

IB-Lite

Plug-in Ethernet module

To be used with ComAp controllers:

IL MRSXX, IL AMFXX, IL-NT MRSXX, IL-NT AMFXX, IC-NT SPtM,
IC-NT MINT, MC-NT and derived branches

SW version 1.2, November 2009



ComAp

LEADER IN GEN-SET
COMMUNICATION SOLUTION

REFERENCE GUIDE



Copyright © 2008 ComAp s.r.o.

ComAp, spol. s r.o.
Kundratka 17, 180 00 Praha 8, Czech Republic
Tel: +420 246 012 111, Fax: +420 266 316 647
E-mail: info@comap.cz, www.comap.cz

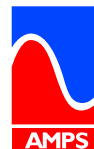


Table of contents

Table of contents	2
1 Document information	3
1.1 Clarification of notation	3
2 General guidelines	4
2.1 What is IB-Lite?	4
3 Installation	5
4 Setup	7
4.1 Module service web pages	7
4.1.1 Connection troubleshooting	8
4.1.2 Module configuration	9
4.1.3 Configuration examples	10
4.1.4 Module firmware upgrade	12
4.2 Related controller adjustment	12
5 Functions	13
5.1 Connection using ComAp PC tools	13
5.2 MODBUS over TCP	13
5.3 Web server	14
5.3.1 Scada	15
5.3.2 Measurement	16
5.3.3 Setpoints	17
5.3.4 History	18
5.3.5 Web server adjustment	19

1 Document information

IB-LITE - REFERENCE GUIDE

WRITTEN BY: JAN TOMANDL

©2009 COMAP LTD.

KUNDRATKA 17, PRAHA 8, CZECH REPUBLIC

PHONE: +420246012111, FAX: +420266316647

WEB: [HTTP://WWW.COMAP.CZ](http://www.comap.cz), E-MAIL: INFO@COMAP.CZ

DOCUMENT HISTORY

REVISION NUMBER	RELATED SW. VERSION	DATE
1	1.0	23.12.2008
2	1.1	30.8.2009
3	1.1	30.10.2009

1.1 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.

2 General guidelines

2.1 What is IB-Lite?

IB-Lite is a plug-in communication module for IL-NT and IC-NT controllers which provides Ethernet connectivity. Following protocols are available:

- ComAp proprietary protocol for ethernet connection of ComAp PC programs such as LiteEdit and IntelliMonitor.
- SMTP protocol for sending of active emails from the controller. SMTP server authentication is supported.
- MODBUS/TCP protocol.
- HTTP protocol for web-based monitoring and adjustment.

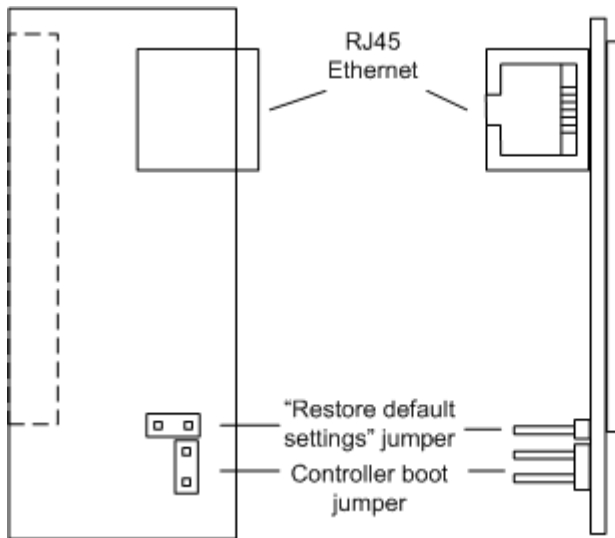
NOTE:

Changing of the controller configuration is possible only using LiteEdit.

3 Installation

Disconnect the power source from the controller, remove the cover of the slot labeled "Communication module" located at the rear side of the controller and plug the module into the slot.





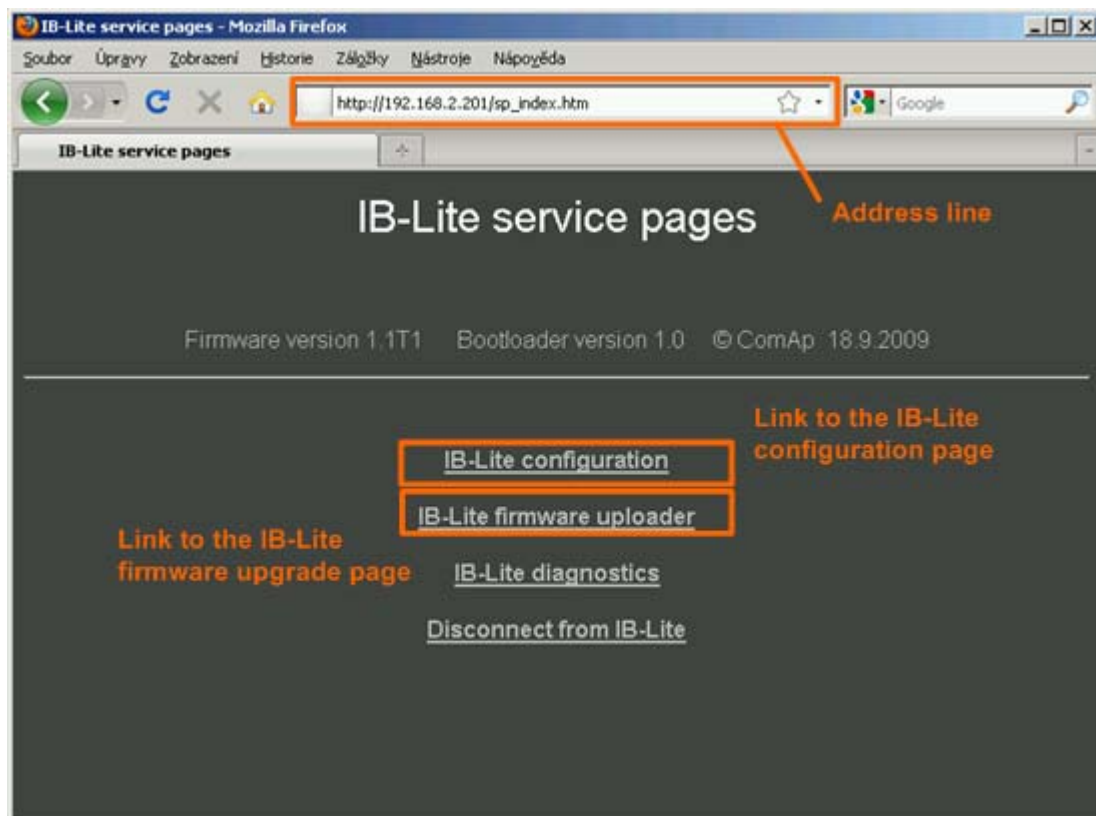
NOTE:
HW version 1.0 have only one jumper with function "restore default settings"

4 Setup

4.1 Module service web pages

All module service operations including configuration and firmware upgrade is performed via the service web pages.

