the controller.
4. You can change value of all counters first and then write all counters at once by clicking on the button (5).
5. You can also set all counters to zero by clicking on the button (4).



Index	Statistic	Current Value	Target Value	Action
1.	kWhours	56	56	Set
2.	kVArhours	8	8	Set
3.	Num starts	19	19	Set
4.	Run hours	0	0	Set
5.	NumUnscStarts	1	1	Set
6.	ExtValue1	0	0	Set
7.	ExtValue2	0	0	Set
8.	ExtValue3	0	0	Set
9.	ExtValue4	0	0	Set
10.	TotalDownTime	0	0	Set
11.	DnTimeReqToRun	0	0	Set

SET STATISTIC WINDOW

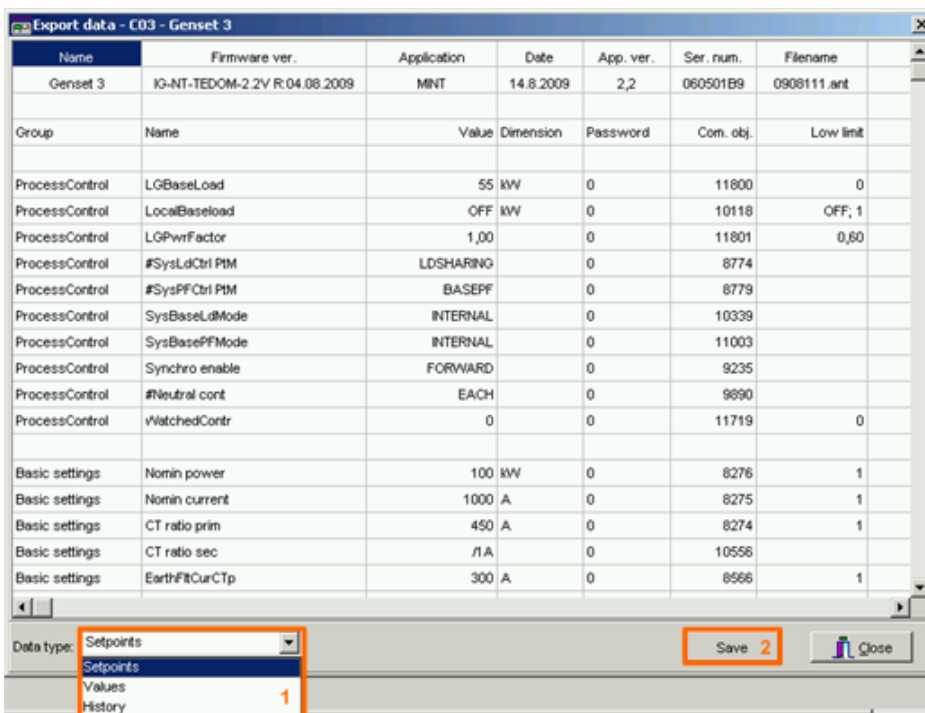
Controller/Archive info

Use this menu to get complete information about the controller and attached modules. The window also contains the *Password decode number* and *serial number* which both have to be sent to your distributor in order to retrieve the lost controller password.

Export data

Use the menu **Export data** to save selected kind of data into an excel sheet.

1. Use the pulldown menu (1) to select the kind of data you want to be saved.
2. Click on the button (2) to select a file name and save the data into this file.



Name	Firmware ver.	Application	Date	App. ver.	Ser. num.	Filename
Genset 3	IG-NT-TEDOM-2.2V R:04.08.2009	MNT	14.8.2009	2,2	060501B9	0908111.art

Group	Name	Value	Dimension	Password	Com. obj.	Low limit
ProcessControl	LGBaseLoad	55	kW	0	11800	0
ProcessControl	LocalBaseLoad	OFF	kW	0	10118	OFF; 1
ProcessControl	LGPwrFactor	1,00		0	11801	0,80
ProcessControl	#SysLdCtrl PTM	LDSHARING		0	8774	
ProcessControl	#SysPF Ctrl PTM	BASEPF		0	8779	
ProcessControl	SysBaseLdMode	INTERNAL		0	10339	
ProcessControl	SysBasePFMode	INTERNAL		0	11003	
ProcessControl	Synchro enable	FORWARD		0	9235	
ProcessControl	#Neutral cont	EACH		0	9890	
ProcessControl	WatchedContr	0		0	11719	0
Basic settings	Nomin power	100	kW	0	8276	1
Basic settings	Nomin current	1000	A	0	8275	1
Basic settings	CT ratio prim	450	A	0	8274	1
Basic settings	CT ratio sec	/1A		0	10556	
Basic settings	EarthF#CurCtp	300	A	0	8566	1

