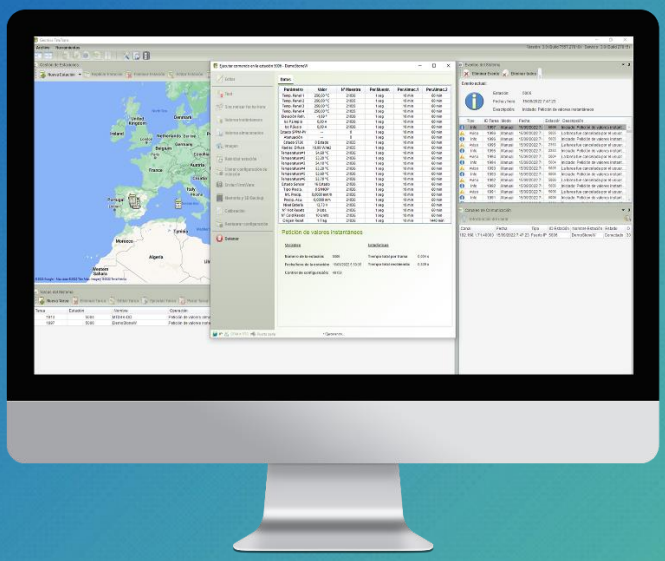
USER MANUAL

GEO-DataView PRO

Software installer



EN

V1.0

senseca

Contents

1 Introduction

The Geo-DataView software package is a set of applications for managing and displaying the data collected by the METEODATA-4000 datalogger series. Senseca provides different versions to cover the needs of different clients. Each version includes specific services and applications.

The GEO-DataView PRO version includes the Geo-DataLink application and TELETRANS-W4K desktop program, which allows advanced station configurations, as well as automatic and unattended management of the data collected by the stations.

	GEO-Data-link App	Webtrans 4K Cloud Service	Data Contract (SIM Senseca)	Teletrans-W4K Software	Distributable Web Server Webtrans 4K
GEO-DataView BASIC	✓		Optional		
GEO-DataView ADVANCED	✓	✓			
GEO-DataView PREMIUM	✓	✓	✓		
GEO-DataView PRO	✓		Optional	✓	
GEO-DataView ENTERPRISE	✓		Optional	✓	✓

GEO-DataView PRO General Architecture

The remote stations collect data from the different sensors connected to them and store this data in their internal memory. This data is then requested by the data retrieval software (Teletrans-W4K) and transmitted via a communications system (3G, 4G, Ethernet, radio, etc.) to an SQL database, where it is stored.

The database is usually located on a server, in a 'Data Reception Center' (DRC). From this center, it is also possible to edit, add or remove sensors to and from remote stations and export the data in CSV files.

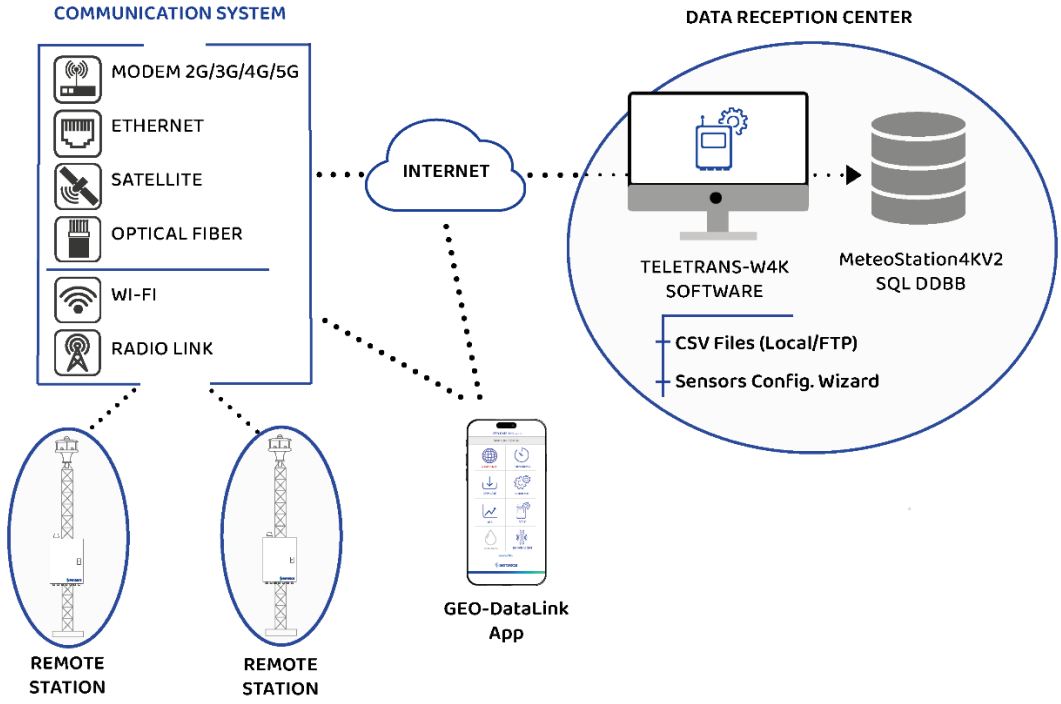


Fig. 1.1: GEO-DataView PRO Architecture

TELETRANS-W4K Desktop Software Main Functions

The Teletrans-W4K software has the following core capabilities:

- **Large-Scale Network Management**: Efficiently manages networks containing a high volume of remote stations.
- **Automated Data Retrieval**: Automatically downloads station data into an SQL database and CSV files, supporting both local storage and transfer to an FTP server.
- **Documentation Retrieval**: Automatically downloads station wiring lists (with a description about how connect each sensor into the datalogger MTD-4000) and Modbus memory maps.
- **Interactive Station Configuration**: Enables intuitive configuration using a "Drag and Drop" interface to add new sensors from the online library.
- **Sensor Library Expansion**: New sensors requests are processed and added to the library upon validation.

2 Precautions

2.1 Read me

Warning!

> The applications included in the GEO-DataView PRO software (Teletrans-W4K, Database, Tools, etc.) require two packages that are developed, sold and distributed by Microsoft (prerequisites):
>
> - SQL Server 2022 Express (valid only for 64-bit PCs)
> - Dot Net Framework 4.6.1 and 4.6.2

These prerequisites must be previously installed on the client's PC for the GEO-DataView PRO applications to function correctly.

Most PCs that have a Windows operating system do not come with all of these Microsoft packages pre-installed. To make it easier for the user to install GEO-DataView PRO, the installation wizard offers the possibility of guiding the user through the process of installing the prerequisites. However, Senseca cannot guarantee proper installation of the prerequisites under the following conditions:

- Windows versions not supported by any of the prerequisites.
- Users with limited access privileges.
- Incompatibility of any of the prerequisites with other applications already installed on the client's PC.
- Firewall and anti-virus software may block any of the prerequisites or GEO-DataView PRO applications.
- Etc.