1. Plug-in the module into the slot labeled "Communication module" of the controller and connect the module to the Ethernet (LAN) network. If the current (default) IP address does not match local network parameters (i.e. because of different network segment or the IP address is occupied), connect the module directly to your PC using cross-wired cable. Some LAN adapters recognize direct point-to-point connection automatically and then a normal straight UTP cable can be used for direct connection as well.
2. If you are connected directly, you have to change temporarily IP address and subnet mask of your PC Ethernet connection. Use following setting: DHCP disabled, IP address must be from the same subnet range as the module IP address currently is (e.g. 192.168.1.1 - 192.168.1.253 for the module default IP address) and subnet mask identical as the module uses (e.g. 255.255.255.0 for the default module mask). After the IB-Lite setup is finished, restore your PC setting back to original values. See an example in the [Configuration examples](#) chapter.
3. Start a browser and put the address `http://<ib_lite_ip_address>/sp_index.htm` into the address line.
4. Enter password. The service pages homepage will appear then.



IB-LITE SERVICE PAGES HOMEPAGE

Factory default IP address is 192.168.1.254 and password is **comap**. If you have **forgotten information** needed for connecting to the service web pages (IP address, password), close the "Restore factory default" jumper (see the "Installation" chapter) before switching the controller on. This will reset the IP address and password to the default values, however the default values will not be stored in the nonvolatile memory automatically. You have to go to the [configuration page](#), change the settings if needed and then save the changes.

NOTE:

Do not forget to remove the jumper after new adjustment is finished.

NOTE:

The password mentioned here is used for the service pages only. The access to the controller web pages is secured by the controller access code.

4.1.1 Connection troubleshooting

If you are connecting by a direct cable and have troubles with accessing the service web pages, please read below several possible causes and suggestions.

1. Check status of the ethernet adapter in your PC. The status icon is located at the bottom of the screen in the tray icon area of the windows main panel. The icon must show the network is connected. If the icon shows the network is disconnected, then there is a problem with the hardware and/or cable. Try to use cross-wired UTP cable instead of a straight one.



Network driver is applying network settings

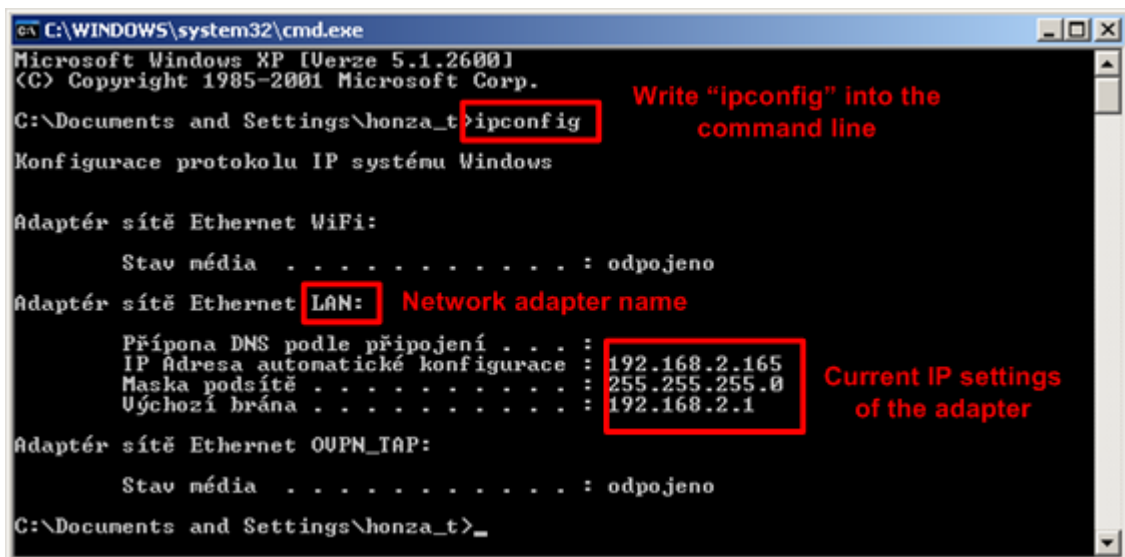


Network is connected



Network is disconnected

2. Start the windows command line and run the command "ipconfig". Check current IP settings of the adapter, which is being used for connection to the IB-Lite. See the chapter above for correct IP settings. Note, that you can have more ethernet adapters installed, such as WiFi, Bluetooth and others.



```

C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Verze 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\honza_t>ipconfig
Konfigurace protokolu IP systému Windows

Adaptér sítě Ethernet WiFi:
    Stav média . . . . . : odpojeno
Adaptér sítě Ethernet LAN: Network adapter name
    Připojení DNS podle připojení . . . :
    IP Adresa automatické konfigurace : 192.168.2.165
    Maska podsítě . . . . . : 255.255.255.0
    Účchozí brána . . . . . : 192.168.2.1
Adaptér sítě Ethernet OUPN_IAP:
    Stav média . . . . . : odpojeno
C:\Documents and Settings\honza_t>_
  
