USER MANUAL

SATELLINK PC Pro

Routing program
for
Point-to-Multipoint Operation

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1 GENERAL

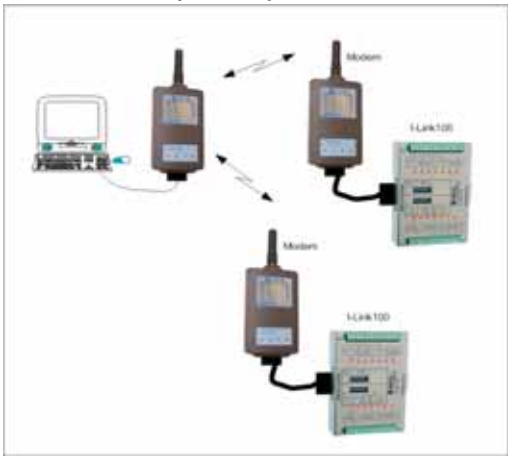
1.1 ABOUT SATELLINK PC Pro

SATELLINK PC Pro is a Point-to-Multipoint program that can be used to drive several SATELLINK I-, C- and MINI-LINK series sub-stations connected to SATELLINE radio modems. The maximum number of sub-stations is 127 (but only 15 pcs of MINI-LINKs). The program makes it possible to operate systems, which are connected to the I/O -ports, to change values, collect pulses, monitor the radio link and Multipoint operation etc. The monitoring can be diverted to a wallpaper picture, for example a map. It is also possible to create an own network that can be monitored and controlled over the **Ethernet (WAN/LAN)**.

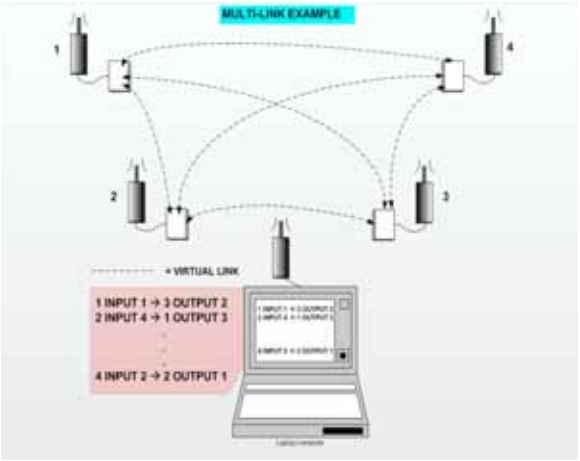
With the routing feature any of the sub-station's digital/analogue **input** can be routed to any digital/analogue **output**. You can even route any one of the inputs to several or all outputs. This feature is useful for example emergency multi-alarm e.g. routing is done by the PC-program, which virtually connects the Inputs to the defined outputs. The input can be connected to the any output of the SATELLINK-series products. You may thus use this as switch isolator, current converter and voltage converter from 12-24 VDC to 230 VAC etc. Analogue inputs can also be routed to analogue outputs, or adopting the analogue to digital conversion to be converted to a digital signal.

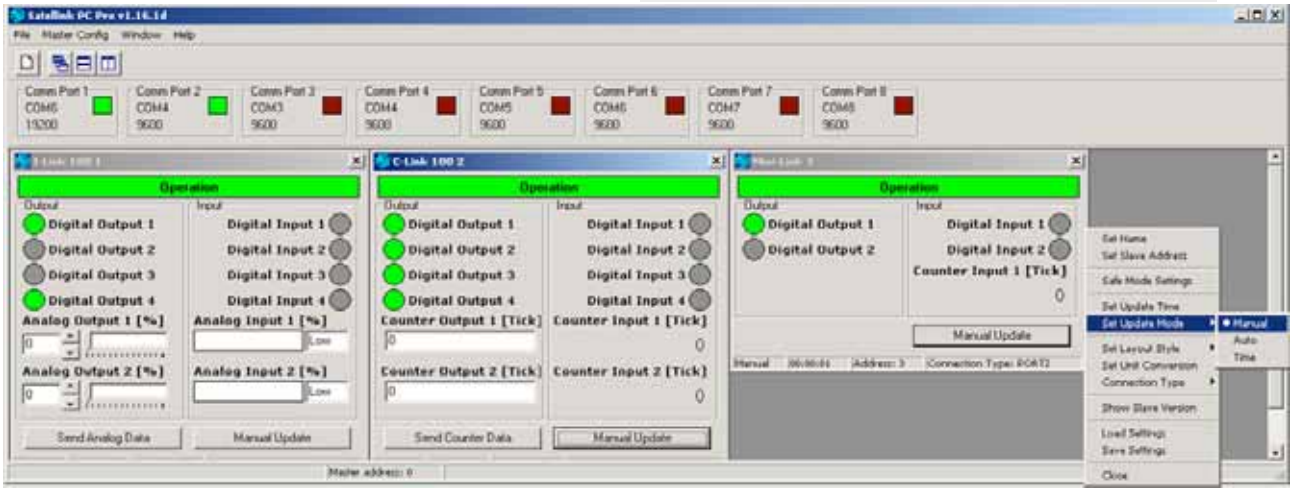
Minimum requirements:
PC 286, SATELLINE radio modem, SATELLINK I/O-converter, SATELLINK PC Pro program, COM Port with baud rate min. 9600 b/sec. Windows 95, 98, 2000, XP.

Small Multipoint system



Routed Multipoint system





2 INITIAL SETTINGS

2.1 SATELLINE RADIO MODEM AND SATELLINK-SERIES CONFIGURATIONS

Baud Rate

Set the baud rate of the SATELLINE radio modem. Check that the other parameters are “N-8-1”.
Set the baud rate of the SATELLINK device by using the BAUD DIP -switches.
00 = 2.4, 10 = 4.8, 01 = 9.6, 11 = 19.2kbs
The baud rate of the MINI-LINK is fixed 9.6kbs
Check that the SATELLINE radio modems have the same settings.

Protocol

Set the PRTCL switch of the SATELLINK device to the Multipoint position, P-to-MP or M.

Address

Set personal addresses to all SATELLINK device sub-stations by using the ADDRESS DIP-switches.

Connections

Before connecting the device to a power supply, first connect all inputs and outputs. There is more information about connections at the end of the manual.

3 HOW TO START USING OF THE PROGRAM

In this section "HOW TO START USING OF THE PROGRAM, is described all necessary information to make the system operational. Other tunings and settings are described in the next sections.

3.1 QUICK START

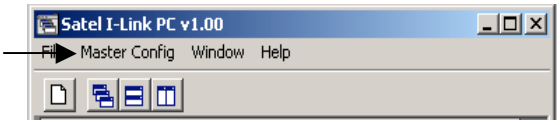
Open the SATELLINK PC Pro program.

Operation Window

Open a new operation window(s) from the toolbar list by clicking the -button on the upper left corner, or Open by clicking on the File Menu, opening "New Slave". Open own window for all Sub-stations. Note, that the maximum number of Sub-stations in this program is 127 (the maximum number of MINI-LINKs is 15). Arrange the display by using the Windows Menu or the -buttons.

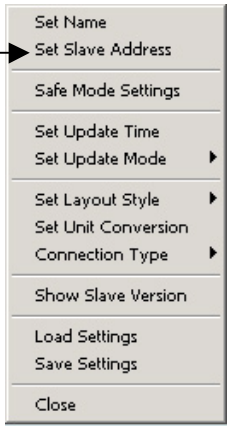
COM-Port

Open COM- port from the toolbar list by clicking "Master Config" – "Port1…8" and "Open". Select COM-port and set the same parameters as you have set for the SATELLINE radio modem and SATELLINK device, and press OK. If there are no COM -port settings, the program will automatically ask for them.



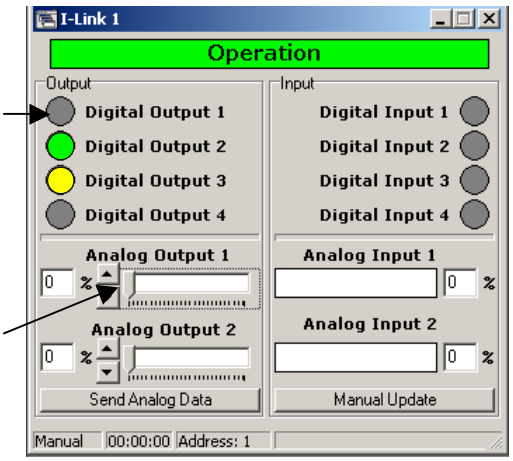
Sub-station address

When the new sub-station is opened, the program will automatically set the address for it. To make manual adjustments, click anywhere on the empty grey area of the sub-station window using the right mouse button, and select "Set Slave address". Insert the new address, and then press OK.



The basic settings have now been established and the SATELLINK PC Pro is ready to send and receive.

3.2 SENDING TO SUB-STATIONS



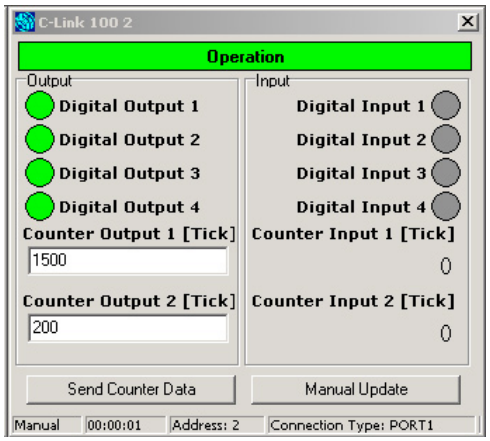
Digital information

To change the sub-station's digital value, click the gray "Digital Output" circle dot. During the transmission the dot is yellow. When the transmission is done, the circle will change to green. If the transmission fails, the "Operation" signal will turn red.

Analog information

Move the "Analog Output Cursor" or change the number at the side. Press Send Analog Data and the levels will be sent to the Sub-station's "Analog Output".

If the transmission fails, the "Operation" signal will turn red. Note that "Analog Output" can only be sent by pressing Send Analog Data .



Pulse information

In order to send the pulses to the sub-station, write the number of pulses to the **Counter Output** block and press Send Counter Data. If the transmission fails, the "Operation" signal will turn red. Note that the pulses can be sent only by pressing Send Counter Data.

3.3 RECEIVING FROM SUB-STATIONS

To make updates from the sub-stations, click anywhere on the empty grey area of the sub-station window using the right mouse button, and select the one of the following: Manual, Automatic or Time.

Manual update

The sub-station information for the chosen window is updated only when "Manual Update" circle-dot in the sub-station window is pressed.

Automatic update

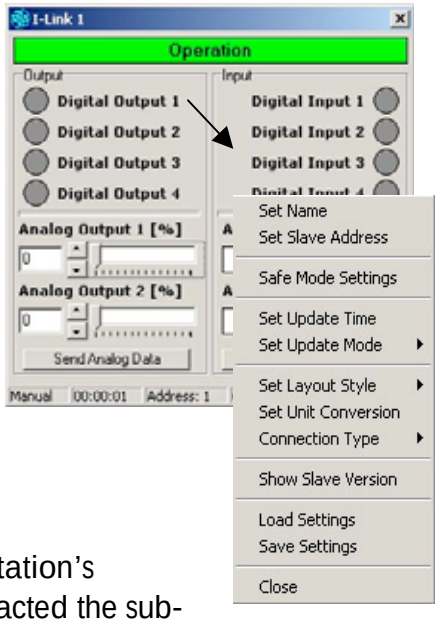
The sub-station information for the chosen window is updated with maximum speed. If only one sub-station has an auto setting, the update speed is about 1 second. Every new sub-station with auto setting increases the update time about 1 second.

Time based update

The update information from the sub-station to the chosen window will be in accordance with the "Select time" setting. The time interval can be from 1 second up to 24 hours.

4 EDIT MODES

4.1 HOW TO SELECT FUNCTIONS



Click anywhere on the empty grey area of the sub-station window using the right mouse button. This will open a new window where you can select the desired function.

