



PROSENSE VISUALIZATION SOFTWARE

User Interface

Software Manual

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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 end users, Prosense partners and distributors. Please contact Prosense for additional information.

1.4. References

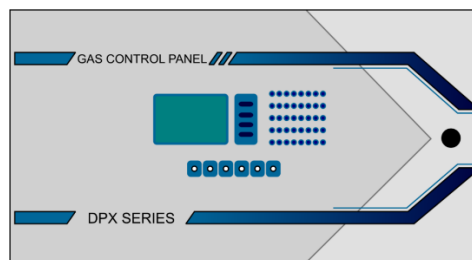
- PVS Designer Manual
- DPX Series Modbus Communication Manual
- DPX Series Gas Alarm Panel User Manual

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.



2. Software Installation

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

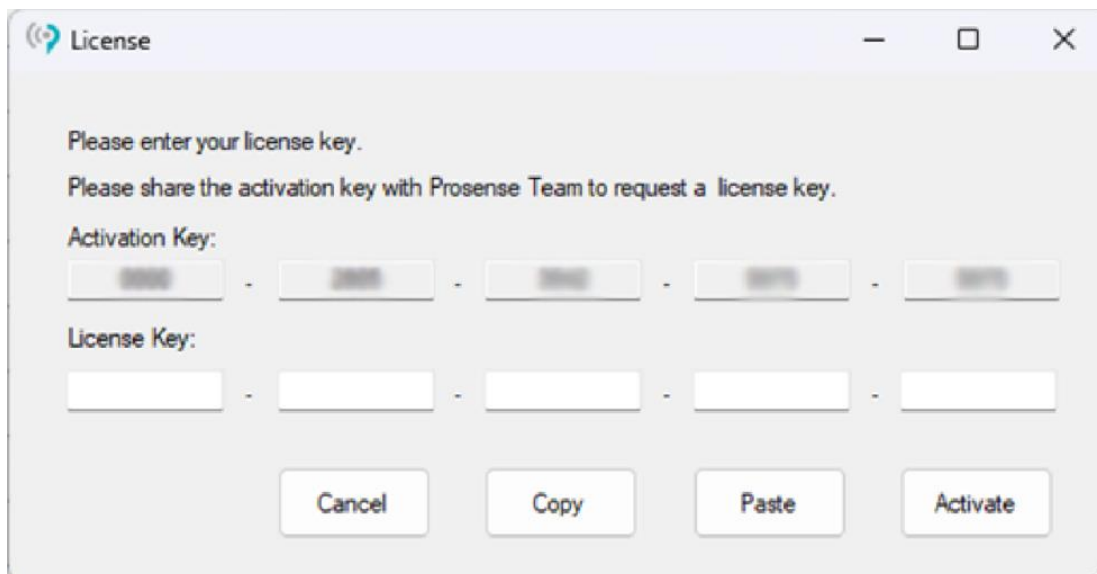
To start installation double click the setup file and follow instructions. If a previous version is installed, software will guide you through “repair”, “upgrade” or “remove” options. If “repair” or “upgrade” is selected, software will upgrade the files in the previous installation directory. If “remove”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

3. Activation

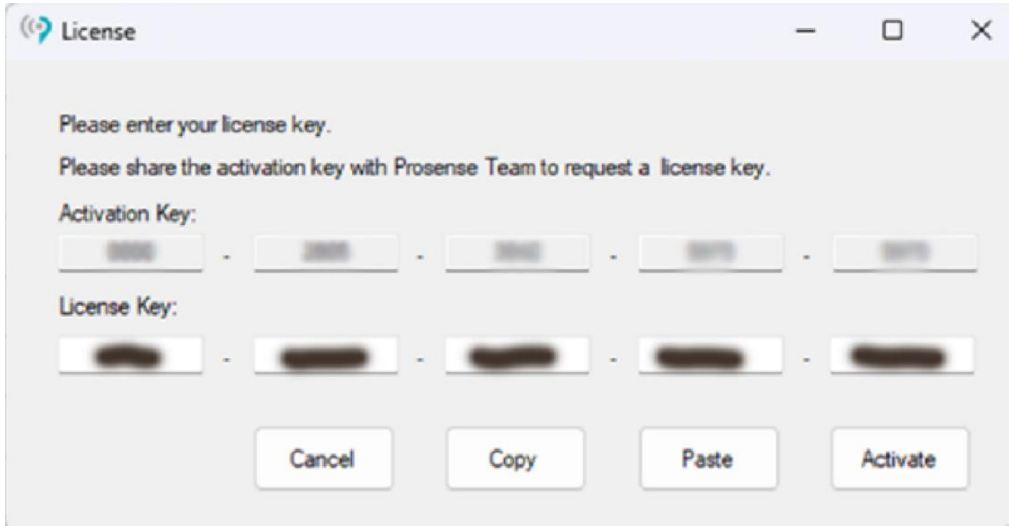
When software run for the first time, It'll require a license key. Activation Key must be copied and send to Prosense for acquiring a License Key.



