

SKF @ptitude Observer

User Manual Part No. 32170700-EN
Revision U – March 2022
Observer 13.1.1



WARNING! - Read this manual before using the product. Failure to follow the instructions and safety precautions in this manual can result in serious injury, damage to the product, or incorrect readings. Keep this manual in a safe location for future reference.

SKF Group

® SKF is a registered trademark of the SKF Group.
All other trademarks are the property of their respective owners.

The contents of this publication are the copyright of the publisher and may not be reproduced (even extracts) unless prior written permission is granted. Every care has been taken to ensure the accuracy of the information contained in this publication, but no liability can be accepted for any loss or damage whether direct, indirect or consequential arising out of the use of the information contained herein. SKF reserves the right to alter any part of this publication without prior notice.

Patents: US 4,768,380 • US 5,633,811 • US 5,679,900 • US 5,845,230 • US 5,852,351 •
US 5,854,553 • US 5,854,994 • US 5,870,699 • US 5,907,491 • US 5,992,237 • US 6,006,164 •
US 6,124,692 • US 6,138,078 • US 6,199,422 • US 6,202,491 • US 6,275,781 • US 6,301,514 •
US 6,437,692 • US 6,489,884 • US 6,513,386 • US 6,633,822 • US 6,789,025 • US 6,792,360 •
US 7,103,511 • US 7,697,492 • WO/2003/048714

Your start point on SKF.com should be the [Condition Monitoring Systems](#) page. From there select [Support and Training](#) to access a range of resources including:

[Product Support Plans](#)

[Product manuals](#)

[Product downloads](#)

General Product Information

For general product information (i.e., product data sheet, accessories catalogue, etc.), visit [SKF.com](#) and select the appropriate product link.

Product Sales - For information on purchasing condition monitoring products, services or customer support, contact your [local SKF sales office](#).

Technical Support Group

Technical support resources are accessible via the [SKF Technical Support](#) website, where a support case can also be opened.

Alternatively, contact TSG-EMEA@skf.com for customers in Europe, Middle East and Africa.

Telephone +46 (0) 31 337 65 00

or TSG-Americas@skf.com for customers in North America, South America and Asia.

Telephone +1 800 523 7514

Telephone in Latin America +55 11 4448 8620

Product Registration

Please take a moment to [register](#) your product to receive exclusive benefits offered only to our registered customers, including receiving technical support, tracking your proof of ownership and staying informed about upgrades and special offers. Please visit our website for more details on these benefits.

Table of Contents

Requirements	1
Hardware Requirements.....	1-1
Software Requirements.....	1-2
General Guidelines	2
Installation and Setup Guidelines	2-1
SQL Server Express Installation	3
Installation Procedure	3-1
@ptitude Observer Installation	4
Installation Procedure	4-1
Prepare an Observer Database	5
Upgrade an Existing Observer Database	5-1
Create a New Observer Database.....	5-2
@ptitude Observer Monitor Service	6
Adding a Monitor Service	6-1
TLS certificate	6-4
Edit Observer Settings	7
Language and License Key	7-1
Application Data Folder	7-1
IMx/MasCon Network Settings	8
Time Synchronization	9
Activating Time Synchronization	9-1
Software Upgrade	10
Guidance for System Upgrades and Updates	10-1
End User License Agreement	A

1 Requirements

The SKF @ptitude Observer software installation includes the following components:

- @ptitude Observer
- @ptitude Observer database administrator
- @ptitude Observer monitor and monitor manager
- @ptitude Observer on-line device configurator
- @ptitude Observer data pump

There are various installation scenarios to be considered:

- **Network configuration – Network Client:** a computer running only the SKF @ptitude Observer client software.
- **Network configuration – Server:** a computer running the Monitor service and hosting the Microsoft SQL Server database.
- **Stand-alone configuration:** a single computer running the SKF @ptitude Observer client software, the Monitor service and hosting the SQL Server database.
- **Custom:** any system combination not covered by the above.

Before attempting an installation check the hardware and software requirements listed below.

 ***Before installing the software ensure that the requirements listed below, are fulfilled.***

Hardware Requirements

Processor: For stand-alone and network client installations a minimum of Pentium IV, 1 GHz with 2.4 GHz or better, preferred. For a network server, this increases to 2 GHz minimum and 3.2 GHz or better, being preferred.

Note that the above recommendations are for a “dedicated PC”, running other applications simultaneously may degrade performance.

RAM: For stand-alone and network server configurations a minimum of 2 GB, with more recommended.

For a network client, 2 GB is recommended with a minimum of 1 GB.

HDD free space: For stand-alone and network server configurations a minimum of 1.2 GB is required for the software only, note that additional storage space is required for data.

For each network client 1 GB or more is recommended, 0.5 GB minimum.

Other requirements: Stand-alone and network clients require a display with a minimum resolution of 1366 x 768 with 1920 x 1200 or larger recommended. Note that SKF @ptitude

Observer is designed for a default Windows font size (smaller:100%). Using a larger font size may result in display anomalies in some interfaces/forms.

An effective backup system and procedure is highly recommended.

Software Requirements

SKF @ptitude Observer client software and the Monitor service support all Windows versions from Windows 7 including server operating systems and with each @ptitude Observer release the aim is to support any newly introduced versions.

In all cases 64-bit operating systems are supported and it is always recommended to install the latest available service packs.

Note that an admin level account will be required to install the software and to run the Monitor Manager tool.

For stand-alone and network server installations, Microsoft SQL server 2012, 2014, 2016 or 2017 is required. Microsoft SQL server software has its own operating system requirements, depending on the version.

General Guidelines

If upgrading an existing @ptitude Observer installation and there are any databases from a previous version of @ptitude Observer that are to be used with the new version of @ptitude Observer, then these will need to be upgraded before use.

Note that it is possible to retain and run several different versions of @ptitude Observer software on the same computer, but each will require databases that are consistent with that software version. In addition, each database will have an individual monitor service.

For more information on all these aspects refer to [Software Upgrade](#).

Note that references to 'X.Y' in this user manual relate to the software version X.Y. Where the new @ptitude Observer software has a different version to that already installed then no existing version need be uninstalled, but a new licence key will be required and existing databases being used with the new version should be upgraded.

If the new @ptitude Observer software is a 'patch' having a designation X.Y.Z (for example 12.1.1) then the X.Y versioning is unchanged, any existing X.Y version will have to be uninstalled, but the existing licence key will still function and X.Y databases do not need to be upgraded before they can be used.

If installing a completely new instance of SKF @ptitude Observer, follow the general guidelines on installation and setup that follow below.

Installation and Setup Guidelines

1. Install the **database engine** that will be used by @ptitude Observer.

The @ptitude Observer system uses Microsoft SQL Server as the recommended database engine. As detailed above, @ptitude Observer is compatible with a wide range of SQL server versions and the royalty free version of SQL server can be used for databases with sizes up to 10 GB.

- To install SQL Server Express version, follow the instructions in [SQL Server Express Installation](#).
 - To install a different version of SQL Server other than Express, check the SQL Server documentation for installation instructions.

2. Install SKF @ptitude Observer components by following the instructions in the installer and referring also to the [@ptitude Observer Installation](#) section.

It contains the following components:

- **@ptitude Observer** is for data management and analysis of measurement data for condition monitoring. @ptitude Observer runs on all clients.

- **@ptitude Observer database administrator** is the tool for administrating @ptitude Observer databases.
 - **@ptitude Observer monitor** is the service which works as the connector between the IMx system, database and @ptitude Observer clients. Detailed information can be found in [@ptitude Observer Monitor Service](#).
 - **@ptitude Observer Online device configurator** is a tool which can set the network configuration and identification for the on-line device. It also enables viewing of what the on-line device is measuring right now, clearing measurement data, showing current measurement configuration and synchronizing the time.
 - **@ptitude Observer data pump** enables the export and import of @ptitude Analyst XML files.
3. Create @ptitude Observer database(s).

