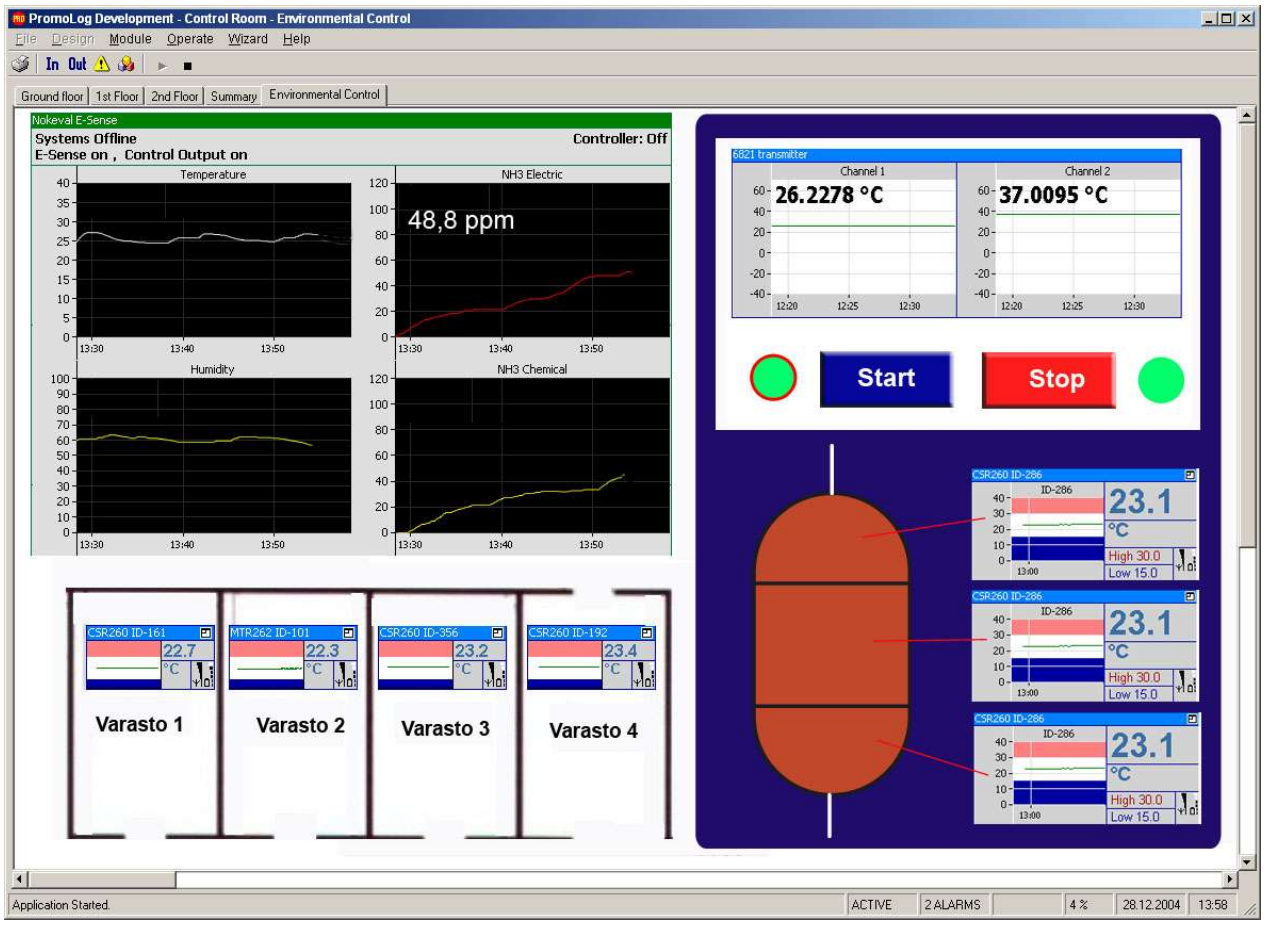
Quick Guide for Demonstration

22.09.05

V1.1

PromoLog

Modular Process Monitoring and Data Logging Workbench



Nokeval

CONTENTS

Table of Contents

Contents....2
Introduction....3
General....3
- Supported Devices....3
  - SCL Transmitters....3
  - Panel meters....3
  - Radio devices....3
- Interfaces....3
  - UDP....3
- Protocols....3
- Hardware Requirements....3

Software Installation....4
- Device Connections....5

Using PromoLog....6
- Start PromoLog....6
- User Interface....6
- Setting License....7
- Adding Inputs....7
  - Using Wizard....7
  - Manually....8
- Using Sheets....10
- Data Recorder....10
- Radio Data Receiver module....12
- Radio Data Transmitter module....12
- Simple SCL Transmitter module....13
- Menus....14
  - File....14
  - Edit....14
  - Design....14
  - Operate....14
  - Help....14

INTRODUCTION

Using PromoLog you can easily create customer specific data logging and process monitoring applications for different purposes.

PromoLog supports both digital and analog inputs and outputs. Information can also be received from another computer running PromoLog Remote Server module. PromoLog asks the measurement information using command string and waits a response from the device. Measurement information can be received one channel at a time or groups of several consecutive channels.

Information can be shown using for example digital, bar or graph displays. User can also customize displays in many ways. Gathered information can be stored to files using Data Recorder module. PromoLog can also send information to devices or displays that have either digital or analog input.