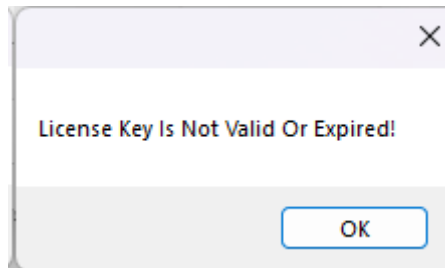
The screenshot shows a window titled "License" with a standard Windows title bar (minimize, maximize, close). The window contains the following text and controls:

- Text: "Please enter your license key."
- Text: "Please share the activation key with Prosense Team to request a license key."
- Text: "Activation Key:"
- Five input fields for the activation key, separated by hyphens.
- Text: "License Key:"
- Five input fields for the license key, separated by hyphens.
- Four buttons at the bottom: "Cancel", "Copy", "Paste", and "Activate".

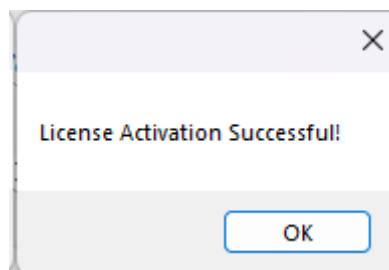
Paste the License Key provided by Prosense and click activate.



If the key is not valid or expired, it will be prompted as:



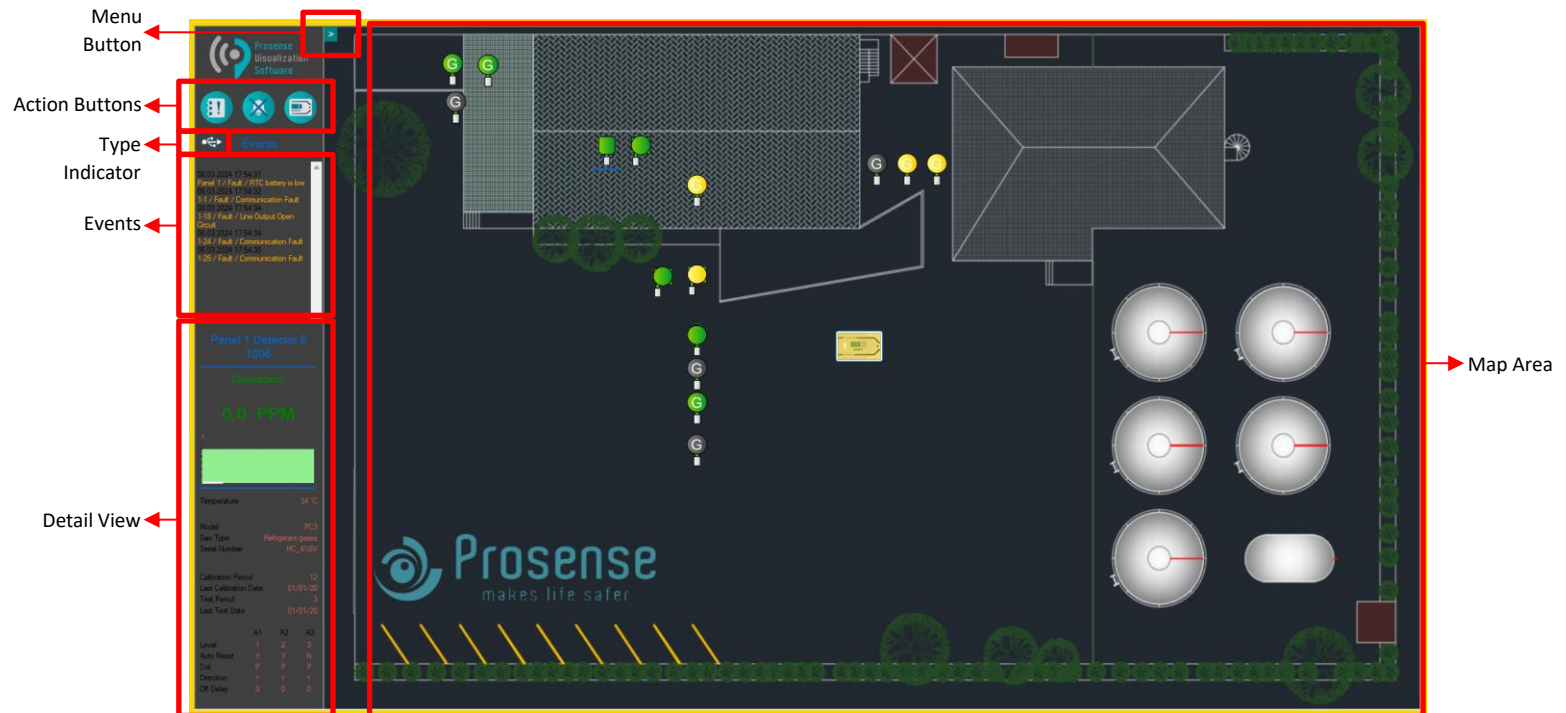
If the key is valid, it will be prompted as:



After successfully activating the software, this window will not be prompted until license is expired or new installations made.

4. User Interface

User interface is shown below.



Menu Button: This button opens and hides a menu that can be used for information and testing actions.

Action Buttons: Action buttons are used for opening panel window, event log and silencing the computer.

Type Indicator: Shows communication type.

Events: Show recent and realtime events.

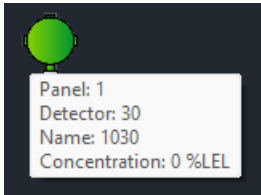
Detail View: Detailed information about desired detector.

Map Area: Show real time statuses for detectors and panels.

4.1. Detector and Panel Interaction

Map area shows real time statuses of detectors and panels. If detailed icon property is selected, detector will display panel, detector ID, measurement and unit. If realistic icon property is selected, detectors will show relevant information when mouse cursor is above the detector.






Mouse above detector in realistic view:



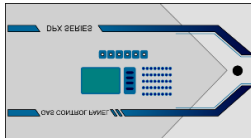
Information in detailed view:



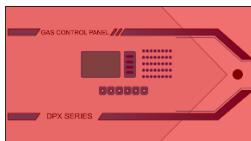
All detectors will change colour according to their statuses:

-  Green means there is no warning and detector is operating normally.
-  Blue means detector is in calibration, test or service mode.
-  Yellow means detector is at fault.
-  Red means detector is in alarm.
-  Grey means there is no information for detector.

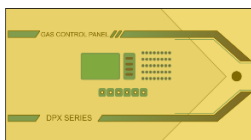
All panels will change colour according to their statuses. If the panels are not visible, “**Show Panels**” option must be enabled via “**Designer**”.



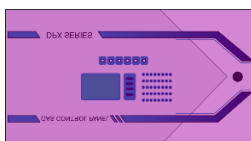
There is no warning.



There is alarm at panel.



There is fault at panel.



There is alarm and fault at panel.

Detectors and panels are clickable and clicking with right or left mouse button enables additional information.

Detectors



Left Click: Updates the “**Detailed View**” panel with information of the clicked detector. Please see “**Detailed View**” for additional information.



Right Click: Opens “**Concentration Chart**” for the clicked detector.

Panels



Left Click: Opens “**Panels**” window for detailed panel information.