4.2 SET NAME

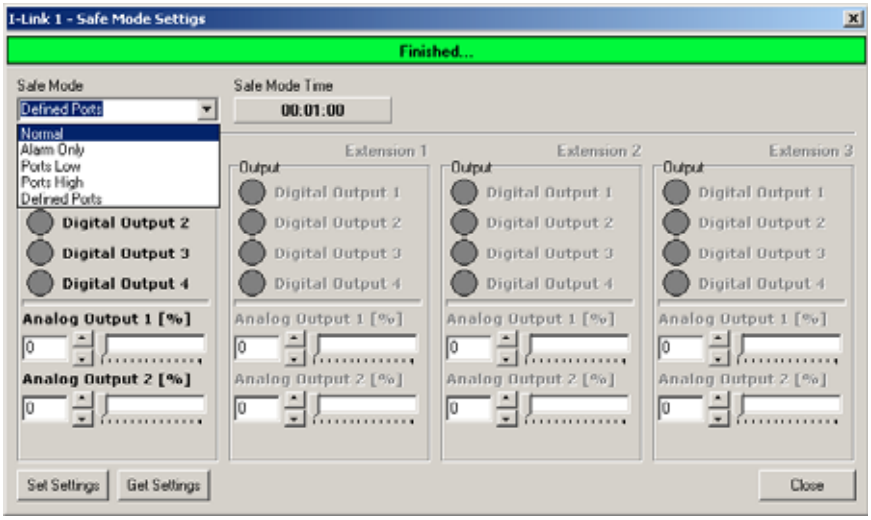
Changes the default name. Select "Set Name" – type a new name and press OK.

4.3 SET SLAVE ADDRESS

Insert the new address and press OK.

4.4 SAFE MODE SETTINGS (diagnostics)

The Safe Mode Setting defines what should be done to the sub-station's outputs, if the master in the pre-set Safe Mode Time has not contacted the sub-station. This function acts like diagnostics to the sub-station units.



Normal
No changes - the outputs will remain their current position.

Alarm only
Alarm LED will be lit and the outputs will remain their current position.

Ports Low
Alarm LED will be lit and the outputs will go OFF.

Ports High
Alarm LED will be lit and the outputs will go ON.

Defined Ports
Alarm LED will be lit and the outputs will go to pre-set state.

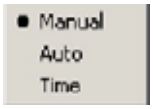
Safe Mode Time
The pre-set time defines the time when the sub-station will make the above pre-set actions, if the sub-station has not got been contacted by the master. The minimum increment time is 1 minute.

4.5 SET UPDATE TIME

Defines the interval how often the master contacts the sub-stations. The time can be from 1 second up to …24 hours. Select "Set Update Time", set the time and press SET.

4.6 SET UPDATE MODE (concerns only received data)

There are 3 different modes to receive Data; Manual, Automatic or Time. The settings can be done separately for each sub-station.



Manual update

The sub-station information for the chosen window is updated only when “Manual Update” circle-dot in the sub-station window is pressed.

Automatic update

The sub-station information for the chosen window is updated with maximum speed. If only one sub-station has an auto setting, the update speed is about 1 second. Every new sub-station with auto setting increases the update time about 0,5 second.

NOTE!

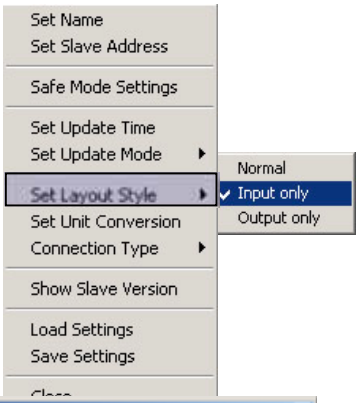
Use this setting for the sub-stations only, if it is absolutely necessary. The auto setting makes maximal use of the radio frequency. The continuous reservation of radio frequency is not generally recommended.

Time based update

Select “Set update mode” and press “Time”, select the time and press SET. The time interval can be from 1 second up to 24 hours. When this mode is used, the update information from the sub-station to the chosen window will be in accordance with the “Select time” setting.

4.7 SET LAYOUT STYLE

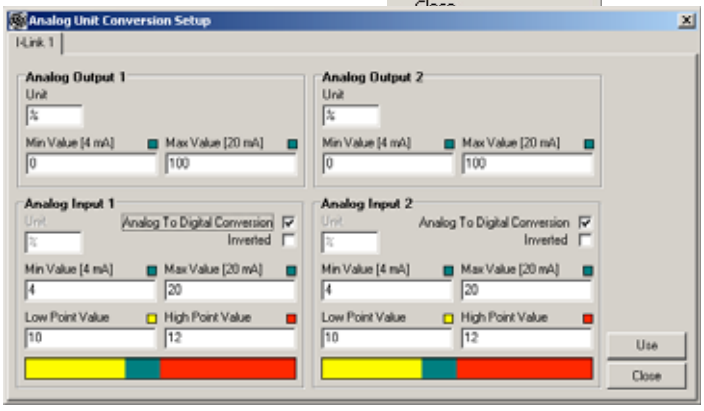
The inputs and outputs can be seen in the window simultaneously or separately, depending on the settings. Click anywhere on the empty grey area of the sub-station window using the right mouse button, select "Set layout style" and set it for “Normal”, “Input only” or “Output only”.



4.8 SET UNIT CONVERSION

As default the analog input and output values are shown as % and the scaling is from 0 to 100 %.

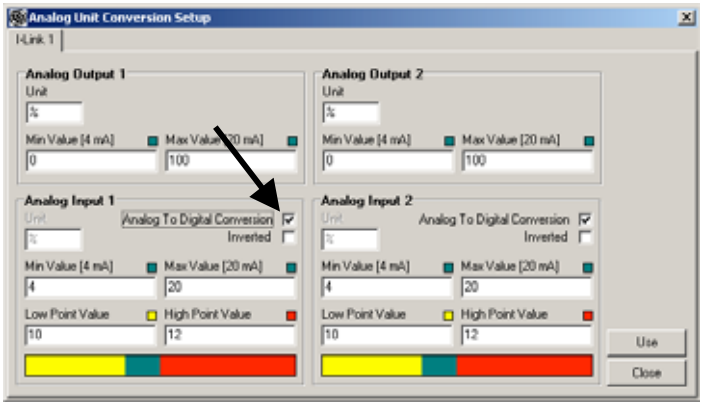
The default unit “%” can be changed to any other unit, maximum 5 characters. The value can also be re-scaled by setting the minimum and maximum values that the sensor and device applies. Low and high alarm warning values can be set separately for each analogue input.



Select Set Unit Conversion. Set new units and values and execute the function by clicking "Use" button. Pressing of the "Close" button closes the window.

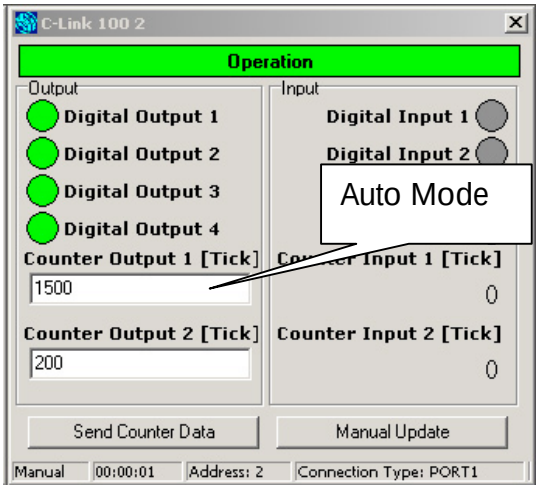
Analog to Digital Conversion, I-LINK

An analogue input level can be converted to digital on/off state. When the analog value gets to the set point, it will send 1 (ON) or 0 (OFF) regarding the settings.
Set the conversion ON by clicking the Analog to Digital Conversion box of the Analog Input 1 or 2.
Set the Low Point Value for 0 (OFF), and the High Point Value for 1 (ON). The gap between these states is hysteresis. If inverted, the states are: High Point = 0 and Low Point=1.



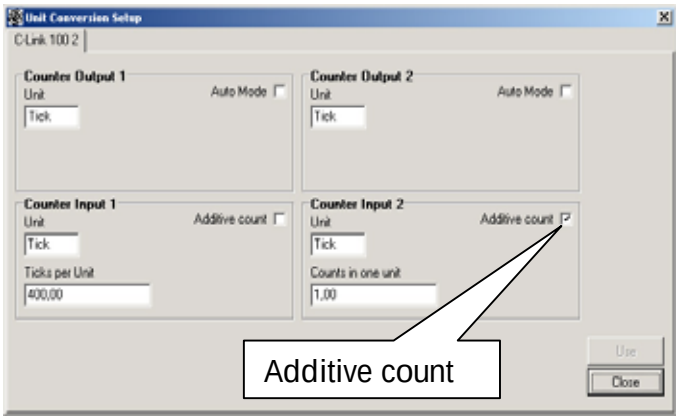
Pulse counter functions, C-LINK and MINI-LINK

1. Counter Output and Input 1, 2/ Unit.
The default Unit "Tick" is replaced by typing new text.
2. Counter Output 1, 2/ Auto Mode:
When selected a fixed frequency can be set to the Counter Output ports.
Type the desired frequency to the Counter Output block and press Send Counter Data.
The function is deactivated by typing 0 and pressing Send Counter Data.



3. Counter Input 1,2 / Additive count:

When Additive count is chosen, the new counter value is added to the previous **Counter Input** value. The update is done in every request by the program.
(Example: Previous=20, new=3=> **Counter Input** =23)

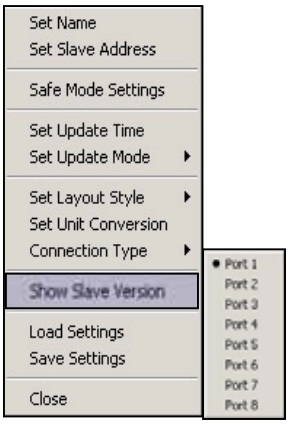


When Additive count is not chosen, the new counter value replaces the previous **Counter Input** value.
(Example: Previous=20, new=3=> **Counter Input** =3).

4. Counter Input 1,2 / Ticks per Unit:
When Ticks per unit is greater than 1, the incoming pulses are multiplied with this number.
When Ticks per unit is less than 1 (for example 0,1), the incoming pulses are divided with this number.

4.9 CONNECTION TYPE

Current sub-station can be changed to use any other possible Port 1...8 in the system.



4.10 SHOW SLAVE VERSION

This function will show the software version of the LINK device.

4.11 LOAD SETTINGS

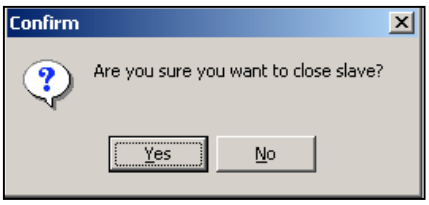
Opens saved settings from the file. Select "Load Settings" browse for the file and press OK.

4.12 SAVE SETTINGS

Saves the current Sub-station to the PC. Select "Save Settings", browse for the file and press OK.

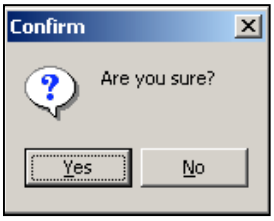
4.13 CLOSE (close the sub-station)

This will close only the individual sub-station, not the whole program. In the event that the sub-station has not be saved, the program asks “Are you sure you want to close slave? Select Yes /No." However, it is recommended to either save the individual sub-station or the whole workspace (File- Save Workspace…)



4.14 EXIT

Select FILE – EXIT. If any of the sub-stations are still open, the program asks “Are you sure?” Select Yes /No.

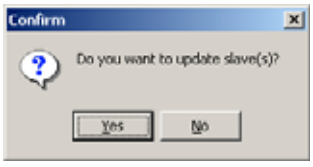


4.15 SAVE ALL SLAVES

Select FILE - "Save All", select path and save. This function will save all sub-stations using their current names.

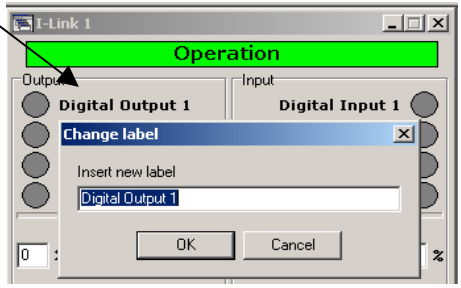
4.16 LOAD ALL SLAVES

Select FILE - "Load Slave(s)" and open the file. Because the information of the now loaded sub-station may be different from what it currently is, the program asks, “Do you want to update slave(s)? Select Yes / No".