```

Write "ipconfig" into the command line

Current IP settings of the adapter

4.1.2 Module configuration

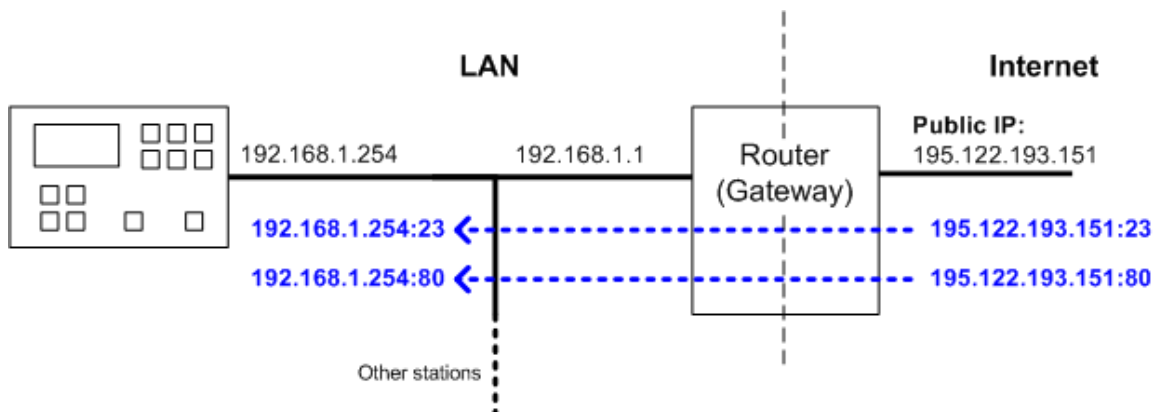
NOTE:

Consult the IP adjustment with your IT specialist!

1. Click to the link **IB-LITE CONFIGURATION** at the service homepage. Configuration page will appear.
2. Adjust the new password for accessing the service web pages in the section (3). Remember it or write it down and store at secure place.
3. Adjust the IP address, IP address mask and gateway address in the section (1). Remember, that the module has fixed IP address, i.e. no DHCP is used, so you have to exclude the IB-Lite IP address from the IP range of the current network segment DHCP server.

NOTE:

If you want the module to be accessible from the Internet, then your Internet gateway must have fixed IP address and must be adjusted so, that it will forward incoming traffic at the port configured for ComAp TCP protocol (see below) and the HTTP port (80) to the internal IP address of the IB-Lite.



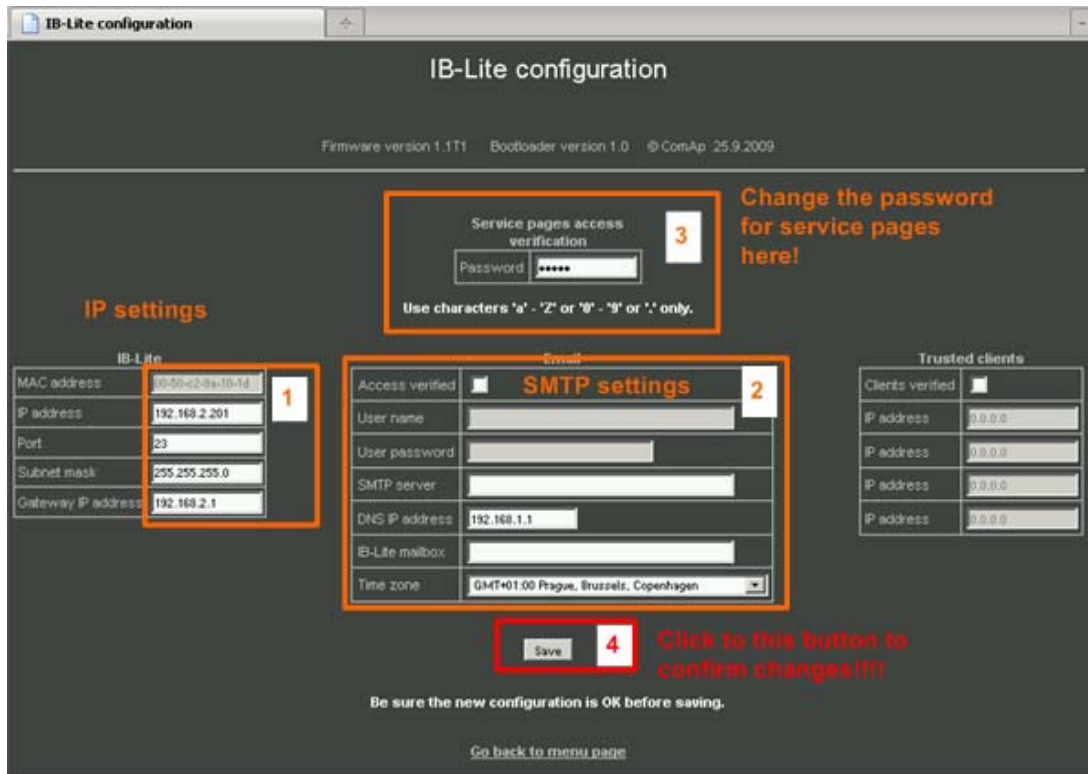
PORT FORWARDING EXAMPLE

4. Modify the port number, that is used for ComAp/TCP protocol (LiteEdit, InteliMonitor), if needed.

NOTE:

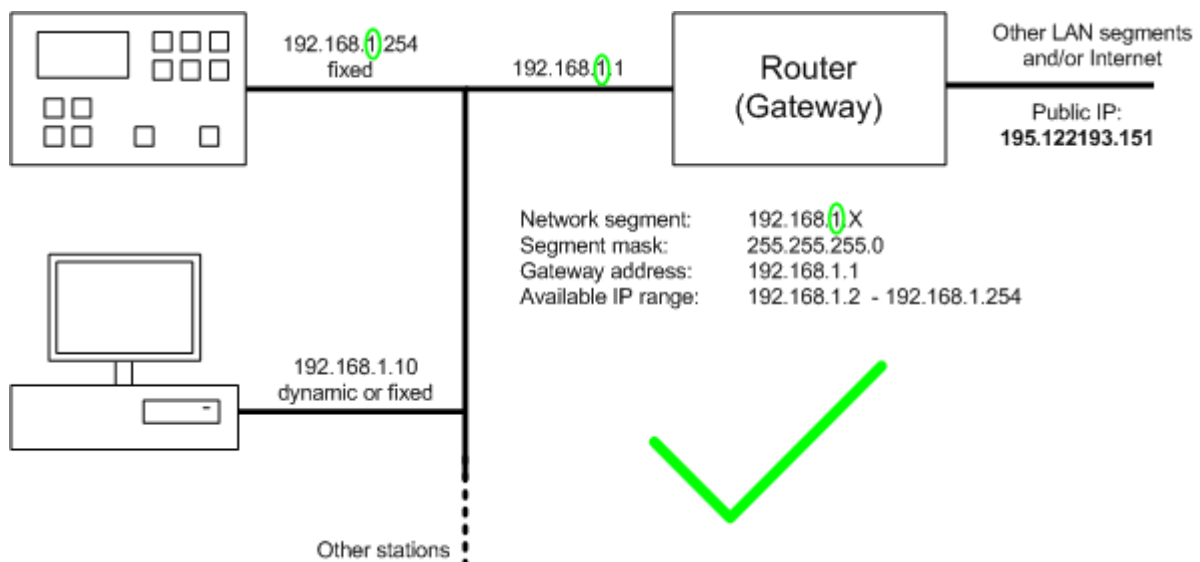
Port number can be specified in LiteEdit or InteliMonitor using a colon, e.g. 192.168.1.200:999. If the port number is not specified there, the default port 23 is used.