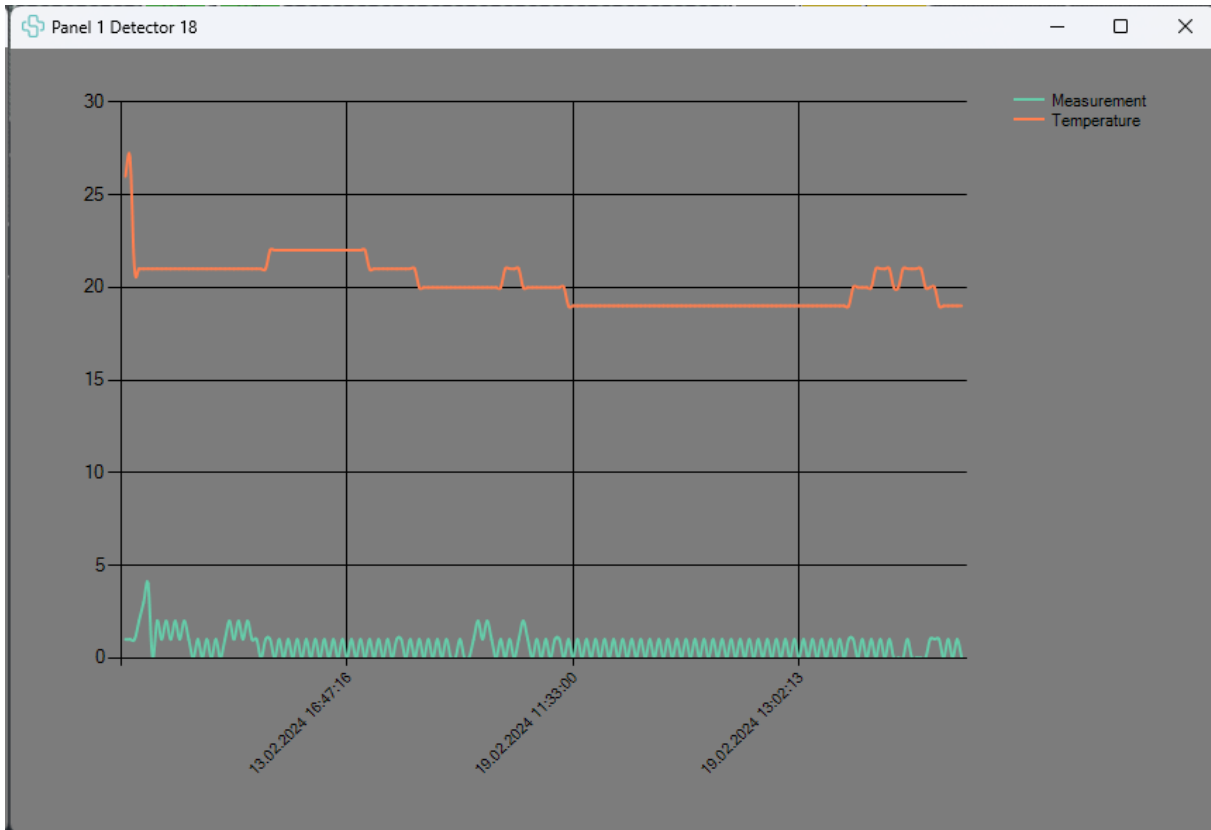


Right Click: Opens “**Detector List**” for the clicked panel.

4.1.1 Concentration Charts for Detectors

PVS logs concentration data with temperature. If any data available right clicking a detector will open the concentration chart. At the time of concentration change, software logs the data with temperature information if available depending on the model and connection type of detector.

A sample chart can be seen below:



When mouse is hovered along the trends measurement values are shown at the location of the cursor.



This information includes:

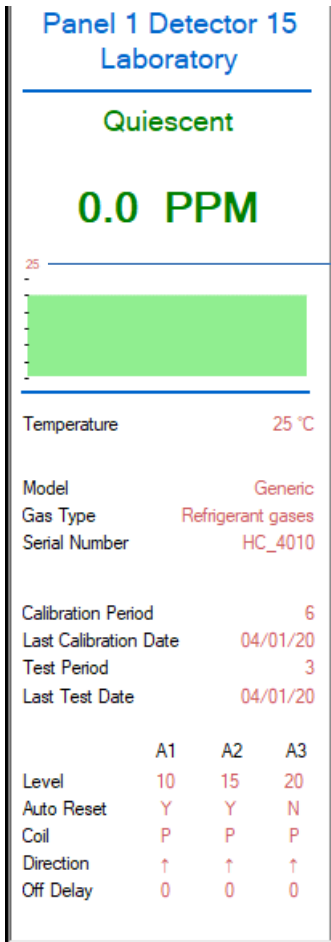
M: Gas measurement

T: Temperature at the time gas measured

D: Date and time concentration change occurred.