4.17 EDIT

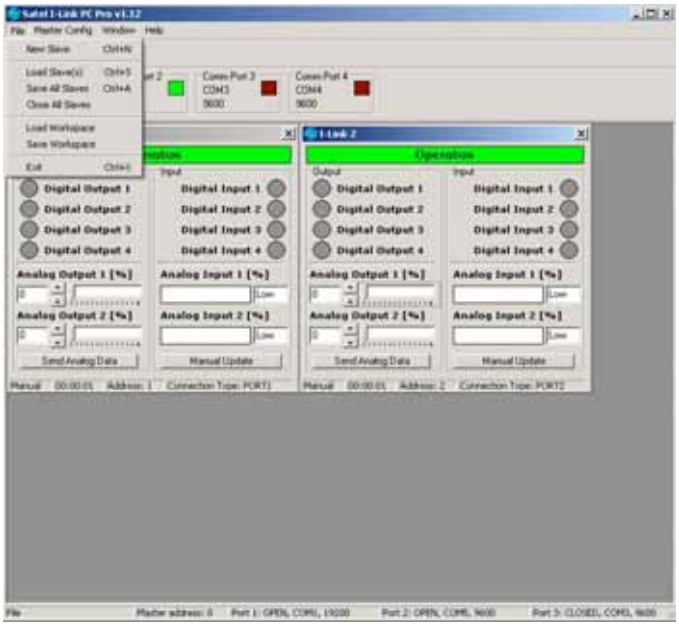
Changing of the Input / Output names
Click normally at the name that you want to change and it opens for editing. Make the changes and press ok.



5 FILE-menu

5.1 NEW SLAVE

Opens a new sub-station on the main window.



5.2 LOAD SLAVE(s)

Loads a saved sub-station from the file.

5.3 SAVE ALL SLAVES

Saves all sub-stations to the file.

5.4 CLOSE ALL SLAVES

Closes all sub-stations from the window.

5.5 LOAD WORKSPACE

Loads the whole workspace from the file. When the saved workspace is loaded from the file, the program will not automatically start its operation, even though the saved workspace had auto boot and auto time setting. For security reasons the program will start on manual mode.
PC Pro Program will start automatically only, if the auto boot has been activated and the PC has gone through an abnormal shut down i.e. power failure etc.

5.6 SAVE WORKSPACE

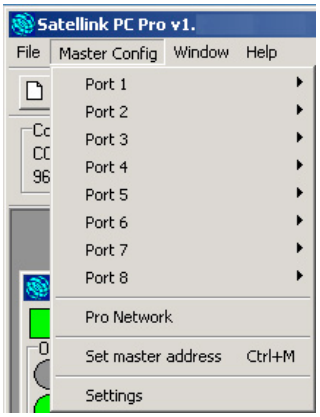
Loads the whole workspace to the file. Recommended feature. When done the all settings, such as names, routings, times etc., will be saved.

5.7 EXIT

Closes the I-LINK PC Pro program.

6 MASTER CONFIG-menu

In this part are explained most of the settings that have an effect on the program functions.



6.1 COM-PORTS 1…8

In case you have different frequencies or you want to connect SATELLINK -products directly to your PC, you can use eight (8) different COM ports. The usage of multiple COM ports makes it possible to build up several systems and different combinations for one PC-Pro program.

Open new Com-Port

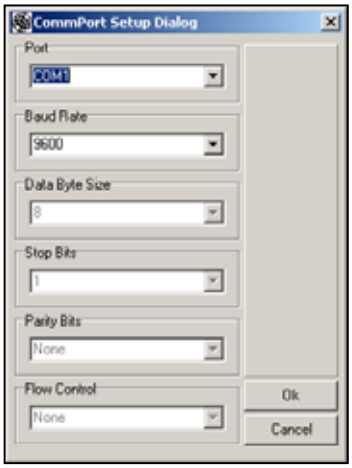
On the top bar, click the “Master Config”. Open the port that you want to use. Both ports can be used for similar operation. Note that you cannot use two COM ports to drive same sub-station.

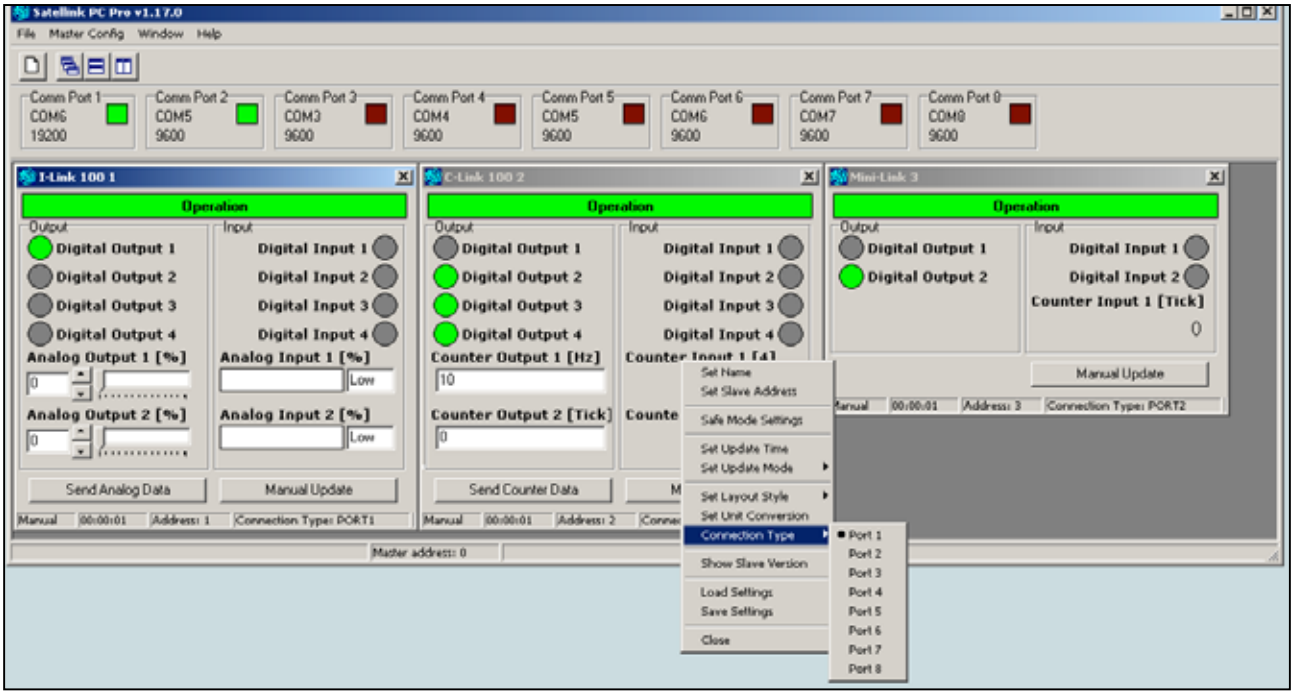
How to use Com-Ports

Open new sub-station. Click anywhere on the empty table of the selected sub-station by using the right mouse button, click on "Connection Type” and select new port.

New COM port can be connected directly to I-LINK or C-LINK 100 (even without modem), with a special null-modem cable D9f/D15f or normally with SATELLINE radio modems. If needed the radio modems can use different frequencies in each COM port.

Routing the LINK device inputs from one COM port to another COM port is also possible.

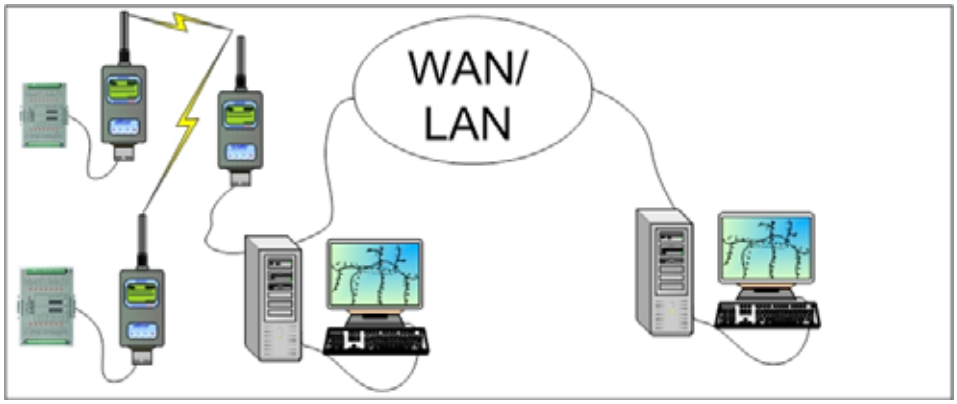




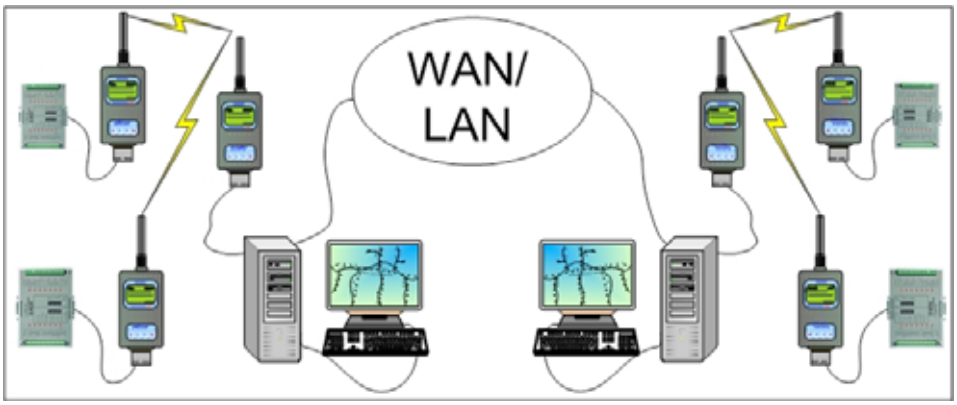
6.2 NETWORK

It is possible to create a network that can be monitored and operated over the ETHERNET using the TCP/IP connection between the PC's connected to the network.

Picture 1.
A system, which is monitored by two PCs in the same network.



Picture 2.
Two systems, which are monitored by two PC's in the same network.



How to build up a network (picture 1)

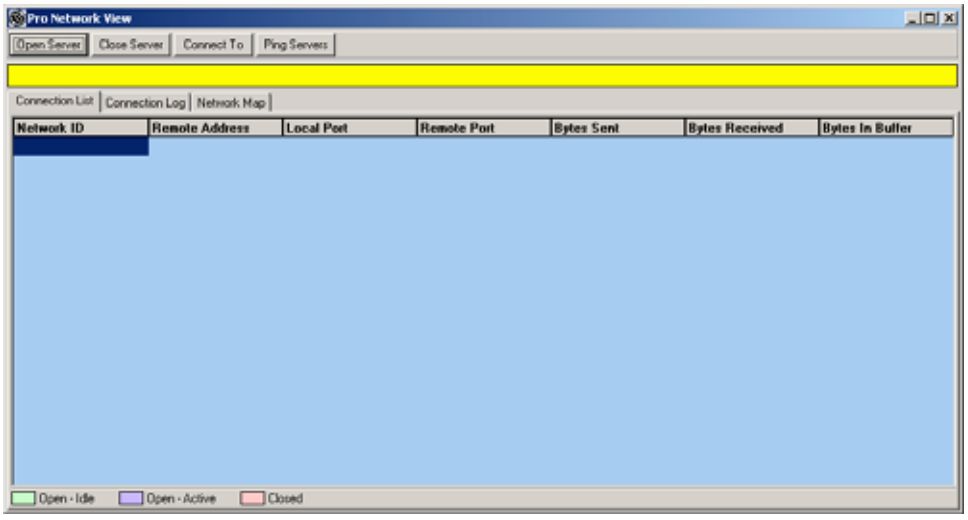
1. Build up a radio network (using the radio modems and for example I-LINK 100 I/O-converters).
2. Open the **SATELLINK PC Pro program**.
3. Open the I-LINK 100 operational window to your Local Server (on the left of the picture 1) and set the I-LINK 100 I/O-connections.
4. Click **Master Config** on the standard toolbar and select **Settings**
5. Provide **Administrative Password for network connections** (default: ProNetwork).
6. Type the **Network Port** that this server is listening. **Save and Close**
7. Click **Master Config** on the standard toolbar and select **Pro Network.** Click **Open Server**
8. Click **Connect To** and type the **Remote Address Input**. This is the TCP/IPP address of the remote PC that is networked to this PC. Click **OK**
9. Make the settings 2-9, except step 3, to the Remote Station (on the right of the picture 1) and the network connection between these two PCs has been established.