In regard to SQL Server, the GEO-DataView PRO installation wizard only gives the option of installing the free version (SQL Server 2022 Express). SQL Server Express allows the applications to function properly but does have some limitations:

- A maximum of 16 instances running on the same system: this limitation will rarely affect to the GEO-DataView PRO performance.
- 1 GB RAM maximum per instance: this restricts GEO-DataView PRO operation in systems with a large number of database queries.
- Only 1 CPU per instance or 4 cores for the database processing: this restricts GEO-DataView PRO operation in systems with a large number of database queries.
- Maximum database size 10 GB: this restricts GEO-DataView PRO operation in systems with a large number of database queries or a large quantity of saved data (lots of stations or lots of data recorded for long time). For those cases, install at least the standard SQL version.

Warning!

> In cases in which the installation of the prerequisites is not automatically completed, Senseca includes the SQL Server 2022 Express Installer in the .zip file that is provided.
>
> The .NET Framework should be activated manually by the user using Windows features in the control panel.

2.2 Before installing

Before installing, make sure that the following items are available:

- Latest version of the ZIP File containing the GEO-DataView PRO installer (Geo-DataView_0X.XX.zip'), downloaded from a LINK or from a QR code provided by Senseca.
- Internet access (required for the license validation process).
- Windows Administrator credentials.
- Antivirus software disabled on the PC where GEO-DataView PRO is being installed (recommended).
- Free TCP port on the installation PC (8081 by default). If the wizard finds that this port is busy, it will try to use the next consecutive port, until it identifies an available port to carry out the installation.

2.3 Software requirements

Make sure that the operating system on the PC where you are trying to install GEO-DataView PRO is one of the following, 64-bit versions:

- Windows 10 Home N /Home SL/Pro/Enterprise
- Windows 11 Home/Pro/Enterprise
- Windows Server 2012 Standard
- Windows Server 2016 Standard
- Windows Server 2019 Essential /Standard /Datacenter
- Windows Server 2022 Standard /Datacenter

2.4 Minimum hardware requirements

Make sure that the PC where you are trying to install GEO-DataView PRO has, at least, the following minimum requirements:

- Core i7 (6th Generation or newer), Intel Xeon or higher.
- More than 4 GB RAM.
- 250 GB HDD (40 GB free available for the application)
- Graphics card compatible to 16-bit SVGA (with 1024x768 minimum resolution).
- Internet access.

2.5 Warning for Windows Server users

As a general rule, the installation wizard can activate the prerequisites necessary to correctly install the GEO-DataView PRO software on Windows Servers with standard security configurations.

However, servers configured with high levels of security will require the system administrator to manually enable the Windows feature '.Net Framework' and any components that it may require. To do this, the administrator must access 'Server Manager' -> 'Configure this local server' -> 'Add roles and features': Features of .NET Framework.

3 Starting the installation (pre-requisites)

3.1 Start installation

Once the above considerations have been taken into account, unzip all of the files from the installer zip package ('Geo-DataView_XX.XX.zip') and run the 'setup.exe' file.

Warning!

> For proper software installation, the entire GEO-DataView PRO package must be unzipped to a root folder on the PC. e.g. to 'C:\'.

The first window of the installation wizard asks you to select a language for the installation: Spanish or English.

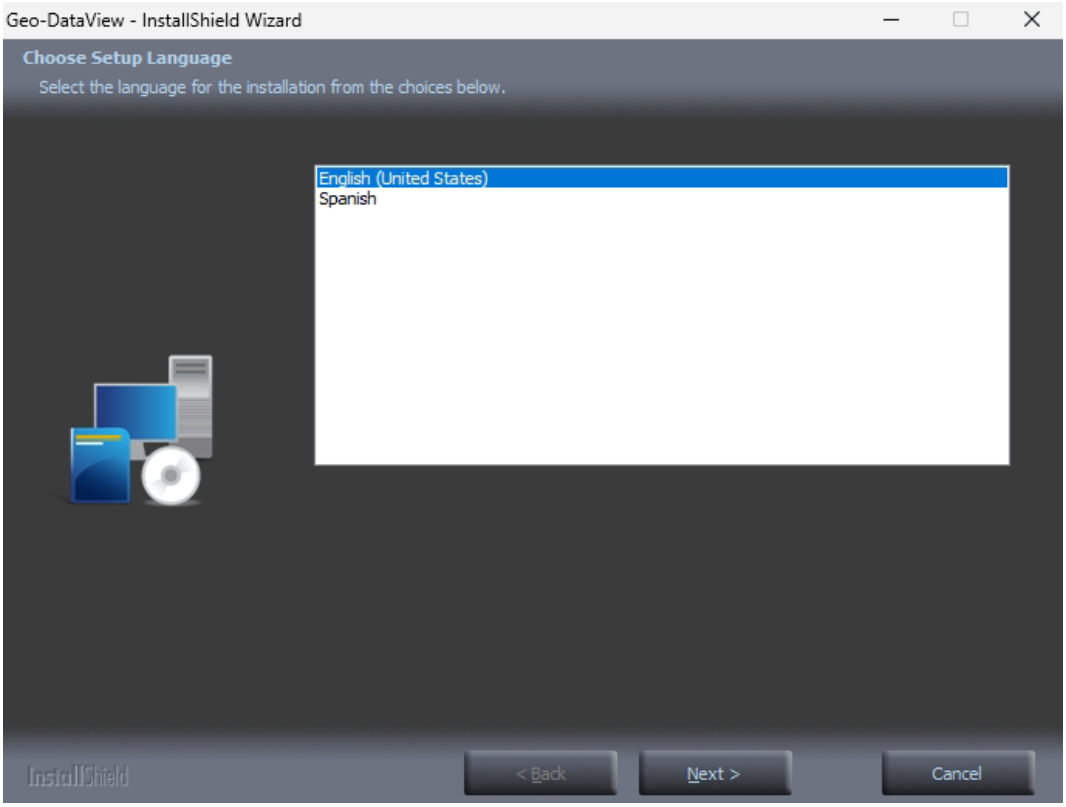


Fig. 3.1: Wizard – Language selection

The wizard then checks the necessary prerequisites for the GEO- DataView PRO software to operate properly. It will check the following points:

- The installed versions of '.Net Framework 4.6.1 and 4.6.2'.
- Microsoft SQL Server 2022 Express.

The result of the system checks will be displayed on a screen like the following one.