GENERAL

Supported Devices

PromoLog program can communicate with all Nokeval devices supporting SCL protocol. At the moment the following devices are supported:

SCL Transmitters

- Nokeval 6821
- Nokeval 6841
- Nokeval 7100
- Nokeval 7470
- Nokeval RMD680

Panel meters

- Nokeval 2021
- Nokeval 2031
- Nokeval 2041
- Nokeval 2051
- Nokeval 2061
- Nokeval 2064
- Nokeval 2251

Radio devices

- Nokeval MTR165
- Nokeval MTR260
- Nokeval MTR262
- Nokeval MTR264
- Nokeval MTR265
- Nokeval MTR970
- Nokeval RTR970
- Nokeval RTR970PRO

Interfaces

Serial ports

- RS-485 (Recommended for use)
- RS-232
- USB serial port adapters
-

Different kind of converters, like Nokeval DCS770, DCS771 or RCS770, can be used to add a RS-485 port to a computer.

Modbus RTU (Support coming soon)
- Connectivity with Modbus RTU devices.

UDP
- Enables data transmission over LAN or internet

OPC Server (Support coming soon)
- Enables data transfer to SCADA systems.

Protocols

- Nokeval SCL protocol
- Nokeval Net network protocol
- Status Instruments SEM (for configuration)

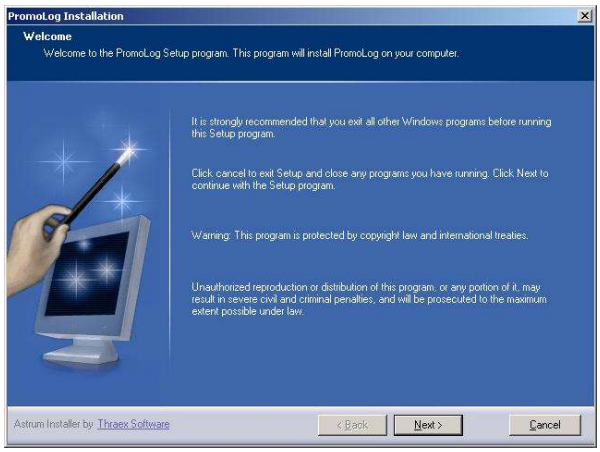
Hardware Requirements

- MS Windows NT 4.0/98SE/ME/2000/XP
- Processor 300 MHz
- Memory 128 Mt
- Hard disk space 7.8 Mt

SOFTWARE INSTALLATION

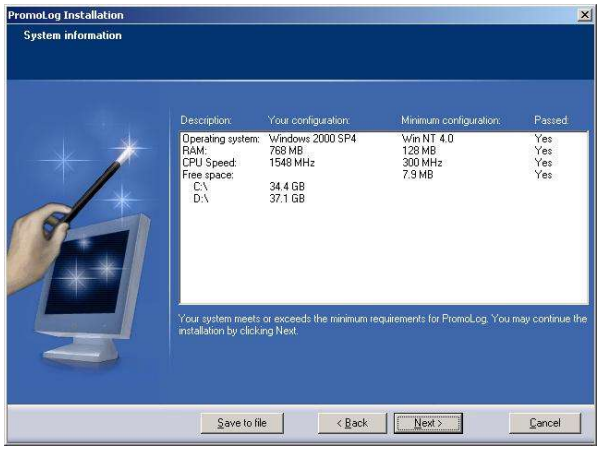
Before installation it is recommended to close all programs. Start installation by running setup.exe file. If you are updating PromoLog, removing existing installation before installing is recommended.

The following welcome screen is shown. Click the **Next >** button to continue the installation.

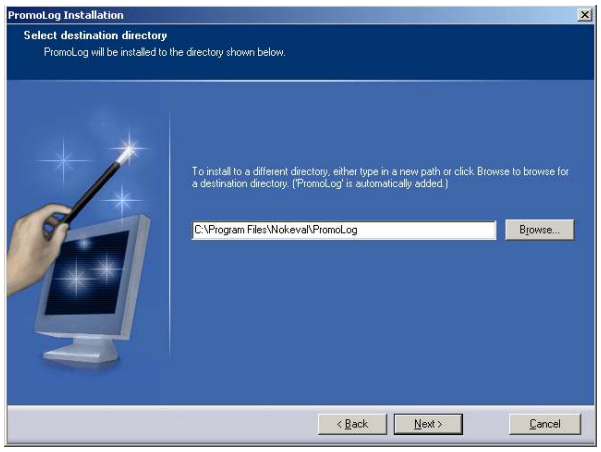


Now system information is shown. If minimum requirements are met it is safe to continue the installation by pressing **Next >** button.

Installation can be continued even if the minimum requirements are not met but it is not recommended.



In the next phase the installation program will ask you to specify the installation folder. The default folder is fine for most users. If instead you prefer some other folder, click **Browse** and select it. Click the **Next >** button to continue the installation.



In the next phase the optional parts of PromoLog are selected. By default the documentation is installed but it can be removed if necessary. Finish the installation by pressing the **Install >** button.

Device Connections

PromoLog supports devices using RS-485, RS-232 and USB serial interfaces. Only one device can be connected to a computer using RS-232 interface but by using RS-485 interface the number of devices can be increased up to 31 per interface. RS-485 interface can easily be added to a computer by using Nokeval DCS770 or DSC771 USB - RS-485 converter or RCS770 USB/RS-232 – RS-485 converter.

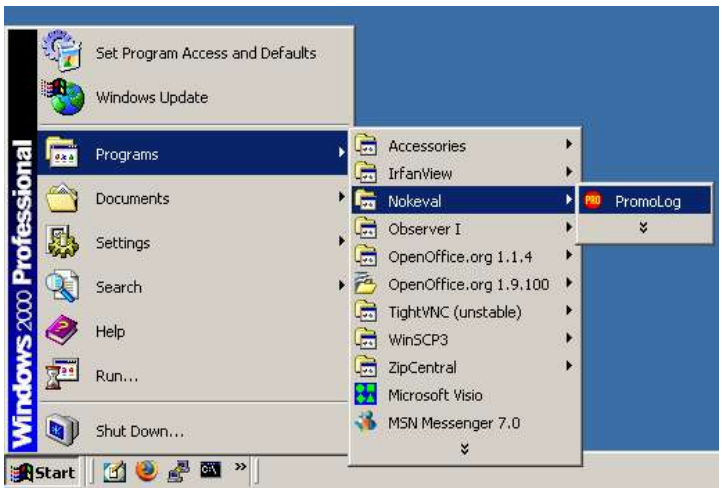
In addition, UDP protocol can be used to transfer data over local area network or internet using Remote Server and Remote Client modules. This quick guide doesn't cover these modules.