5. Adjust e-mail related items in the section (2). Consult settings with your e-mail provider. Tick the box **ACCESS VERIFIED** and enter SMTP username and password below if your SMTP server require authentication. Most of SMTP servers require the e-mails to be sent from an existing existing e-mail address. In such a case put the "IB-Lite" e-mail address into the box **IB-LITE MAILBOX**. Adjust the **TIME ZONE** according to the gen-set location in order to receive e-mail with correct sending time/date.
6. If you want to enable access only for clients with specified IP addresses, tick the checkbox "Trusted clients" and fill-in the allowed IP addresses.
7. When you have finished all adjustment, click on the **SAVE** button (4) to confirm all changes and write them into the module's nonvolatile memory.

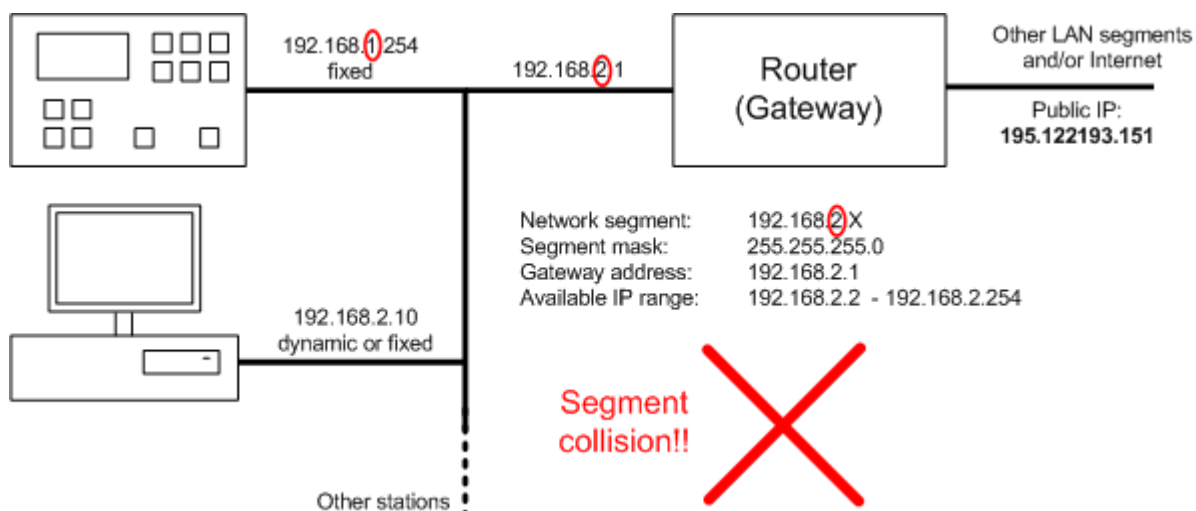


MODULE CONFIGURATION PAGE

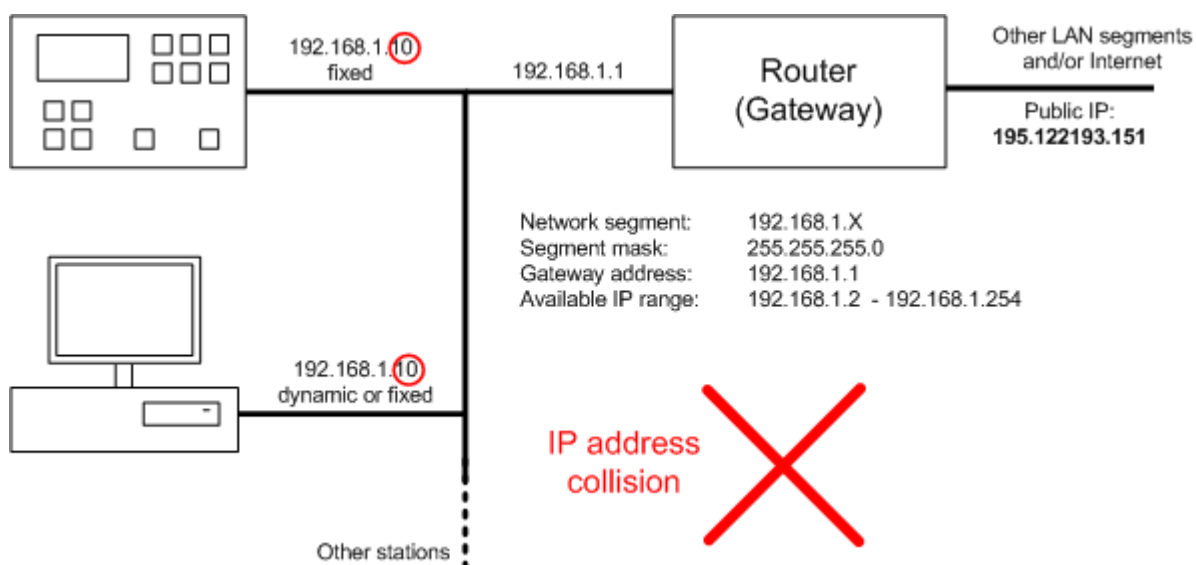
4.1.3 Configuration examples



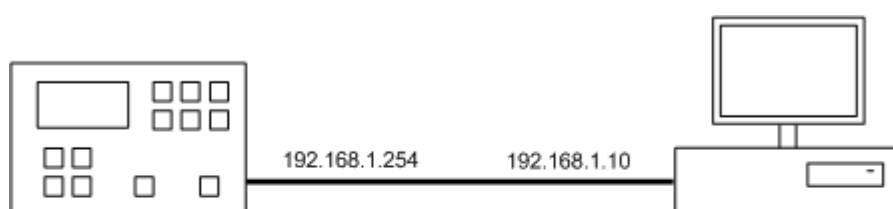
CORRECT CONFIGURATION EXAMPLE



EXAMPLE OF A LAN SEGMENT COLLISION



EXAMPLE OF AN IP ADDRESS COLLISION



PC network TCP/IP settings: IP address fixed (no DHCP), 192.168.1.10
Subnet mask: 255.255.255.0
Gateway address: 192.168.1.1
DNS address: automatic

