PROSENSE VISUALIZATION SOFTWARE

Designer

Software Manual

Index

1. Introduction

1.1.Scope

PVS is a mapping and real-time monitoring software for Prosense DPX Series Gas Alarm Panels.

1.2.Purpose

This manual is designed to guide users about usage of this software.

1.3.Who should use this document

This manual is created for Prosense partners and distributors. Please contact Prosense for additional information.

1.4.References

- Prosense DPX Series Modbus Communication Manual
- DPX Series Gas Alarm Panel User Manual

1.5.Prerequisites

- Microsoft .NET Framework 4.7.2
- RS485 communication port for serial or,
  TCP LAN connection and S-NetX module for TCP or,
  TCP LAN connection with internet and S-NetX module for Cloud communication

- 1920x1080 resolution display
- Windows 10 or later operating system

1.6.Compatible Gas Alarm Panels

DPX-4, DPX-8, DPX-32, DPX-64, DPX-128 Series are compatible with this software.
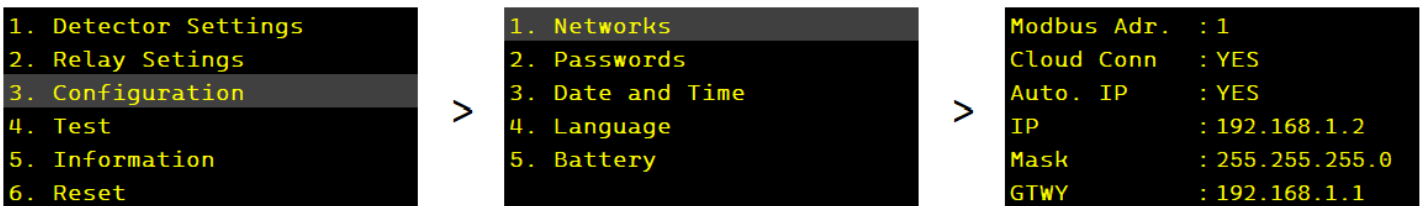
PRS-UM-PVSD-EN-Rev0.1-08.03.2024
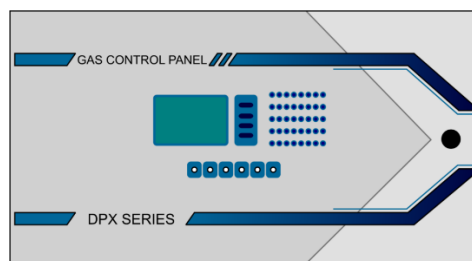
2. Panel Configuration

This section describes panel connections and settings for software communication. Panel Id(address) must be configured or known before performing connection. All DPX Series Panels have a built-in RS-485 port. Network card for TCP and Cloud communication and optional. Panel communication parameters can be assigned via menu steps. In total 6 DPX series panels could be connected to PVS. Parameters for each panel must be configured.

2.1.Panel Configuration

To change parameters, follow the menu steps below. Default panel menu password is **"1234"**. Up and down buttons are used for selecting the sub-menus or changing the values. Press the menu button to confirm selection.

```
1. Detector Settings          1. Networks            Modbus Adr.  : 1
2. Relay Setings              2. Passwords           Cloud Conn   : YES
3. Configuration        >     3. Date and Time   >   Auto. IP     : YES
4. Test                       4. Language            IP           : 192.168.1.2
5. Information                5. Battery             Mask         : 255.255.255.0
6. Reset                                             GTWY         : 192.168.1.1
```

Modbus Address is the unique identifier for each panel. This parameter must be set differently from 1 to 6 for each panel for serial and TCP LAN communication. Cloud connection is done with serial number of the network card, modbus address has no effect on cloud communication.

"Auto IP" parameter sets the DHCP on and off. When this parameter is set to "YES", IP will be assigned automatically to the panel. If this parameter is set to "NO"; "IP", "Mask", "Gateway" parameters must be entered manually and panel will use static IP parameters for communication.