To be able to run @ptitude Observer, at least one database must be available that is compatible with the latest installed @ptitude Observer version.

The creation of a new database or upgrading of an existing database is accomplished with @ptitude Observer Database administrator.

If @ptitude Observer Database administrator component has not been installed, repeat step 2 and make sure to select @ptitude Observer Database administrator at the Custom Setup screen.

- Start @ptitude Observer Database administrator by clicking on the shortcut on the start menu located under **All Programs\SKF @ptitude Monitoring Suite X.Y\Database Administrator** or for Windows 10 **SKF @ptitude Monitoring Suite X.Y\Database Administrator** in the alphanumeric list of installed programs.
- A description of the use interface for the Database administrator is included in the [Prepare an Observer Database](#) section. In addition, further detailed information is contained in the **SKF @ptitude Observer Database Administrator** user manual, part number 32170600.

The database settings are stored in a connection file for each database.

4. Set up **@ptitude Observer** with language and register with the license key.
- Start @ptitude Observer by clicking on the shortcut on the start menu located under **Programs\SKF @ptitude Monitoring Suite X.Y\Observer** or for Windows 10 **SKF @ptitude Monitoring Suite X.Y\Observer** in the alphanumeric list of installed programs.
 - Select a language to use.
 - Register with the license key.

It is possible to change the language and license key after the initial settings have been made. For more information, refer to [Edit Observer Settings](#).

5. Create a connection between @ptitude Observer and the database(s).

The connection between @ptitude Observer and the Observer database(s) is described in detail in the Manage Databases section of the **SKF @ptitude Observer** user manual, part number 32170900.

6. Configuration of monitor settings.

To be able to use @ptitude Observer as an on-line system, the communication and database storage are performed by an Observer monitor service. The configuration of the monitor settings is described in [@ptitude Observer Monitor Service](#).

If @ptitude Observer monitor component has not been installed, repeat step 2 and make sure to select @ptitude Observer monitor at the Custom Setup screen.

7. Set up @ptitude Observer monitor computer and on-line devices.

For the @ptitude Observer monitor computer and on-line devices to communicate, then [IMx/MasCon Network Settings](#) need to be configured and [Time synchronization](#) activated.

SQL Server Express Installation

Installation Procedure

1. An SQL Express server installer is available as a download from Microsoft. The following screenshots and installation steps are based on a 2014, W7 install but will be similar for other versions and operating systems.

If asked, the user will need to give permission for the installer to make the necessary changes associated with the software install.

2. On starting the installer, it will ask to confirm a location that can be used for the extracted files, used during the installation. The “Installation Center” screen will then display:



Figure 3 - 1
The “Installation Center” screen

For this illustration, a new stand-alone installation is being performed.

3. On the License Terms screen the left pane gives an overview of the various steps of the installation process whilst on the right are the terms of the license. Make sure to read through the license terms and agree to them. Then click **Next** to continue with the installation.

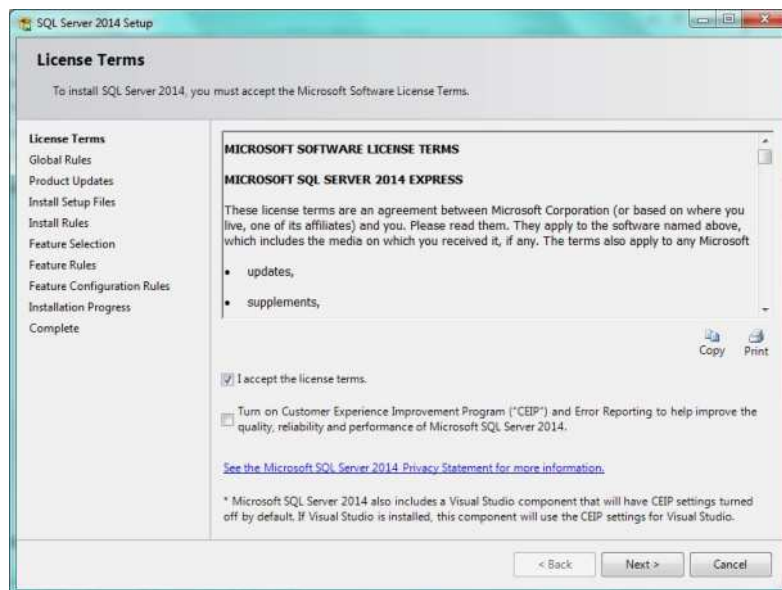


Figure 3 - 2
SQL 2014 License screen

4. If no associated updates are required and other checks complete OK, the next screen the install will stop at is the “Feature Selection” screen.

When prompted to select which features to install, make sure to install at least the options **Database Engine Services**. Click **Next**.

