



RELEASE NOTE
PQSCADA
V 4.1.0.35

PQSCADA
Management Studio
Enterprise edition

Version 4.1.0.35



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PQSCADA Management Studio V4.1.0.35

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IMPORTANT NOTIFICATIONS



Please DO NOT UPGRADE to PQSCADA version 4.1.0.35 unless you also upgrade the INVESTIGATOR to version V 4.1.0.25. This latest PQSCADA version communicates with a different protocol which is only supported from INVESTIGATOR 4.1 and upwards.

INVESTIGATOR V 4.1.0.25 also supports previous versions of PQSCADA.

SYSTEM REQUIREMENTS

No. of units	CPU	RAM	Storage
1-5	Any Dual Core	2GB	20-75GB per unit per year, depending on configuration and No. of parameters selected.
5-40	Any Quad Core	2GB	
40-100	2X Dual Core XEON	4GB	
100-200	2X Quad Core XEON	8GB	

The System requirements outlined above are the minimum requirements needed for default parameter calculations. Should you need to perform extended parameter calculations, you will need to consult a member of Elspec's / your Local Representative's Technical Support.

SOFTWARE REQUIREMENTS

In order to successfully install PQSCADA, you must first install the following software prerequisites on your system:

FOR WINDOWS 7 SP1 / SERVER 2008R2 SP1:

- **Microsoft .Net Framework 4.0** - A Universal platform developed by Microsoft that provides identical functions for a variety of languages (C#, Visual Basic, Java). It is also designed to facilitate development of web applications. (Enable communication between clients and servers).

FOR WINDOWS VISTA SP2 / SERVER 2008 SP2 / XP SP3 / SERVER 2003 SP2:

- All of the above, including:
- **Microsoft .Net Framework 3.5 SP1** - A Universal platform developed by Microsoft that provides identical functions for a variety of languages (C#, Visual Basic, Java). It is also designed to facilitate development of web applications. (Enable communication between clients and servers).
- **Windows PowerShell 2.0** - Microsoft's task automation framework, consisting of a command-line shell and associated scripting language built on top of, and integrated with the .NET Framework. PowerShell provides full access to COM and WMI, enabling administrators to perform administrative tasks on both local and remote Windows systems.
- **Microsoft Windows Installer 4.5** - Application installation and configuration service for Windows.

FEATURES



- **Enhanced Security Protection:**
 - **System Encryption:** PQSCADA V4.1 & later versions supports the SSL protocol (Secure Socket Layer) for enabling secure, encrypted communication between PQSCADA Management Studio and Investigator which are both client software, and the PQSCADA Server. Furthermore, the certificate can also provide proof of the server's identity should the administrator choose to purchase and install a commercial certificate from a trusted CA.
 - **Security Administration:** This newly added module of the PQSCADA will allow you to manage & secure your PQSCADA server by permitting / denying users to perform certain actions within the PQSCADA. This is in addition to the Encryption feature mentioned above & may be used independently or in combination with this module. The Module supports different environments both Single Server Networks & Networks of PQSCADA Servers. It is also equipped with an intuitive guide for setting up different user accounts.



- **Device Firmware & Configuration Update Task:** This task will allow you to automatically update all your BLACKBOX Unit(s) via the PQSCADA with any Firmware / Configuration files. Thus making it possible to simultaneously update & upgrade a large number of G4K devices based on singular Firmware / Configuration files.



- **Multiple Server Support:** The new PQS Management Studio version is able to manage & control several servers, as opposed to a singular server support. In addition, Management may also occur to a remote server & is not necessary restricted to a local server.



- **Comprehensive Parameter Calculations:** Extended support per latest 61000-4-30 Class A calculation method revision. Many new parameters, averaged intervals, and more:

Cycle by Cycle Group Calculations

- **Cycle by Cycle Frequency**
- **Power:** Harmonics Only & Fundamental Only has been added to the previous calculation Fundamental Including Harmonics.