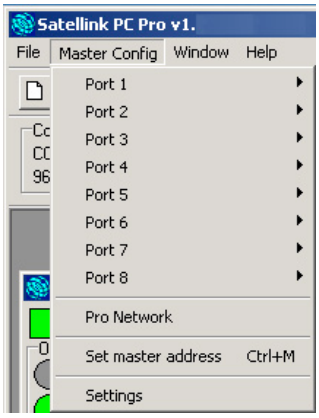
How to build up a network (picture 2)

1. Make the above settings to the PC on the right, except step 9.

Settings of the Local Station

Click Master Config on the standard toolbar. Select Pro Network. A new Pro View window appears as below.





Open Server

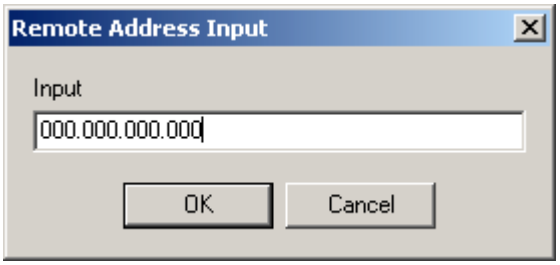
Opens the TCP/IP Port for listening inbound connections.

Close server

Closes all server connections.

Connect To

Connect To opens a new window, Remote Address Input. TCP/IP address of the other PC that the connection is made.

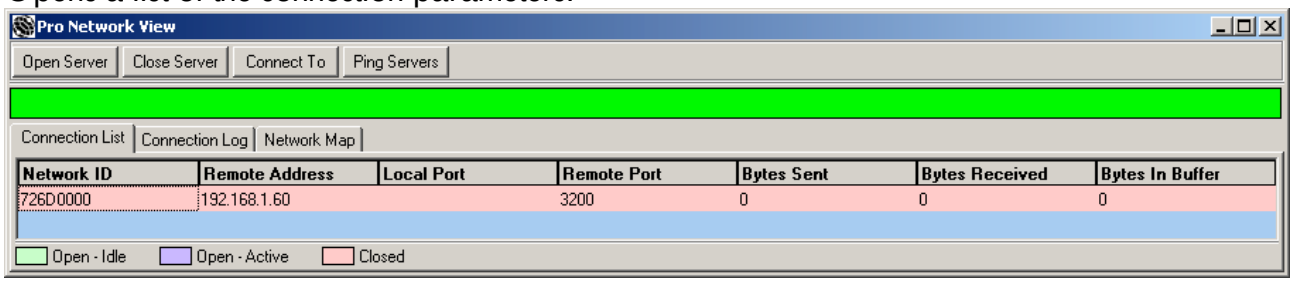


Ping Servers

When clicked, it shows the server that the connection is made. If no Ping result is received the connection is not established.

Connection List

Opens a list of the connection parameters.



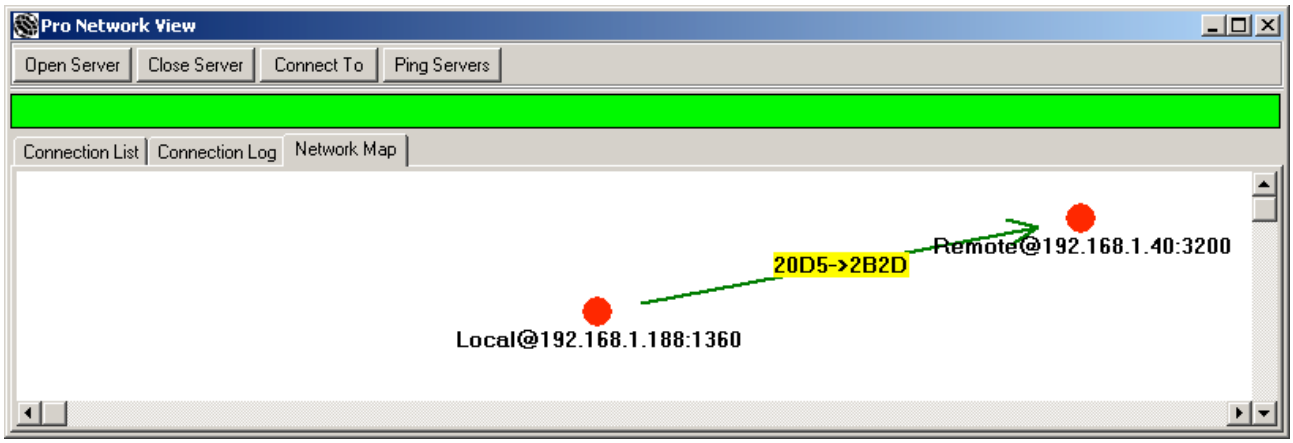
Connection Log

Shows a list of the action that has occurred.

Network Map

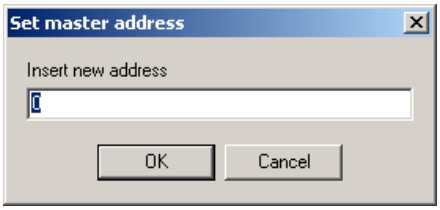
Automatic view of the network. Shows the network form this server's point of view.

NOTE! If more than two servers is connected to the system, it is recommended to add the new servers to the previous server in the system and so on (2nd server is connected to the 1st. 3rd is connected to the 2nd and so on, so 3rd is not connected to 1st).



6.3 Set Master Address

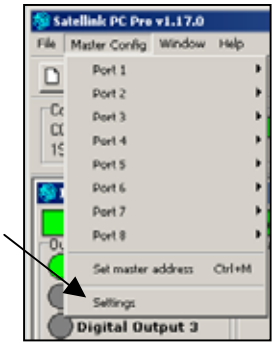
As default this is 0. If needed to change, type in new number and press ok.



6.4 SETTINGS

Auto Boot

When this feature is used, the computer will automatically start the PC Pro Program after an abnormal shut down i.e. power failure etc.
Note, that depending on the settings, the program will also start automatically, if the PC has been shut down normally.

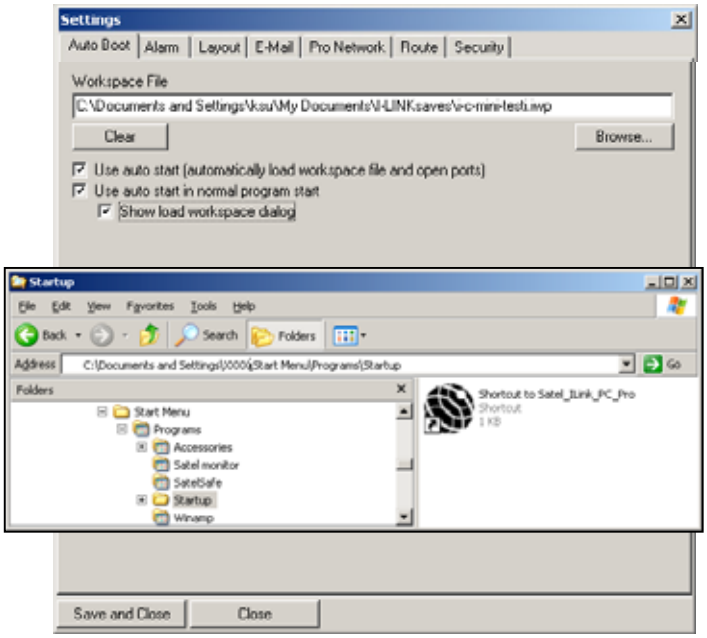


Activating Auto Boot

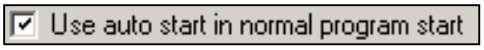
1. Saving
When all names and routings etc. are done, go to File-menu → Save Workspace, name it and save it.

2. Saving a Shortcut
Copy the I-LINK PC Pro-program shortcut to Windows Startup-directory (example C:\Documents and Settings\XXXX\Start Menu\Programs\ Startup).

3. Settings and start
The program will start automatically according to the Auto Boot settings.



The program starts automatically after an abnormal shut down.

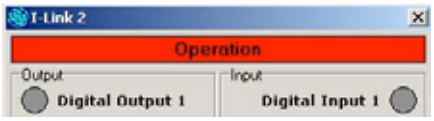


The program starts automatically when the PC Pro is opened.

The opening procedure is shown in the screen.

The settings are accepted by pressing

.



Alarm

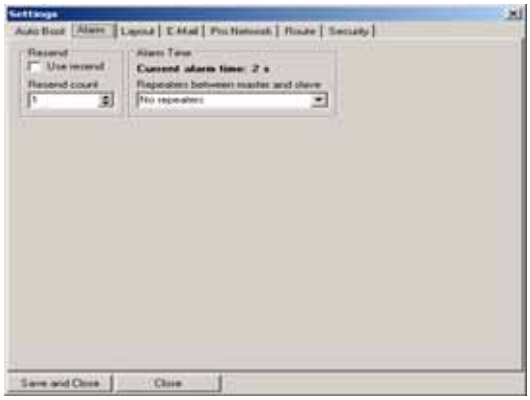
In case of a failure in transmission, the "Operation" text in the sub-station window turns to red.

Activation

Click Master Config on the standard toolbar and select Settings, select Alarm.

Resend

If is activated, the program will automatically make re-sendings in case of failure in transmission. The resend count is done according to the number in the Resend Count box.



Resend Count

Sets the number of re-sendings before the Alarm will be lit. If there are occasional Alarms due to possible radio interference, it is recommended to set this number to 3…5 (maximum 50).

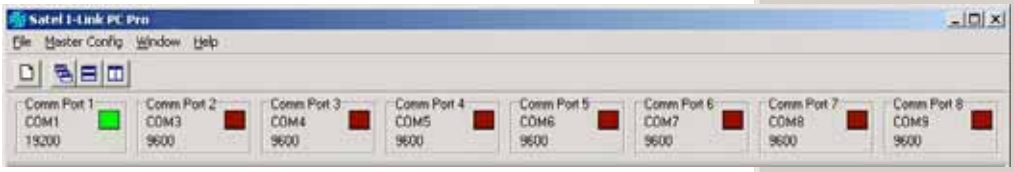
Alarm Time

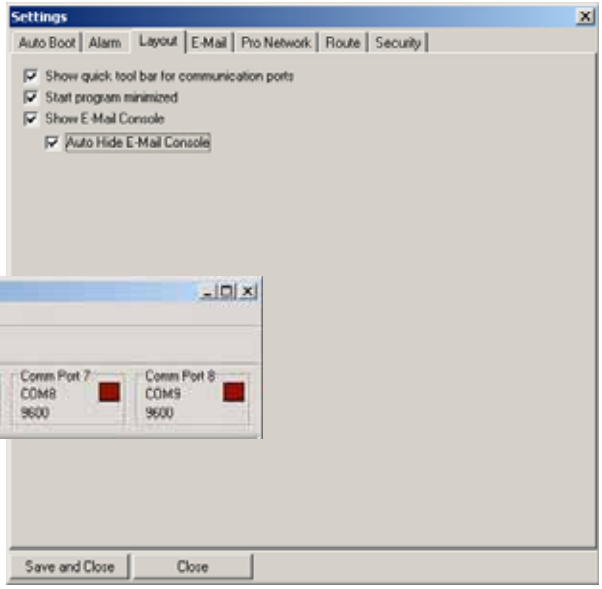
Repeaters in the system will prolong the signals transmission time. If you have repeaters connected in the system, select the number and save settings.

Layout

1. Monitoring window of the COM-ports.

Displays CommPort monitoring table on the main window as shown below. Settings table for the ports can be opened by clicking the square button.





2.

The program starts and is shown at the bottom bar of the window.

3.

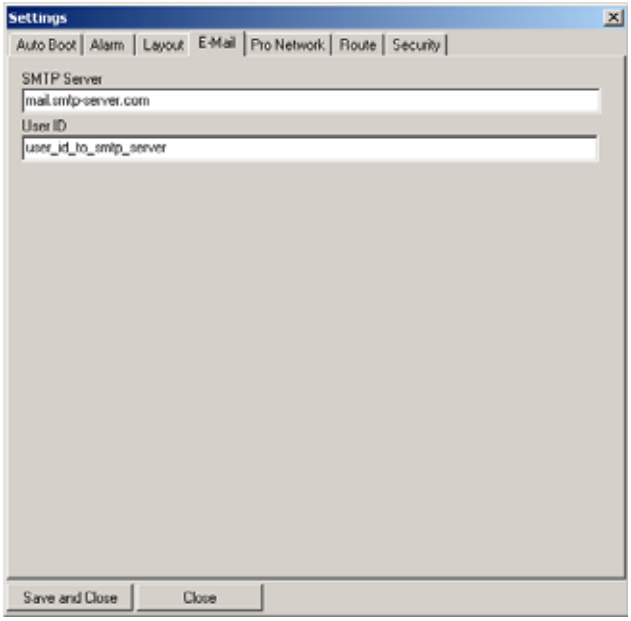
The procedure is shown when the e-mail activates.