For more information about connecting devices, please see the manual provided with the device.

USING PROMOLOG

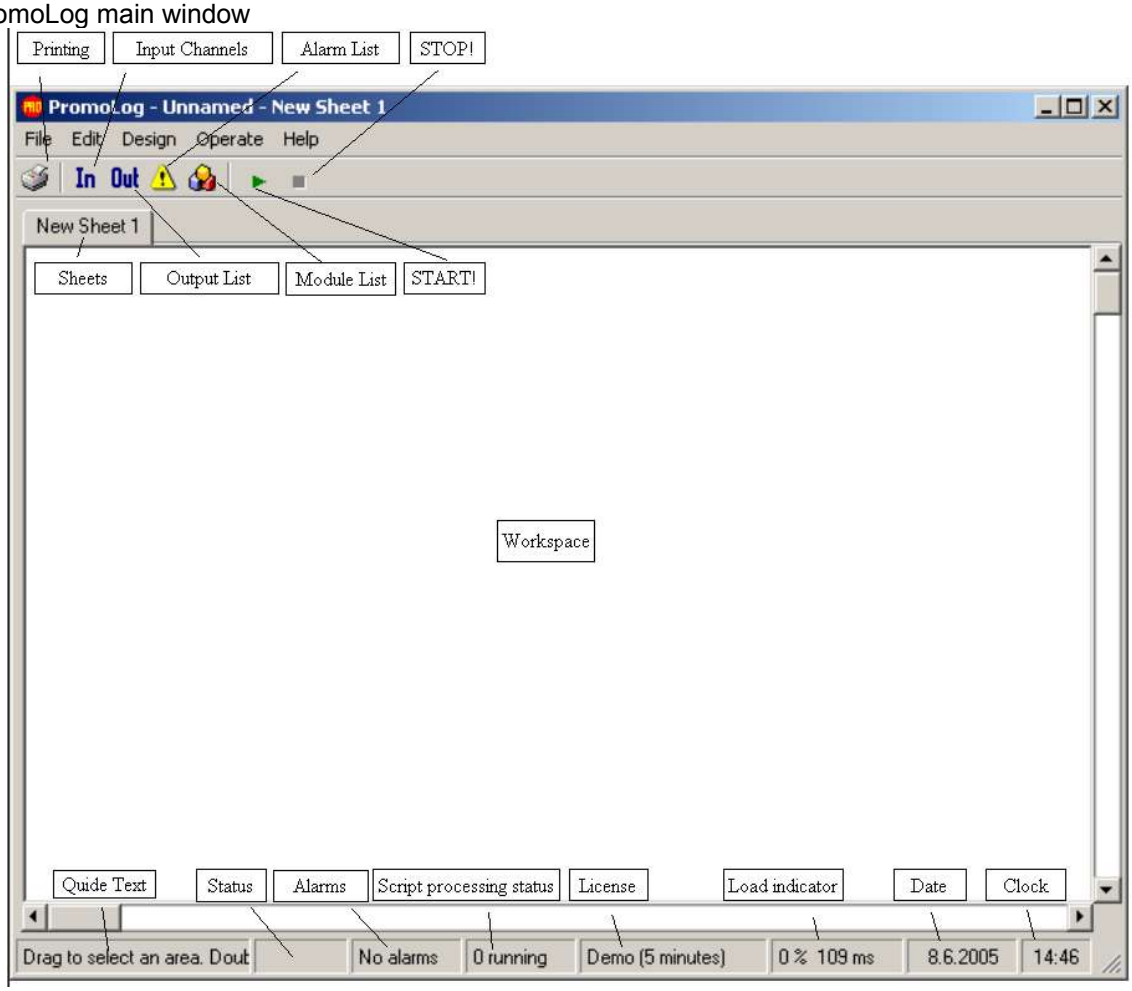
Start PromoLog

Start PromoLog by clicking the **Start** button on the Windows toolbar and select **Programs > Nokeval > PromoLog**.



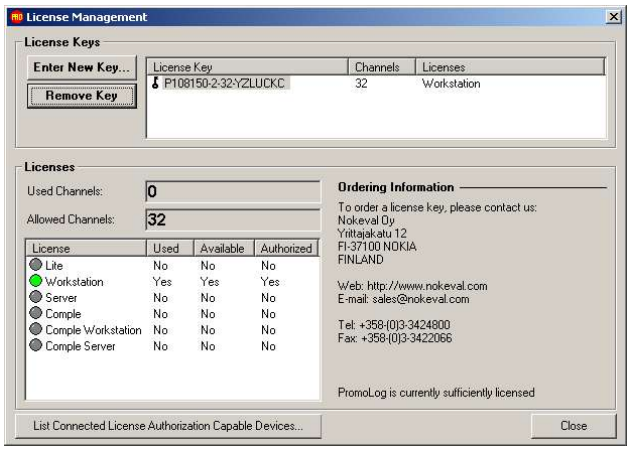
User Interface

PromoLog main window



Setting License

Open the License Management window by selecting **Operate → License**. All licensing information is shown in this window.



If you have already purchased a license key you can simply press **Enter New Key** button and enter the key.

Number of used and allowed channels is shown in Licenses part. If the amount of allowed channels is exceeded the program runs in demo mode only.

There are three common license types: Lite, Workstation and Server. Available module types depend on the license type. Basic modules are available for all license types whereas, for example, Remote Server module requires Server license.