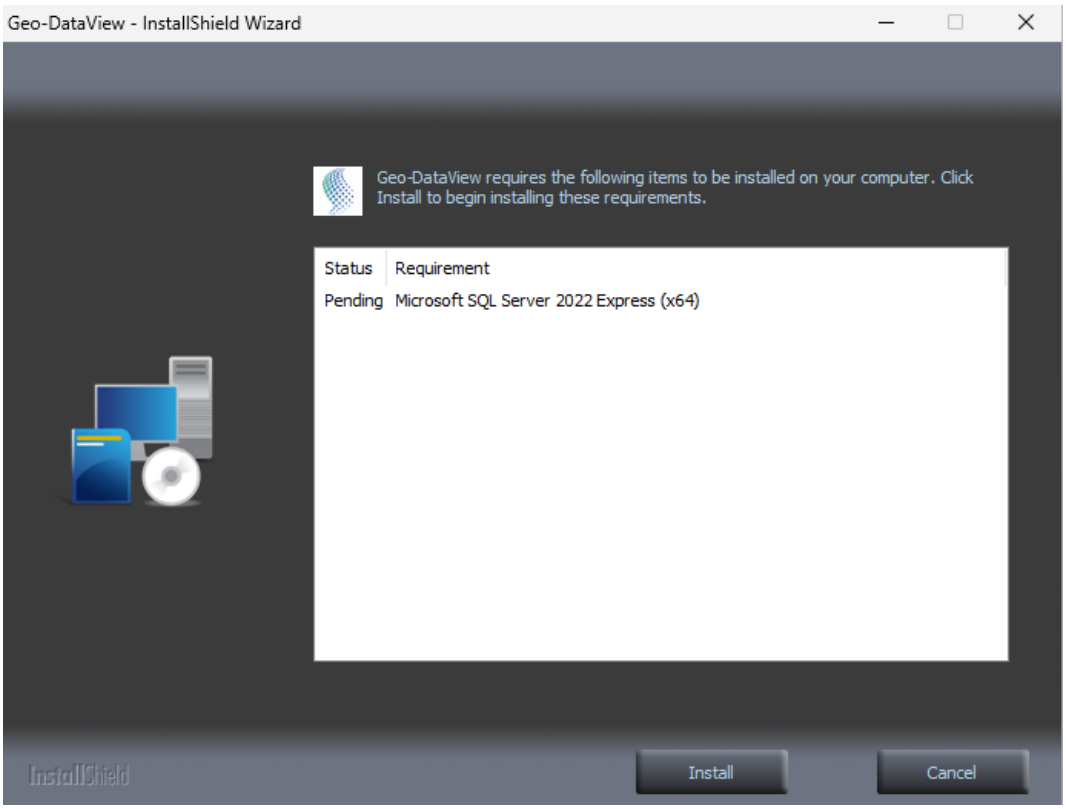


Fig. 3.2: Wizard – prerequisites checking

If the user confirms by clicking 'Install', the wizard will perform the following specific actions to ensure that the system meets all the necessary requirements:

- '.Net Framework': This requirement is always necessary ('.Net Framework 4.6.1' and '.Net Framework 4.6.2'). If the PC does not fulfil the pre-installed requirements, the application will install them automatically (if the OS permissions allow it - See section '2' of this document).

Click 'Install' to start installing the required Microsoft applications and modules.

3.2 Considerations regarding SQL Server

During the prerequisites installation process, the wizard offers the option of installing a local SQL Express database server.

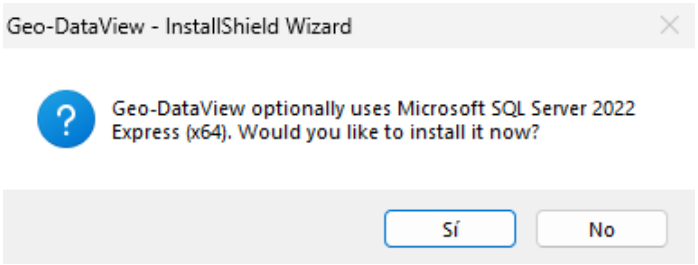


Fig. 3.3: Wizard - SQL Server Confirmation

If you select 'Yes', the installation wizard will run the installer for Microsoft SQL Server 2022 Express (free version).

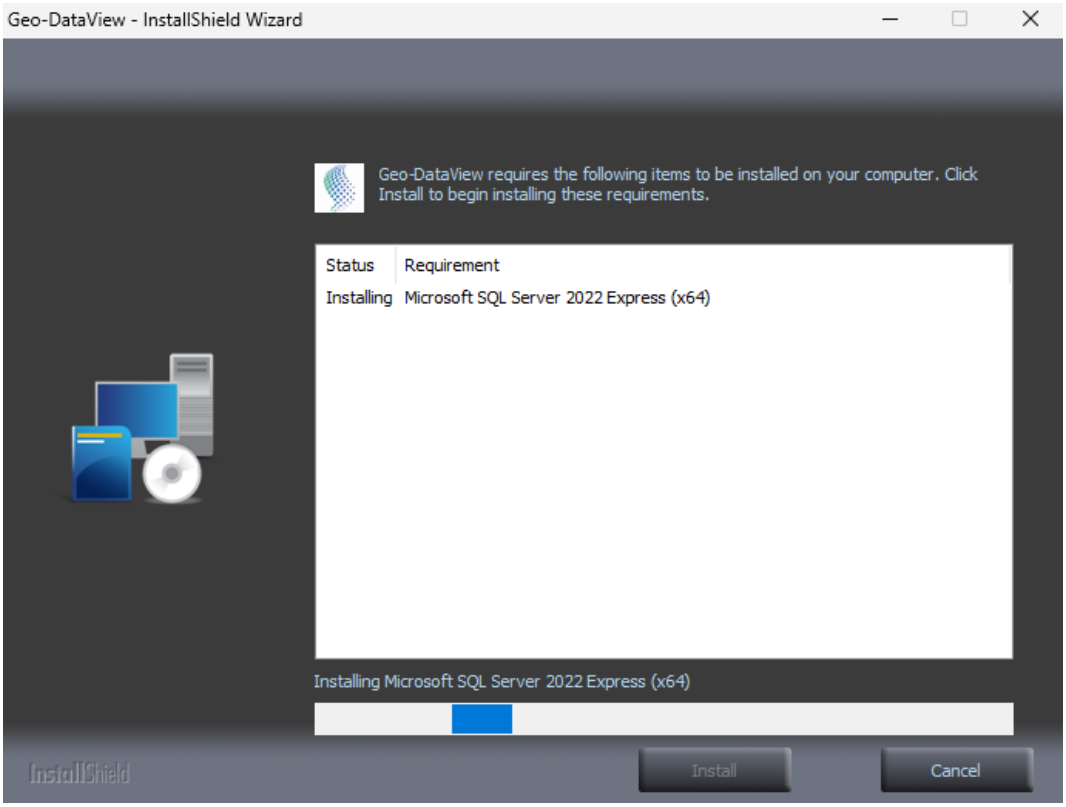


Fig. 3.4: Wizard – Installing SQL Server

If you already have your own SQL Database Server on the same computer or on the same network, you can select the option 'No' (don't install an additional SQL Server). In this case, the wizard will ask for the credentials to install the 'MeteoStation4KV2' database (required by Teletrans-W4K software) in your SQL Database Server during the installation process.