4.

The procedure is not shown when the e-mail activates.

E-mail

The e-mails, later called as Actions, are sent with these settings.



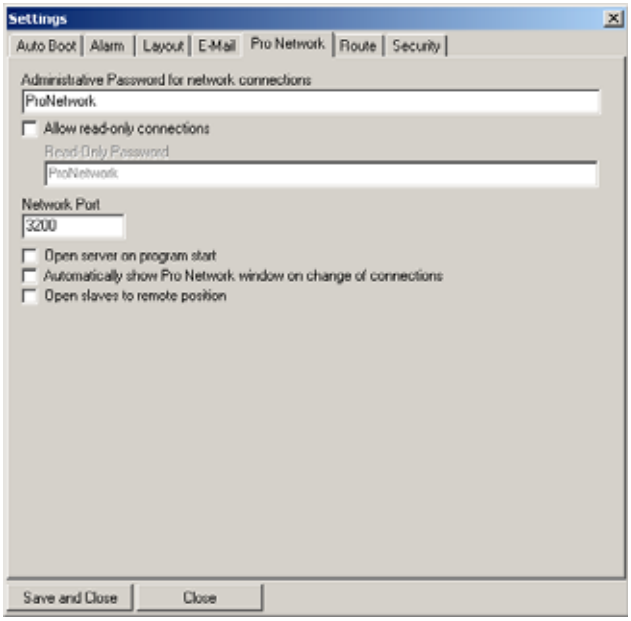
1. SMTP Server (Simple Mail Transfer Protocol).

Mailing systems that sends an e-mail over the Internet using SMTP to send messages from one server to another.

2. User ID.

Type in the User ID, if it has been defined.

Pro Network



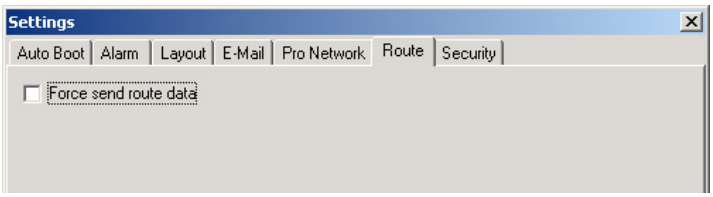
1. **Administrative Password for network connections.**
   This is the password that is created by the system administrator (min. 8 characters).

2. **Allow read-only connections (not valid)**

3. **Read-only Password (not valid)**

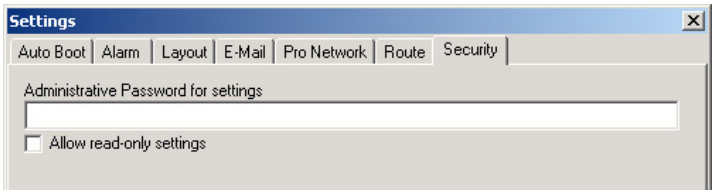
4. **Network Port**
   Type in the port that this server is listening.
   - Open server on program start
   When activated, the server opens automatically when the program starts.
   - Automatically show Pro Network window on change of connections
   When activated the Pro Network window will be opened when a change of connections occurs.
   - Open slaves to remote position
   When activated the sub-station will be opened to remote positions.

Route



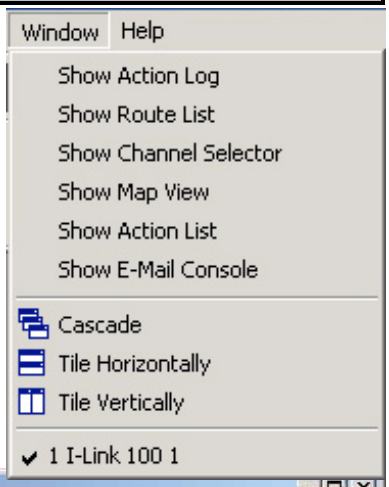
When activated the Route information is sent with every update, even if there is no change on the I/Os.
This feature takes care that the route information sent to servers is always correct.

Security



Effects only to read/write function of the local station.
When the password is not given there is no protection.
When the password is given, but the read-only is not on, it is not possible to see the Settings.
When the password is given, and the read-only is on, it is possible to see the Settings.

7 WINDOW-menu

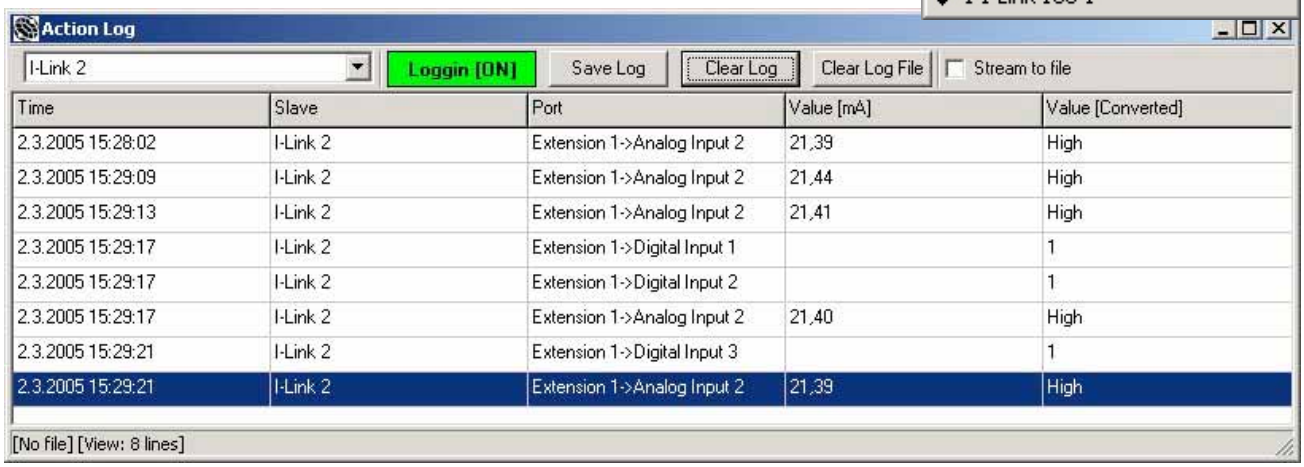


7.1 Show Action Log

The functions of the sub-stations can be monitored and saved using the Action Log.

The Action Log shows all changes that happen to the sub-station inputs and outputs. All sub-stations can have their own Log.

The function is connected and switched off by the ON/OFF-button.



Time	Slave	Port	Value [mA]	Value [Converted]
2.3.2005 15:28:02	I-Link 2	Extension 1->Analog Input 2	21,39	High
2.3.2005 15:29:09	I-Link 2	Extension 1->Analog Input 2	21,44	High
2.3.2005 15:29:13	I-Link 2	Extension 1->Analog Input 2	21,41	High
2.3.2005 15:29:17	I-Link 2	Extension 1->Digital Input 1		1
2.3.2005 15:29:17	I-Link 2	Extension 1->Digital Input 2		1
2.3.2005 15:29:17	I-Link 2	Extension 1->Analog Input 2	21,40	High
2.3.2005 15:29:21	I-Link 2	Extension 1->Digital Input 3		1
2.3.2005 15:29:21	I-Link 2	Extension 1->Analog Input 2	21,39	High

Save Log
Saves recorded log to file. The recording is done so, that it can be easily opened with for example Windows Excel, enabling sorting etc.

Clear Log
Clears the recorded log in the window.

Clear Log File
Clears the log in the file

Stream to file
Records the log directly to file.

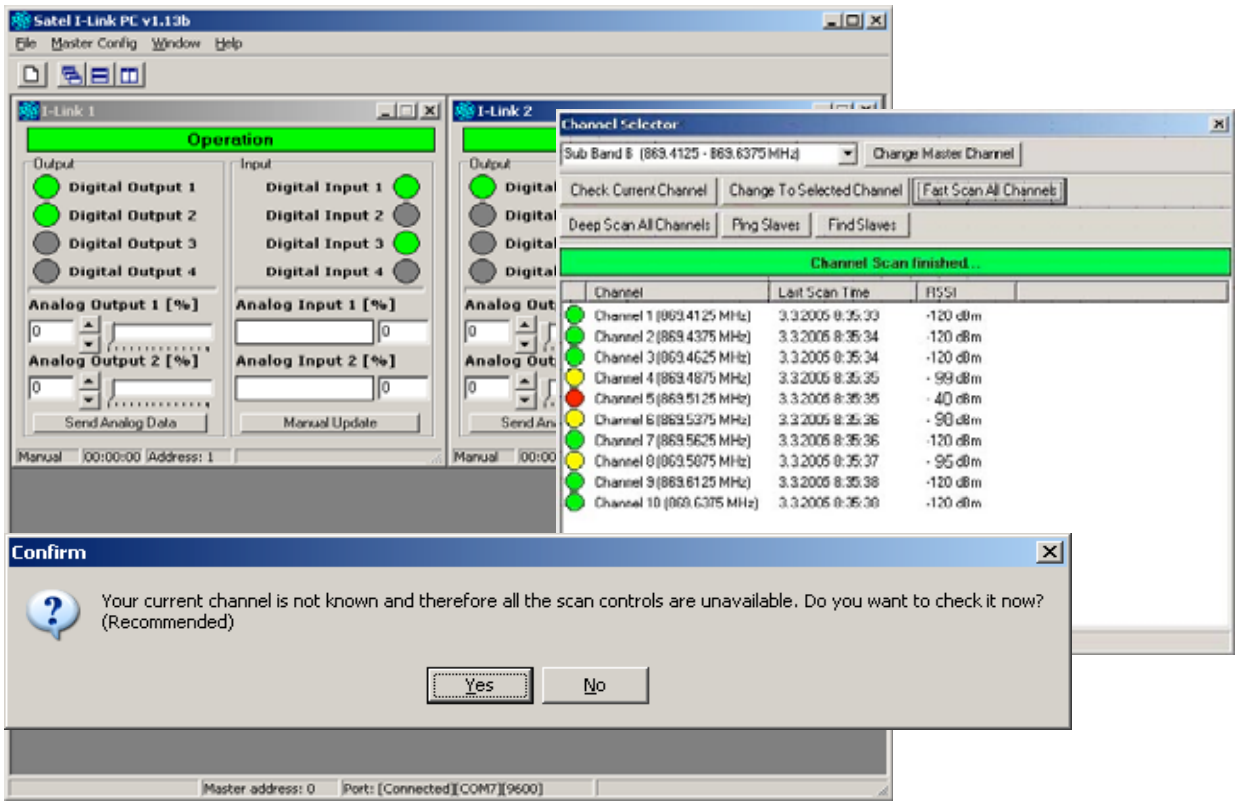
7.2 Show route List

More information about this in Chapter 8.

7.3 Show Channel Selector

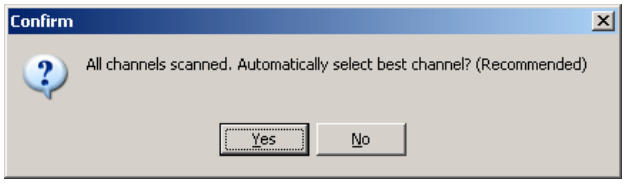
NOTE! Can be used only together with SATELLINE-1870 radio modems.

This feature makes it possible to scan channel quality, change channels, find and ping sub-stations etc.



1. When the program is opened first time, it shows “Your current channel is not known and therefore all the scan controls are unavailable…” Press Yes. Now the program checks the operation channel.

2. The program will show you the current operational channel at the bottom bar. The next information tag is “Scan all channels?(Recommended)”. Press Yes. As a result of the scan there will be a list of the channels with dBm-signal strength information. This dBm tells the possible interference i.e. “quality” of the channels. The best value is -120 dBm (the bigger the better).



3. The program shows “All channels scanned. Automatically select best channel? (Recommended)”. Press Yes.

4. If your current channel is good to be used and free from interferences the colour of the channel button is green and the channel will not be changed.

5. If there is some interference and the current channel is not good to be used the colour of the channel button is yellow (medium interference) or red (strong interference). Press “Yes”, and the program will automatically set the system to operate on the new channel.