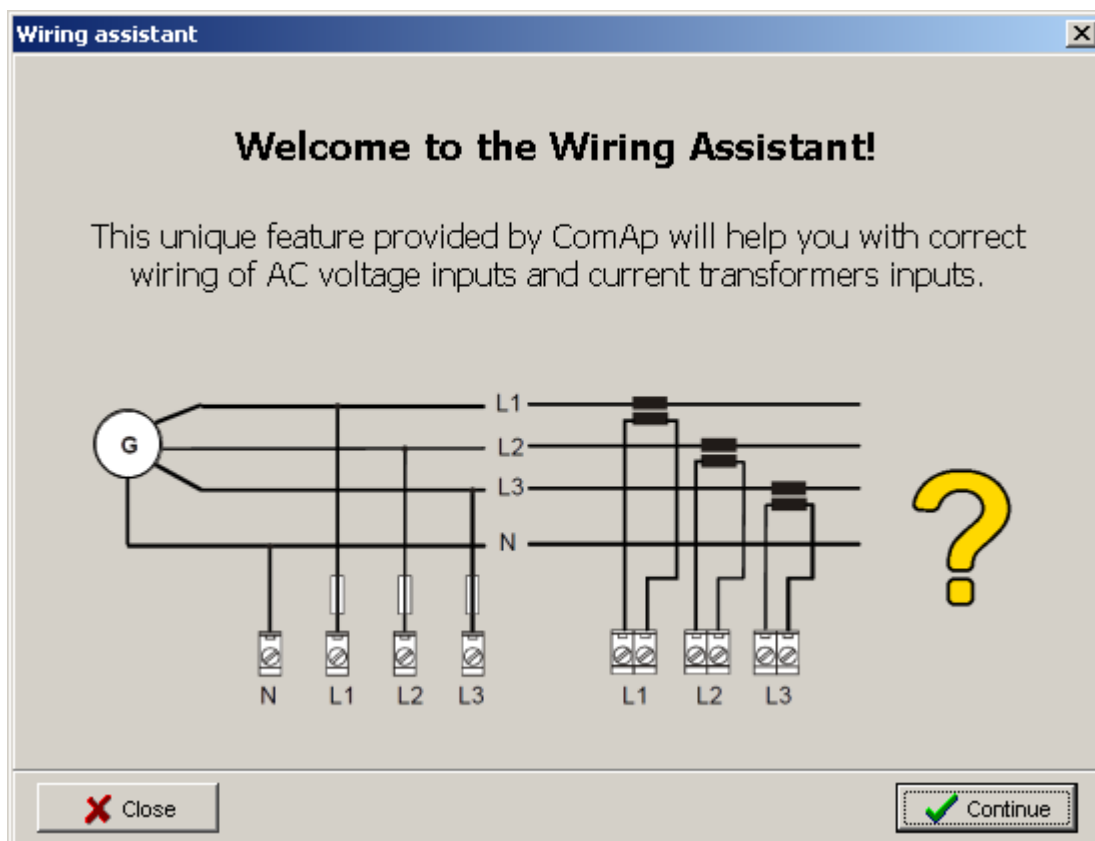
EXPORT DATA WINDOW

Wiring assistant

The wiring assistant is a unique function which helps with proper wiring of all AC voltage inputs and CT inputs. The function is designed as a wizard which step-by-step checks the connections and if there is a problem found it also suggests the solution.