If cloud connection is needed "Cloud Connection" parameter must be set to "YES". This will require an internet connection and 8883 and 443 ports must be open for connection.

For TCP LAN communication, 502 port must be open.

|	Modbus Adr.	Cloud Conn	Auto. IP	IP	Mask	GTWY	Other Requirements
Serial	1 to 6	NO					Unique Modbus Address
TCP-LAN	1 to 6	NO	YES or NO	If Auto IP is NO	If Auto IP is NO	If Auto IP is NO	502 port
Cloud		YES	YES or NO	If Auto IP is NO	If Auto IP is NO	If Auto IP is NO	-8883 and 443 ports -Internet connection

2.2.Panel Connection

Physical connections for communication types are shown in this section.
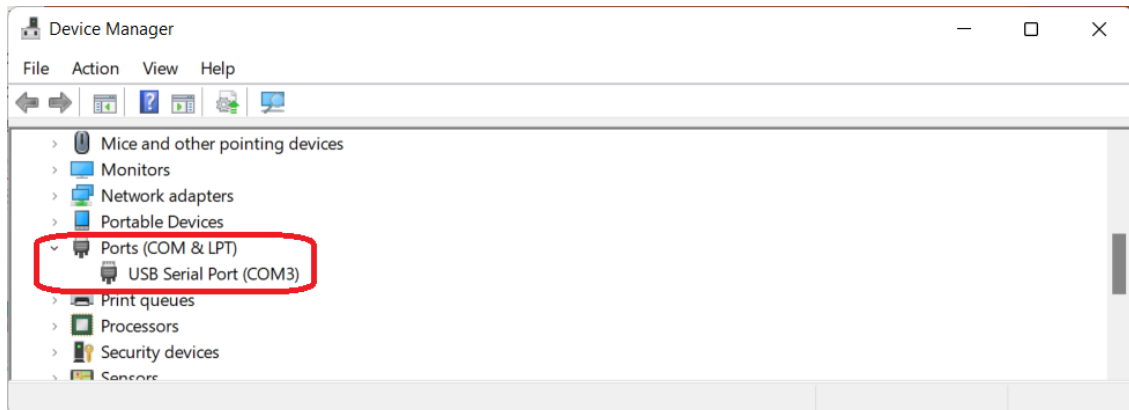
2.2.1 Serial Connection