CONFIGURATION FOR A DIRECT CONNECTION

4.1.4 Module firmware upgrade

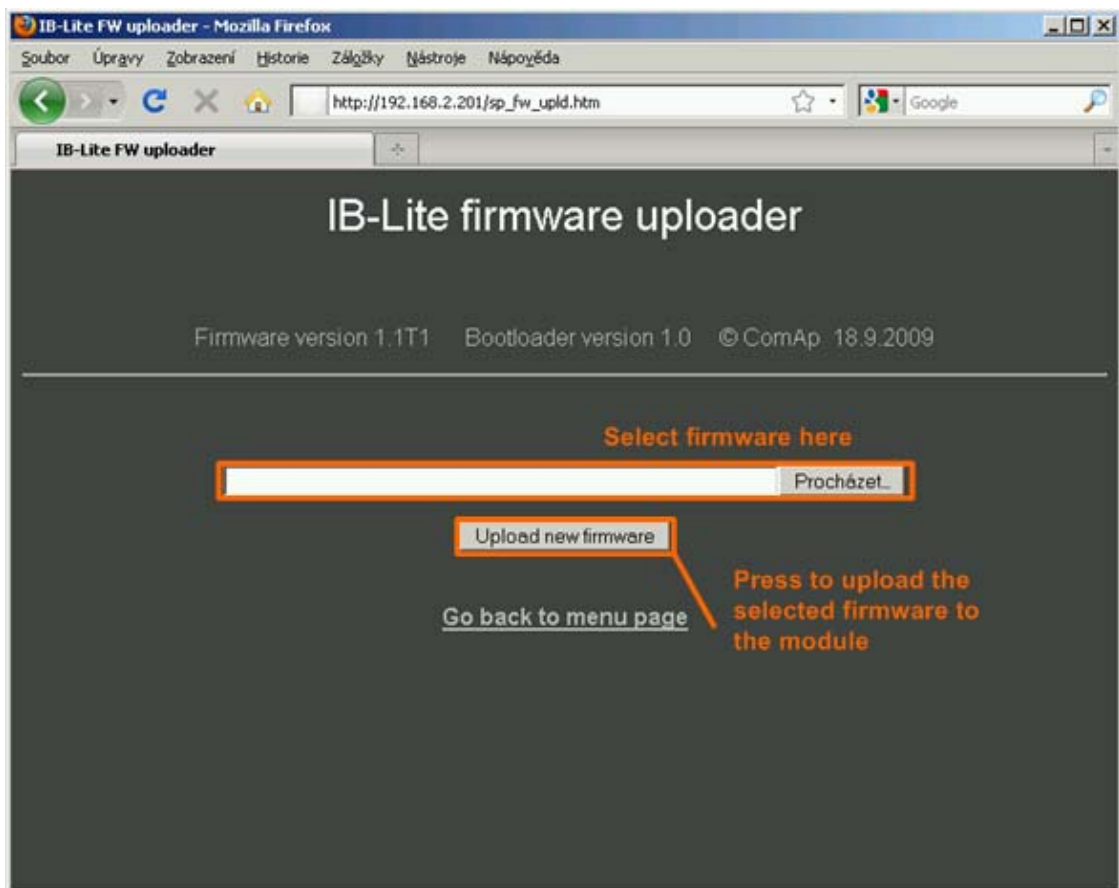
1. Click to the link **IB-LITE FIRMWARE UPLOADER** at the service homepage. Firmware upload page will appear.
2. Press the button "Browse" and select the appropriate firmware file.
3. Press "Upload new firmware" button. After the firmware upload is finished, the module will restart.

CAUTION!

If you are upgrading from version **1.0**, you have to program firmware **IB-Lite-1.0.1.BIN** first, then wait for restart of the module and then you can upgrade to the latest firmware.

NOTE:

Interrupting the upload will NOT cause any damage. Just repeat the upload again.



FIRMWARE UPLOAD PAGE

4.2 Related controller adjustment

Adjust the controller setpoints listed below to the explicated values:

COM1 Mode	DIRECT
COM2 Mode	MODBUS
ModbusComSpeed	57600

5 Functions

5.1 Connection using ComAp PC tools

The ComAp/TCP protocol is designed for communication with the controller using LiteEdit, IntelliMonitor or any other ComAp tool which allows internet connection. The protocol is available simultaneously with all other protocols. **Only two ComAp/TCP clients can be connected at the same time.**

Put the IB-Lite IP address to the genset address box in your ComAp PC tool to connect to your IB-Lite equipped controller. If you do not use the default port 23, then you also have to specify the port number using a colon.

NOTE:

See also the chapter [Module configuration](#).

5.2 MODBUS over TCP

The MODBUS/TCP protocol is available simultaneously with other protocols (ComAp/TCP, Web). This protocol is designed for easy integration of the controller into a building management system. There isn't any specific adjustment in the IB-Lite module related to this protocol.

NOTE:

Adjust the controller setpoints as described in the chapter [Related controller adjustment](#).

NOTE:

Controller access code must be written into the controller prior to reading any registers. Use function 16, register address 24534 and number of registers 8. The access code is a null-terminated string of max. 15 characters. Send the 1st character in the LSB of the 1st register, 2nd character in the MSB of the 1st register, 3rd character in the LSB of the 2nd register etc..