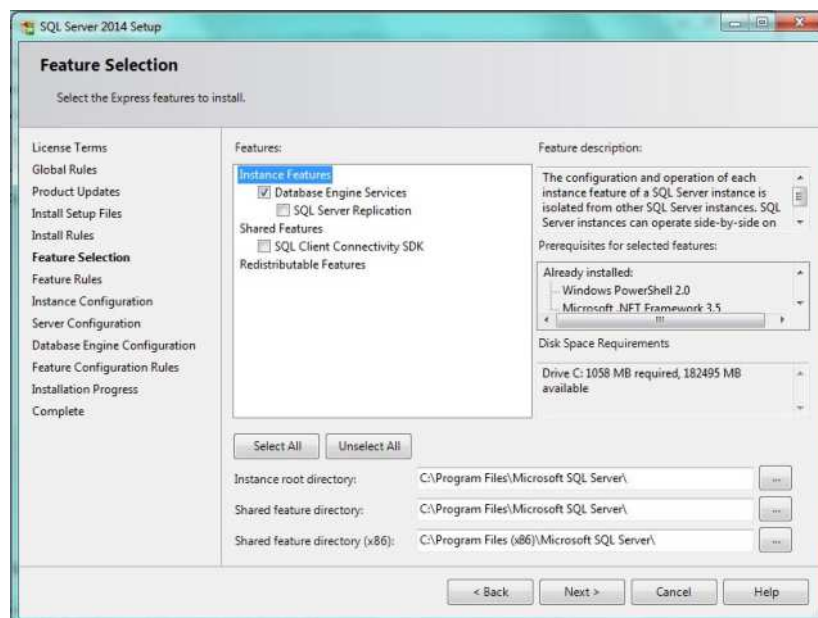


Figure 3 - 3
SQL Installation Feature Selection

5. When the Instance Configuration screen is displayed, note the default naming and click **Next** to continue.

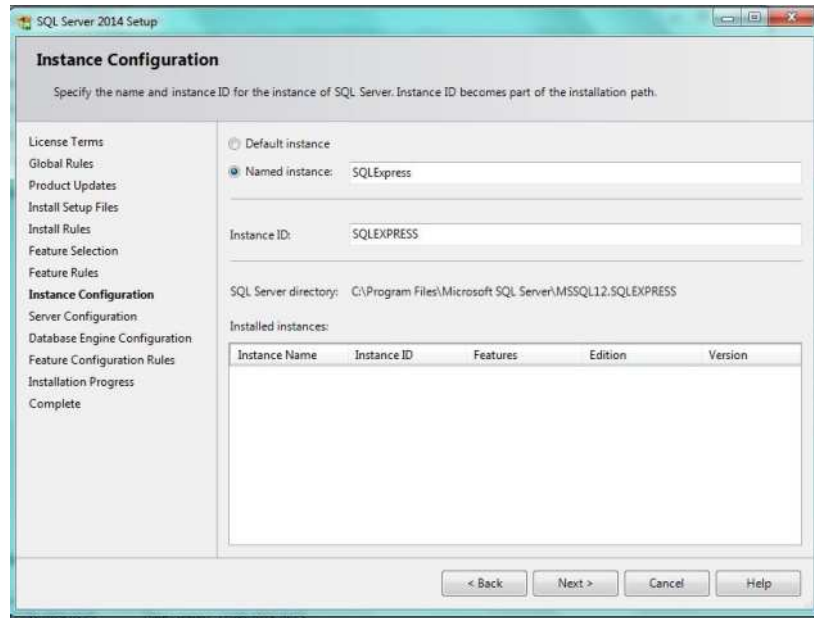


Figure 3 - 4
SQL Installation Instance Configuration

6. On the Server Configuration screen, click **Next**.

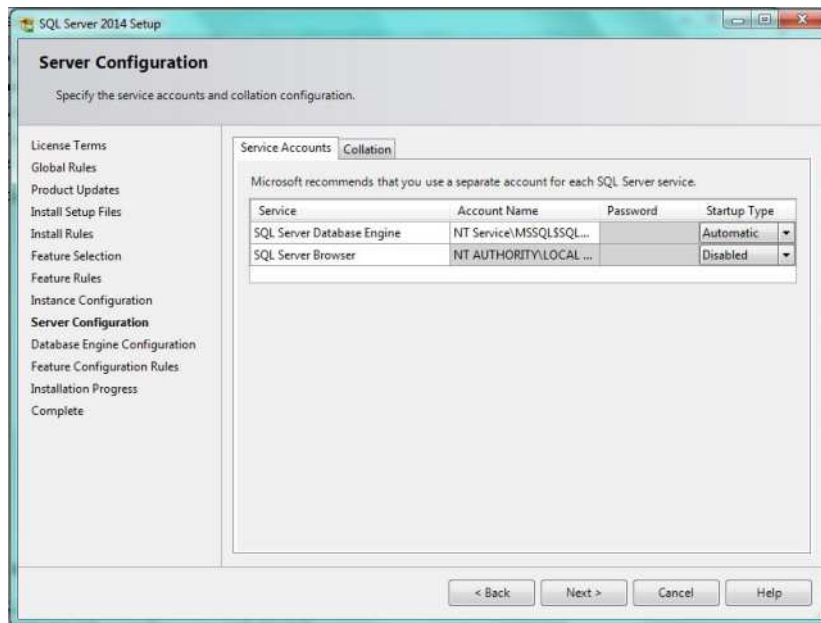


Figure 3 - 5
SQL Installation Server Configuration

7. **Important:** on the Database Engine Configuration screen, select **Mixed Mode authentication** and choose a System Administrator password. Note that later SQL versions require strong, longer passwords than that shown below.

In addition, SQL Server needs to have a SQL Server administrator specified. If unsure about which account to pick and the current user is not already visible, it is recommended to click the **Add Current User** button.

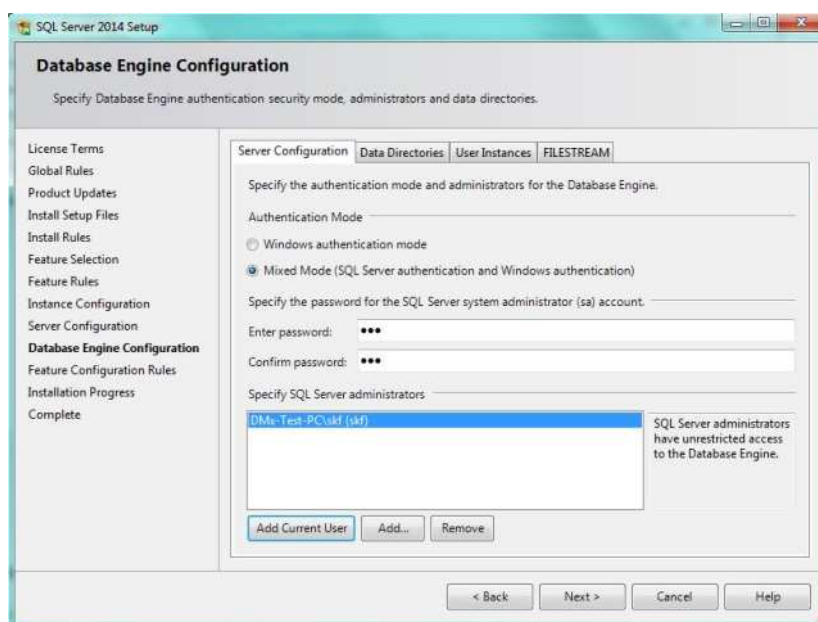


Figure 3 - 6
SQL Installation Database Engine Configuration

8. On clicking **Next**, the install will begin and a progress bar shown:

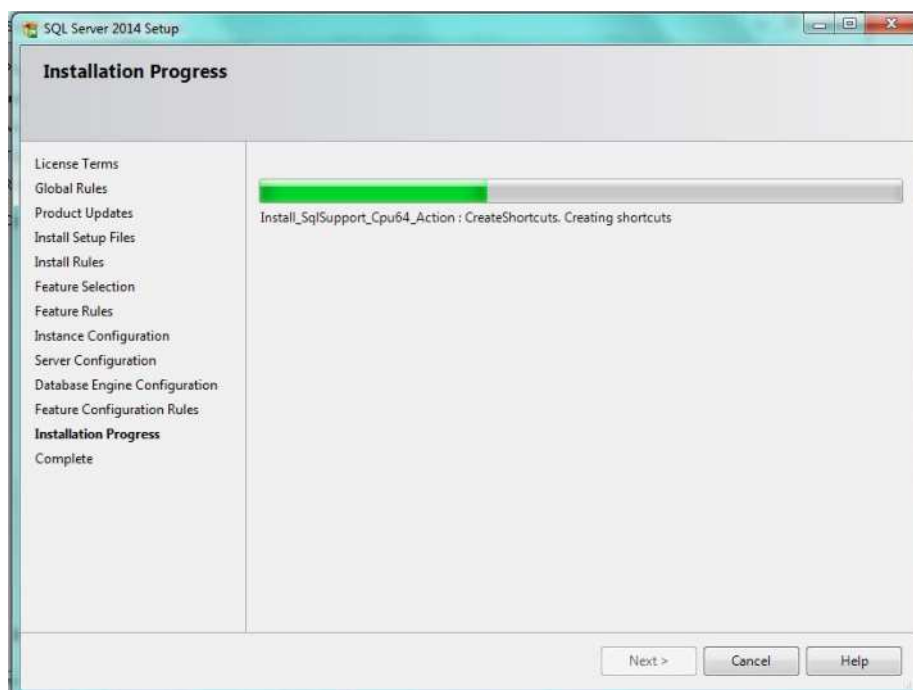


Figure 3 - 7
SQL installing

- 9 After the installation is complete, click **Close** and if still open, the 'Installation Center' screen can also be closed.