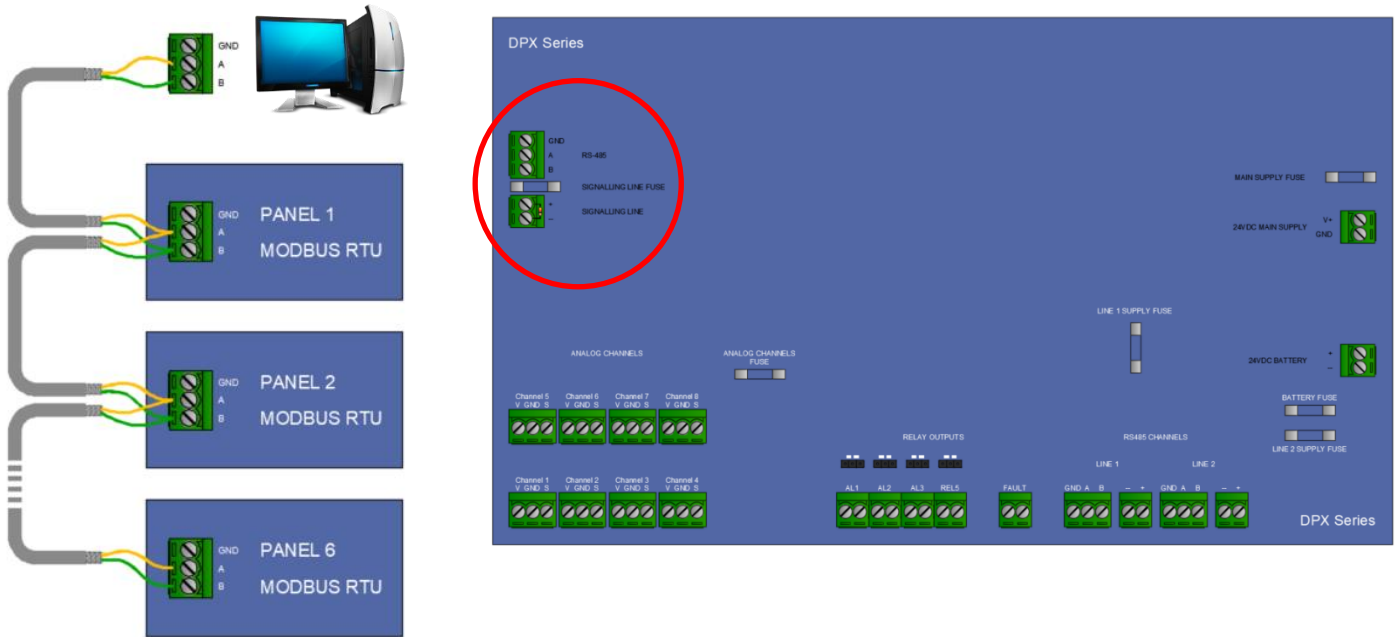
2.2.2 TCP Connection
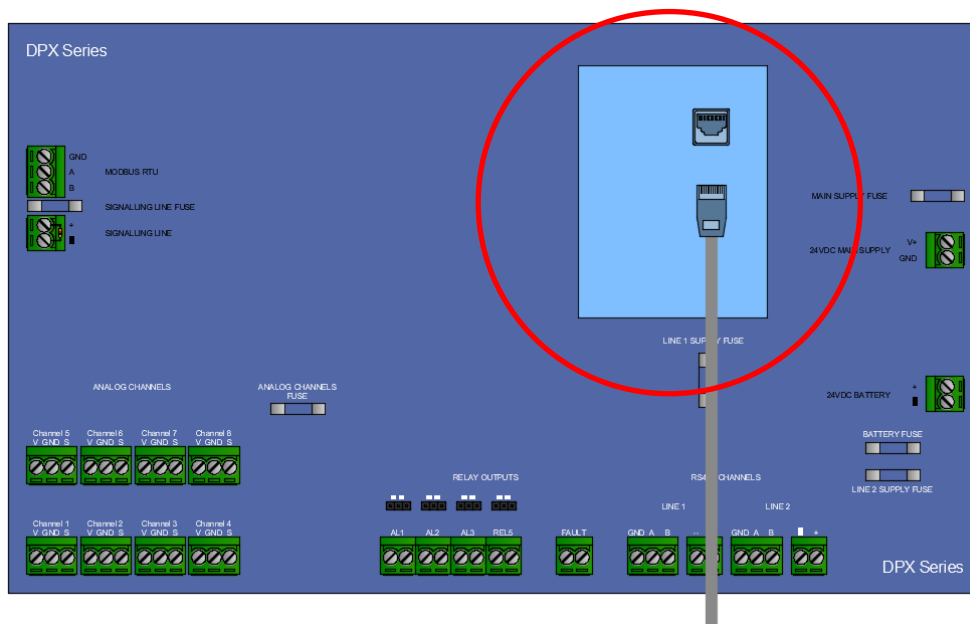
3. RS485 Port Configuration

Please check for a properly configured serial port via device manager. For USB to serial converters, suitable drivers must be installed.

4. Software Installation

Before installing PVS, please make sure .Net Framework 4.7.2 or later is installed.

To start installation double click the setup file and follow instructions. If a previous version is installed, software will guide you through "repair", "upgrade" or "remove" options. If "repair" or "upgrade" is selected, software will upgrade the files in the previous installation directory. If "remove" is selected software will be uninstalled.