5.3 Web server

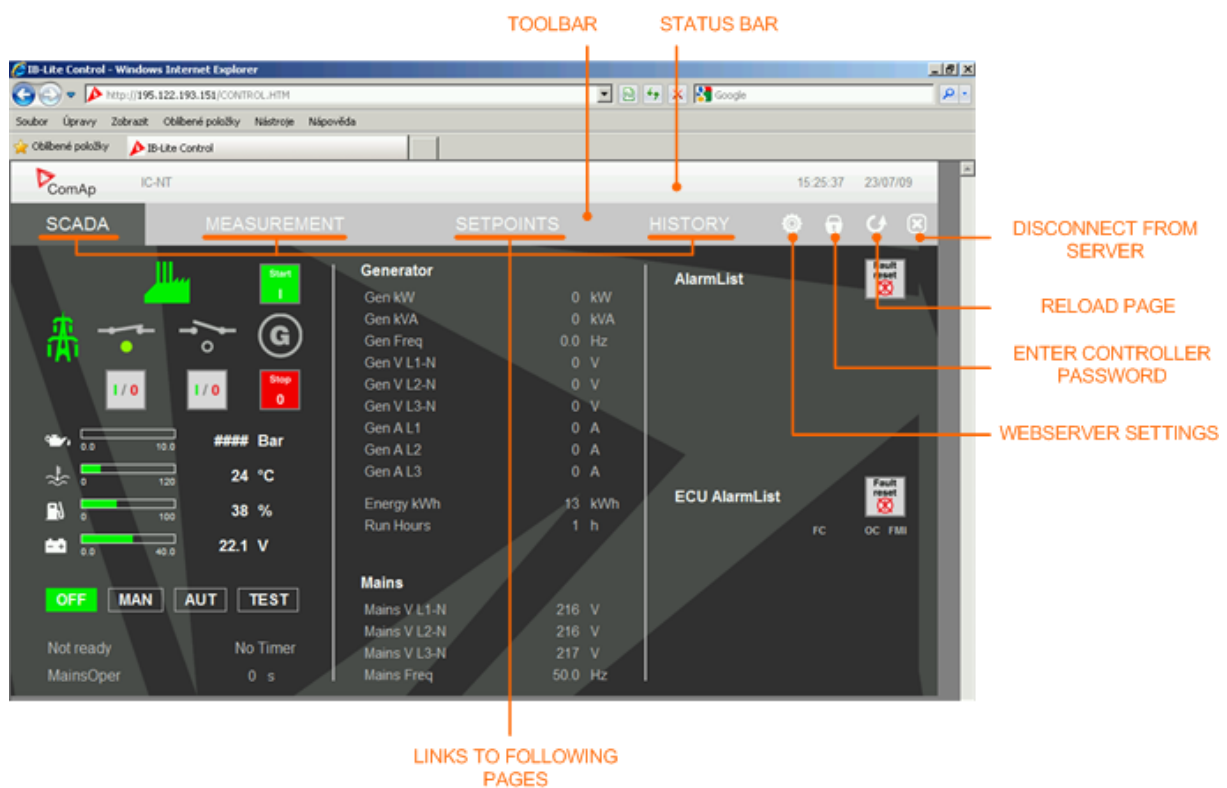
The web server is designed for basic monitoring and adjustment of the controller using a web browser. Just put the controller IP address into the browser to display the main controller web page like `http://192.168.1.254`. If you are connecting from the internet, you have to put there the fixed IP address of the gateway beyond which the IB-Lite is located. You will be asked for the **controller access code** prior to entering the web pages.

NOTE:

The web server is optimized for IE6 or higher and screen resolution 1024x768 pixels.

CAUTION!

Do not use the browser navigation buttons as "Back", "Forward" or "Reload". Use the links and the reload button located in the toolbar instead.



TOOLBAR

STATUS BAR

DISCONNECT FROM SERVER

RELOAD PAGE

ENTER CONTROLLER PASSWORD

WEBSERVER SETTINGS

LINKS TO FOLLOWING PAGES

Generator	
Gen kW	0 kW
Gen kVA	0 kVA
Gen Freq	0.0 Hz
Gen V L1-N	0 V
Gen V L2-N	0 V
Gen V L3-N	0 V
Gen A L1	0 A
Gen A L2	0 A
Gen A L3	0 A
Energy kWh	13 kWh
Run Hours	1 h

Mains	
Mains V L1-N	216 V
Mains V L2-N	216 V
Mains V L3-N	217 V
Mains Freq	50.0 Hz

NOTE:

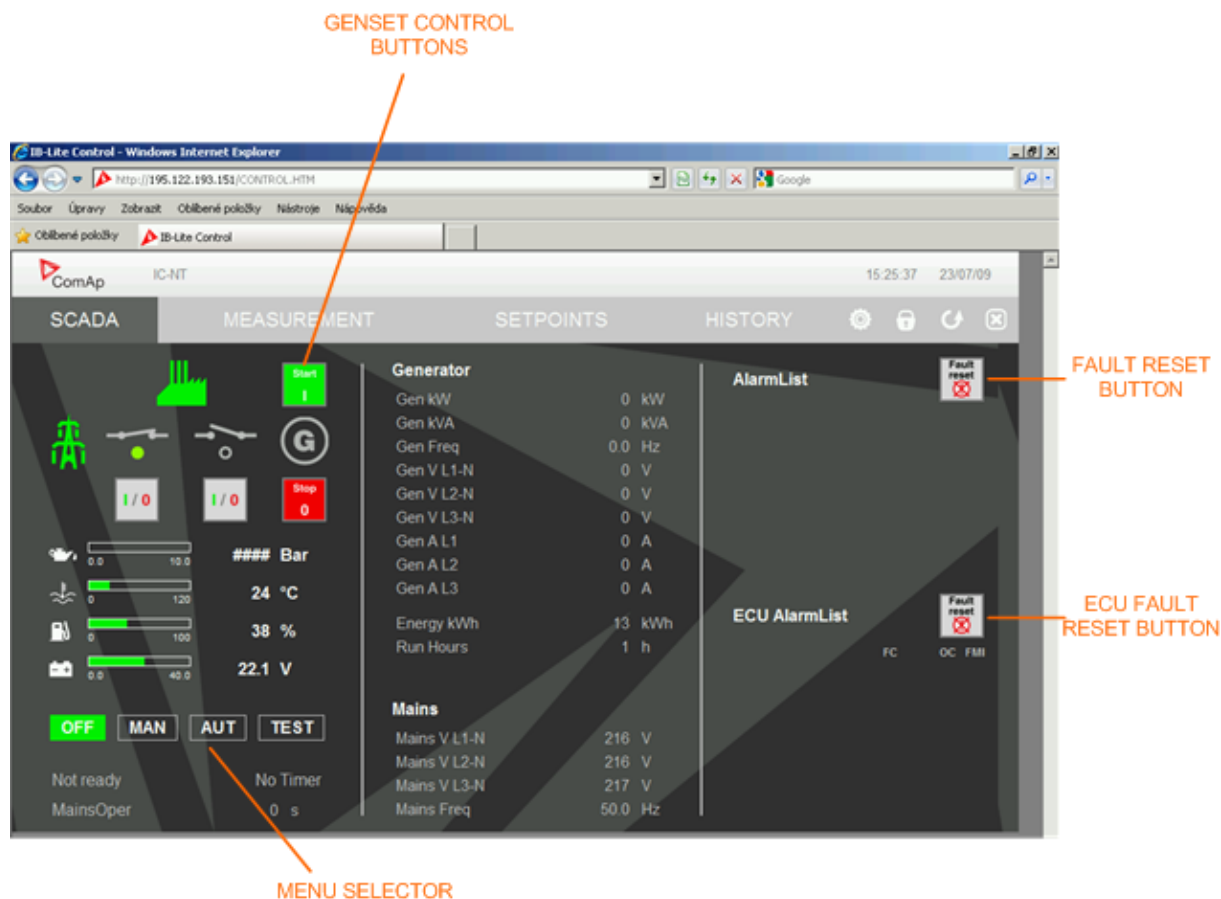
Only two remote clients can be connected to the web server at one moment. If you close your web browser without disconnecting from the server, your connection slot will be blocked for next 5 minutes..