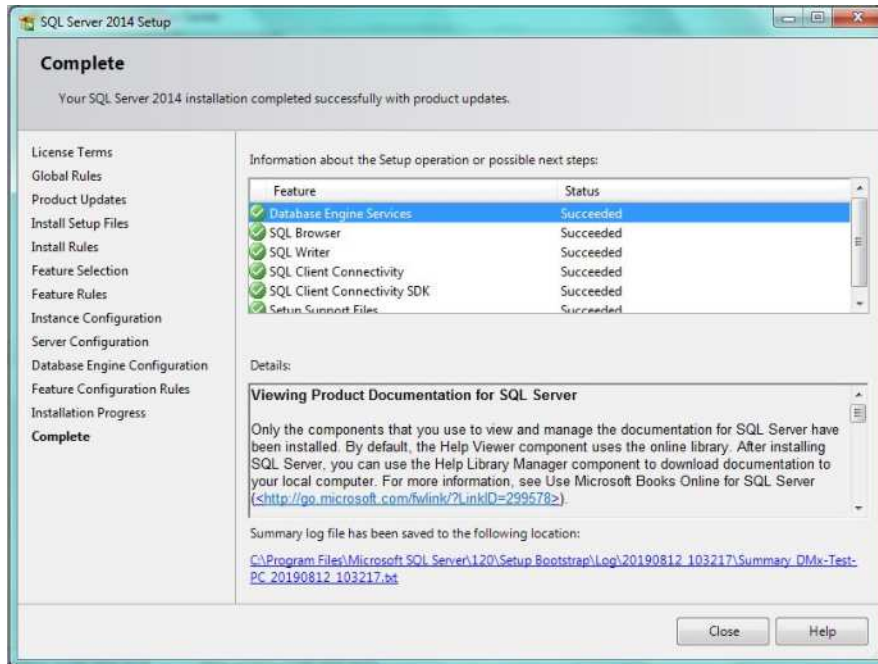


Figure 3 - 8
SQL Installation complete

@ptitude Observer Installation

Installation Procedure

1. Run the SKF @ptitude Observer install file. If asked, the user will need to give permission for the installer to make the necessary changes associated with the software install.
2. The installer will first check if any third-party packages are required to support the software, if asked, click install to continue:

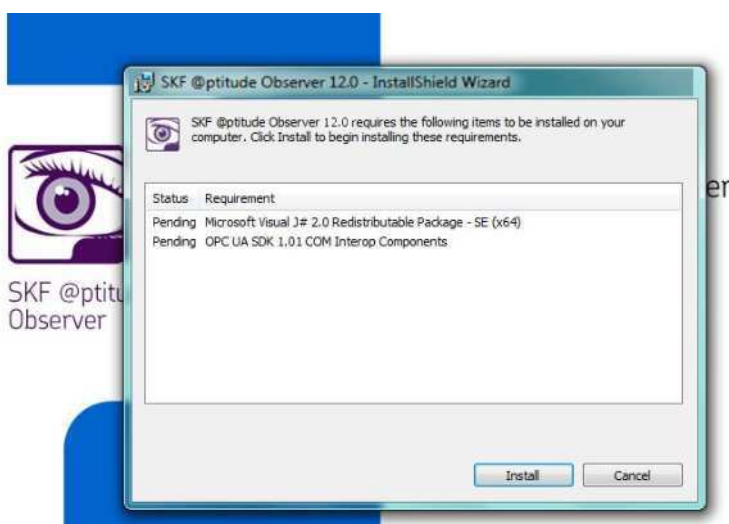


Figure 4 - 1
@ptitude Observer Installation Start

3. The InstallShield® Wizard will guide the @ptitude Observer installation. Click **Next** to continue.

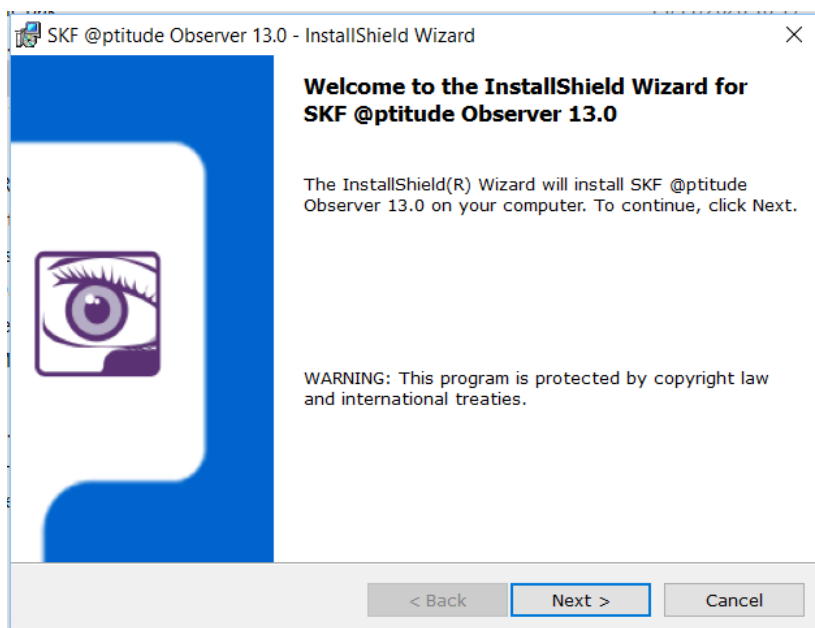


Figure 4 - 2
InstallShield® Wizard for @ptitude Observer Installation

4. Read the EULA and to proceed, select "I accept the terms in the license agreement" and then click **Next**.



Figure 4 - 3
@ptitude Observer Installation License Agreement

5. Check the destination folder. If it was set to the correct folder, click **Next** to continue. Otherwise, click **Change** to install to a different folder.

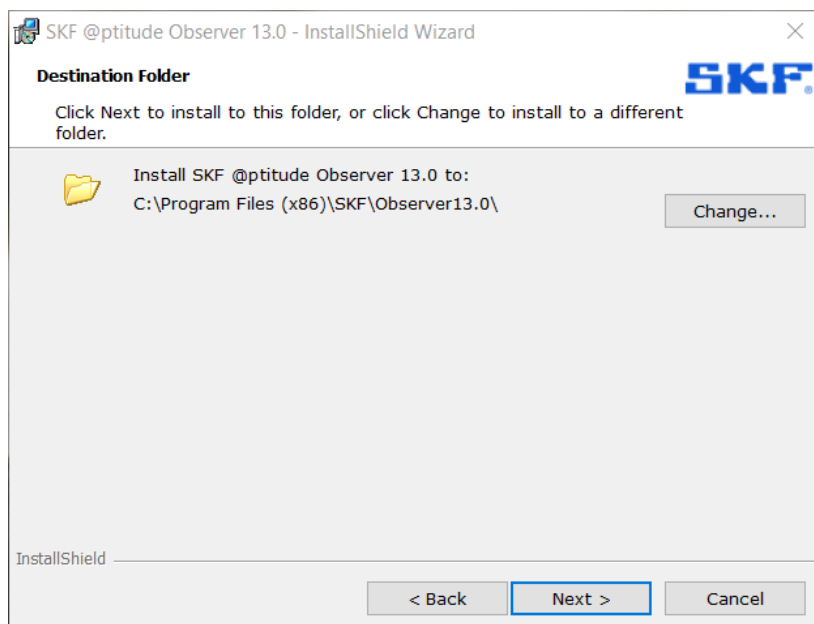


Figure 4 - 4
@ptitude Observer Installation Destination Folder

6. Choose a setup type and click **Next** to continue.

Client installation and **Server installation** will install all the necessary components for those installation types. Go to step 8.

Full / Custom installation enables choices to be made on which features to install, as shown in the next step. This, **Full**, option should be used when a complete @ptitude Observer system is being installed on a computer, a so-called stand-alone installation.