If the license is required but not available the icon in front of the license is red. If the license is required and available but not authorized by the device the icon is yellow. When PromoLog receives the authorization the icon changes to green.

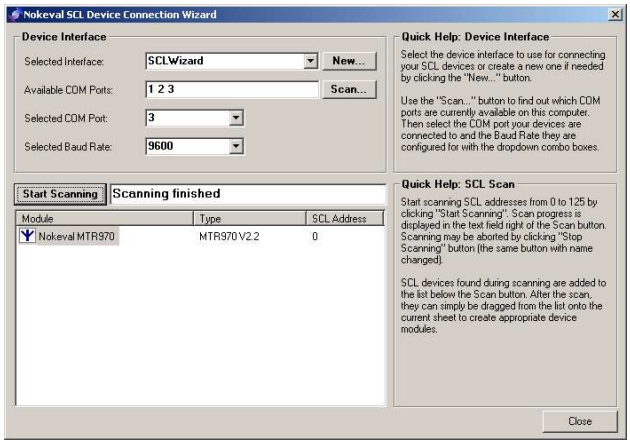
If you have built your own application but haven't yet bought a license the required license type is shown on the last line in the Ordering Information text.

By pressing the List Connected License Authorization Capable Devices button a new windows opens where all configured SCL devices and Nokeval USB devices that can be used for licensing are listed.

Adding Inputs

Using Wizard

Start Wizard tool by selecting **Design → Wizard → Start Nokeval SCL connection Wizard.**



Select the **COM port** that you are using for your device. If you don't know which ports are available, use the scan button. By default the baud rate is correct (9600) for most of devices manufactured by Nokeval.

Press **Start Scanning** button to scan SCL addresses from 0 to 125. Scanning can be aborted by pressing the Stop Scanning button at any time. SCL devices found during scanning are added to list below scan button. After the scan, they can simply be dragged onto the current sheet.

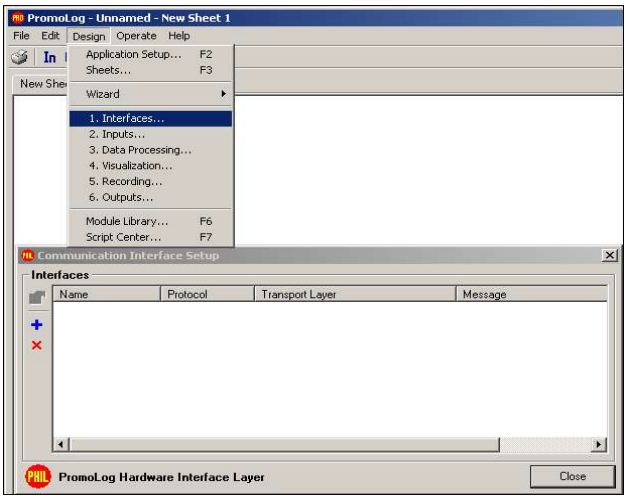
If you added a radio device press button from the toolbar to open Module List window. When you start the application using button all detected radio transmitters are automatically added as modules to the Module List window. You can simply drag the modules you want from the list onto the workspace.

When all wireless transmitters are shown in the Module List window you can stop the application using button. Modules shown in the Module List can be added to workspace also when application is stopped.

Manually

1. Interfaces

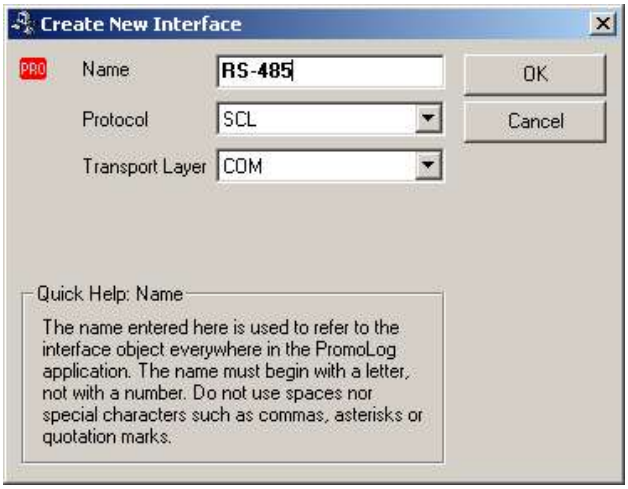
Before you add an input channel you must add the interface to which the device is connected.



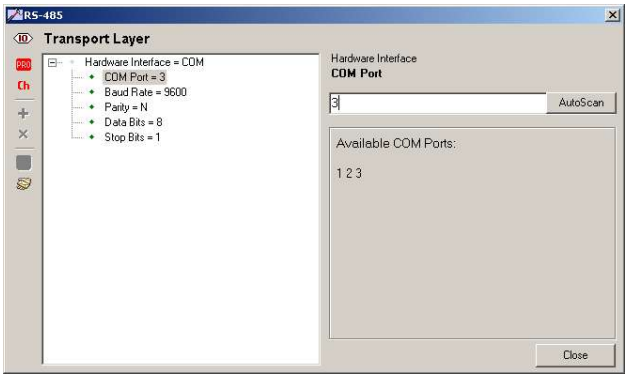
Click **Design** → **1. Interfaces** to open Communication Interface Setup window.

Press + button to add a new interface.

Enter a descriptive name for the interface and select used protocol and transport layer. Default values (SCL and COM) are correct for most of the devices manufactured by Nokeval.

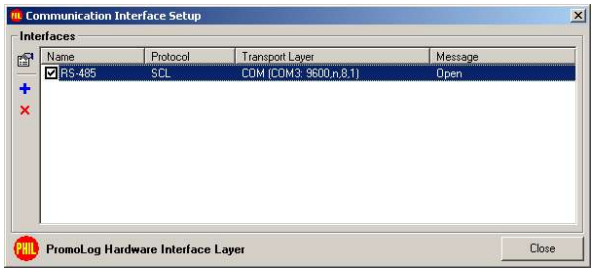


Click button to edit parameters of selected interface. This opens a window where you can set the **COM** port and baud rate to match your devices settings. You can use the AutoScan button to resolve available COM ports.