5.3.1 Scada

- Click to the **SCADA** link in the toolbar to display the scada page. The scada page is also the main page which is displayed by default if you just put the IB-Lite address into the browser.

NOTE:

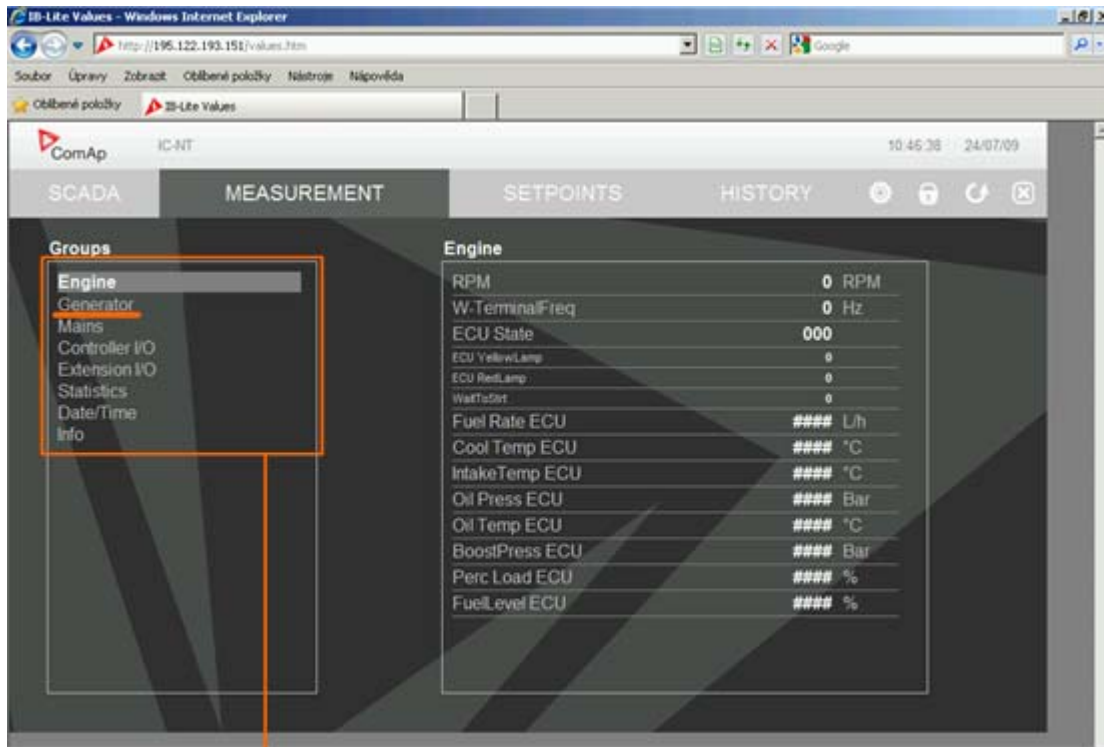
The scada page layout may differ according to the firmware branch, version and application. Certain old firmware versions does not support web access at all.



5.3.2 Measurement

- Click to the **MEASUREMENT** link in the toolbar to display the measurement page.
- Click to the required group name in the left box to display values of the group in the right box.

NOTE:
The measurement page is automatically refreshed every 60 seconds.