In some cases, installation files could not be replaced or upgraded for Windows security purposes. Please, always check the software version and modified date of the configuration files after installation to make sure the installation completed successfully. In case you notice upgrading or repairing the software is unsuccessful, please delete the files manually in the installation folder after uninstallation and install the software again.

Software will create desktop and start menu shortcuts.

After installation, software must set to be run with administrator rights. To do this, right click the shortcut, select "**Compatibility**" and check "**Run this program as an administrator**" option. This option may differ in different Windows Operating Systems.

5. Software Menus

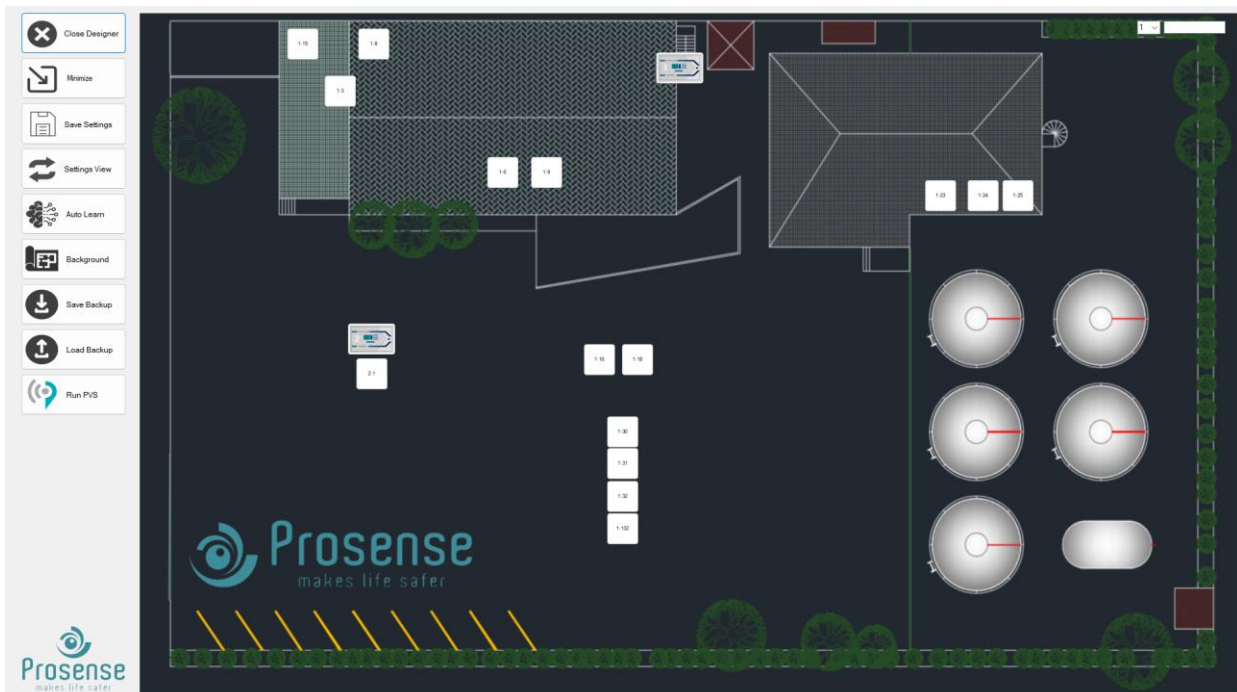To run the designer, open the installation folder and run PVS_Designer.