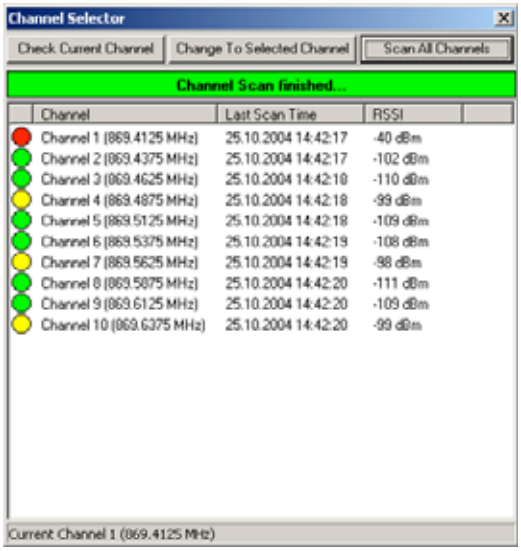
6. Manual change to the channel that has the best signal, greatest RSSI-value, is done by selecting “Change to Selected Channel”. Press “Yes”, and the program will automatically set the all sub-stations to operate on the new channel.

Change Master Channel

Select a channel from the list (1….9) and change master channel. Please note, now the master unit has probably different channel than the sub-stations.

Check Current Channel

Shows the current channel number and frequency of the SATELLINE-1870 radio modem that is currently connected to the COM port. The result is shown at the bottom bar.



Change To Selected Channel

This function changes all channels (master and sub-stations) to the selected channel. Select the channel that you want to use and press “Change to Selected Channel”. Answer “Yes” and now all units will be changed to the new channel. The progress can be seen on the green bar.

Fast Scan All Channels

Scanning of the channels shows information about the quality. Fast scan takes a few samples of the channels before showing the quality in the display.

Deep Scan All Channels

Same as above, but takes 10 times more samples.

Ping Slaves

This function makes it possible to check I-LINK 100 sub-stations connected to SATELLINE-1870 radio modem, which are on the same channel.

Find Slaves

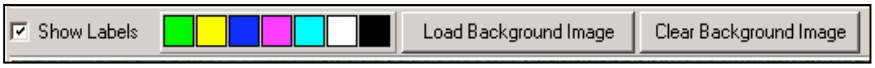
This function makes it possible to find all I-LINK 100 sub-stations connected to SATELLINE-1870 radio modem, regardless of their channel or frequency.

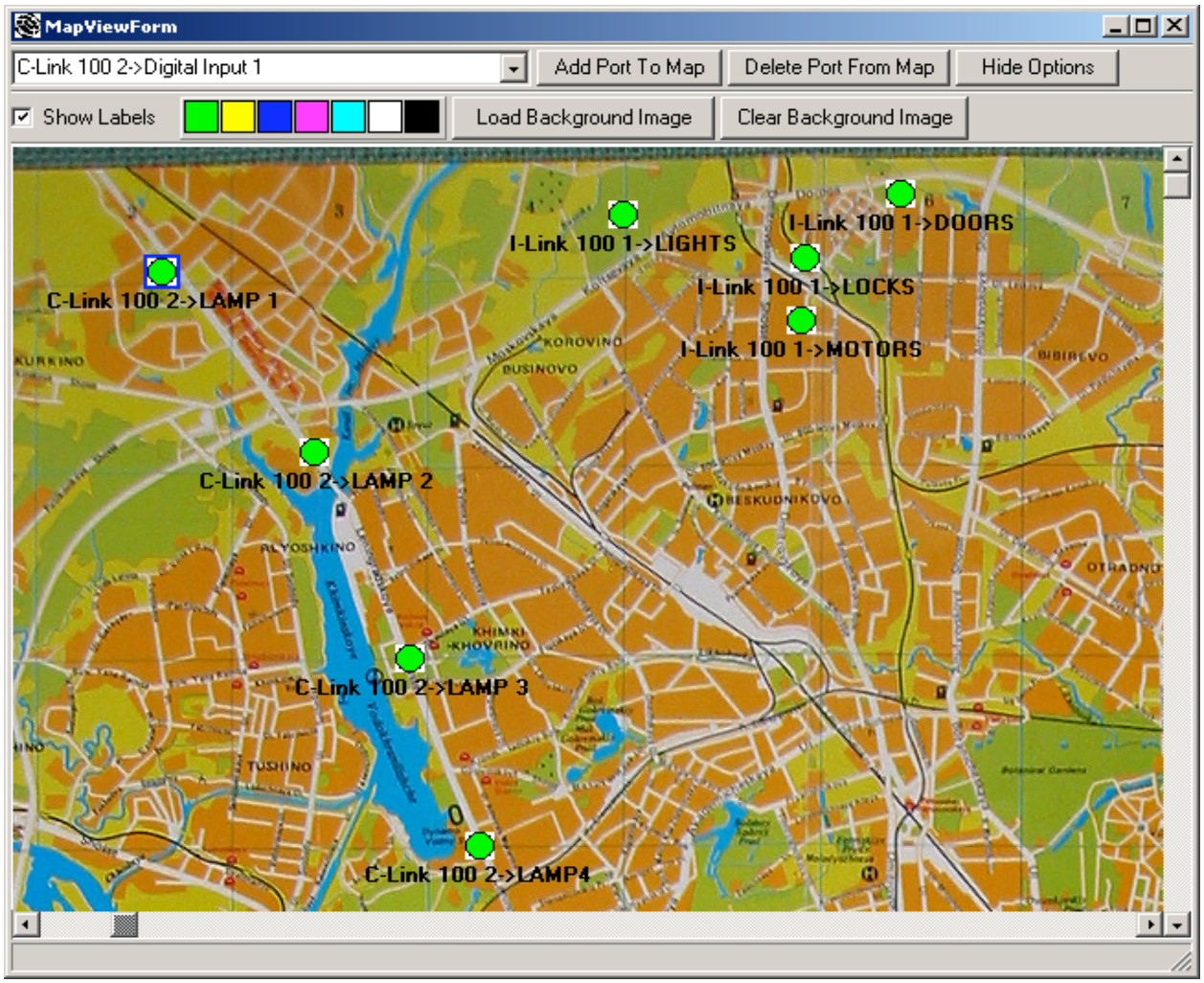
7.4 Show Map View

Changes of the Inputs and Outputs of the sub-stations can be shown on the map view as they change in the sub-station window. The view can also be moved to the second display.

Hide Options/Show Options

The labels and background image options can be shown or hidden.

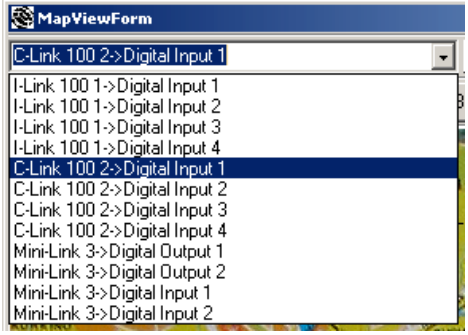




Load Background Image

Background picture must be in bmp-format.

Clear the background picture.



Moving an action to a Map

Open

and click the port. When selected, press

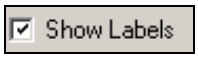
and the selected port is copied to the left top end of the back ground picture. Drag and move it to any place on the background picture.

Delete Port From Map

Click on the port and press

.

Show Labels ON/OFF

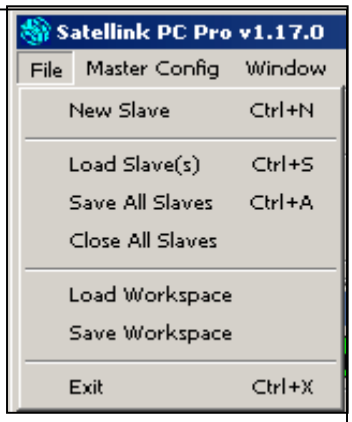


Turns the text labels ON/OFF.

Text colour

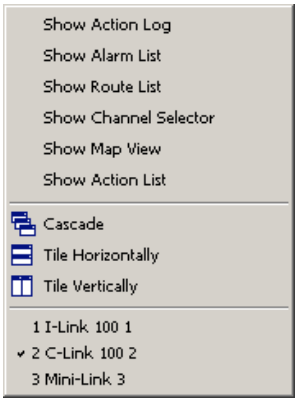
For changing the text colour. The colour changes when the block is pressed.

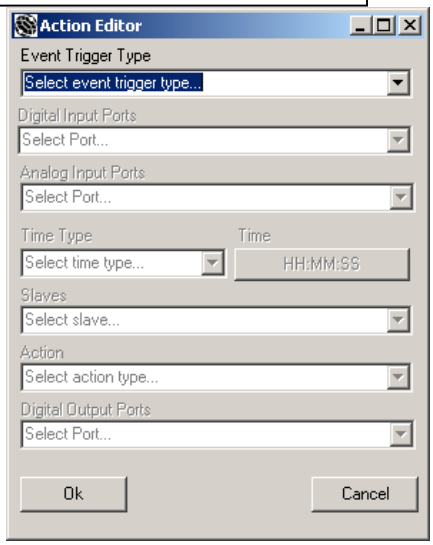
NOTE !
When this part is done and ready it is recommended to save the workspace, File -> Save Workspace.



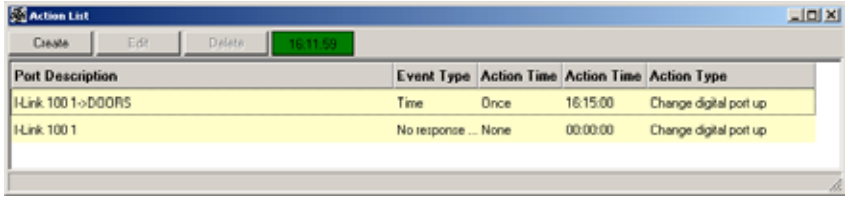
7.5 Show Action List

This section describes how to configure action - event functions. These functions are, for example, a Time or an Alarm-action that creates a specific event to the output ports.





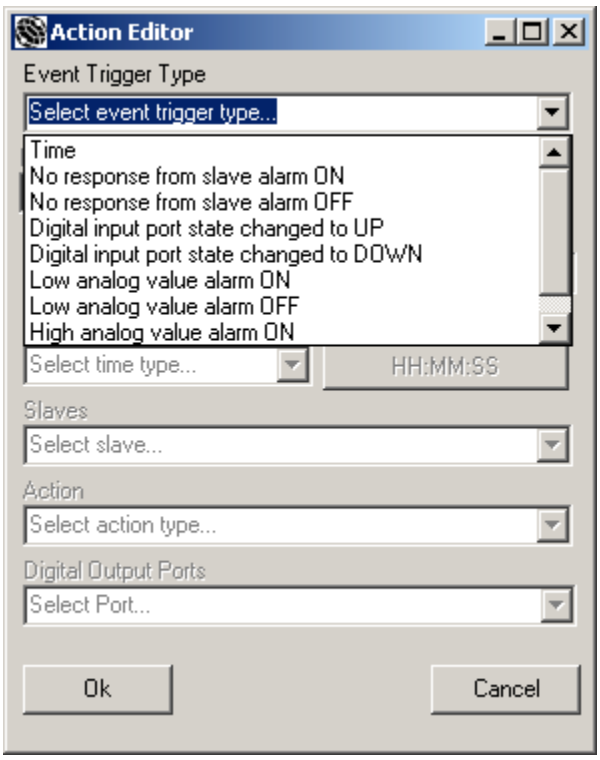
The list shows the events and their status.



Step-by-step description how to create new events

1. New event is started by selecting Create, which opens a new window

for detailed settings.



2. The alternatives of the Event Trigger Types are:
   1 Time
   2 No response from slave alarm ON
   3 No response from slave alarm OFF
   4 Digital input port state changed to UP
   5 Digital input port state changed to DOWN
   6 Low analog value alarm ON
   7 Low analog value alarm OFF
   8 High analog value alarm ON
   9 High analog value alarm OFF
   10 Critically Low analog value alarm ON
   11 Critically Low analog value alarm OFF
   12 Critically High analog value alarm ON
   13 Critically High analog value alarm OFF

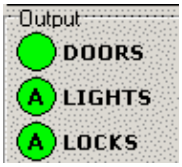
3. Depending on the selected type the next step is to select a sub-station that the event concerns or,

that is executed when the event occurs.

4. Select the

, that the action concerns.
5. The settings are accepted by pressing

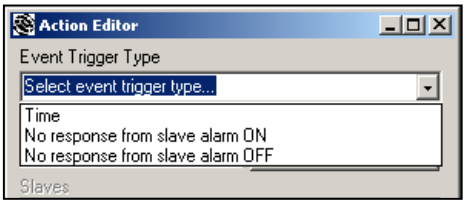
.
6. When the setting has been accepted an A is added to the respective dot on the sub-station window.