3.3 License validation

The last step before installing the applications is to validate the license. Senseca gives each client a license code along with the installation files. Each license code has a specific number of installations. The validation process consists of managing and verifying the installations associated with each license code.

The wizard offers two options to carry out this step:

- '**Automatic'** Option (recommended). The installation wizard validates the license automatically. The PC must have access to the Internet for this.
- '**Manual'** Option. For further information on this process, please contact the technical team.

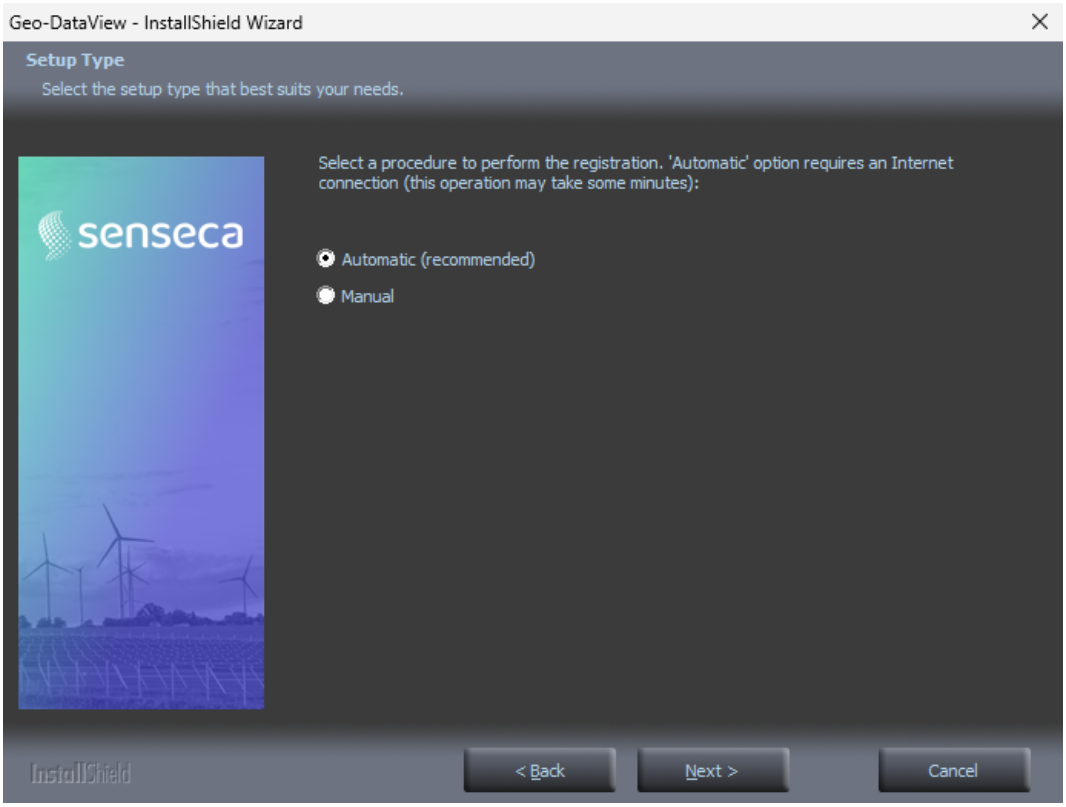


Fig. 3.5: Wizard – License validation type

If you select the 'Automatic' option, the license code ('XXX-123456' three letters and six numbers) must be entered in the next window. The wizard will verify the license when you click 'Next'.

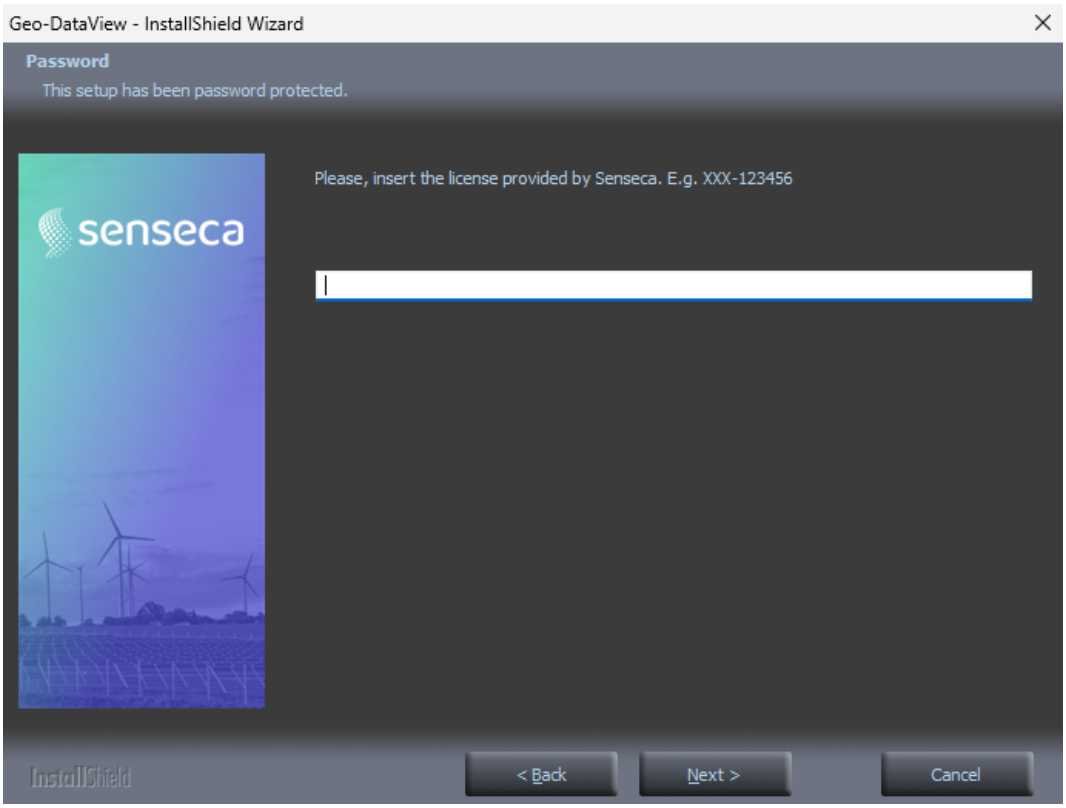


Fig. 3.6: Wizard – License automatic validation

If the license is validated correctly, the wizard will continue to install the applications. If the installation is completed without any problems, one installation will be subtracted from the total number of installations available for the license code that you entered.

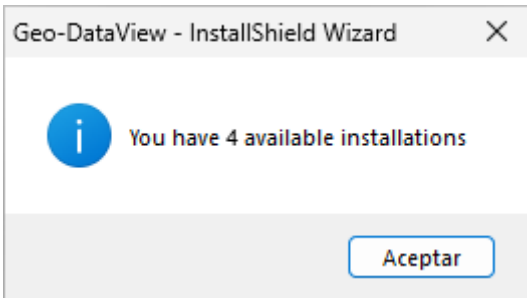


Fig. 3.7: Wizard - Pending number of installations

4 Installing GEO-DataView applications

4.1 Application installation

The user can select any destination folder, although using the default folder is recommended to make it easier to troubleshoot any problems. To change it, click ‘Browse’.