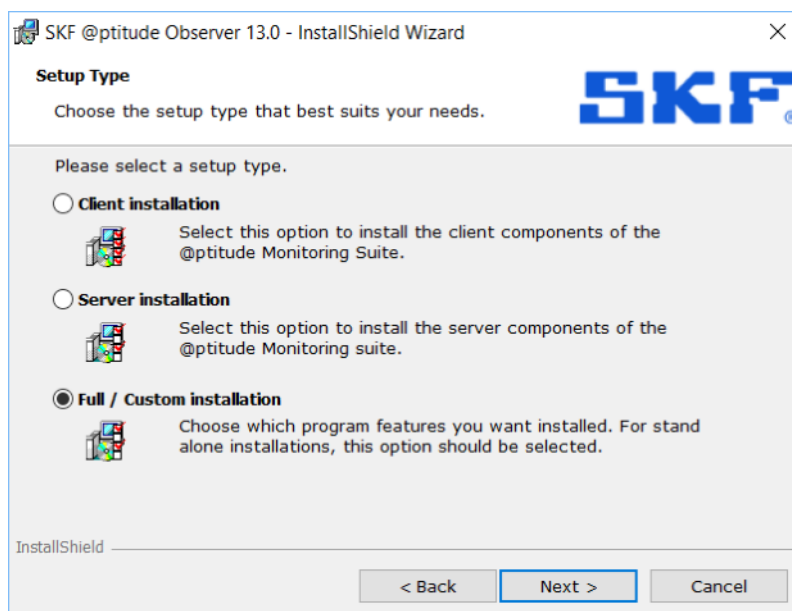


Figure 4 - 5
@ptitude Observer Installation Setup Type

7. Select features to install, typically all of them for a **Full** installation, then click **Next**.

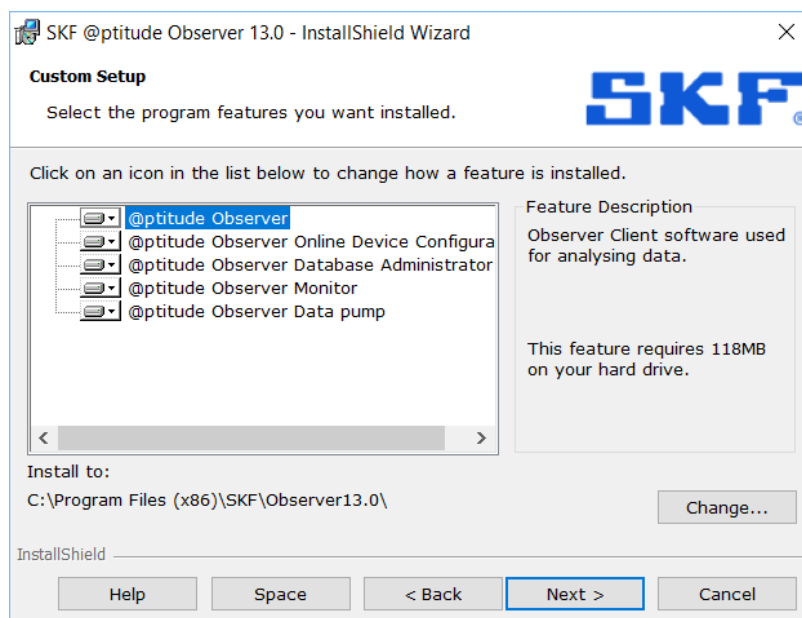


Figure 4 - 6
Example of @ptitude Observer Installation Custom Setup

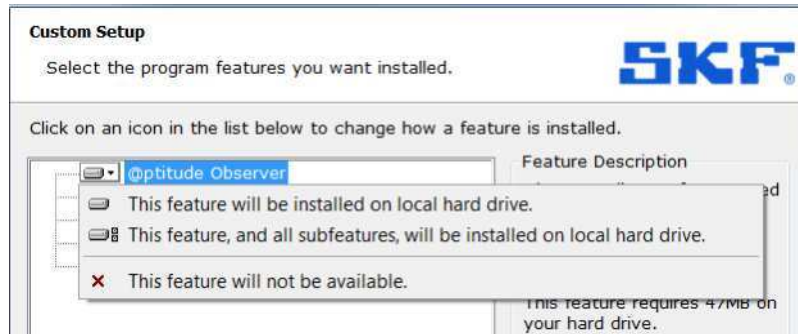


Figure 4 - 7

@ptitude Observer Installation Custom Setup Options

8. After a further confirmation screen, @ptitude Observer will now install.

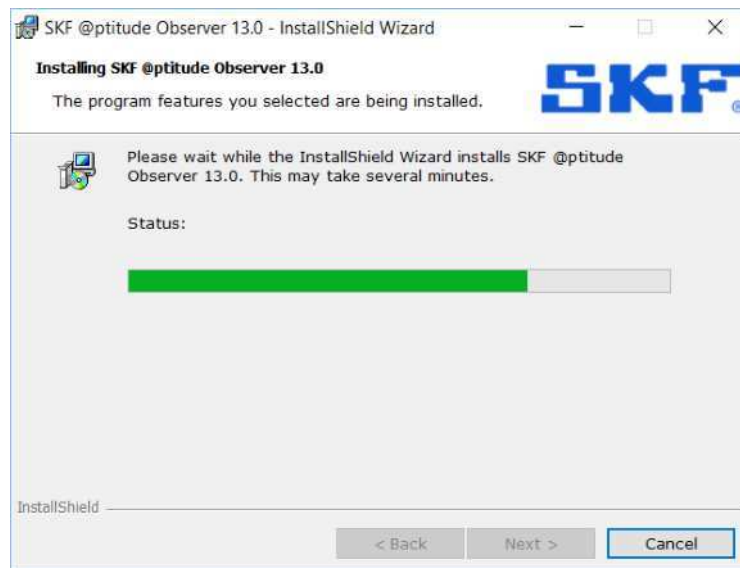


Figure 4 - 8

@ptitude Observer Installation in Progress

9. Click **Finish** to complete the installation and exit the InstallShield® Wizard.

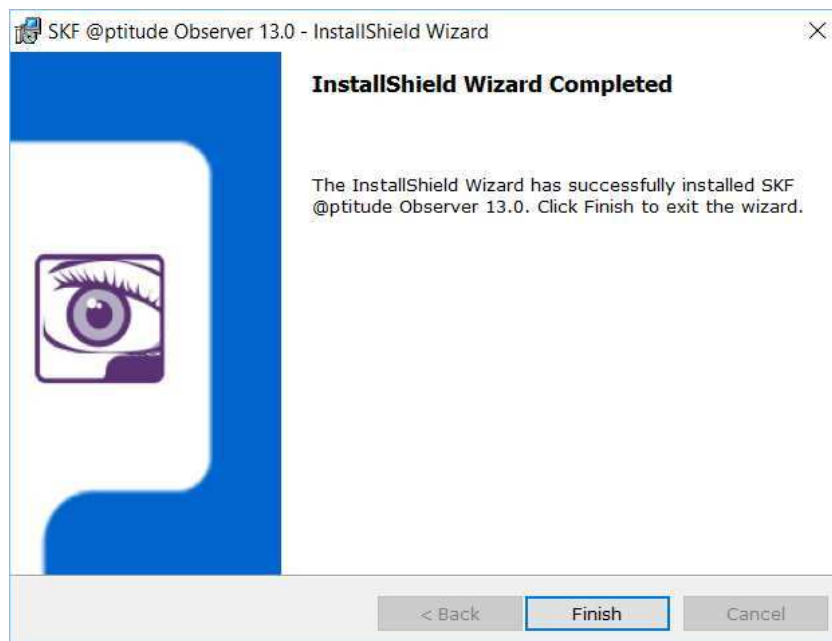


Figure 4 - 9
@ptitude Observer Installation Finish

Prepare an Observer Database

After the @ptitude Observer software has been installed, it is necessary to connect it to an Observer database. Ensure that relevant SQL services are started, before proceeding.