5.1. Login

Software will prompt a password window for login. Password for designer is "1212". Enter the password and click OK.
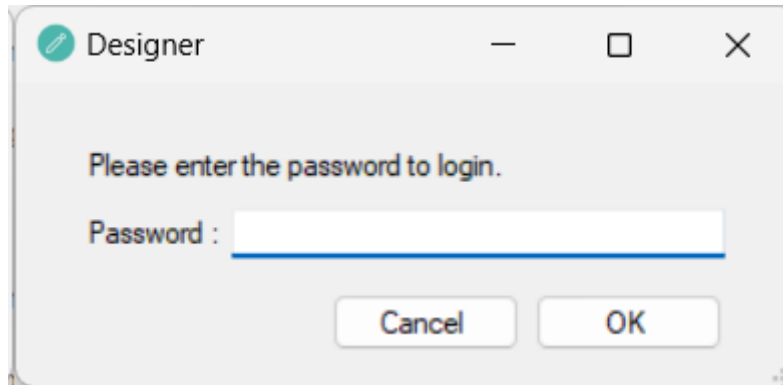
5.2. Overview

Main display of the software is shown below.

Use the menu bar located on the left side of the screen for configuration.

Close Designer	Closes the designer.
Minimize	Minimizes the designer to system tray.
Save Settings	Saves configuration.
Settings View / Map View	Changes display between settings and mapping.
Auto Learn	Starts Auto Learn function.
Background	Selects background picture.
Save Backup	Saves the backup of configuration.
Load Backup	Loads a backup file.
Run PVS	Runs real-time monitoring software.

Save Settings: Saves software configuration.

Load Backup: Opens a pop up window to select a backup file. PVS back-up files are in Zip format. Note that if the button is selected, a confirmation window will be shown which indicates that if proceeded, current settings will be erased. Select "Yes" to proceed or "No" to cancel action. If "Yes" is selected, a backup file must be chosen.

Save Backup: Backups PVS configuration in Zip format. This zip file can be used later via clicking the "**Load Backup**" button.

Run PVS: Closes the designer and runs the real-time monitoring software. Please save all the necessary parameters before clicking this button as it may result losing configuration data.

Background: Opens a pop up window to select a background picture file for example system diagram/plan of the building etc.

5.3. Settings View

Settings view is used for configuring communication, display and other notification parameters. This menu has three tabs:
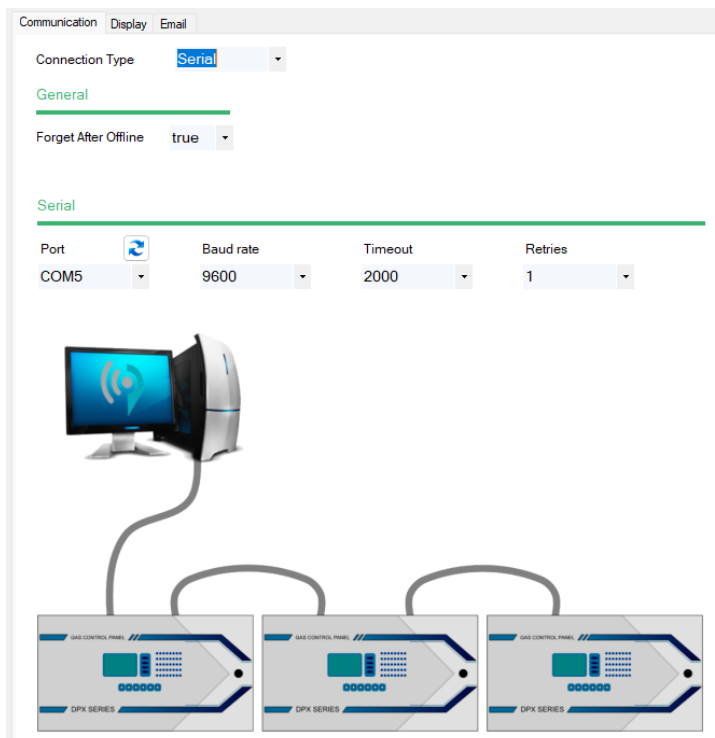
-Communication

-Display

-Email

5.3.1   Communication

This tab is for configuring communication parameters. Connection Type could be selected between "**Serial**", "**TCP**" and "**Cloud**". Parameters and schematic below changes upon selection of communication type.