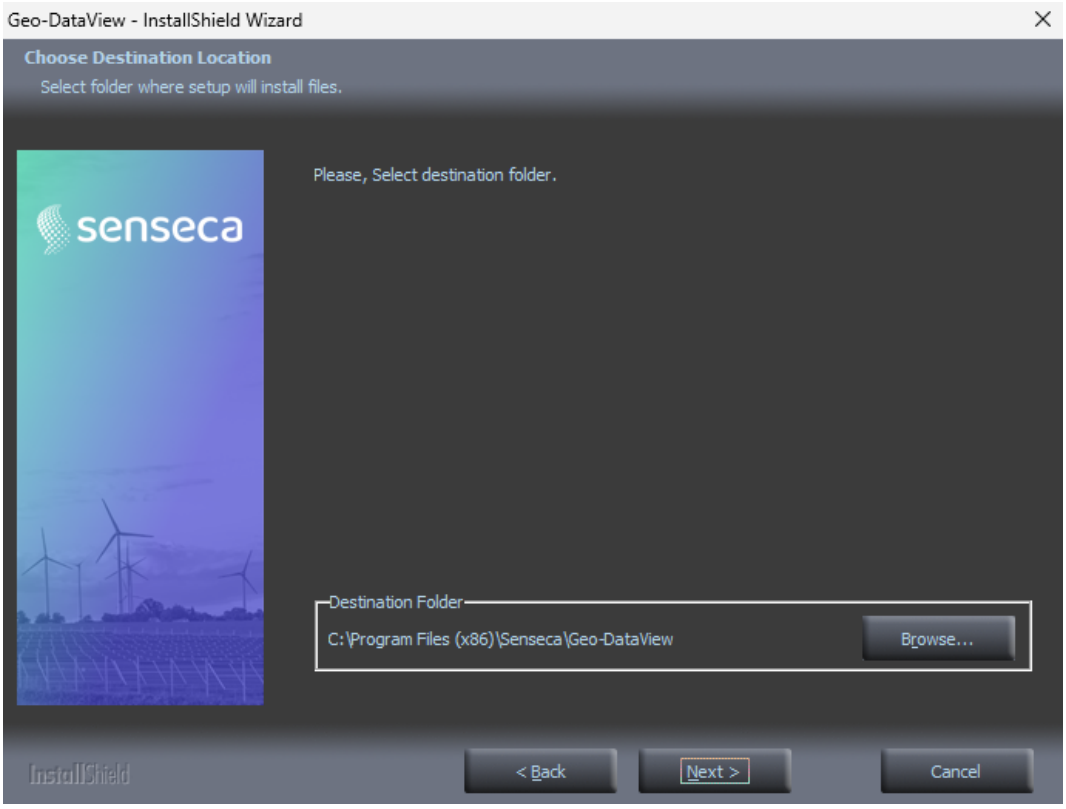


Fig. 4.1: Wizard – Installing path

Click ‘Next’. The installer will display a window with the available application tools. The application wizard will display a brief description of each tool on the right side of the window. Select all the tools and click 'Next'.

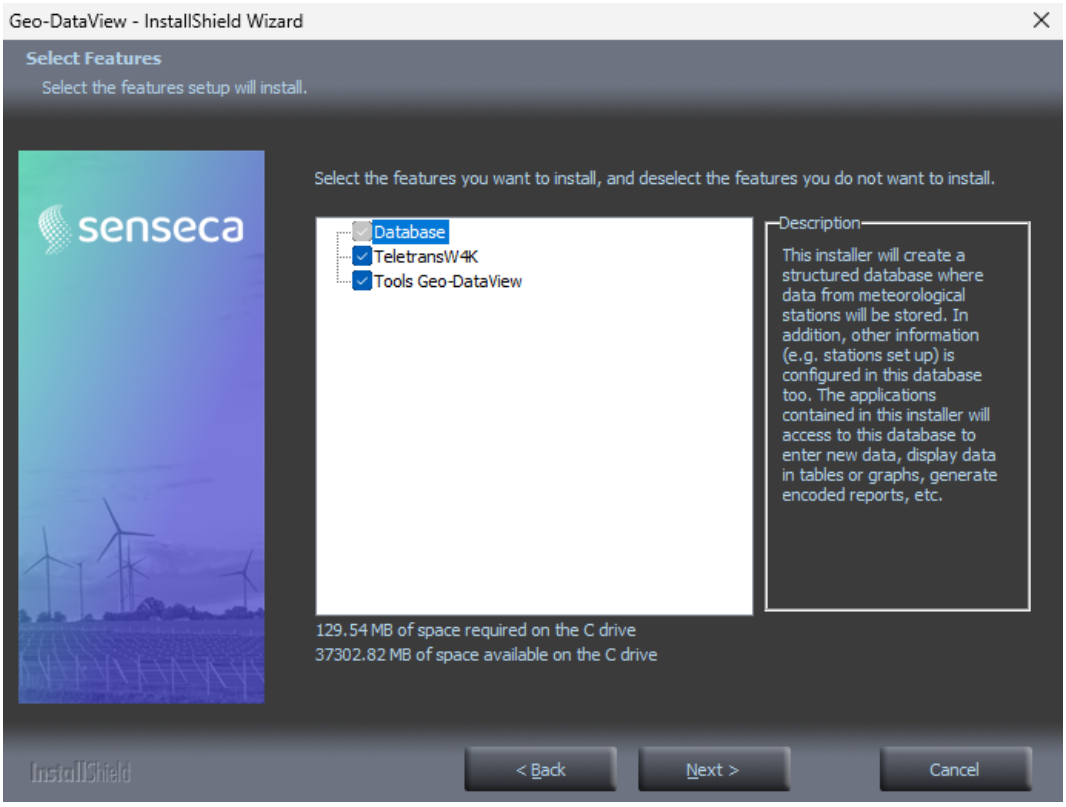


Fig. 4.2: Wizard – Elements to be installed

MeteoStation4KV2 Database.

This installer will create a structured database where data from stations will be stored. Other information (e.g. station set-up) is also saved in this database.

Teletrans-W4K Desktop Software.

This software includes:

- An interface to configure stations, create automatic tasks and send commands to the remote stations manually.
- A Windows Service that is always running. This service executes the automatic and unattended tasks that are created, such as periodically downloading data to the SQL database or CSV files stored on an FTP.

Tools GEO-DataView.

Visualization tools only compatible with dataloggers of previous series.

4.2 Database installation

The MeteoStation4KV2 SQL database requires an SQL Server to be installed. During the installation, the following dialogue window offers two options (see image below):

- Use the SQL Server installed by this tool (**Default and recommended**).
- Select an existing SQL Database Server.