4.1.2 Detailed View

Detailed view shows information regarding the clicked detector as shown below.




- Panel and detector ID.
 - Location text.
 - Real-time detector status.
 - Real-time measurement and measurement unit.
 - Maximum measurement range. Not proportional to chart.
 - Real-time measurement chart. Green area shows the safe zone and detector measurement will be shown in white line. If detector is in alarm, measurement line will change colour.
 - Real-time temperature measurement.
 - Recommended calibration period of detector in months.
 - Last calibration date of detector: day/month/year.
 - Recommended test period of the detector.
 - Last calibration date of detector: day/month/year.
 - Alarm information.
- Auto Reset: **Yes** or **No**
- Coil: **A**ctive or **P**assive
- Direction: **↑** for rising or **↓** for falling
- Off Delay: Off delay in minutes for relays of detectors



Blue line below the detector indicates the selected detector for the detailed view.

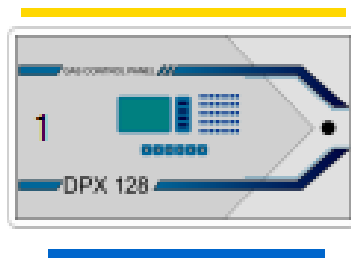
Notice: Information in detailed view changes depending on the detector model, detector connection type, software communication type. For example in TCP LAN or Cloud communication, only alarm levels can be shown, other alar properties will be hidden.

4.1.3 Panels Window

Panels window could be opened via left clicking a panel or clicking the  button. This windows shows the real-time statuses and information about the panels.

Users can navigate between panels with left click.

In the example below. Just panel 1 is active. Yellow line above the panel indicates there is fault at panel. Panel ID and model is indicated at the left site. Blue line below the panel indicates the selected panel.



Status Information		Production Data		Detectors	
Alarm Status	-	Serial Number	CX128678	Line 1	3
Fault Status	RTC battery is low	Manufacture Date	08.2023	Line 2	10
Input Voltage	26.6 V	Firmware Version	3.5.256	Analog	2
Output Voltage	26.7 V	Firmware Date	20.12.2023		
Battery Voltage	-			Total	15
Number Of Batteries	0				

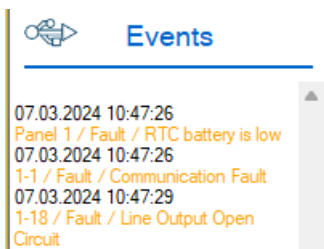
4.1.4 Detector List Window

Detector list window can be opened via right clicking a panel. On top left corner, detector list can be filtered per panels. Default panel filter is the one right clicked. This window shows real-time data for detectors. Detector statuses are defined with colours as shown below.

Panel	Detector	Text	Status	Measurement	Temperature	Gas Type	Model	Serial
1	1	Detector 1	Communication F...	(0-NaN)	0 °C	0	-	
1	6	1006	Quiescent	0.0 PPM (0-5)	33 °C	Refrigerant gases	PC3	HC_4%5V
1	8	1008	Quiescent	0 PPM (0-100)	25 °C	Refrigerant gases	Generic	EN-TRP20
1	9	1009	Quiescent	0 PPM (0-100)	21 °C	Hydrogen Chloride	PQ	
1	15	Laboratory	Quiescent	0.0 PPM (0-25)	25 °C	Refrigerant gases	Generic	HC_4010
1	16	1016	Quiescent	0 PPM (0-100)	20 °C	Amonia	PQ	
1	18	1018	Line Output Ope...	0 PPM (0-1000)	19 °C	Amonia	PQ	
1	24	1024	Communication F...	(0-NaN)	0 °C	0	-	
1	25	1025	Communication F...	(0-NaN)	0 °C	0	-	
1	30	1030	Quiescent	0 %LEL (0-100)	33 °C	Methane	P	
1	32	1032	Quiescent	0 %LEL (0-100)	43 °C	Methane	Generic	

4.2. Information and Notification

In the left pane, real-time events, communication type and other information is available.



In top left, communication type is shown.



Icon means serial communication is used between panels and software.