Forget After Offline is a communication parameter. If selected false, software will try to communicate with the offline devices every cycle. If selected true, software will forget the device and will not attempt to read data until PVS is restarted. Trying to communicate with offline devices will result in longer reading cycles. If the fault or maintenance is temporary and system will return to normal in short term this function could be select false. If the fault or offline status will take time, Forget After Offline could be selected true for faster reading cycles. When system return to normal and all devices are online, software must be restarted to establish communication with all devices.

**Parameters for serial connection:**

Port: COM port used for serial connection with panels.

Baud rate: Communication speed with panels. This setting must match with panel setting. Lower values result in longer reading cycles but stronger communication line, higher values result in shorter reading cycles but more fragile communication.

Timeout: The duration of waiting a response from the panel. If response time exceeds the parameter, software will detect mark that response is failed due to timeout.

Retries: This parameter selects how many times software will retry to get the answer for a failed response.

Parameters for TCP connection:
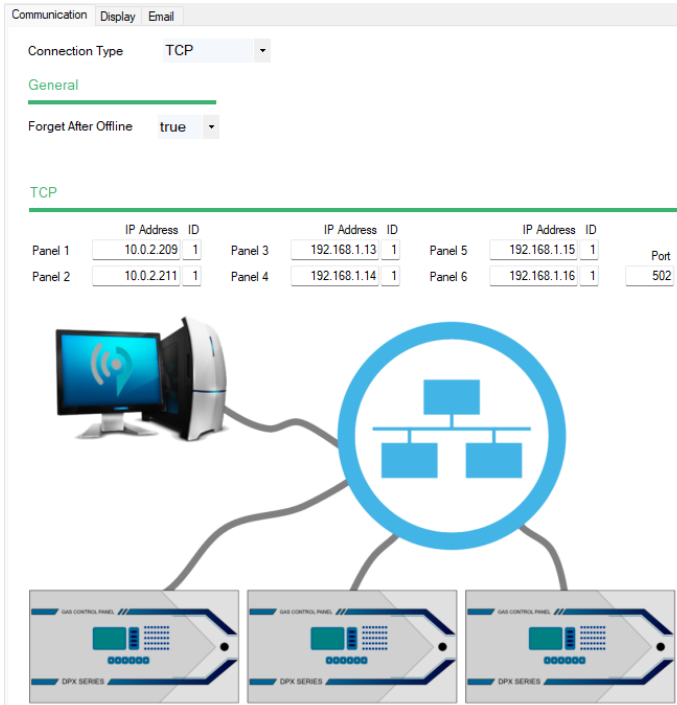
IP Address: IP address for each panel must be unique. Must match with panel setting.

ID: Modbus address of each panel. Must match with panel setting.

Port: Communication port for TCP communication. Default port is 502. Must be configured according to IT of the installation. Must match with panel setting.

This setting will require a local are network and does not need an internet connection.

Parameters for Cloud connection:
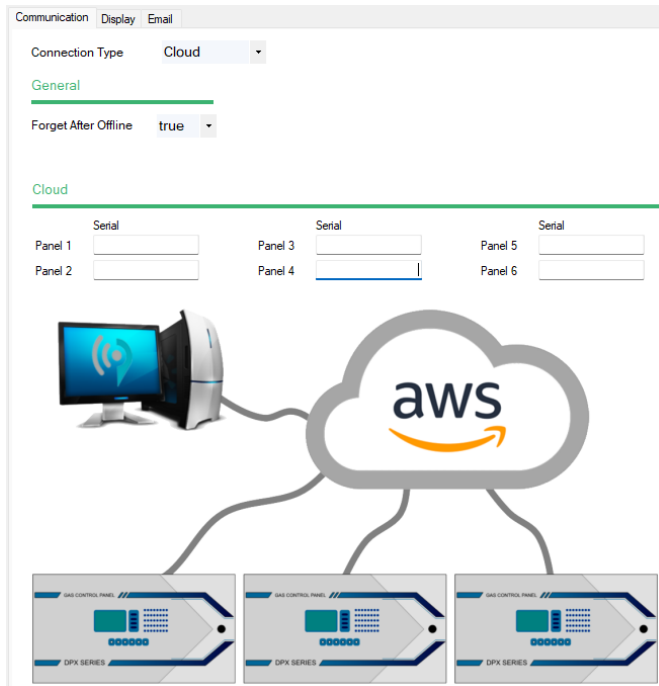
Serial: Serial numbers of panels in the network. These numbers must be provided from the installer.