Event Trigger types

1. Time

If Once is selected, the action will happen only once.
If Daily is selected, the action will happen daily same time.
Select one of Once or Daily and the time when the action is executed.



Time is accepted by pressing

2. No response from slave –alarm ON

If selected, the action is executed when the sub-station has not responded.

3. No response from slave –alarm OFF

If selected, the action is executed when the sub-station has responded again after a failed response.

4. Digital input port state changed to UP.
If selected, the action is executed when the Digital Input of the sub-station has changed to up High position.

5. Digital input port state changed to DOWN.
If selected, the action is executed when the Digital Input of the sub-station has changed down to Low position.

6. Low analog value alarm ON
If selected, the action is executed when the Analog Input of the sub-station has changed below low Alarm value.

7. Low analog value alarm OFF
If selected, the action is executed when the Analog Input of the sub-station has changed above low Alarm value.

8. High analog value alarm ON
If selected, the action is executed when the Analog Input of the sub-station has changed above High Alarm value.

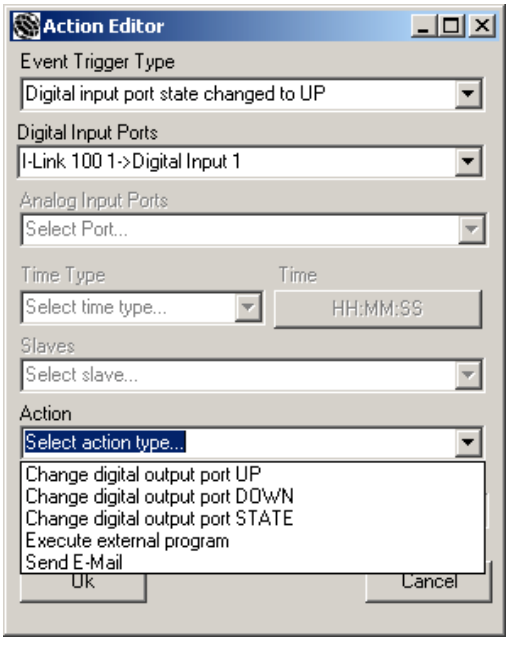
9. High analog value alarm OFF
If selected, the action is executed when the Analog Input of the sub-station has changed below High Alarm value.

10. Critically Low analog value alarm ON
If selected, the action is executed when the Analog Input of the sub-station has changed below low critical value =below 4mA.

11. Critically Low analog value alarm OFF
If selected, the action is executed when the Analog Input of the sub-station has changed above low critical value = above 4mA.

12. Critically High analog value alarm ON
If selected, the action is executed when the Analog Input of the sub-station has changed above high critical value =above 20mA.

13. Critically High analog value alarm OFF
If selected, the action is executed when the Analog Input of the sub-station has changed below high critical value =below 20mA.



Note!
When an action is executed, for example output port 1 of the I-LINK 100 has been programmed to turn ON at 15:25, it'll stay ON, until some other activity or action will turn it OFF.

Slaves
Click the desired sub-station that the event concerns.

Action types
Actions that will be activated when an event occurs:

1. Change digital output port UP
2. Change digital output port DOWN
3. Change digital output port STATE
4. Execute external program
5. Send E-mail

Description of the actions

1. Change digital output port UP

If this is action selected, select also one of the digital ports from the Digital Output Ports menu.

2. Change digital output port DOWN

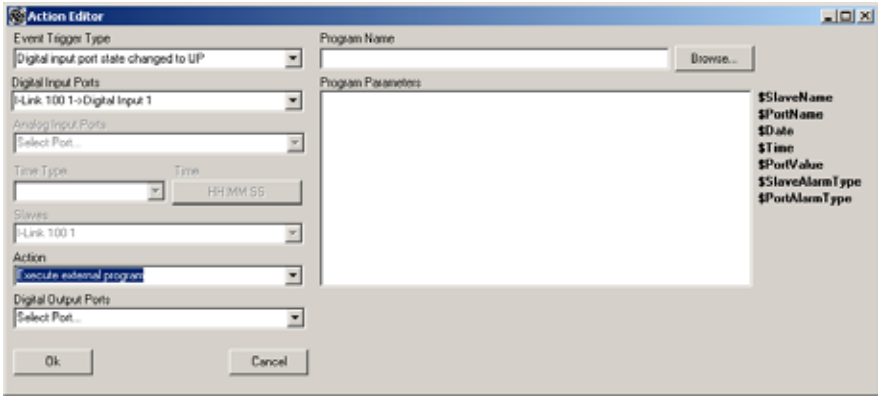
If this is action selected, select also one of the digital ports from the Digital Output Ports menu

3. Change digital output port STATE

If this action is selected, select also one of the digital ports from the Digital Output Ports menu. This is a toggle-type action.

4. Execute external program

If this action is selected a new Action Editor window appears. This is a larger window that allows specific settings. Those actions / functions that are not applicable will remain grey and can not be used.



- Program Name
The program typed in to the ”Program Name” box will be executed when the selected event occurs.

5. Send E-mail

If this action is selected a new Action Editor window appears. This is a larger window that allows specific settings. Those actions / functions which are not applicable will remain grey and cannot be used.

- Program Parameters

Any text written in this field will be seen on the e-mail message.

Parameter	Description
$SlaveName	Shows the name of the sub-station in e-mail the text
$PortName	Shows the name of the port in the e-mail text
$Date	Shows the date when the event occurred
$Time	Shows the time when the event occurred
$PortValue	Shows the value of the port
$AlarmType	Shows the type of the alarm that triggered the message
$PortAlarmType	Shows the type of the analog alarm that triggered the message

The text written to E-mail Message box:

This is an automatic information from the $SlaveName $PortName . The switch has changed UP at $Time $Date. No further activity is needed.

The $-functions are retrieved automatically by the program, so the final e-mail message looks as follows:

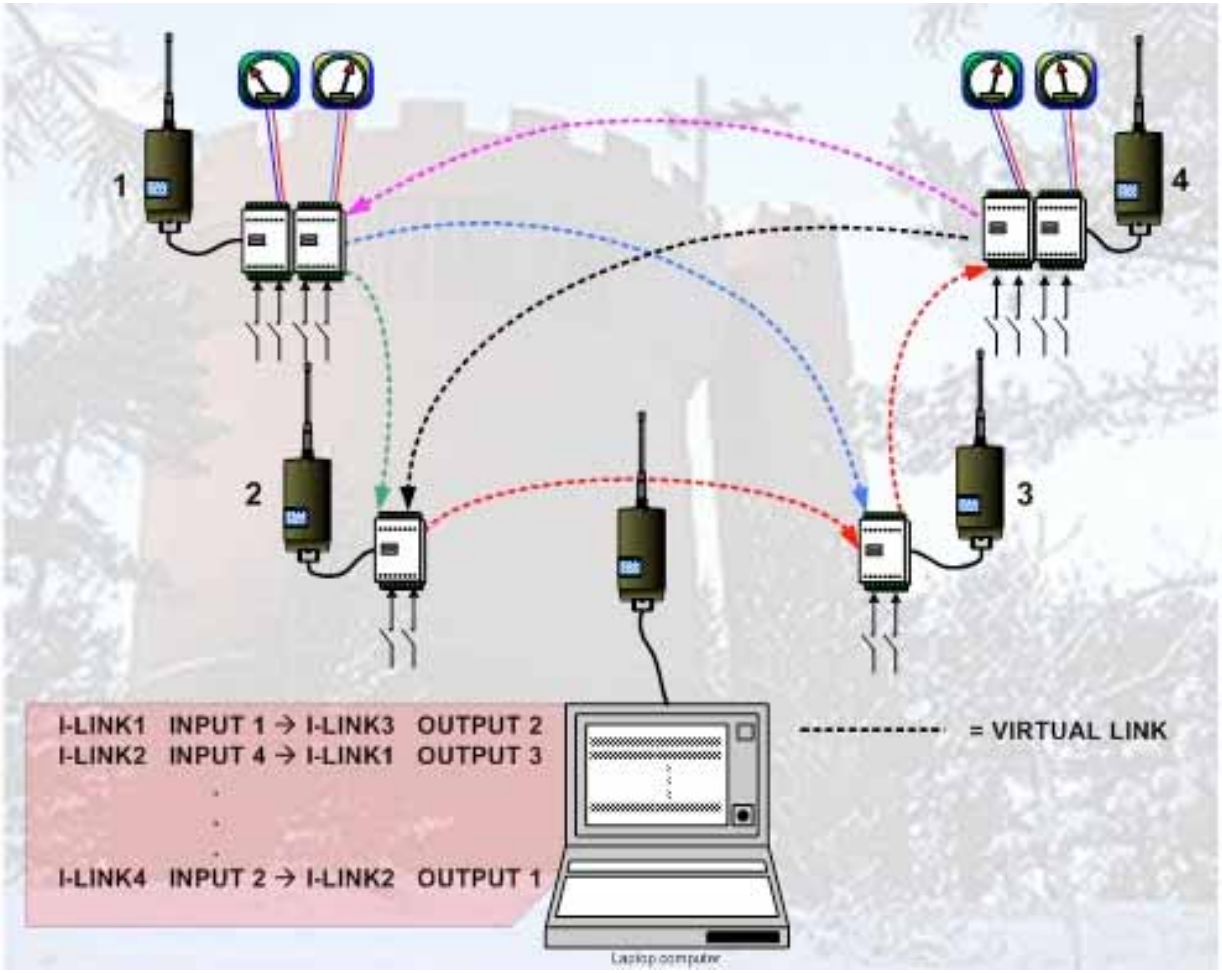
```
This is an automatic information from the STATION 3  Motor Switch 12 .
The switch has changed UP at  8:59:30  6.9.2006. No further activity is
needed.
```

Note!

The $-messages has to be written exactly as they are described in the text. If the text is not as described, the message information will not be shown.

8 ROUTING

With this feature any of the sub-station's digital/analogue input can be routed to any digital/analogue output. You can even route any one of the inputs to several or all outputs. This feature is useful for example emergency multi-alarm e.g. routing is done by the PC -Pro program, which virtually connects the inputs to the defined outputs. The input can even be connected to its own output. You may thus use this as switch isolator, current converter and voltage converter from 12 - 24 VDC to 230 VAC etc. Analogue inputs can also be routed to analogue outputs or to digital outputs using the A/D-converter facility (more about this at 5.8.1).

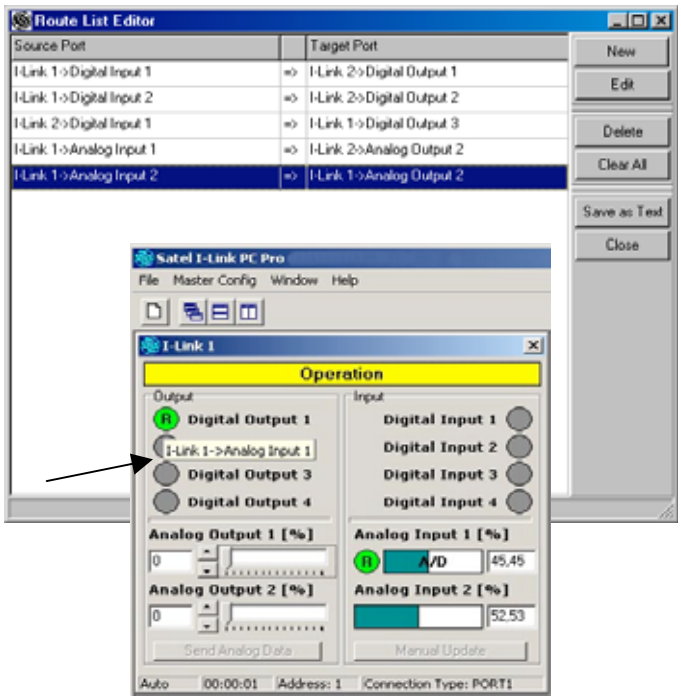


8.1 START

Route List Editor is possible only for those sub-stations that are opened by the program. So, open first all I-LINK 100 sub-stations, which you have on the system. If you have any extension units connected, press Manual Update of the respective sub-station to get these extensions activated and shown on the screen.

New Route

Click Window on the standard toolbar. Select Route List Editor. A window appears as below, click New and you'll get "Select Source" and "Select Target" drop down list. Click on the drop down arrow of the "Source Port" and select any listed input that you want to route to any output. Click on the drop down arrow of the "Target Port" and select any listed output that you want the input to be routed. To accept the selection, click OK. As an indication of the change, there will be Ⓡ in the respective buttons on the main window. To create more routes, click New. When the cursor is moved on the Ⓡ of the main window the route can be also seen as hint for a while.