Baud rate, parity and stop bit settings are correct by default for most of the devices manufactured by Nokeval. Click Close button to close window.

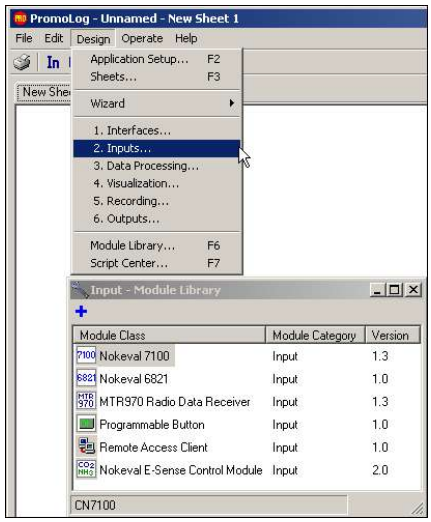
Click the checkbox ☑ in front of the name of the interface to enable the interface. When interface is enabled the message field changes from closed to open. Click Close button to close window.

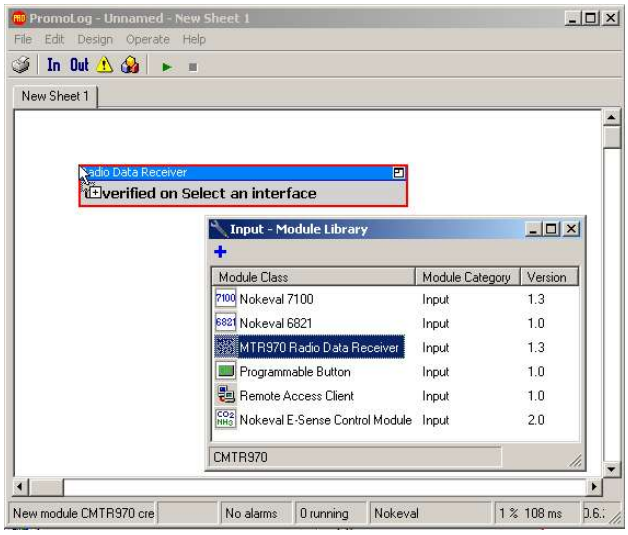


If necessary an interface can be removed using × button.

2. Inputs

Start adding inputs selecting **Design** → **2. Inputs**. This opens Input – Module Library window.

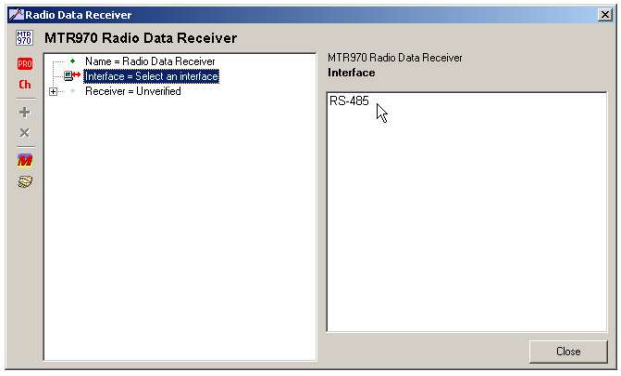




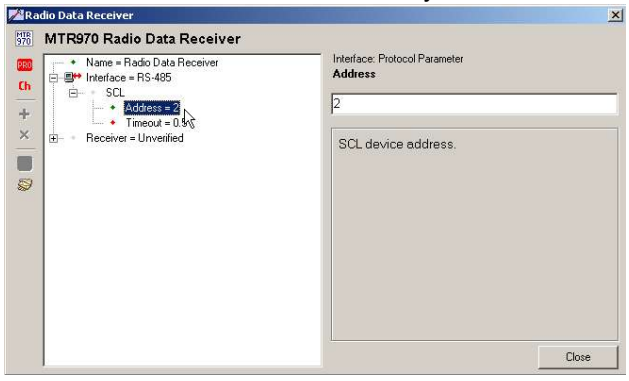
You can add inputs to workspace either by pressing the + button or simply dragging the modules onto the workspace.

You can edit the parameters of any input module by double clicking module. Basic configuration settings are similar in all input modules.

Choose the used **interface** by clicking interface from the menu tree and selecting interface that was added in previous phase. When you have selected an interface its parameters are updated to menu tree.



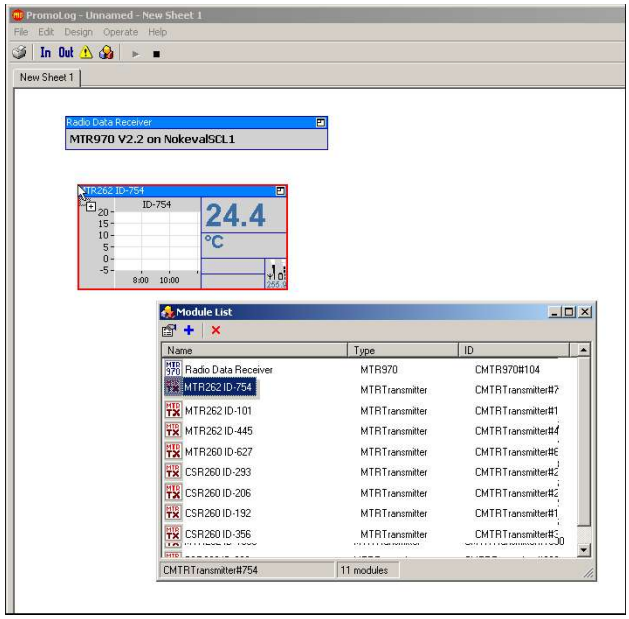
You must specify the used **SCL Address** to Interface → SCL → Address. By default it is zero on most of the devices manufactured by Nokeval.