Wiring assistant checks following things:

- Sequence and polarity of mains/bus voltage terminals
- Sequence and polarity of generator voltage terminals
- Assignment and polarity of CT inputs



Following conditions must be fulfilled before the wiring assistant can be used:

- The gen-set must be able to be started in MAN mode, it must provide voltage.
- If the mains/bus terminal are used for mains voltage measurement, the mains voltage must be present. Otherwise mains voltage test is skipped.
- The check must be performed in island mode, i.e. MCB must be open.
- After the GCB has been closed there must be nonzero load at the gen-set. Knowledge of the load power factor is advantage.

NOTE:

If you do not know the power factor the program will use default value 0.95L. However, if default value is used and the real power factor is significantly different the wiring assistant may give incorrect results.

WARNING!

Do not manipulate with voltage and current terminals while the gen-set is running. If there is a wiring problem detected by the wiring assistant always close the assistant, stop the gen-set and then fix the problem. Never try to fix any wiring problem while the gen-set is running or mains is connected.

CAUTION!

This assistant checks only wiring of the measuring inputs to the controller, it does not check proper wiring of the power lines to circuit breakers etc.

Admin users

See the chapter [Working with IntelliMonitor: Manage users](#).

Change password

Use the menu **Change password** to change your own password, i.e. password for the user that is currently logged in (IGS-NT) or to change password of the same level that the currently entered password is (other controllers).

NOTE:

IGS-NT: If you are user #0 (Administrator), you can reset password to default for other users in the [Admin users](#) window.

NOTE:

Other controllers: If the highest level password is currently entered, you can change also all lower level passwords. Select the level you want to change at the bottom of the change password dialog.

Change access code

Use the menu **Change access code** to change the access code, which is needed for any type of remote connection to the controller.

NOTE:

IGS-NT: This function is available only if user #0 (Administrator) is logged-in.

NOTE:

Other controllers: This function is available only if password of the highest level is currently entered.

'Multi' menu

Multicontrol

See the chapter [Working with IntelliMonitor: Single-line diagram](#).

Multisetpoints

See the chapter [Working with IntelliMonitor: Multi-setpoints](#).

Multihistory

See the chapter [Working with IntelliMonitor: History](#).

Multilogin/logout

Use the **Multilogin** menu item if you want to enter password/log-in user into all controllers at once. It is necessary for this function that user names and passwords in all controllers are identical. If they are not, you have to enter password/log-in user into each controller separately using the controller pull-down menu.

If there is a valid password entered or user logged-in in **all controllers**, you can use the **Multillogout** function to deactivate passwords or log-out users in all controllers at once.

'Tools' menu

GenConfig

Use the menu **Tools** -> **GenConfig** to launch GenConfig, the IGS-NT configuration tool. If you have multiple connection GenConfig will be launched for the selected controller. You can also launch GenConfig from the gen-set pulldown menu.

NOTE:

This menu item is available for IGS-NT controllers only.

Single-line diagram editor

See the chapter [Single-line diagram editor](#).

'Settings' menu

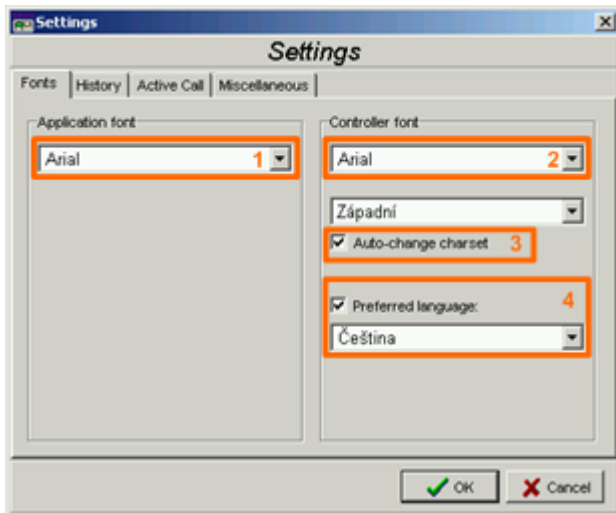
Settings

Fonts settings

- The listbox (1) can be used to select font, which will be used for the IntelliMonitor texts as menus, dialog boxes, messages etc.
- The listbox (2) can be used to select font, which will be used for the texts that are read from the archive (controller) as e.g. setpoint and value names, alarms, history reasons etc.
- If the checkbox (3) is ticked (recommended setting) the charset will be selected automatically according to the selected [controller language](#). Otherwise the charset adjusted above will be used.
- Your preferred language can be selected in the listbox (4). The archives will be switched automatically to this language whenever they will contain it. If an archive will not contain the preferred language, it will be open in english.