IEC61000-4-30: Calculations are based on 10/12 Cycle, 3 sec. aggregation, 10 min. aggregation & 2 hours aggregation:

- | | |
|-----------------------------|--|
| ▪ RMS - Voltage & Current | ▪ Crest Factor - Voltage & Current |
| ▪ HRMS - Voltage & Current | ▪ U1 - Positive Sequence - Voltage & Current |
| ▪ THD - Voltage & Current | ▪ U1 - Positive Sequence - Voltage & Current |
| ▪ U0/U1 - Voltage & Current | ▪ U2 - Negative Sequence - Voltage & Current |
| ▪ U2/U1 - Voltage & Current | ▪ Over Deviation - Voltage |
| ▪ Under Deviation - Voltage | |
-
- **Inter-Harmonic Amplitude**
 - 1 - 50 Sub-Grouping Voltage & Current
 - Spectrum 1 - 511TH at 5Hz Resolution, for Voltage & Current
 - **Inter-Harmonic Angle For Both Voltage & Current (10/12 Cycle Only)**
 - 1 - 511TH at 5Hz Resolution, Angle relative to its Fundamental
 - 1 - 511TH at 5Hz Resolution, Angle relative to Phase 1 Fundamental
 - **Harmonics**
 - Voltage Harmonics
 - Current Harmonics
 - Active Power Harmonics
 - Reactive Power Harmonics

Statistics

□ Group Statistics

- Frequency Statistics
 - THD Statistics
 - Reactive Power Statistics
 - RMS Statistics
 - Active Power Statistics
 - Apparent Power Statistics
- **Add Factor Parameters:** This option allows you to correct & recalculate all the parameters, in the event of an incorrect & invalid setup (i.e. Clamp Setup / PT Ratio correction / CT Ratio correction / Current Polarity). Simply add the factor correction to any relevant parameter according to any specific time period of your choosing.
 - **Extended PQSCADA Manager Studio Help Wizard:** Comprehensive easy to “lookup” wizard accessible, by selecting “F1” Post-PQSCADA Manager Studio installation.
 - **Phase Swap:** This operation allows you to exchange data between two different voltage phases and neutral, as well as, current phases. A static time period maybe set & pre-programmed in order to automatically repeat this operation.
 - **Extended Memory With SQL 2008 R2 Version Installation:** Should this SQL version be installed the storage capacity will be extended to 10GB, as opposed to 4GB limitation with earlier SQL versions.
 - **Complete Incoming PQZIP Folder Download:** This option allows the complete PQZIP Folder to be simply dragged over to any node.

KNOWN ISSUES

- PQSCADA doesn't support day-light-saving clock (DLS). Support for DLS will be implemented in the future.
- The computation for viewing Statistics prior to the conclusion of Stage 2 of the data processing process may take a very long time. Wait for the end of the State 2 process, prior to submitting your request for Statistics.
- Due to the manner in which the server computes the parameter summaries, certain summaries (Class A 10min / 2hours) will only become valid AFTER all summaries have been computed.
- On certain systems the generation of reports is dependent on valid fonts. By failing to install valid fonts on these systems, may crash the report in your attempt to generate a report.
- Event triggering will only function if your node level has been setup correctly, in other words “First Hierarchy Node” levels. For example:
Site->Node - Correct setup



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- Site->Site->Node - Incorrect setup
- The “Swap Phases” function will only work if it is based on binary parameters. Therefore phases won’t be swapped for parameters such as energy, flickering & events.
 - When importing data, the size of the file may exceed the size limit of your database.
 - It is not possible to install / upgrade to the PQSCADA V 4.1.0.35 if your system does not meet the **minimum system requirements**. Prior to installation / upgrade ensure that the size of your database is 4GB/10GB & the SQL is Express edition.
 - Your database may enter into a recovery mode should the size be close to its maximum size limit.
 - During the SQL installation insure that you don’t select the “limit the amount of memory” option as it causes the PQSCADA installation to sometimes fail (while inserting the parameter table) & may lead to other unwanted effects.
 - The upgrade may only be done between revisions as there is no upgrade between builds. For instance there is no upgrade from 4.1.0.14 to 4.1.0.15; you need to remove all the components.
 - On some computers, the screen saver can use up more than 25% of the CPU. It is advisable to either use a screen saver with a smaller size or alternatively simply use a “blank” screen saver.
 - In many instances the PQSCADA Server may consume 100% of the CPU usage. By default the PQS service priority is set to low, meaning that should you perform any other activities on the same computer, you will not experience any “slowdowns” on your computer.
 - In order to completely remove PQSCADA make sure to remove all existing components before initiating the uninstallation procedure. The procedure itself does not remove any existing databases & other temporary data.