Edit

If you need to edit either the input or output selection, put the cursor on the selection and make the necessary changes.

Delete

Deletes the highlighted selection.

Clear All

Clear the whole routing list.

Save as Text

Saves the route list as a text-file. For better reading the route list can also be saved as an Excel-file. As a back up, it is preferred that you save and print the route list.
Note! In case of a computer failure or illegal shut down, it is recommended that you save the settings. The saving should be done at File --> Save Workspace etc.

Close

Closes the route list window. The route list information will stay as long as the computer is running.

Reminder

- A change in the input is routed when an update occurs. The update can be time based, manual or auto update.
- Those inputs, which are not routed, can be used normally.
- Routing can also be done to those I-LINK 100 which are connected to PC's COM ports directly.

9 INDICATORS

9.1 ADJUSTABLE SETTINGS

I-, C- and MINI-LINK	Action	Outcome	Outcome
Operation	Status of the operation	Green = OK	Red = Fail
Digital Output	State of the outputs	Green = ON	Grey = OFF
Digital Input	State of the inputs	Green = ON	Grey = OFF

I-LINK 100	Action	Outcome	Outcome
Analog Output	The output level in %	# 0 = 4mA	#100 = 20mA
Analog Input	The input level in %	Yellow = 0-25%	0 – 4mA
		Green = 25-100%	4- 20mA
		Red = 100 -125%	20 - 25mA

C- and MINI-LINK	Action	Outcome	Outcome
Counter Input / Output	Pulse information	Pulses / user defined	Pulse input /output

9.2 BOTTOM BAR, Sub-station

TEXT	Function
Manual or Auto	Shows the analog input update selection
“00:00:00”	Shows the analog input update time
Address:	Shows the address of the sub-station
Connection Type	Shows which port is used

9.3 BOTTOM BAR, Master

TEXT	Function
Master address	Shows the master’s address

10 FACTORY SETTINGS AND ACCESSORIES

The I-LINK 100 I/O-converter is shipped with the following default settings (unless specifically ordered with settings other than those listed below):

FIXED SETTINGS DEFINED AT THE TIME OF ORDER		
PRTCL, protocol -switch	P-to-P	=Point-to-point
ADDRESS	0000000	
BAUD	01	= 9.6kb/sec
SF, DE, HS	000	
TIME	000	=120 minutes

10.1 ACCESSORIES

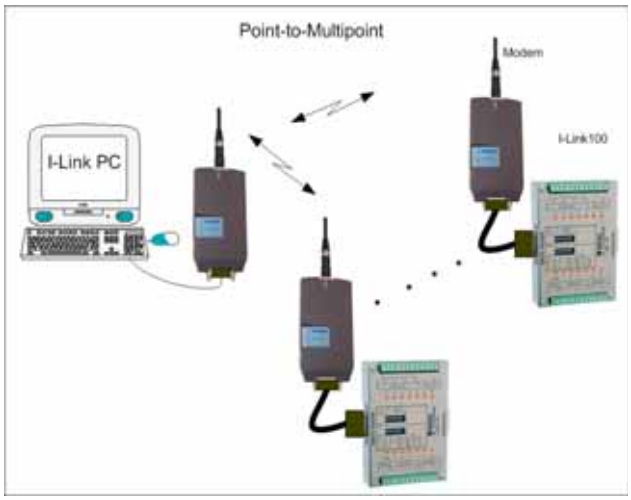
Interface Cables for SATEL I-LINK 100

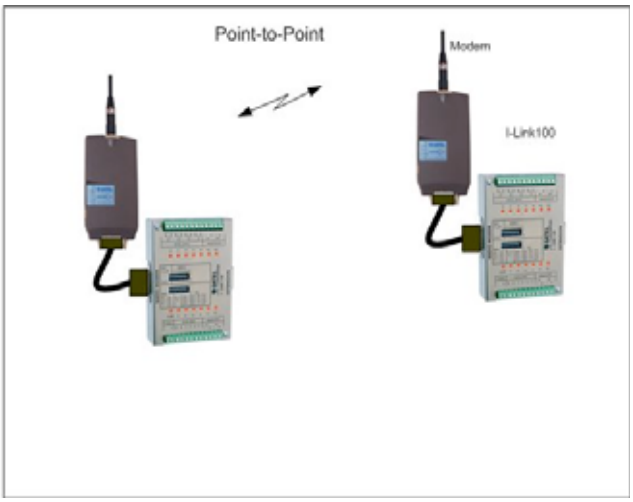
CONNECTION	TYPE	RADIO MODEM	CABLE
Point-to-Point	I-, C-LINK 100	SATELLINE-2ASc, 2ASxE, 3AS-series	CRS-TSU
Point-to-Point	I-, C-LINK 100	SATELLINE-1870	CRS-18IF
Multipoint	PC Pro	SATELLINE-2ASc, 2ASxE, 3AS-series	CRS-2F
Multipoint	PC Pro	I, C-LINK100 connected directly to the COM-port	CRS-LINK
Multipoint	PC Pro	SATELLINE-1870	CRS-18F

Extension units I-LINK 200 and 300

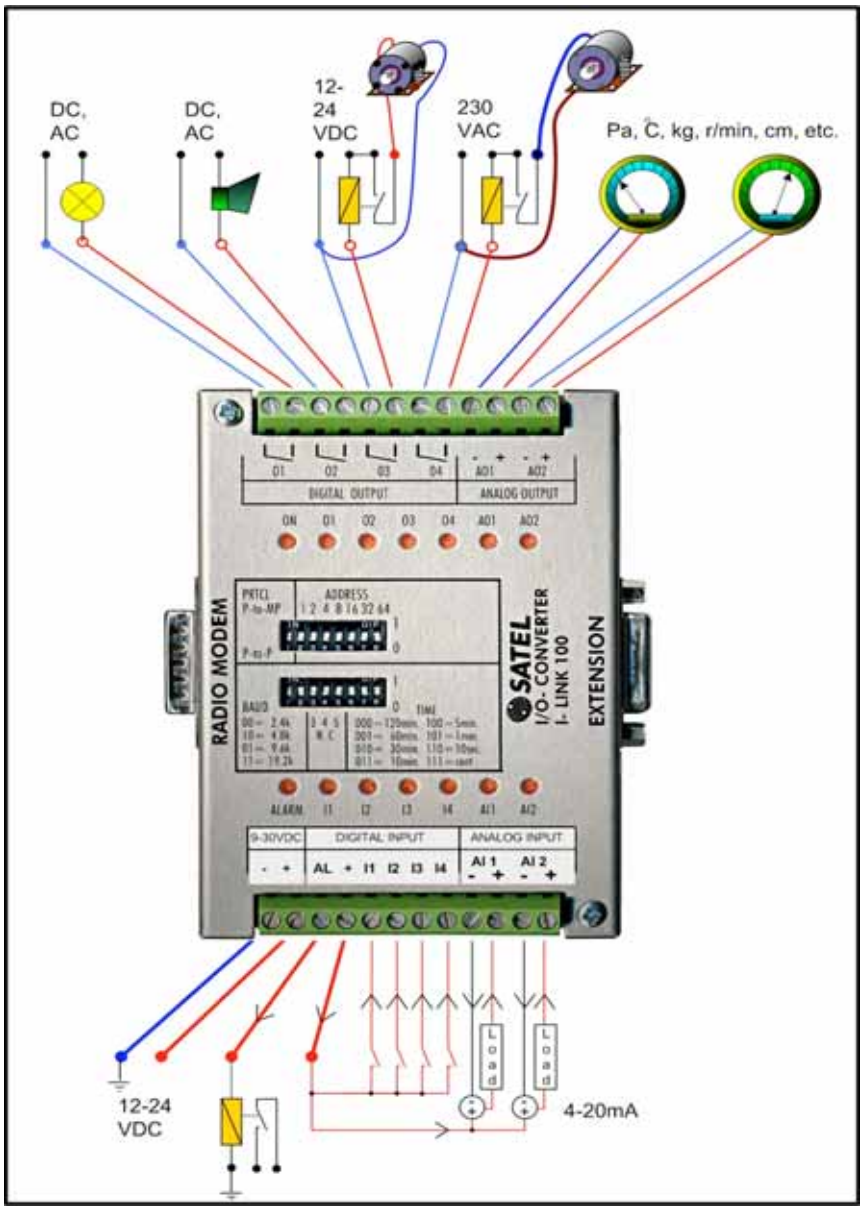
Three pieces of extension units can be connected to any I- or C-LINK 100 in any order.
I-LINK 200 includes two analogue and four digital I/O-ports.
I-LINK 300 includes six digital I/O-ports.

11 CONNECTION EXAMPLES

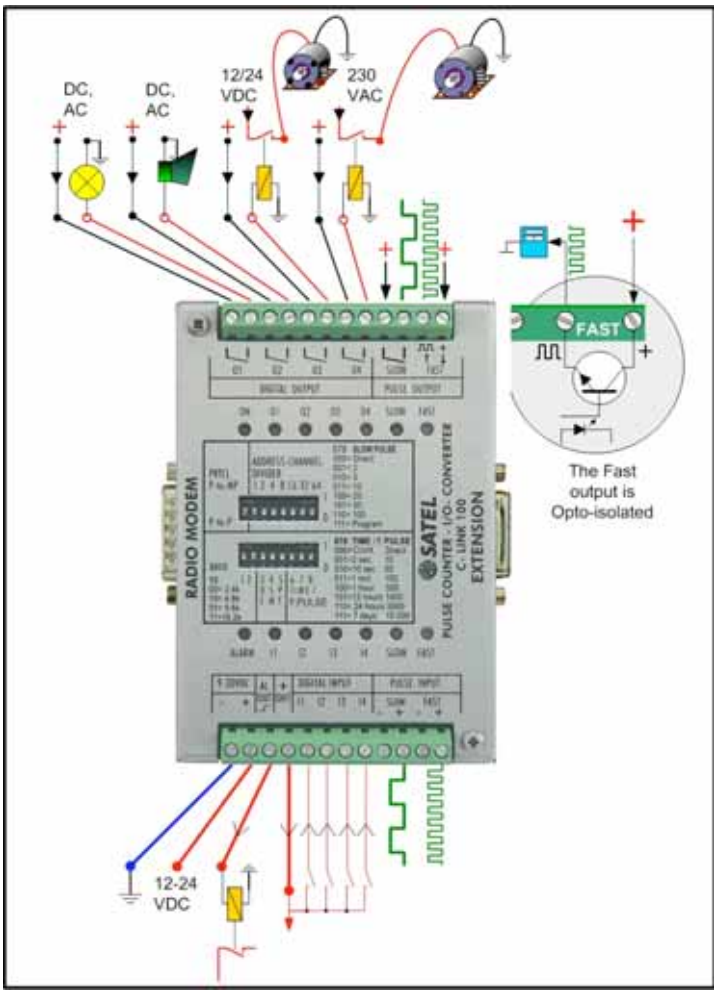
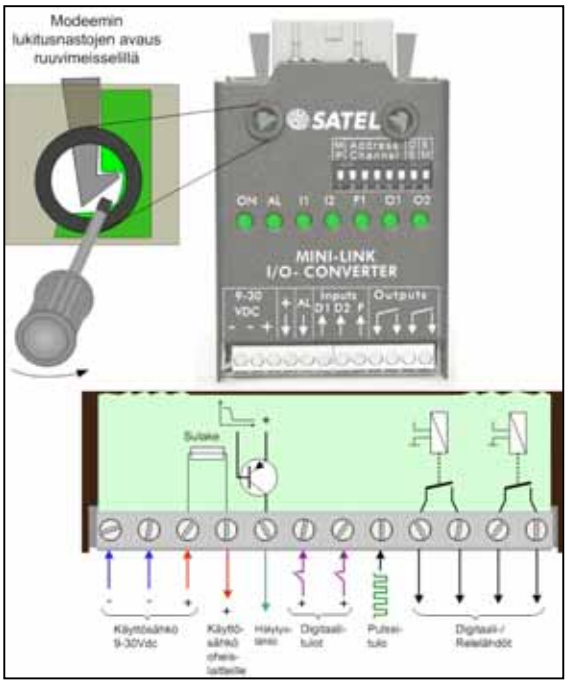




I-LINK 100



C-LINK 100



MINI-LINK