NOTE:

It is recommended not to change font settings if possible, e.g. leave font as Arial and "Auto change charset" ticked.



FONT SETTINGS

History settings

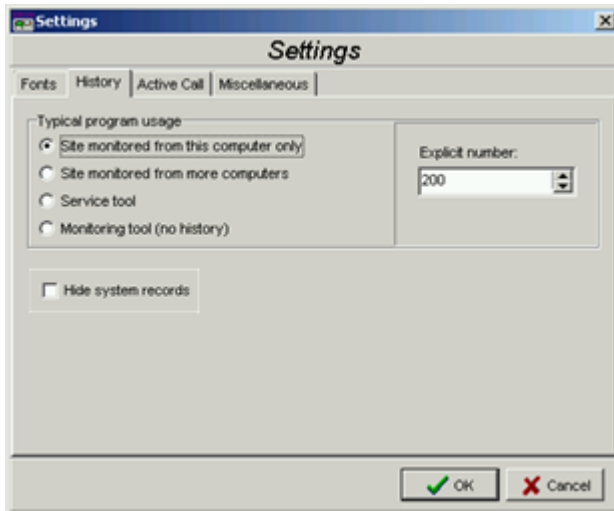
This menu is used to adjust how IntelliMonitor will handle the controller history.

- **Site monitored from this computer only** - This option uses fast method of reading history. Use it if you monitor several sites with this computer only and you are sure, that there isn't **any other computer** which could connect to the same sites/gensets. Use the **Explicit numbers** field to specify, how many records you want to store for the particular genset.

NOTE:

If you adjust higher number of records than the controller capacity is, IntelliMonitor will join history from consequent sessions to achieve the requested number of records. However, you have to connect regularly enough to avoid gaps in the joined history.

- **Site monitored from more computers** - This method reads always all content of the controller history and is slower than the previous method. Use it if you are not sure about other possible computers that may connect to the controllers and if you want to keep more records than the controller capacity is. However, as in previous option, you have to connect often enough to avoid gaps in the history.
- **Service tool** - This option always reads and displays exact image of the history records that are currently present in the controller. IntelliMonitor does not combine history data from more sessions. **This option is recommended for notebooks, laptops and all other computers, that are used for putting into operation or maintenance.**
- **Monitoring tool** - This option can be used to disable reading of history at all, if IntelliMonitor is used e.g. for monitoring of one site and reading of the history is not requested there.
- If you want to hide system records as e.g. terminal connected and disconnected, password typed or changed etc. check the item **Hide system records**.

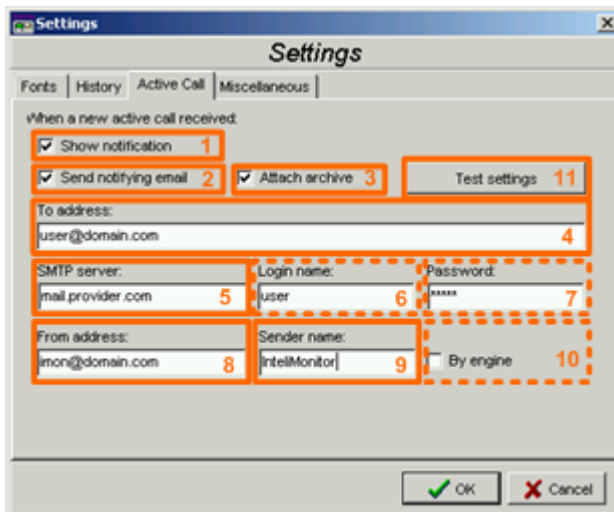


HISTORY SETTINGS

Active call settings

This menu is used to adjust notifications of received [active calls](#).