DOWNLOADS FROM ELSPEC’S WEBSITE

- [Investigator V 4.1.0.25](#)
- [PQSCADA Management Studio V4.1.0.35](#)
- [User Guide](#)

UPGRADING THE PQSCADA MANAGEMENT STUDIO V4.1

For example there is no upgrade from Versions 3.1.0.15 to 4.0.0.25; you will therefore need to remove all the components.

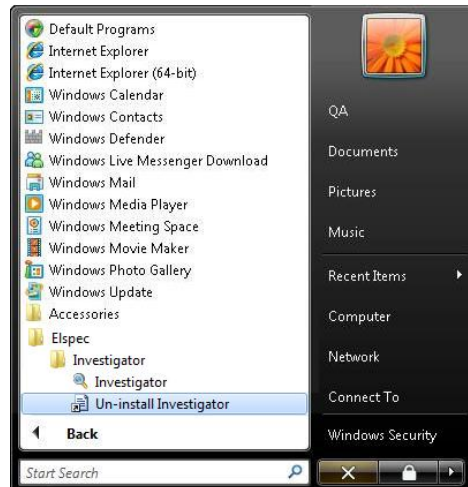
In order to upgrade the latest PQSCADA Management Studio you need to follow the following steps:

- Uninstall the previously installed Investigator Versions,
- Uninstall the previously installed PQSCADA Management Studio Versions,
- Install the new Investigator Version,
- Install the new PQSCADA Management Studio,
- Upgrade the Server - See Help Wizard (Select “F1” Post-Installation)
- Adding & Upgrading the Site(s) & Node(s) - See Help Wizard (Select “F1” Post-Installation)

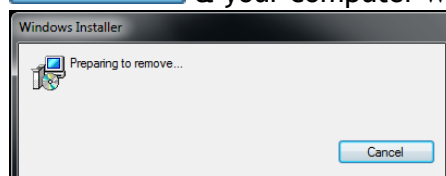
UNINSTALL PREVIOUS INVESTIGATOR VERSIONS

Uninstalling the existing version of the PQSCADA is the first step to upgrade the software.

- Access your Start Menu,
- Select: Elspec → Investigator → Uninstall



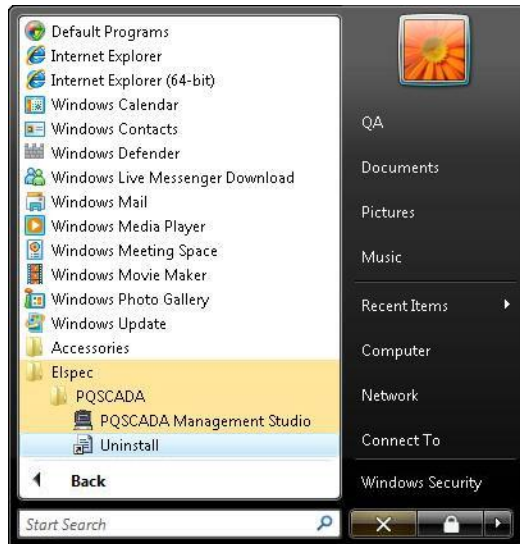
- You will receive a pop-up message to confirm the action, select to continue **Yes** & your computer will confirm the Unistallation Process:



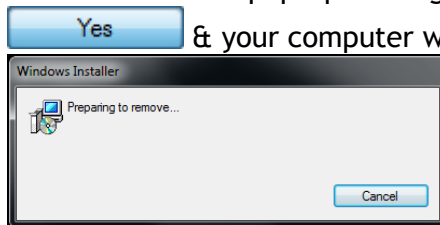
UNINSTALL PREVIOUS PQSCADA MANAGEMENT STUDIO VERSIONS

Uninstalling the existing version of the PQSCADA is the first step to upgrade the software.