If an Observer database from an earlier software version already exists, the database needs to be [upgraded to the @ptitude Observer version](#) now installed.

If an Observer database does not exist, it is necessary to [create a new Observer database](#).

*Note - For more information about @ptitude Observer database administrator, refer to the **SKF @ptitude Observer Database Administrator** user manual, part number 32170600.*

Upgrade an Existing Observer Database

1. Start the @ptitude Observer database administrator software by clicking on the shortcut on the start menu or program list. If asked, at first use, set the program language.
2. Logon to the database server using the credentials specified when installing the SQL server. It is recommended to fully name the database according to the form: 'ComputerName\SQLSeverInstance'.



Figure 5 - 1
Logon

3. In the database list, select the database to be upgraded and click the menu option **Database / Upgrade selected databases**. Note that databases can only be updated one at a time.

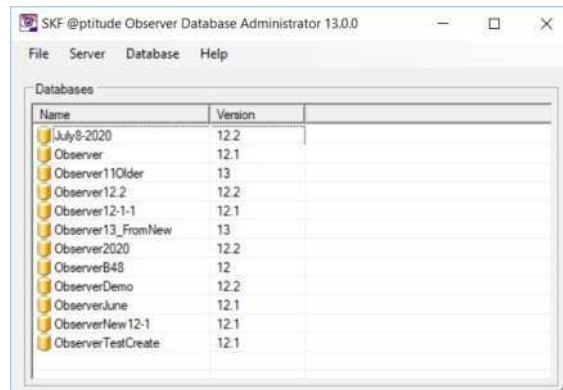



Figure 5 - 2
Example of Observer Databases

4. The database definition file, extension .DEF, that contains the information on upgrading the database is located in the @ptitude Observer installation directory. Use the ellipsis button to select it and click OK. When completed, the user will first receive a message asking if indexes are to be rebuilt (recommended), then the bearing database is updated and finally a message stating that the upgrade has been finished. Otherwise, the user will receive an error message.
5. After the procedure is finished, the selected database is upgraded and if no further databases are to be upgraded then the @ptitude Observer database administrator software can be closed.

 **Important - After a database conversion, all diagnoses in the database need to be recalculated in the Observer software. Until this is done, all diagnoses will display a zero value. The recalculation can be done at Observer Hierarchy view, by right clicking on a node and selecting Configure\Recalculate diagnosis.**

Create a New Observer Database

1. Start the @ptitude Observer database administrator software by clicking on the shortcut from the start menu. If asked, at first use, set the program language.
2. Log in to the database server using the login credentials specified when installing the SQL server. It is recommended to fully name the SQL database according to the form: 'ComputerName\SQLSeverInstance', refer Figure 5 - 1.
3. Click on the menu option **Server / Create new database**.

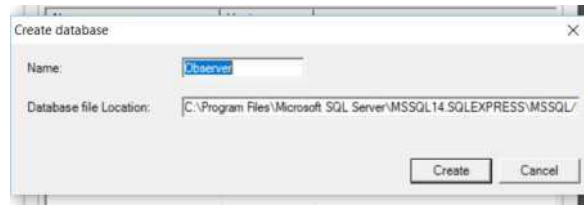


Figure 5 - 3.
Example of Observer Create Database.

4. Select a database name (default is Observer) and select where the database files should be stored (default is SQL server data directory).

Important - The database name cannot be the same as an existing database.

5. Click on the **Create** button.
6. At the end of the Create database procedure, at the prompt, select the measurement units to use for the Diagnosis and the Protean Diagnosis rules in @ptitude Observer and click the **Update** button.

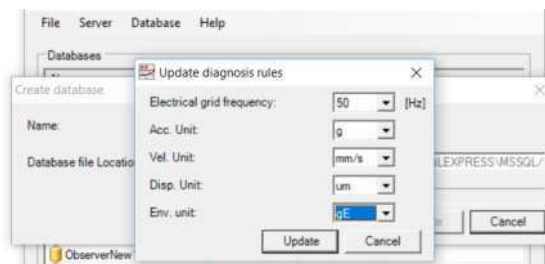


Figure 5 - 4
Example of Update diagnosis rules, dialog

Note that if the choices are not yet decided upon, clicking **Cancel** at this point will still create the new database and the Update diagnosis rules dialog can be launched again by selecting the database and choosing **Database / Update diagnosis**. This latter option is a general feature that allows settings for an existing database to be changed.

As the creation process ends, a message confirms that a default administrator account with the credentials admin/admin has been automatically created for the new database.

@ptitude Observer Monitor Service

To be able to use @ptitude Observer as an on-line system, the communication and database storage are performed by an Observer monitor service. There can be several Observer monitor services operational at the same time, supporting different databases, but each will need to be allocated a different port.

Adding a Monitor Service

1. To add or manage an Observer monitor service, start the @ptitude Observer Monitor Manager software by clicking on the shortcut on the start menu under **All Programs\SKF @ptitude Monitoring Suite X.Y\Monitor Service Manager** or for Windows 10 **SKF @ptitude Monitoring Suite X.Y\Monitor Service Manager** in the alphanumeric list of installed programs. If asked, the user will need to give permission for the software to make the necessary changes.

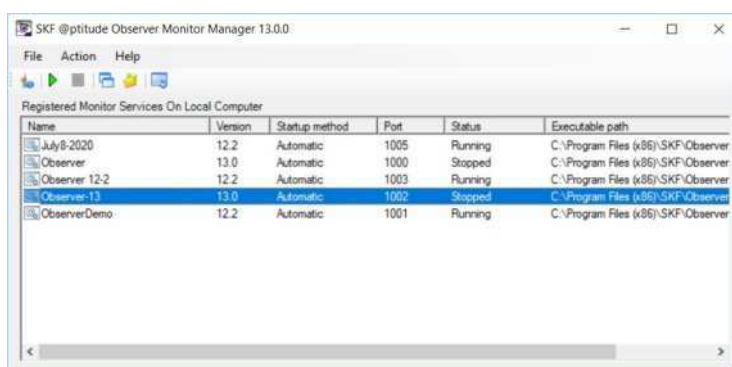


Figure 6 - 1

Example of @ptitude Observer Monitor (Service) Manager

Observer Monitor (Service) Manager screen lists all the registered monitor services on the local computer. If this is a new install, no services will be listed.

Action allows the following interfaces:

- **New** adds new monitor services on the local computer.
- **Properties** opens the Connection interface where the properties of already registered services can be edited.
 - Note that Monitor Manager can only edit the properties of services created with the same version of the tool.
- **Delete** deletes the selected registered service.
- **Start** starts the selected monitor service.
- **Stop** stops the selected monitor service.

- **Monitor Service Viewer** displays events, connections and status of the selected monitor service.
 - **View Log File** views a log file for the selected monitor service.
 - **Refresh** updates the list with most current information.
2. To register a new monitor service, click **Action**, then select **New**.

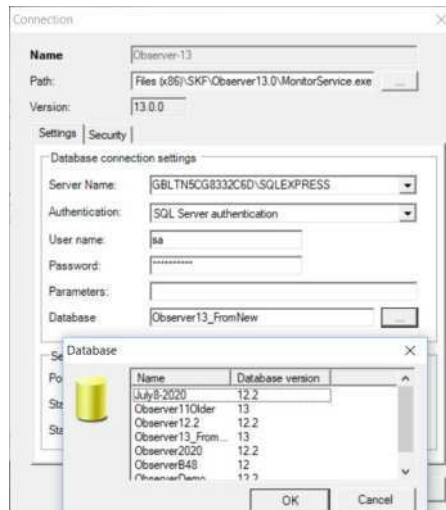


Figure 6 - 2

Example of @ptitude Observer Monitor Service – Connection

Name is a unique name which has to be given to the service used to identify the registered database connection. Once a new service is registered, the name cannot be changed.