- Tick the checkbox (1) if you want the IntelliMonitor to popup a message when a new active call is received.
- Tick the checkbox (2) if you want the IntelliMonitor to send an e-mail when a new active call is received and tick the checkbox (3) if you want the received archive to be attached.
- Fill-in your SMTP server name into the field (5) and optionally also fill-in SMTP login information into fields (6), (7) if the server requires it.
- Enter a valid e-mail address into the field (8). This address will be used as sender address.
- Optionally enter sender name into the field (9). If you want the controller name to be used as sender name, tick the checkbox (10).



ACTIVE CALL SETTINGS

Miscellaneous settings

This menu is used to adjust some other settings, which do not belong to any specific category.

- Tick the checkbox (1) if you want to move focus in the [setpoints window](#) automatically to the next setpoint when enter is pressed to confirm the new value of the previous setpoint.

- Check the box (2) if you want to display only relevant objects in the [setpoints window](#). This option hide all setpoints which are not relevant on selected HW modification
- In the field (3) you can change the path to your [sites directory](#). Use this function e.g. if you need to have the sites on a company server to share it with other users. Otherwise, if it is not necessary, it is recommended to leave the default the path.
- The field (4) can be used for redirection of the IntelliMonitor temp directory into some other location that the default windows temp directory.

NOTE:

The content of the IntelliMonitor temp directory **must not be deleted** while the program is running. Use the redirection if your default windows temp directory is automatically deleted e.g. after log-in into your company network.

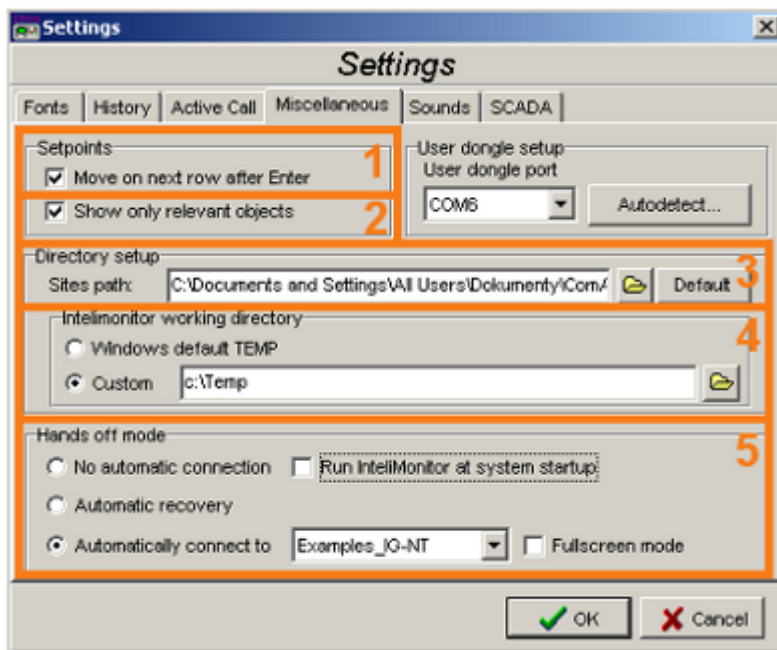
- Check the fields (5) if you are using the program for continuous monitoring of a site and you want IntelliMonitor to be started and last connection recovered automatically after the computer has been restarted e.g. due to an utility fail.

If you want to start IntelliMonitor automatically after reboot, tick the checkbox "Run IntelliMonitor at the system startup". This will just start IntelliMonitor if "No automatic connection" is selected.

If you want to recover last connection used before PC power lost, check "Automatic recovery".

Option "Automatically connect to" opens connection to the SITE selected from the list. Last method of communication is used.

Option "Fullscreen mode" opens IntelliMonitor in Fullscreen Mode. It means SCADA fills whole space of monitor, no menus or status bar is displayed.