Icon means TCP-LAN communication is used between panels and software.



Icon means Cloud communication is used.


In real-time events panel, all information regarding the panels, detectors and software is available. For example if a concentration change occurs, it will be shown in this area. In case of any alarm, fault, communication error occurs, it will be shown in this area with time stamps. Information regarding the event will change colour based on the event type. For example if a successful task is completed like email sent, it will be shown in green. Information will be shown in these colours:

Yellow : For fault and error messages.

Red : For alarm messages.

Grey : For normal messages like concentration changes etc.


Green : For positive messages like detector returned to normal, automatic email is successfully sent etc.

Software has the capability to notify users with sound alerts. In case of any alarm occurs, sound alert will be active. Sound alert could be silenced with  button.

In case of any new alarm occurs, alert sound will be activated again.


Depending on the email and automatic report configuration, automatic alert emails and auto generated reports are sent in the background and user will be notified in real-time events panel.

4.3. Menu Button

Menu button  is located in the top left of the map area. This button enables additional functions and information. Clicking this button will show the menu below. By clicking again, this menu could be hidden.

Menu <	
07.03.2024 11:11:11	Shows system date and time.
Cycle Time: 4 s	Information update time for all components in serial and TCP communication.
v2.5.0	Software version.
Valid Until:30/06/2024	License expiration date.
Detector list	Opens detector list window mentioned in “4.1.4 Detector List Window”.
Daily Report	Manually sends daily report.
Weekly Report	Manually sends weekly report.
Change Display	Changes display in case of multiple displays are used.
Quick Help	Opens quick help information.
Designer	Closes real time monitoring and opens designer.
Exit PVS	Exits real-time monitoring software.

4.4. Event Log

Event log can be opened via clicking  button.

	Time	Device	Event	Detail
807	13.02.2024 15:37:14	P1	Setup	Configuration Received:A000003
808	13.02.2024 15:37:45	P1-D6	Quiescent	-
809	13.02.2024 15:37:45	P1-D8	Quiescent	-
810	13.02.2024 15:37:45	P1-D9	Quiescent	-
811	13.02.2024 15:37:45	P1-D15	Quiescent	-
812	13.02.2024 15:37:45	P1-D16	Quiescent	-
813	13.02.2024 15:37:45	P1-D18	Fault	Line Output Open Circuit
814	13.02.2024 15:38:46	P1-D132	Alarm	Alarm 3
815	13.02.2024 15:40:19	P1-D132	Quiescent	-
816	13.02.2024 15:40:46	PVS	Software Closed	-
817	13.02.2024 15:45:55	PVS	Software Started	-

This log is archived log of the system. Devices, events and details could be filtered and updated.

4.5. Differences for Communication Types

There are three types of communication selection between PVS and panels.

These communication types are:

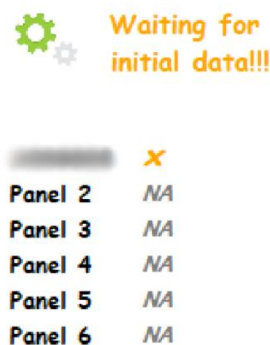
Serial : Serial connection reads data from RS485 port of the panels. All DPX Series Gas Alarm Panels have this functionality. Serial connection gathers the most data from field devices but there might be delays in big systems.


TCP : TCP connection reads data via local area TCP connection. This requires optional Prosense S-NetX module. This type of connection is designed for faster communication rates, so the information transferred is lesser than Serial connection. Internet is not required in this communication type but 502(default) port must be open for panels and software to communicate.

Cloud : Cloud connection reads data via cloud connection. In this type of connection, all panels and software must be connected to internet. In this type of connection, there is no continuous reading of equipment. Panels sends data to cloud if an alarm occurs and software gets this data directly from cloud. Benefit of this communication is panels and the software does not need to be in the same site and multiple PVS software can be used for monitoring the data.

In cloud connection, software must receive initial data from the panel. To do this, software must be opened, then panel must be manually altered to send the configuration data.

When software is started, it will wait for the initial data and this will be indicated in the left panel.



When software starts to get the data, it will be shown with  animation. When initial data is completely received, it will be shown with a check mark.

When all the panels initial data is completed this window will disappear automatically and software will start normal operation.