Path defines the location of the executable file to be used as the service. The default path is C:\Program Files (x86)\SKF\Observer X.Y.

Version displays the version of @ptitude Observer in use currently.

On the **Settings** tab:

Database connection settings

Server Name is for specifying the location of the SQL database, a full path comprised of 'ComputerName\SQLSeverInstance', is recommended.

Authentication defines whether to use *Windows authentication* or *SQL Server authentication* for SQL Server. Select *SQL Server authentication* and then enter the user name and password.

User name is the database user name.

Password is the password for that user.

Parameters allows additional parameters to be entered, for the connection. For example, to force TCP/IP protocol, enter "*Network=DBMSSOCN;*" in this text box.

Database is the selected database from a list of available databases on the database server. As shown in Figure 6 – 2 above, clicking the ellipsis button will cause the software

to connect and retrieve a list of the available databases. A selection can then be made. The Observer software version and the version of the selected database must match.

Service settings

Port is used to assign which port the Observer monitor service should use to communicate with @ptitude Observer and IMx devices. The default value is 1000, but other ports can be allocated if 1000 is already in use.

Start delay is used to give the database server some time (in seconds) to start before @ptitude Observer monitor tries to open the connection. It is recommended to set this field to 20 for the start-up method *Automatic*. Whereas, it is recommended to set this field to 0 for the start-up method *Manual*.

Startup method sets the start-up method of the service to either Automatic, Manual or Disabled. Automatic is the usual setting for an @ptitude Observer system.

- **Automatic** means that the service starts when the operating system boots up.
- **Manual** means that the service has to be started by the user either through @ptitude Observer Monitor Manager or through the services interface in windows.
- **Disabled** means that the service is completely disabled.



Figure 6 - 3
Example of Service settings

The second tab, **Security**, is only needed for SKF Enlight Collect IMx-1 systems where the Monitor service is required to run an MQTT service with Transport Layer security (TLS) and encryption enabled. This aspect can be revisited and revised once the basic Monitor service has been created and is functioning.

Refer to the **SKF @ptitude Observer** user manual, part number 32170900 and/or the **SKF Enlight Collect IMx-1 System** user manual, part number 15V-090-00087-100 for further details on configuring IMx-1 systems. Both documents describe the TLS, security aspects of @ptitude Observer Monitor Manager including the possibility of generating a self-signed certificate from within that tool. For more general guidance on independently generating and installing a self-signed certificate, refer [TLS certificate](#).

After completing the configuration, press **OK** to create the service, it should now appear on the list of 'Registered Monitor Services'.

3. A recovery plan, in case of an unrecoverable error, for registered monitor services resides within Windows' interface **Services (Local)** which is located under Administrative Tools in Control Panel.

- Observer monitor services start with the text "ObsService_".

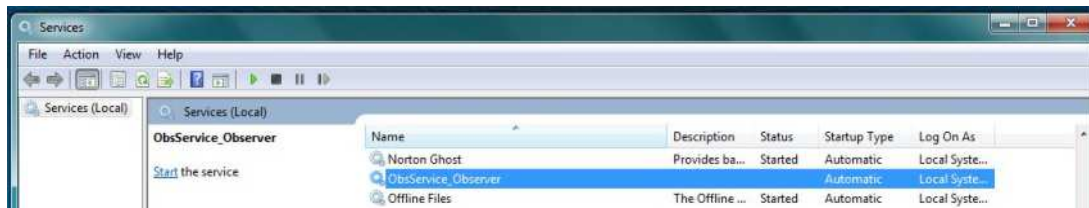


Figure 6 - 4
Example of Window's Interface Services

Select an Observer monitor service, then select **Properties** under Action, or, right-click on an Observer monitor service and select **Properties**. Select **Recovery** tab

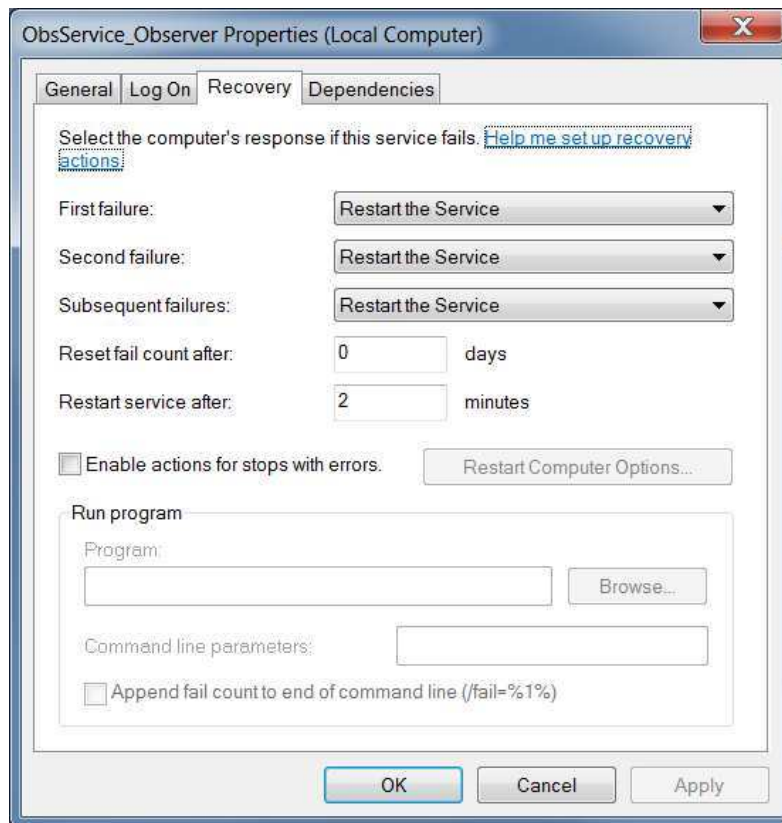


Figure 6 - 5
Example of Recovery Setting

4. It is recommended to set the First, Second and Subsequent failures of the Recovery setting to **Restart the Service**, the likely default settings.

TLS certificate

To generate and install a self-signed certificate for use with an IMx-1 system the **Generate** function within @ptitude Observer Monitor Manager can be used. Alternatively, it will be necessary to follow these steps:

1. Create a folder c:\openssl
2. Download openssl from <https://sourceforge.net/projects/openssl/>
3. Extract the contents of the downloaded zip file into c:\openssl
4. Copy the openssl.cnf file, that is found in the bin folder, so that it is directly under the c:\openssl directory:

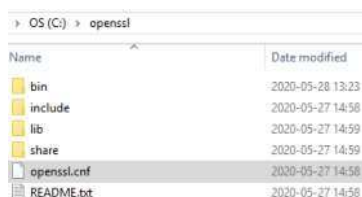


Figure 6 - 6
Desired folder structure and file placement

5. Open a Command Prompt as Administrator
6. Go to c:\openssl\bin
7. Run the following command to generate a 4096-bit long RSA key for the root CA and the certificate with **X** given days:

openssl req -new -newkey rsa:4096 -x509 -sha256 -days **X** -nodes -out **cert_name.crt** -keyout **cert_name.key**
8. Fill out all the information. Keep in mind that:
 - Common Name is the name displayed in the certificate store
 - Common Name and Monitor Address must match

```
Command Prompt
C:\openssl\bin>openssl req -new -newkey rsa:4096 -x509 -sha256 -days 365 -nodes -out normal2_cert.crt -keyout normal2_cert.key
Loading 'screen' into random state - done
Generating a 4096 bit RSA private key
.....++
.....++
writing new private key to 'normal2_cert.key'
-----
You are about to be asked to enter information that will be incorporated
into your certificate request.
What you are about to enter is what is called a Distinguished Name or a DN.
There are quite a few fields but you can leave some blank
For some fields there will be a default value,
If you enter '.', the field will be left blank.
-----
Country Name (2 letter code) [AU]:SE
State or Province Name (full name) [Some-State]:Norrbotten
Locality Name (eg, city) []:Lulea
Organization Name (eg, company) [Internet Widgits Pty Ltd]:SKF TEST AB
Organizational Unit Name (eg, section) []:SKF TEST
Common Name (e.g. server FQDN or YOUR name) []:www.skf.net
Email Address []:user@skf.net

C:\openssl\bin>
```