Now an interface and input module is added to workspace and you can close the properties window by clicking the Close button.

If you added a radio device press button from the toolbar to open Module List window. When you start the application using ► button all detected radio transmitters are automatically added as modules to the Module List window. You can simply drag the modules you want from the list onto the workspace.

When all wireless transmitters are shown in the Module List window you can stop the application using ■ button. Modules shown in the Module List can be added to workspace also when application is stopped.



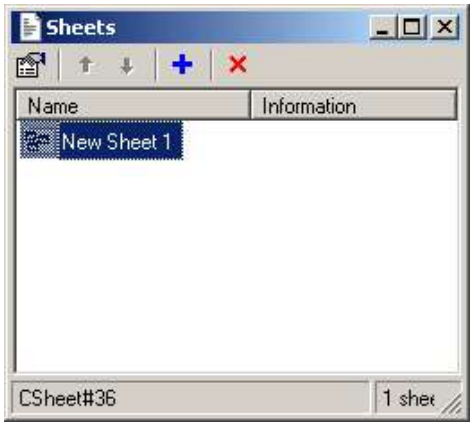
If needed, add other input modules in similar manner. You can remove an input module using ✕ button if necessary.

When you have finished adding the modules you can click ► button to start your application.

Using Sheets

Using sheets enables building large applications that are easy to monitor and use. You can, for example, place monitored targets on different sheets.

Click **Design** → **Sheets** or press **F3** to open Sheets window.



You can add and remove sheets using + and × buttons. Arrow buttons can be used to change the order of the sheets and button to edit properties of the selected sheet.

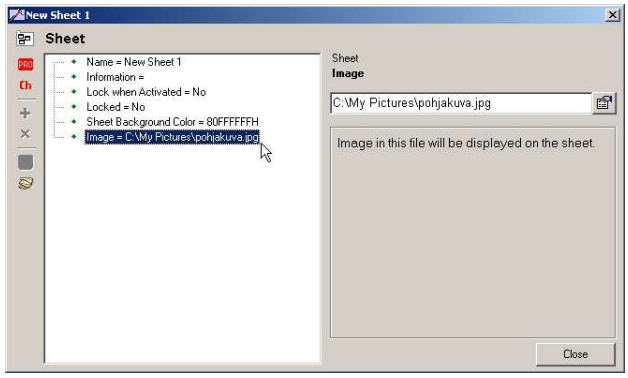
Click to open properties window. You can give a descriptive name to each sheet that is displayed in the sheet tab. More information about sheet can be written to Information field.

You can also lock sheets to prevent unintended changes to the application. When a sheet is locked a key icon is shown in the sheet tab.

There are two ways to lock the sheets.

- **Lock when Activated = YES** means that the sheet is locked when the application is running.
- **Lock = YES** means that the sheet is locked also when application is stopped.

You can change the background image of the sheet by selecting **Image** from the menu tree (or directly by pressing CTRL+B) and entering file path for the image. Supported file formats are .bmp .gif and .jpg

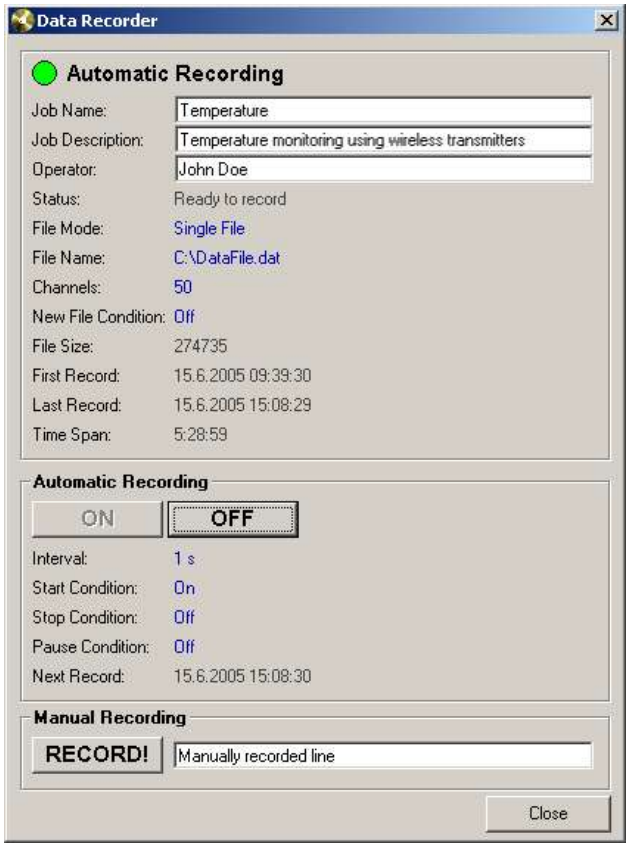


Data Recorder

Storing received information to files is done using Data Recorder module. Information is saved in ASCII format, so it can be easily imported to spreadsheet programs.

To add a Data Recorder select **Design→5. Recording.** This opens Data Recorder – module library window. Adding Data Recorder is similar to adding input modules. You can either press + button or drag module onto the current sheet.

Open the status window of the Data Recorder module by pressing the module's button.



Job name, description and operator is recorded in the beginning of every file that Data Recorder creates.

You can change directly every setting that is shown in blue by clicking it. This open the properties editor where you can enter the new value.