This communication type will require internet connection for panels and computer.

There is no direct communication between panels and software in this setting. Panels publishes data to cloud and software reads this data.

Software will only try to communicate with the located equipment. For example, if a detector connected on panel 3 is configured but not located on the diagram/map, software will not try to communicate with this device as it is not shown in real-time monitoring.

5.3.2 Display

This tab is for configuring display parameters for real-time monitoring application.
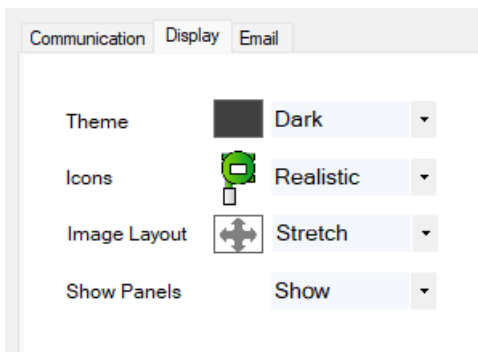
Theme: Theme of the UI, could be selected between Light, Dark, Light Blue, Light Pink, Sky.

Icons: Display of detector icons. Could be selected between realistic and detailed. Realistic view enables visual display of detectors. Readings could be seen when cursor is on the detector. Detailed view enables all the detectors to show readings above the icon.

Image Layout: Could be selected between zoom and stretch. Zoom setting zooms the background image without changing the resolution. Strech setting stretches the image to the layout area by changing the resolution.

Show Panels: Can be selected as show or hide. It sets whether the panels will be shown in background or not.

5.3.3 Email

This tab is for configuring email parameters. Software is capable of sending emails at events and daily or weekly event logs.

Proper email account must be configured for smtp(sender) account. This information must be provided by IT department of the site.

Each event can be enabled for automatic emails. These events are Fault, Alarm 1, Alarm 2, Alarm 3, Over Range.

If daily reports are enabled, software will send the event log for last day automatically at 10:00 day.

If weekly reports are enabled, software will send the event log for last week automatically at 10:00 every Monday.

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5.4.   Map View

Map view is used for locating the detectors and panels on background picture.

On top right corner of the screen user can adjust the grid and check the collation of the selected equipment.
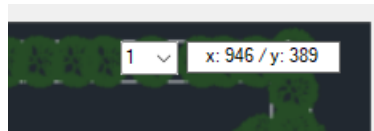

Left clicking an empty location on the background adds a detector. Left number is the panel ID and right number is the detector ID. For every added detector, detector ID will be increased automatically.
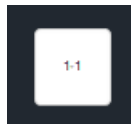
Left clicking a detector or panels selects that equipment. A selected equipment can be relocated using '**A**', '**S**', '**D**', '**W**' keys or deleted with "**Delete**" key. Detectors and panels can be relocated by left mouse button with drag and drop operation.

Right clicking a detector opens the parameters window.
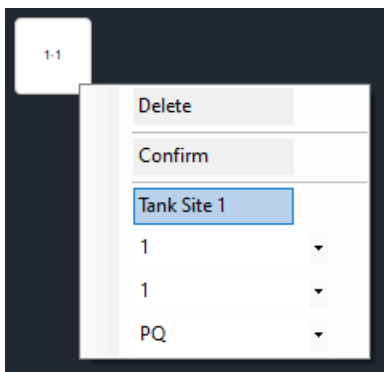
User can assign a location or information text, change the panel and detector ID and detector type for each detector at this window. Change the parameters and click "**Confirm**" button to update the detector.