MISCELLANEOUS SETTINGS

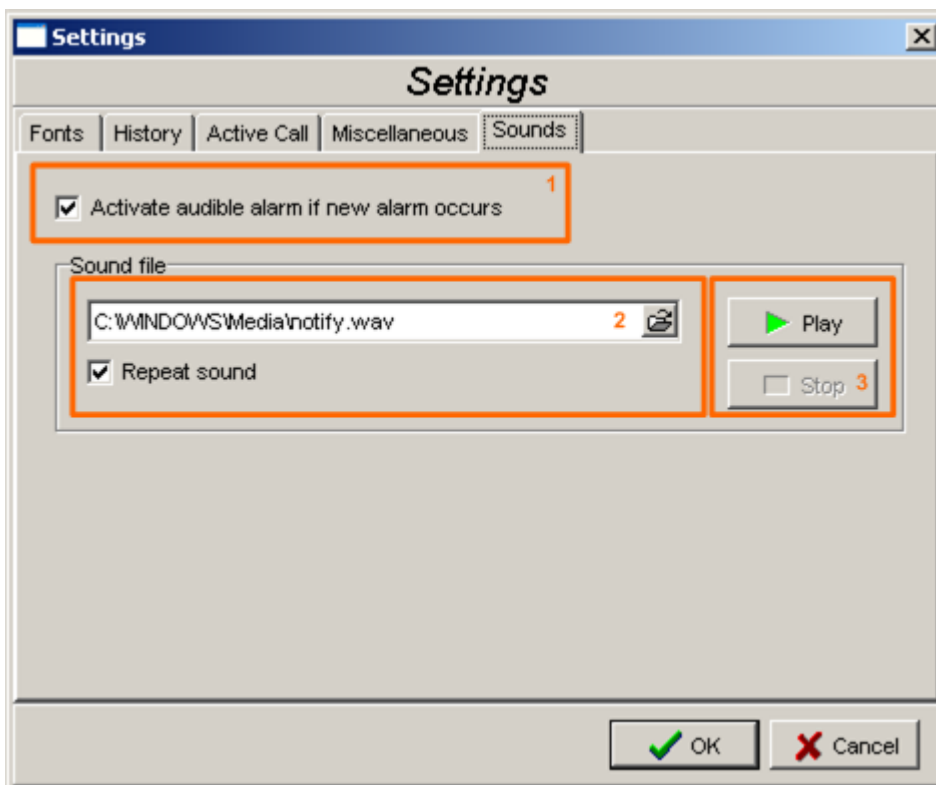
NOTE:

The **User dongle setup** item is a customer-specific setting related to specific firmware branch and is not used for any other firmware branch.

Sound settings

This menu is used to adjust settings that concern sound notifications of alarms. The sound notification function allows the operator to be informed about newly occurred alarms by playing a selected sound. The sound can be played once or in a loop. The sound can be silenced by a button in the toolbar.

- Tick the checkbox (1) if you want the IntelliMonitor to play a sound when an alarm occurs at any of controllers in the currently connected site. The sound is played again when a new alarm occurs.
- The field (2) is used to select the sound (*.wav file) which will be played and to specify whether the sound will be played in a loop or just once.
- The buttons (3) can be used to try the selected sound.