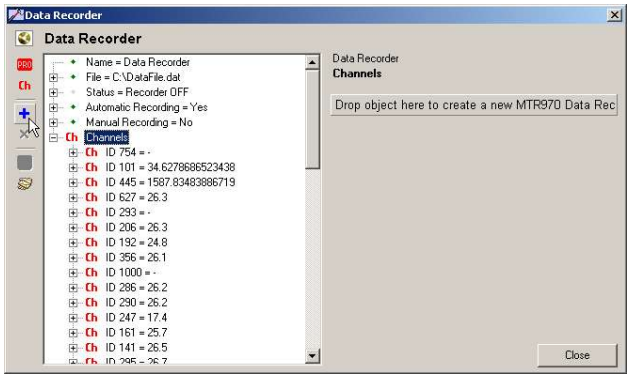
The status window consists of three parts. In the first part you can edit general settings of the recording.

The second part handles automatic recording and the last part is for manual recording.

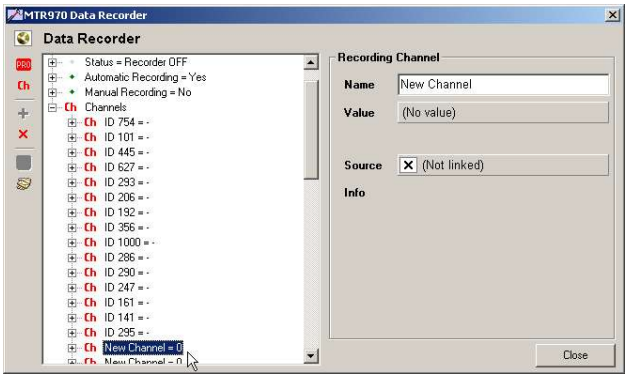
This Quick Guide only covers saving information to a single file.

Set a proper **Job name**, **Job description** and **Operator**. You can also change the **File Name** if needed.

Click the number (0) after the **Channels** text to open the following window.

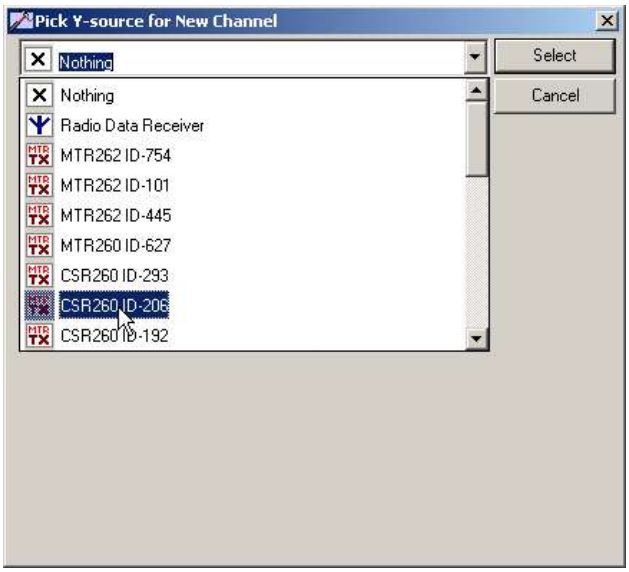


Add a new channel by pressing + button. Then choose this channel and define a descriptive name and link it to an input channel.



To link the channel press (Not linked) button. This opens the following window.

Choose the module you want from the drop down menu and after that choose the channel that you want to record. Make sure that the channel is selected when you press the **Select** button.



Add other channels that you want to record in similar manner. When all channels have been added, return to status window by pressing **Close**.

Automatic recording is on by default and recording interval is one second. You can change the recording interval by clicking the current value. The file size increases rapidly if the interval is small so it is not recommended to set interval value smaller than necessary.

Recording can be started/stopped either scheduled or manually. You can also set triggers that start or stop the recording. You can change these options by clicking **Start** or **Stop Condition.**

You can disable automatic recording by pressing OFF button.

When you press **Record!** button the current values of defined channels are saved to file. You can write a descriptive comment that is included to the same line.

Radio Data Receiver module

The topmost line of the module shows what radio device is connected and the interface to which it is connected.

Radio Data Receiver

MTR970 V2.2 on RS-485

Status: Ready

Age	Device	ID	Signal	Battery
00:1	MTR262	**1**	-70 dBm	2.9 V
00:5	CSR260	**286**	-65 dBm	3.0 V
00:11	MTR262	**758**	-77 dBm	3.0 V
00:13	MTR262	**1**	-70 dBm	2.9 V
00:14	MTR262	**757**	-74 dBm	2.9 V
00:16	CSR260	**290**	-65 dBm	3.0 V
00:17	MTR262	**445**	-72 dBm	2.9 V
00:18	MTR262	**755**	-80 dBm	2.9 V
00:18	CSR260	**192**	-78 dBm	2.9 V
00:25	CSR260	**161**	-70 dBm	3.0 V

The Status field shows the current status of the device. Below is a list of common status values.

- Ready – device operates normally
- Querying – a request is sent to a device
- Inactive – application is stopped
- Offline/Device not Responding – check the settings and connections

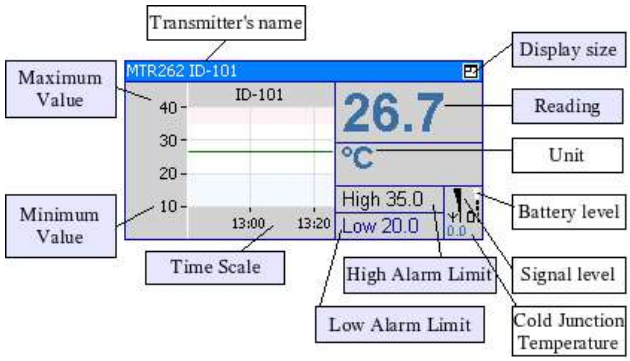
Next part shows information about latest received radio data packets.

- Age – time from reception
- Device – radio transmitter's type
- ID – radio transmitter's identification number
- Signal – radio transmitter's signal level
- Battery - radio transmitter's battery voltage

You can minimize/maximize the module window using button.