"**Delete**" button could be used to delete the detector.

Note: In serial connection, detector model will be downloaded from panel. In TCP LAN and Cloud connection, detector icon will be based on the detector type parameter entered in the window above.

If "**Show Panels**" parameter is active, panels will be automatically added to the map when detectors are added to the map. Panel IDs are shown at the left side of the panel.

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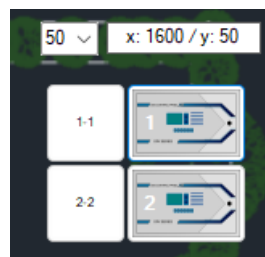
5.5. Auto Learn

Software has capability to download detectors and panels with Auto Learn function from serial line.

When clicked, software will search COM ports, baudrates, panels and detectors and automatically add them to the map. After this process a list of defined detectors could be saved. Added detectors could be relocated and edited with keyboard and mouse keys.
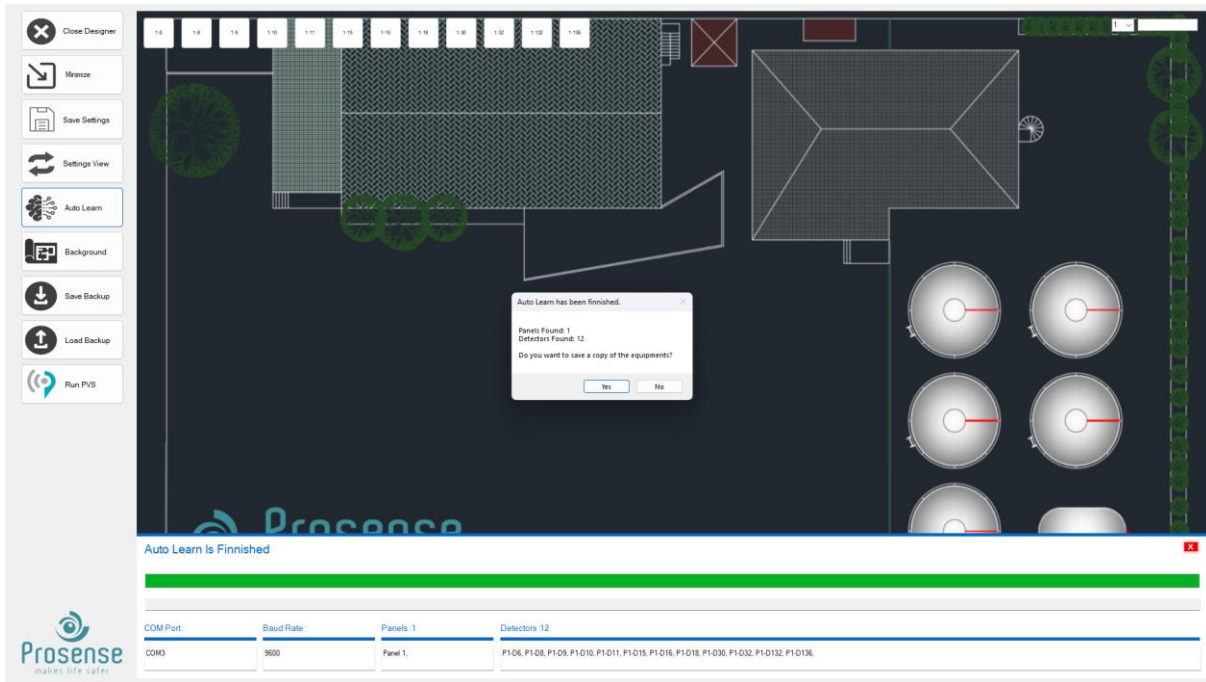
Auto Learn window shows the port and baud rate used for communication and shows the panels and the detectors that successfully communicated.

Additional detectors can be added after Auto Learn is completed.

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