- Access your Start Menu,
- Select: Elspec → PQSCADA → Uninstall



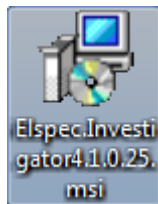
- You will receive a pop-up message to confirm the action, select to continue **Yes** & your computer will confirm the Unistallation Process:



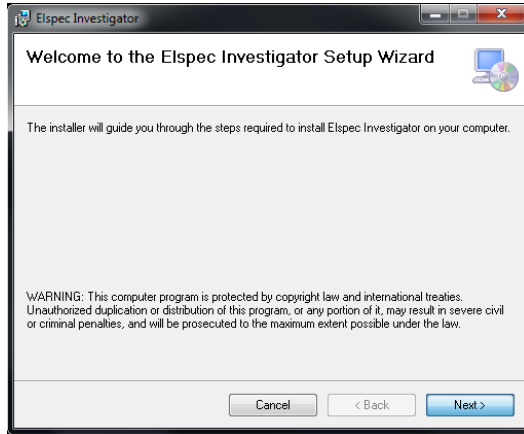
INSTALL THE NEW INVESTIGATOR VERSION



The application's setup wizard will guide you through the installation process:

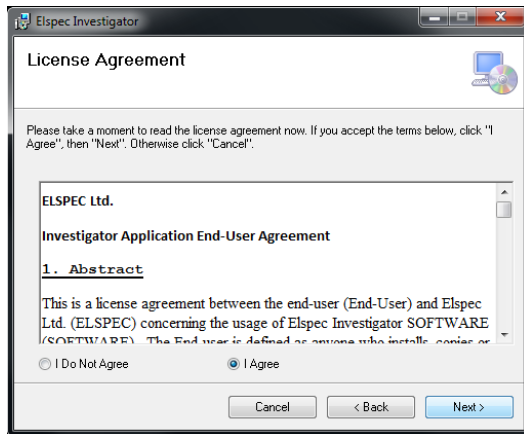
- At the download location on your hard drive select the PQSCADA icon:




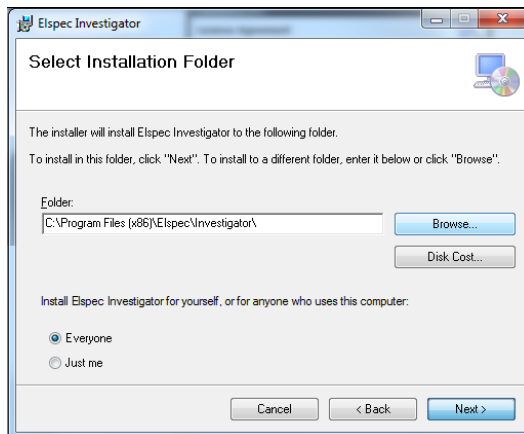
- The Welcome Screen of the installation guide will now open:



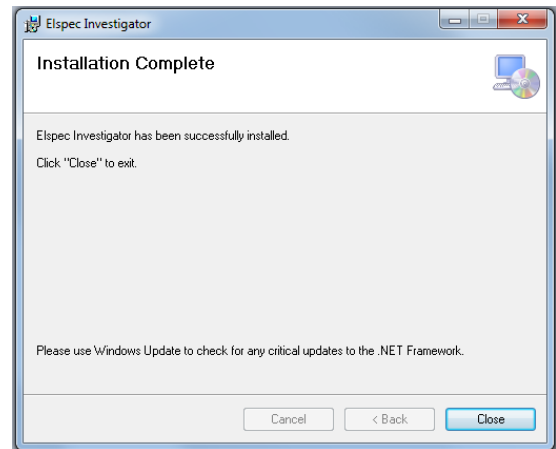
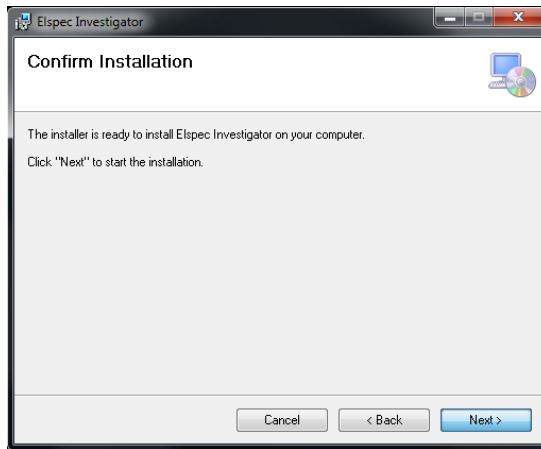
- Select the  button to commence the installation process
- Read & accept the license agreement at “I Agree” & select the  button:



- The wizard will now request the location where you would like to install the application. It is recommended to include it on your Hard Drive under an Elspec folder. Either Browse / Type the Location, select the Availability Option &  button:



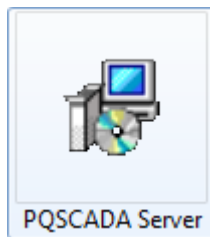
- Select the followed by the button, to complete the installation:



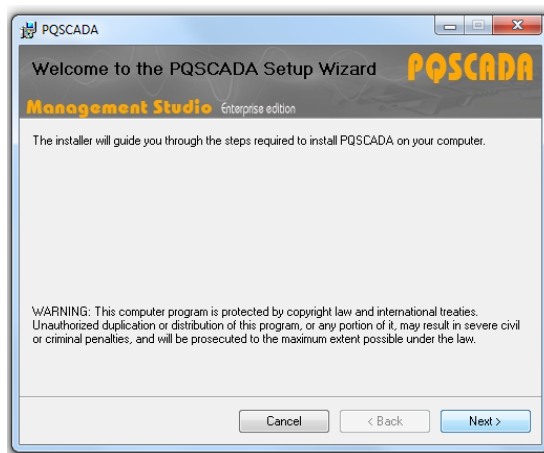
INSTALL THE NEW PQSCADA MANAGEMENT STUDIO VERSION

The application's setup wizard will guide you through the installation process:


- At the download location on your hard drive select the PQSCADA icon:

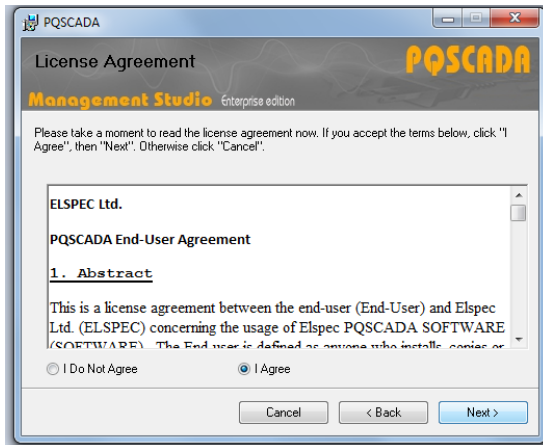



- The Welcome Screen of the installation guide will now open:

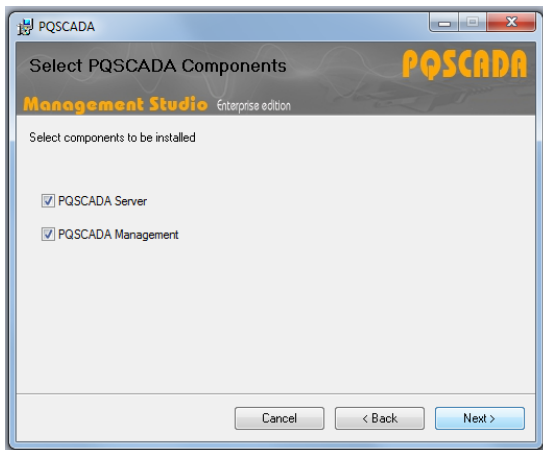


- Select the button to commence the installation process

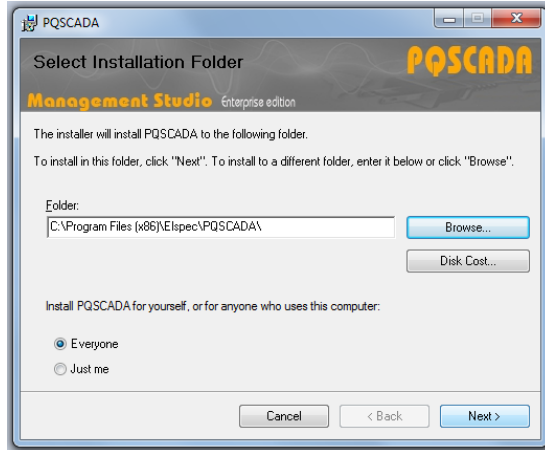
- Read & accept the license agreement at “I Agree” & select the  button:



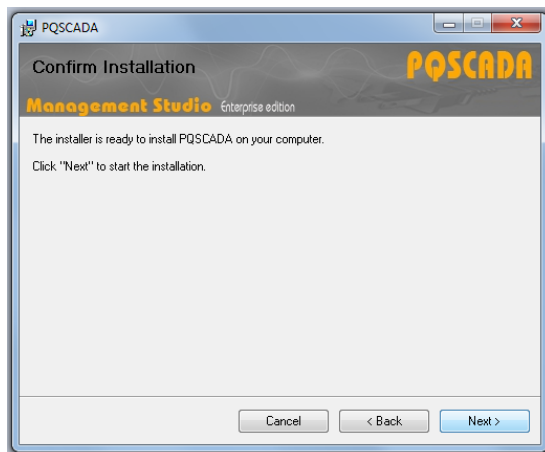
- The “PQSCADA Components” screen will now open. (Elspec recommends selecting both components). Select the  button:



- The wizard will now request the location where you would like to install the application. It is recommended to include it on your Hard Drive under an Elspec folder. Either **Browse** / Type the Location, select the Availability Option & select the **Next >** button:





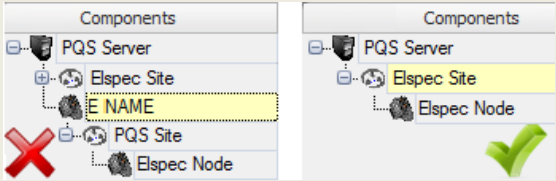
- Select the **Next >** followed by the **Close** button, to complete the installation:





- In order to access the extended Help Wizard, select “F1”.



TROUBLESHOOTING


Component	Issue	Reason	Solution
SQL Installation	During the SQL Express installation, the PQSCADA did not recognize the Windows installer 4.5 is for Arabic Vista SP2		Install SQL Express RS2008 directly from the BLACKBOX Disc supplied with the product & not via the PQSCADA
PQSCADA Installation	You receive an error message: Installation error #1001 during Installation.	<p>The PQS Service was not uninstalled prior to re-installation/upgrade.</p>  <p>Alternatively the uninstallation process was unsuccessful. See Uninstallation</p>	<p>In order to ensure that the PQS Service is complete uninstalled, you will need to re-run the procedure via your Run box in your Start menu:</p> <ul style="list-style-type: none"> Click Start → Run → CMD In the command prompt window, type <code>sc delete pqs.server</code> → Enter Restart your computer & Re-install new PQSCADA version. <p>NOTE NOTE NOTE Open the command prompt for Windows Vista/7 with elevated permissions</p>
	You receive an error message: PQSCADA Server can only be installed for one user only	PQSCADA Server is already installed for one user & you need to therefore only install the PQSCADA.	<p>During the Installation procedure for Select Components select only the PQSCADA Management option:</p> 