Radio Data Transmitter module

The following picture shows the different parts of the module. Boxes that have blue gray background indicate a hot spot area. You can quickly change these setting by clicking them.

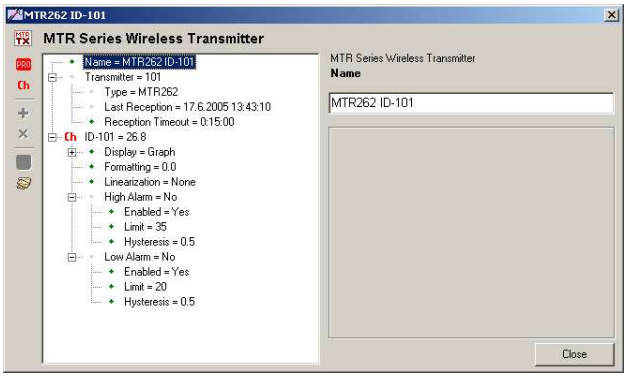


You can minimize/maximize the module window using button.

NOTE: Cold Junction Temperature is not available for all MTR26x series devices.

You can change the High/Low Alarm directly using hot spot areas but before using alarms you must enable them from properties menu
Ch → High/Low Alarm → Enabled = YES.

You can edit module's other properties by double clicking the module. This opens the module's properties window.



You can give a descriptive **Name** for the module and change all parameters from this window.

You can configure the display from **Ch → Display**. Alternatives are:

- None
- Digital
- Graph
- Vertical Bar
- Vertical Indicator

- Horizontal Bar
- Horizontal Indicator

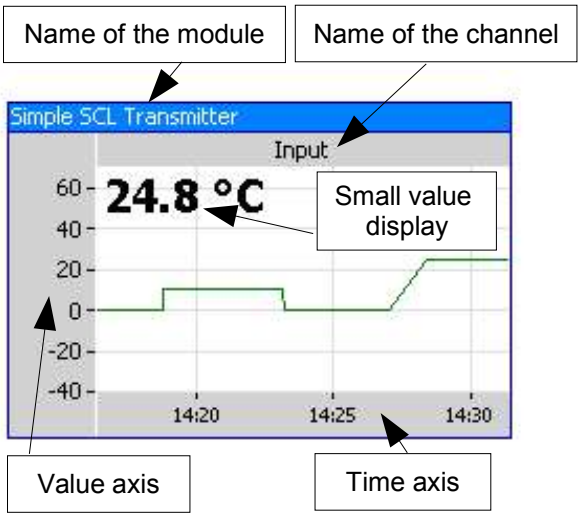
Number of decimal digits can be changed from **Ch → Formatting.**

Alarm settings are made in **Ch → High/Low Alarm.**

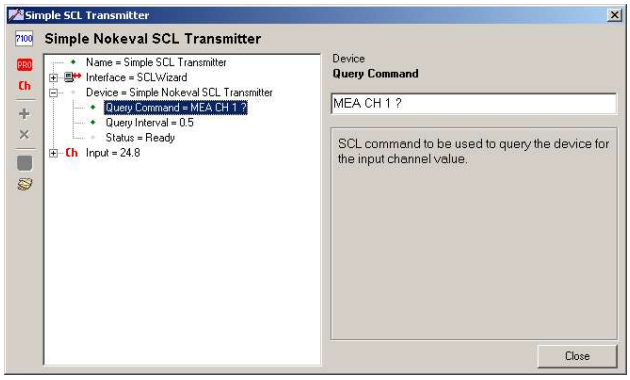
If a thermocouple is used, set the appropriate linearization in **Ch → Linearization.**

Simple SCL Transmitter module

Simple SCL Transmitter module is a general purpose module for all devices supporting Nokeval SCL protocol.



You can edit the properties of the module by double clicking it. This open the module's properties window.



You can give a descriptive **Name** for the module and change all parameters from this window.

You can configure the display from **Ch → Display**. Alternatives are:

- None
- Digital
- Graph
- Vertical Bar
- Vertical Indicator
- Horizontal Bar
- Horizontal Indicator

Also other display settings, like time span and minimum and maximum values for value axis, is set here.

Number of decimal digits can be changed from **Ch → Formatting.**

Alarm settings are made in **Ch → High/Low Alarm.**

Menus

File

- **New** – creates a new application
- **Open** – opens previously saved application
- **Save As** – saves open application
- **Preferences** – PromoLog's workstation wide settings.
- **Print Sheet** – prints current sheet

Edit

- **Properties** – opens properties window for selected module
- **Bring to Front** – moves selected module to front
- **Send to Back** – moves selected module to back
- **Align to Grid** – places selected module(s) to grid
- **Hide** – hides selected module
- **Delete** – deletes selected module
- **Select All** – selects all modules on current sheet
- I**nvert Selection** – inverts selection

Design

- **Application Setup** – settings for application
- **Sheets –** sheet adding, deleting and editing
- **Wizard –** a guided tool for creating inputs
- **1. Interfaces –** interface adding, deleting and editing
- **2. Inputs –** input adding
- **3. Data Processing –** Data processing modules
- **4. Visualization –** Visualization modules
- **5. Data Recording –** Data Recording modules
- **6. Outputs –** output adding
- **Module Library –** a library of all modules
- **Script Center –** script adding, deleting and editing

Operate

- **Start!/Stop!** - starts/stops the application
- **Lock/Unlock Sheet** – lock/unlock the current sheet
- **Input Channels –** input channel list
- **Output Channels –** output channel list
- **Alarm List –** a list of active alarms
- **Module List –** a list of modules that can be placed to workspace
- **Event Log –** a log of events
- **Console –** a history of previous commands and possibility to execute commands from command line.
- **License** – managing licenses

Help

- **Index** – opens the html documentation in default browser
- **About –** version and licensing information

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