SOUND SETTINGS

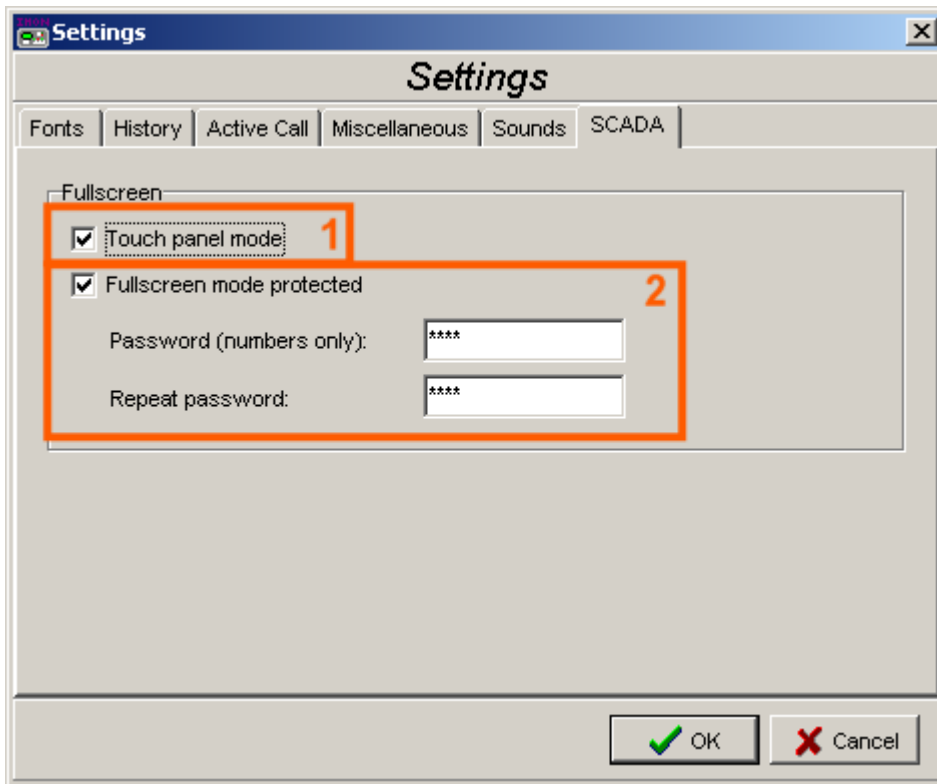
SCADA

This menu is used to adjust settings for SCADA

- Tick the checkbox (1) if you want to have dialogue windows displayed in bigger format with on-screen keyboard. It is useful when IntelliMonitor/SCADA is running on touch display without external keyboard.
- The field (2) is used to disable exit from full screen mode without entering the password. When SCADA is in full screen mode, all other items normally displayed in Windows (like task bar, status bar, menus etc) are hidden and only SCADA window itself is visible (also without window frame, menus etc). To switch SCADA back to normal mode, password is required if this option is used.

Note:

This is basic the protection against switch SCADA off by mistake for example when touch screen panel without external keyboard is used. It is still possible switch between applications or close the SCADA using keyboard.



SCADA SETTINGS

InteliMonitor toolbar

The InteliMonitor toolbar changes its appearance according to the connection type.






INTELI-MONITOR TOOLBAR IN SINGLE CONNECTION










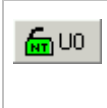

INTELI-MONITOR TOOLBAR IN MULTIPLE CONNECTION

COMMON TOOLBUTTONS





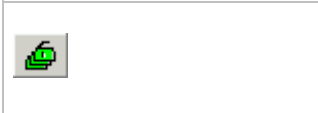
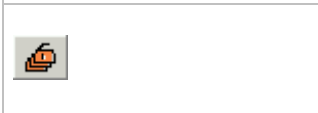
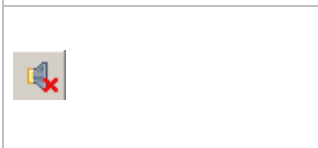

	Click to open a connection .
	Click to close the active connection.
	This button helps you with sending current data to ComAp technical support by e-mail. Microsoft e-mail client (Outlook, Outlook Express) is required for this operation. The function saves archive (in single connection) or archive set (in multiple connection), opens a new e-mail message and attaches the saved data to the message. E-mail recipient is preset to ComAp technical support. Please describe your problem into the e-mail body and then send the e-mail.

TOOLBUTTONS IN SINGLE CONNECTION

	Click to show the Control window .
	Click to show the Setpoints window .
	Click to show the Values window .
	Click to show the History window .
	Click to show the Cylinders window. This button is available only if cylinder temperature measurement is configured in the controller.
	Click to show the Remote switches window . This button is available only if the particular controller supports remote switches function.
	Click to log-in a user (IGS-NT) or enter a password (other controllers). See also the chapter Users and password .

	<p>This button is displayed if an user is logged-in (IGS-NT) or shows the level of the currently entered password (other controllers). The name of the user is shown on the button. Click to the button to deactivate password/log-out the user.</p>
	<p>This button is displayed only for IGS-NT controllers if the user #0 (Administrator) is logged-in. Click to it to manage the users.</p>