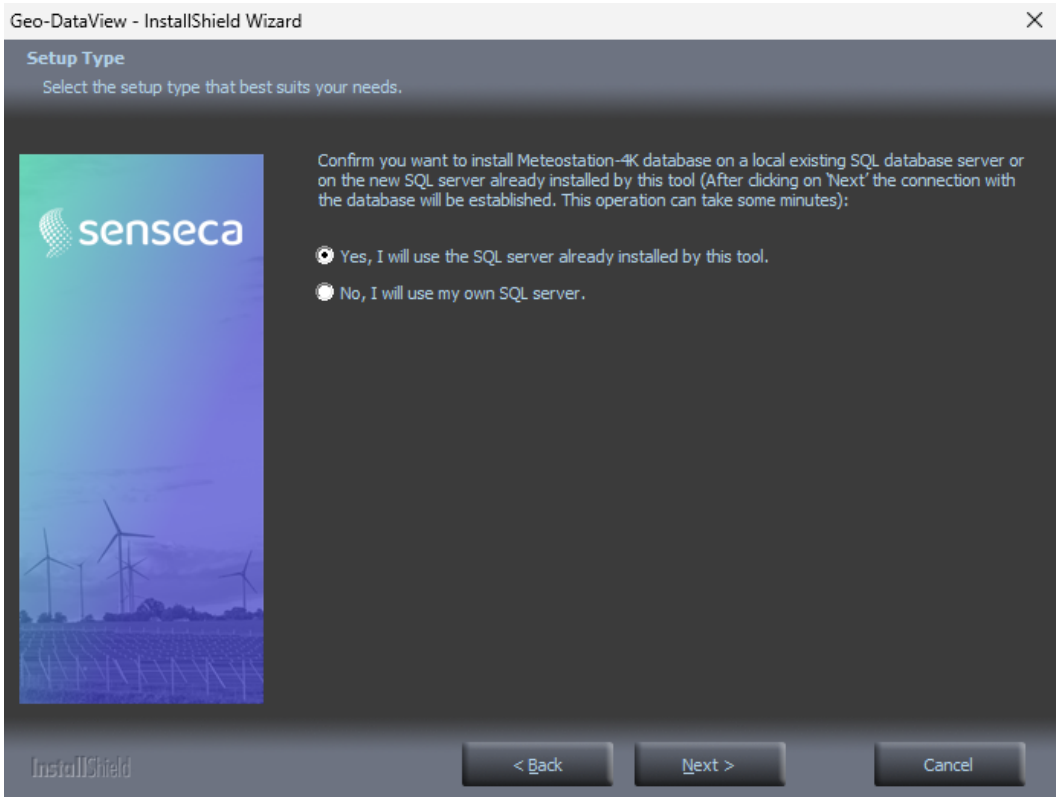


Fig. 4.3: Wizard – Selection of SQL Server

If you decide to use a database server different from the one installed on the local PC by the wizard (see the following figures), SQL server identification and authentication information will be requested. This authentication information must have 'SYSADMIN' privileges, e.g. 'sa'. If you don't know the authentication information, request it from the system administrator.

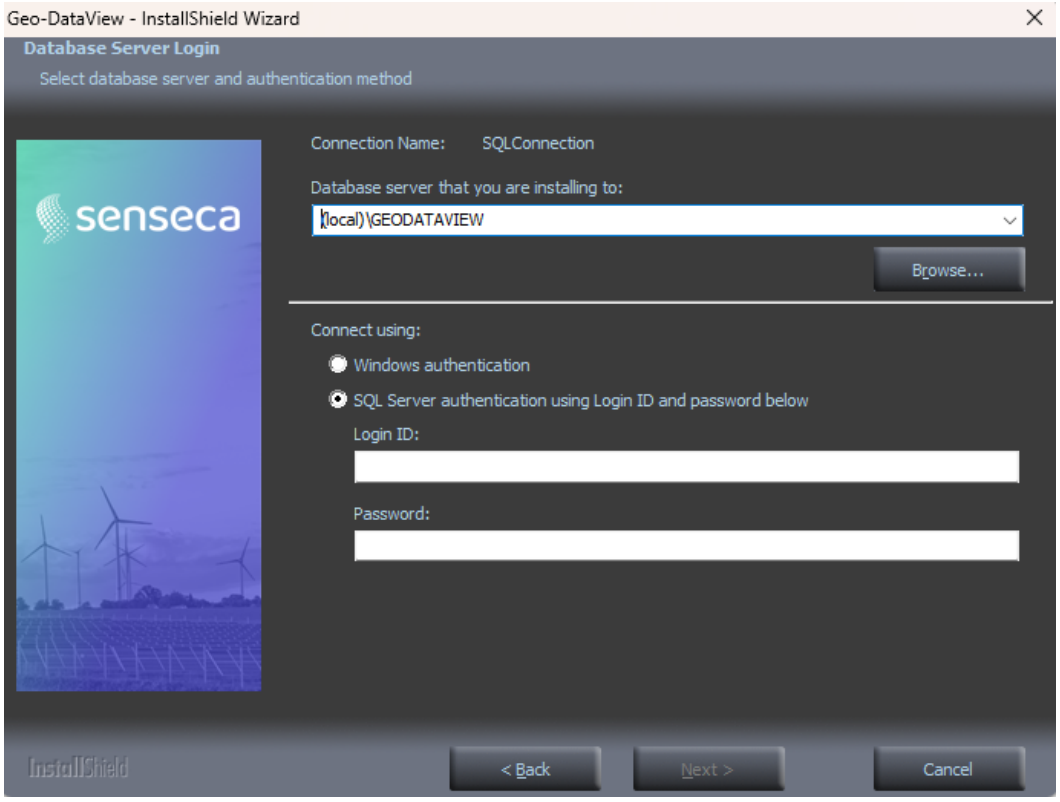


Fig. 4.4: Wizard - existing SQL

The authentication information is not requested if you select the database server installed by this wizard. If the authentication information is needed for other applications, the credentials used by GEO-DataView PRO installer are:

Authentication Information		
	SQL Server	**Database**
Name	GEODATAVIEW	MeteoStation4KV2
User	sa	Senseca
Password	MeteoStation4K	s3ns3c4

In any case, the installation wizard will check the connection and, if it is OK, the process will continue. If it fails, the installer will request the SQL server identification and authentication information again.

4.3 Considerations when uninstalling

To uninstall GEO-DataView PRO from the PC, the user must run the same 'setup.exe' file that was used for the installation (read 3.1. of this doc.). The wizard will confirm that the software is installed and will offer two options: 'Uninstall' and 'Repair'.

When GEO-DataView PRO software package is uninstalled, the number of available installations assigned to the client's license code is automatically increased by one.

5 Teletrans-W4K start-up

5.1 Add new stations to Teletrans-W4K software

Double-click the Teletrans-W4K short-cut created on the Desktop. The first window requests the user selection. There are two options:

- 'Normal' user: Changes to the stations or configuration are not allowed.
- 'Advanced' user: Full access to the configuration options.