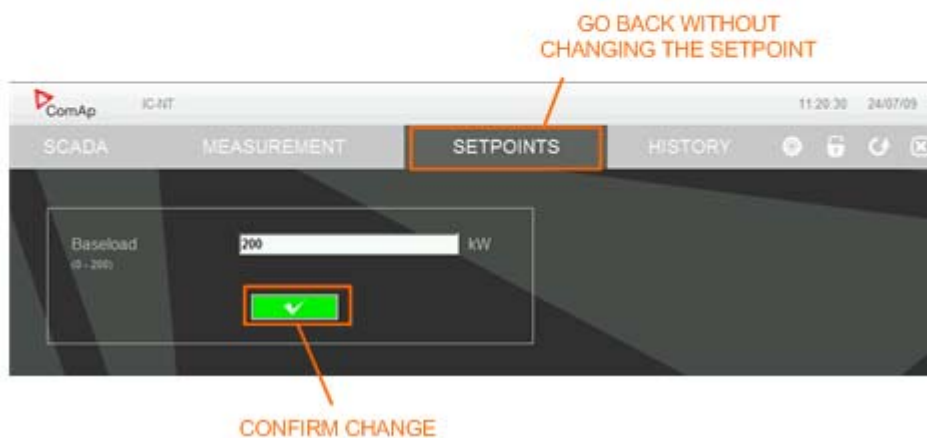
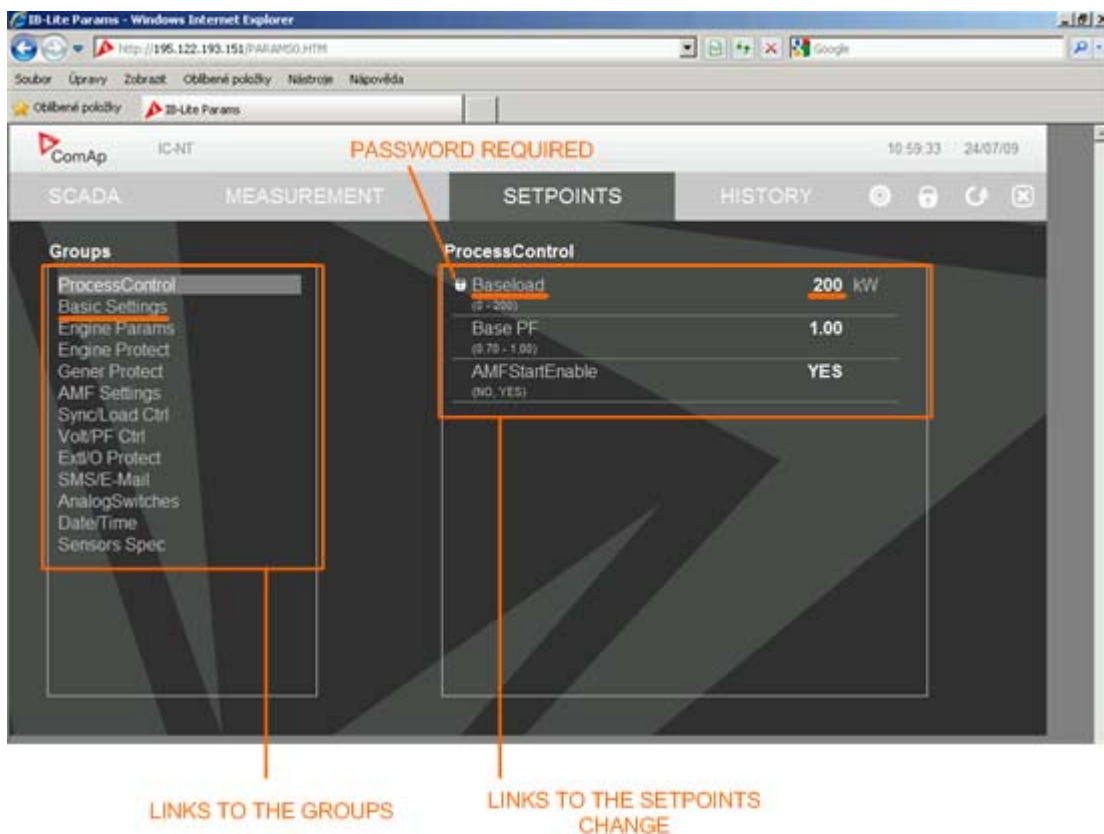
LINKS TO THE GROUPS

5.3.3 Setpoints

- Click to the **SETPOINTS** link in the toolbar to display the setpoints page.
- Click to the required group name in the left box to display setpoints of the group in the right box.
- Click to the required setpoint name or value to change the value. If the respective setpoint is protected by password, which is indicated by a lock icon by the setpoint name, you have to click on the "Controller password" icon located in the toolbar and then enter valid password.

NOTE:

The setpoint page is automatically refreshed every 60 seconds. If an another user changes a setpoint from other terminal, the web page will not show this change immediately as e.g. LiteEdit.

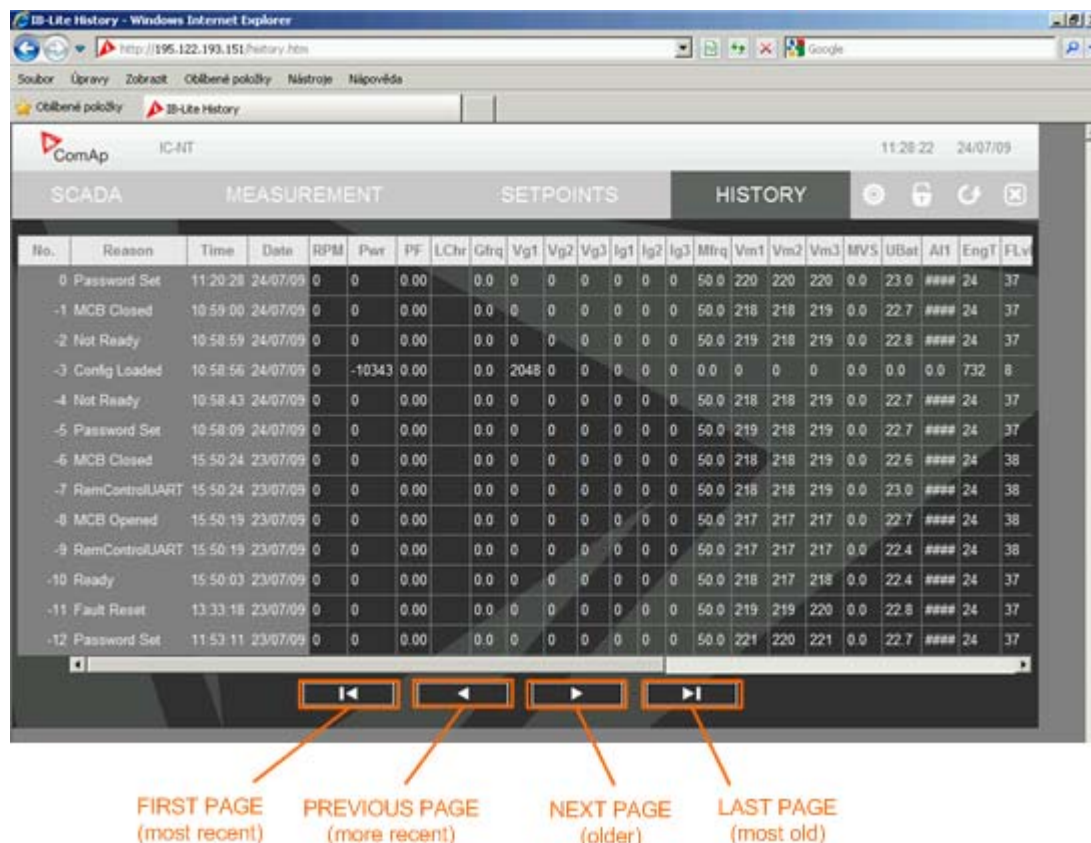


5.3.4 History

- Click to the **HISTORY** link in the toolbar to display the history page.
- Use the control buttons to move within the history file.

NOTE:

The history page is automatically refreshed every 5 minutes. If a new record appears in the controller, the web page will not show it immediately as e.g. LiteEdit.



5.3.5 Web server adjustment

- Click to the "Webserver settings" icon in the toolbar to display the settings page.
- Select the controller language the web pages will appear in.
- Select the rate of automatic refresh of the scada page.
- You can change also the controller password and access code.