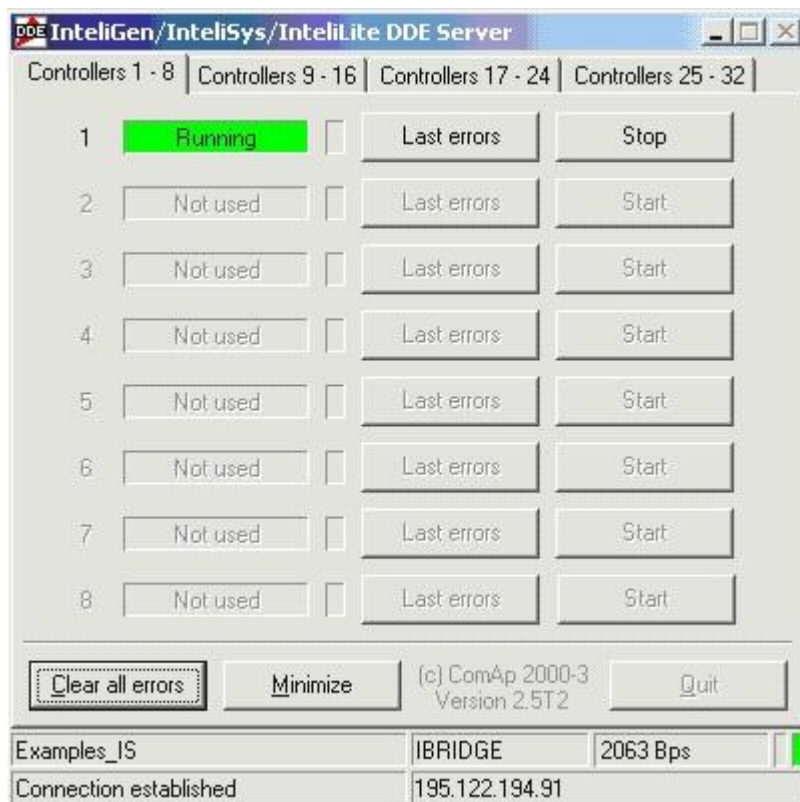
TOOLBUTTONS IN MULTIPLE CONNECTION

	<p>Click to hide all other windows and show the single-line diagram. Right-click to update the single-line diagram if it was modified in the Single line diagram editor.</p>
	<p>Click to show the Multi-setpoints window.</p>
	<p>Click to show the Multi-history window.</p>
	<p>This button is displayed if all controllers are locked. Click to it if you want to enter password/log-in user into all controllers at once. It is necessary for this function that user names and passwords in all controllers are identical. If they are not, you have to enter password/log-in user into each controller separately using the controller pull-down menu.</p>
	<p>This button is displayed if there is a valid password entered or user logged-in in all controllers. Click to this button to deactivate passwords or log-out users in all controllers at once.</p>
	<p>This button is displayed if there is a valid password entered or user logged-in in some controllers, but not all. Click to this button to deactivate passwords or log-out users in all controllers at once.</p>
	<p>This button is displayed if the audible notifications of alarms is enabled. Click to this button to silence the notification sound. If a new alarm occurs at any controller of the currently connected site the sound will be played again.</p>
	<p>Click to this button to select the particular controller and redirect the functions in the Monitor menu to this controller. Click to the arrow on the right side of the button to open the pull-down menu for this particular controller. See also the chapter Single vs. multiple connection.</p>

DDE Server

DDE Server provides the communication interface between PC and Controller. It is started automatically from the program in the moment of reading/writing of the configuration from/to the controller. Use ALT-TAB (Windows task switching) to view DDE server window.

- Click on **Last errors** to see report of the last error message.
- Click on **Stop** to pause the communication (not to close the connection). By this it is possible reduce required bandwidth for communication for example during programming of another controller.



CAUTION!

DDE server is started and stopped automatically. Do not close it manually!

DDE Server status

Status of the DDE Server (Running / Preparing / Error) for each controller address is visible in the DDE server window.

STATUS	COLOR	MEANING
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Running	green	The connection is running, no problems occurred
Programming	blue	The DDE server is programming firmware or configuration into the controller. Progress in percent is shown in the status text field.
Preparing	yellow	The DDE server is building-up the connection to the controller. This state may last from seconds up to several minutes depending on connection type and number of connected controllers.
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

DDE Server error messages

Timeout (continuous)	<p>Connected controller does not answer to DDE server requests. Probable reasons:</p> <ul style="list-style-type: none"> • 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	<p>It is not possible to open connection. Probable reasons:</p> <ul style="list-style-type: none"> • 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 <i>Can't open COM</i>	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