Component	Issue	Reason	Solution
Notifications Viewer	Notifications are not displayed in the "Notifications Viewer"	You didn't select the "Start" & "End-Time" range when you configured your Notifications Viewer.	You will simply need to simply select the time range again: <ul style="list-style-type: none"> As per the PQS Help Wizard (F1) follow the Notifications Viewer procedure
Notification	You don't receive any notifications further the Notification Task you've created.	You have created a Site under a Node . Therefore the PQSCADA is unable to recognize a task created under two Sites .	Create only 1 Site for Node(s) : 
VDC Query	The Query for the VDC parameter does not respond.	The PQZIP file for the G3500 doesn't support the VDC parameter.	You need to set this configuration in the Device's Web Interface: <ul style="list-style-type: none"> From Elspec's Search Utility open your G4K unit the Web Interface, In Configuration uncheck the VDC parameter
FTP	PQSCADA doesn't download all the PQZIP files	Once the PQSCADA has downloaded the PQZIP files from the G4K Unit, it will keep a list of all the files & folders in order to ensure that the re-downloading process is not duplicated. In some rare instances (for example when the PQZIP files are deleted from the G4K), the PQSCADA doesn't always the recognize the availability of additional folders & ceases the process.	You will simply need to prompt the PQSCADA to rescan & download these files again: <ul style="list-style-type: none"> From the PQS Help Wizard (F1) under Downloading Recorded Data follow the Rescan Device Folders procedure
PQZIP	You are unsuccessful in re-downloading the PQZIP files appear as errors in the Log Viewer	When the PQSCADA downloads and calculates PQZIPs, the processed files are saved in the Database. Re-downloading the files (e.g. in case some data was deleted from the node), will result in an error in the logger that these files have been already downloaded.	You will need to reset the PQZIP files for that Node: <ul style="list-style-type: none"> From the PQS Help Wizard (F1) under Data Processing follow the Reset PQZIP File procedure

Component	Issue	Reason	Solution
<p>PQZIP's</p>	<p>The recorded data is incomplete (some of the data is missing)</p>	<p>The PQ configuration in the Web Interface for the G4K unit reads as Misconfigured:</p>  <p>The state of the device is not “no DSP sync”.</p>	<p>Make sure that PQ Configuration is correct in the Web Interface:</p> <ul style="list-style-type: none"> ▪ Configuration → Voltages & Frequency ▪ Configuration → Currents <p>Differences there could affect the data recording</p>
		<p>Invalid time synchronization has been configured in the Web Interface.</p>	<p>In the Web Interface enter:</p> <ul style="list-style-type: none"> ▪ Configuration → Time ▪ For SNTP Usage: Ensure you to have a valid IP address of the SNTP ▪ For GPS Usage: With PPS or IRIG-B for the time sync (and the device jumps between SNTP and the GPS\IRIG-B) change the “Transport” field to “GPS only”
		<p>PQZIP files are finalized too fast & therefore the PQZIP files are undersized</p>	<p>In the Web Interface enter:</p> <ul style="list-style-type: none"> ▪ Configuration → PQZIP Recording ▪ Change the PQZIP file size to 2 hours
		<p>PQZIP files are not finalized properly and remain as PQ files.</p> <p>The PQSCADA application cannot download unfinalized files. To make sure that this is the case - go to the FTP root folder and verify that the time stamp in PQ files is similar to the time stamp of the missing data.</p>	<p>Should some or all the PQZIP File not be finalized:</p> <ul style="list-style-type: none"> ▪ In the Web Interface, Disable the PQZIP recording ▪ Go to the FTP root folder and delete all PQ files. <p>In case there are only few files that were finalized improperly and the missing data is important - send the files to Elspec’s Software Support.</p>
		<p>PQZIP files are transferred to the “Bad Files” Folder</p>	<p>Send the files to Elspec’s Software Support for further investigation.</p>