Select 'Advanced'. No password is required by default (each customer can configure their own password if needed).

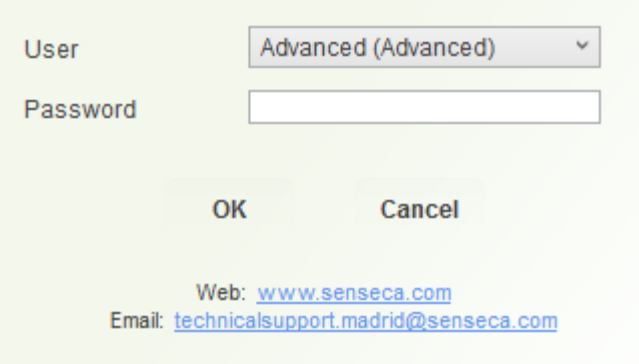


Fig. 5.1: Teletrans - Log in

Use the following steps to add remote stations to the Teletrans-W4K desktop software:

From 'Station Manager' window, click on 'Add Station'-> 'Model 4000' ->'Communicate with the station and copy its current configuration into your PC'-> 'IP Connection' -> 'Configure'.

Warning!

> The factory default IP settings of each station are included on the communication label on the cabinet door (see 9012 0141 Quick Installation and Commissioning Guide). If these settings have been changed, enter the customized IP address. The default port is always '40000'.

Fig. 5.2: Teletrans - Set communication with the remote station

Enter the communications settings and press 'OK' -> 'Next step'.

The station will appear in the 'Station Manager' window as a new icon, along with its name and factory identification number.

Double-click on the recently added station to explore the manual commands available in the system: Test, Instantaneous Values, Stored Values, Restart, etc.

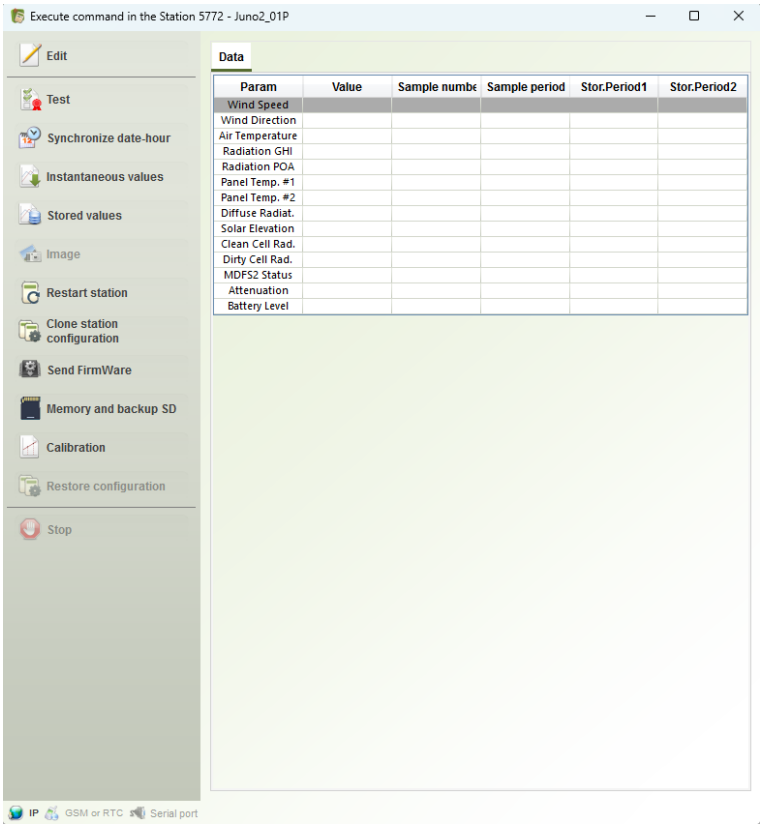


Fig. 5.3: Teletrans – Manual commands

5.2 Schedule automatic tasks in Teletrans-W4K

Teletrans-W4K works as a Windows Service, so it can be running in the background even if its interface is not open.

The 'Automatic Tasks' of Teletrans-W4K allow the software to automatically request data from remote stations in unattended mode.

The steps to add a new task to automatically download the data collected by the remote station are as follows:

In the Teletrans ‘System Tasks’ window, click ‘New Task’.

Enable the ‘Active’ check-box. Select the station and the operation 'Stored Values Request'. Set the interval (e.g. 10 min) and enable the 'Periodic' check-box

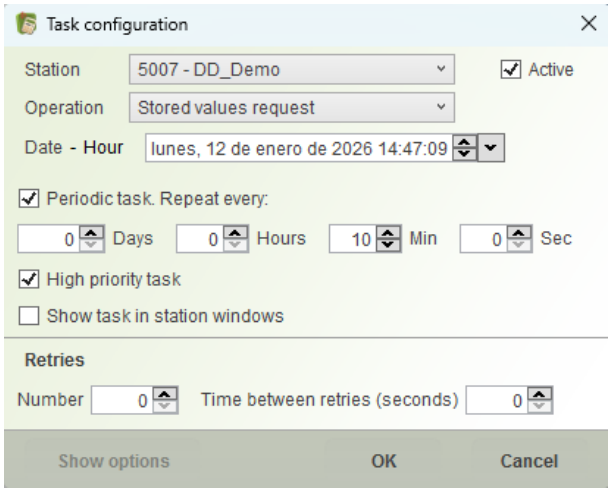


Fig. 5.4: Teletrans – Automatic task

5.3 CSV files on an FTP server or in a local folder

By default, Teletrans-W4K saves the data downloaded from the remote stations in an SQL DataBase. Optionally, the data can be also saved in CSV files in a local folder or on an FTP Server.

To enable the data download in CSV files: select the station and click 'Edit Station' -> 'Storage' tab and enable 'Data Log in the Server - Enable Data Log' check-box.

To configure the local folder or the FTP Server to store the CSV files: click 'Tools' in the Teletrans-W4K upper toolbar -> 'Options' -> 'General' tab and fill in the fields for 'Remote Storage' section.

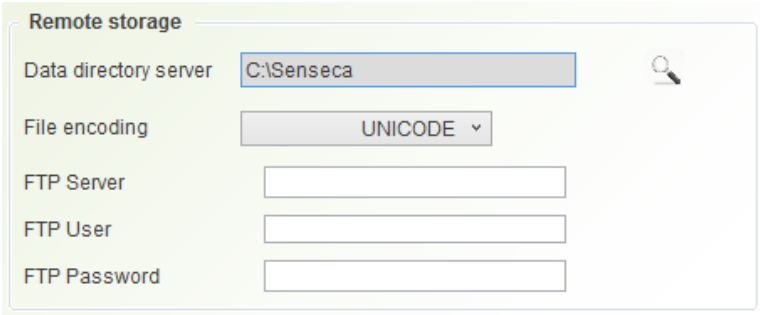


Fig. 5.5: Teletrans - CSV storage on FTP

The CSV files are saved in a directory \StoredValues\<ID_Station> on the path configured above. One CSV file is generated per day.