Component	Issue	Reason	Solution
PQZIP Task	PQZIP Task has failed to create PQZIP files	PQZIP files are limited to a file size limit of 2Gb.	<p>You need to re-perform the PQZIP Task for either a shorter period of time / alternatively, with a less amount of data:</p> <ul style="list-style-type: none"> As per the PQS Help Wizard (F1) under Tasks & Templates → Tasks → Add a Task follow the Add An Export Task procedure
PQZIP Viewer	PQZIP file cannot be opened by PQZIP viewer in Vista or windows 7 OS.	The “user account control settings” (UAC) is on.	<p>You need to turn off the “user account control settings” (UAC) on your computer:</p> <ul style="list-style-type: none"> From your Control Panel select Change User Account Control Settings:  <ul style="list-style-type: none"> Set the settings to Never Notify
Components	Your attempt to add components have been unsuccessful.	Components adding consist of events sequence and some of them were not executed as the PQSCADA Service was halted / interrupted or the computer was reset.	<ul style="list-style-type: none"> From the PQS Help Wizard (F1) follow Delete & Create Node procedure in order to delete & create the node once again
	Some of the newly added components are not displayed.		<ul style="list-style-type: none"> From the PQS Help Wizard (F1) as per Introduction → Administration Console select the Refresh button

Component	Issue	Reason	Solution
Server	PQSCADA management studio doesn't respond	Either the SQL Server is down or there is an error in the Network.	<ul style="list-style-type: none"> In the PQSCADA Stop and Start the PQS Service: 
	The Server is offline	PQS Service is not running.	<ul style="list-style-type: none"> In the PQSCADA Stop and Start the PQS Service: 
		Another service/application is utilizing Port 80 (Common examples - IIS, Skype).	Stop the service
	You are unable to perform certain actions in the PQSCADA management studio	You have entered an incorrect password when you Added the Server / Connected to the Server (via Wizard as PQS Help Wizard - F1) & didn't select the Test button	<p>As per the PQS Help Wizard (F1) Components → Server:</p> <ul style="list-style-type: none"> Delete Server without removing the Database & the Database Folder Reconnect to the Server using the Wizard Enter the correct password & Test the connection with the Test Button

Component	Issue	Reason	Solution
Parameters	Elspec's Investigator Program does not show the data with a resolution above 2.5 hours.	The parameters were not checked during the configuration of the node & consequently they were not calculated.	<ul style="list-style-type: none"> ▪ From the PQS Help Wizard (F1) under Components → Node → Configuration → Parameters mark the specific parameters to be calculated <p>Or alternatively</p> <ul style="list-style-type: none"> ▪ From the PQS Help Wizard (F1) under Data Processing follow the Recalculate Data procedure
	The parameter calculation is incorrect.	The G4K device was configured incorrectly during installation & setup & recorded the data incorrectly. Therefore phases need to be swapped (polarity) to correct the data calculation.	<ul style="list-style-type: none"> ▪ From the PQS Help Wizard (F1) under Data Processing follow the Swap Phases procedure for this specific node
Report	The Report Task is unavailable	The Report task works from the Investigator, and the Investigator should be installed prior to the installation of the PQSCADA.	<ul style="list-style-type: none"> ▪ Check that the Investigator installed on the same computer as the PQSCADA ▪ In the PQSCADA Stop and Start the PQS Service: <div style="text-align: center;">  </div>

Component	Issue	Reason	Solution
Report - Continue	Chinese Report fails in vista or Windows 7	You may have a MSI Security problem	<p>You need to create the following folders on your computer:</p> <ul style="list-style-type: none"> For 64-bit (x64), create this folder: C:\Windows\SysWOW64\config\systemprofile\Desktop For 32-bit (x86), create this folder: C:\Windows\System32\config\systemprofile\Desktop
	The data in report produced from the PQSCADA differs from the data produced in Investigator.	The day-light settings of the PQSCADA and Investigator differ.	<ul style="list-style-type: none"> Set The Time Range in the PQSCADA in accordance to the Investigator.
Performance	The PQSCADA client is functioning slower than usual.		<ul style="list-style-type: none"> In the PQSCADA Stop and Start the PQS Service: 
Display	Some of the fields are cut or not seen	Screen dpi is set to higher than 120%	Change dpi to less than 120%