5.4 Configuration using Teletrans sensors library

Teletrans features a built-in sensor library for configuring MTD-4000 models. Senseca environmental sensors are included by default, while third-party sensors are supported via the 'Pro' library.

To add a new sensor, select the datalogger unit in the main window and go to 'Edit Station' -> 'Configuration'. The left pane displays current station settings, configured sensors, and active hardware resources. The right pane lists the available Senseca sensors in the library.

To configure a sensor, simply select it from the library and drag and drop it into the configuration area on the left. The software will automatically assign the necessary hardware resources.

Once configured, click the 'Connections & Modbus Map' button to download:

- Wiring instructions for each sensor (sensor pinout, cable colors, and logger terminals).
- The Modbus Memory Map for rapid integration into Modbus networks.

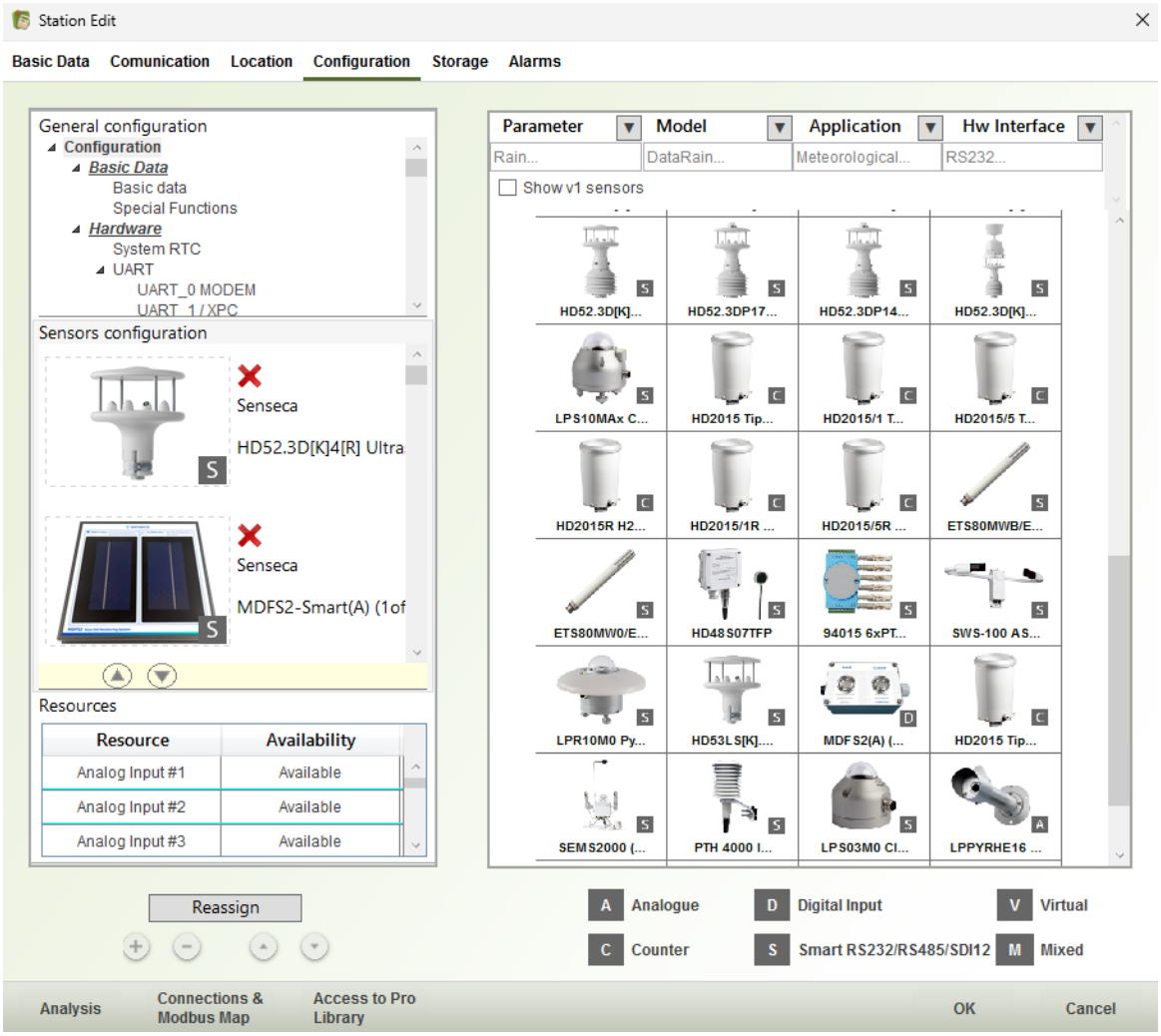


Fig. 5.6: Teletrans – Configuration and sensors library

NOTES

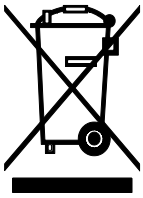
WARRANTY

The manufacturer is required to respond to the "factory warranty" only in those cases provided by Legislative Decree 6 September 2005 - n. 206. Each instrument is sold after rigorous inspections; if any manufacturing defect is found, it is necessary to contact the distributor where the instrument was purchased from. During the warranty period (24 months from the date of invoice) any manufacturing defects found will be repaired free of charge. Misuse, wear, neglect, lack or inefficient maintenance as well as theft and damage during transport are excluded. Warranty does not apply if changes, tampering or unauthorized repairs are made on the product. Solutions, probes, electrodes and microphones are not guaranteed as the improper use, even for a few minutes, may cause irreparable damages.
The manufacturer repairs the products that show defects of construction in accordance with the terms and conditions of warranty included in the manual of the product. For any dispute, the competent court is the Court of Padua. The Italian law and the "Convention on Contracts for the International Sales of Goods" apply.

TECHNICAL INFORMATION

The quality level of our instruments is the result of the continuous product development. This may lead to differences between the information reported in the manual and the instrument you have purchased.
We reserve the right to change technical specifications and dimensions to fit the product requirements without prior notice.

DISPOSAL INFORMATION



Electrical and electronic equipment marked with specific symbol in compliance with 2012/19/EU Directive must be disposed of separately from household waste. European users can hand them over to the dealer or to the manufacturer when purchasing a new electrical and electronic equipment, or to a WEEE collection point designated by local authorities. Illegal disposal is punished by law.

Disposing of electrical and electronic equipment separately from normal waste helps to preserve natural resources and allows materials to be recycled in an environmentally friendly way without risks to human health.

CE RoHS

senseca.com

Senseca Spain S.A.U.
C. Electrónica, 51
28923 Alcorcón, Madrid
SPAIN
info.madrid@senseca.com

senseca