Figure 6 - 7
Example of Command Prompt use, steps 7 and 8

A certificate and a key must have been created in the directory

9. Run the following command to combine the private key and the certificate: `openssl pkcs12 -inkey cert_name.key -in my.crt -export -out cert_name.pfx`
10. Enter an Export Password. Remember this as it is required to use the certificate
11. Right click **cert_name**.pfx file located in C:\openssl\bin and choose Install PFX
12. For Store Location select Local Machine and click Next
13. Select the .pfx file and click Next
14. Enter the password set on the .pfx file and in the Import options section tick the following two options:
 - "Mark this key as exportable...."
 - "Include all extended properties"
15. Select Place all certificate in the following store and choose Personal, then click Next followed by Finish
16. Open the Windows certificate store for Local Computer. The certificate should be shown in the Personal > Certificates folder.
17. For the certificate to be trusted, it also needs to be included in Trusted Root Certification Authorities > Certificates. Import the certificate into that folder.

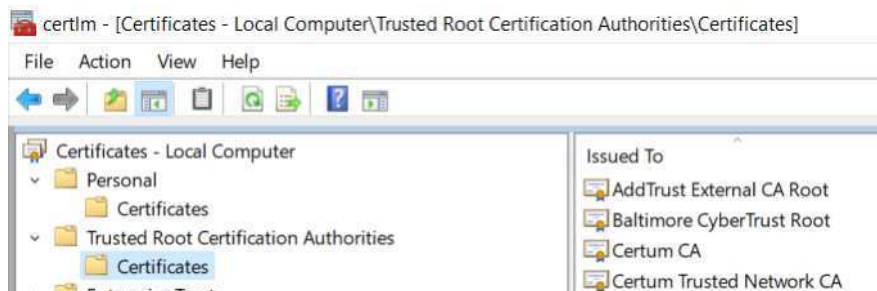


Figure 6 - 8
Local Computer certificate stores in Windows Certificate Manager Tool

18. Now the certificate is installed, it can be selected in the Monitor service connection
 - In the **TLS section**, click **Select** and choose the self-signed certificate

Edit Observer Settings

Language and License Key

When installing @ptitude Observer, a setting file called @ptitude Observer.ini is created in the user application data folder, which by default is located at:

C:\Users\[User name]\AppData\Roaming\SKF\Observer X.Y\@ptitude Observer.ini.

The following is an example of the contents of the @ptitude Observer.ini file, System section:

```
[System]
```

```
Language=English
```

```
RegKey=X58BB892JJ85XY73GHPC493LD6CA9786
```

Language specifies which language to use.

RegKey is the license key entered when installing the product.

The language and license key entries in this file, may be edited, although both aspects can be managed within the @ptitude Observer software. If changes are made these take effect the next time the @ptitude Observer software is started.

Application Data Folder

The application data folder is used to store user specific data for the @ptitude Observer application such as connection files and .ini files. Which folder to use as the application data folder can be specified, the default is the user's own application data folder as mentioned above.

One of two command line methods, described below, can be used.

Using the USE_APP_PATH Keyword on the @ptitude Observer Properties Shortcut

Using this USE_APP_PATH keyword will cause the @ptitude Observer system to use the same folder that the executable file resides in, for its application data.

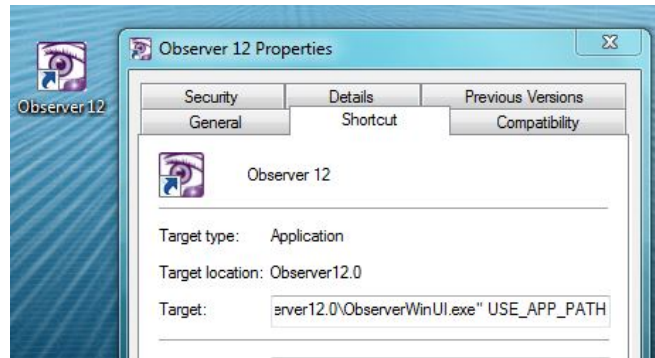


Figure 7 - 1
USE_APP_PATH example

Create a new shortcut to the ObserverWinUI.exe file and then edit its properties.
Add the text USE_APP_PATH in the target field as shown in the screen shot, above.

Specify a Custom Folder via the properties of the @ptitude Observer Shortcut

Instead of using the USE_APP_PATH keyword, it is also possible to specify a custom folder as an application data folder, for example "C:\MyFolder". The specified folder must already exist.

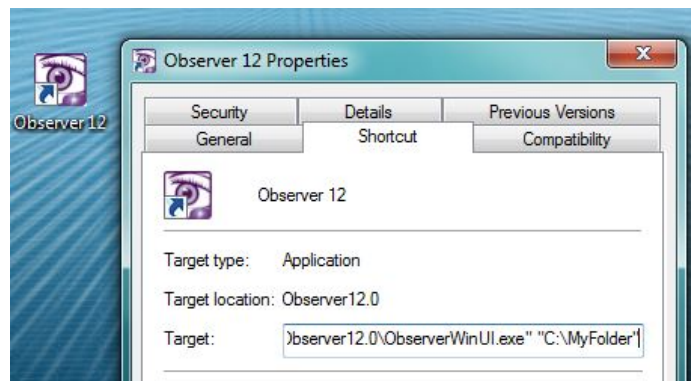


Figure 7 - 2
Assigning a Custom Folder as an Application Data Folder

- There is a shortcut "**Application data**" located on the start menu under **All Programs\SKF @ptitude Monitoring Suite X.Y** or for Windows 10 **SKF @ptitude Monitoring Suite X.Y** in the alphanumeric list of installed programs. Note that this shortcut opens a file explorer window at C:\ProgramData\SKF\Observer X.Y. This is the location where log and similar files are stored, not the 'ini' and connection files referred to above.

IMx/MasCon Network Settings

For communications to be established between IMx/MasCon devices and @ptitude Observer monitor the on-line devices require some initial configuration of their network settings.

For further information, refer to the corresponding IMx device/model user manual and the **SKF @ptitude Observer On-line Device Configurator** user manual, part number 32170800.

9

Time Synchronization

This step is only needed if the PC is being used as the @ptitude Observer monitor computer.

Activating Time Synchronization

IMx and MasCon devices use a built-in function in Windows for time synchronization. The @ptitude Observer monitor computer is used as the reference for time in the IMx/MasCon system. In order to activate time synchronization, follow the procedure below.

1. Open port 123 in the firewall. The procedure for this will depend on the operating system and/or firewall software in use.
2. Go to services and check that "Windows Time" service start-up method is set to "Automatic" and that it has started.
3. Double click on the file EnableTimeSync.reg in the Extra\TimeSync folder. This will enter information in the registry to enable the time synchronization service on the computer.
4. Stop and start "Windows Time" service to make this change take effect.

10

Software Upgrade

This section of the installation manual describes how to upgrade @ptitude Observer.



Important - It is strongly recommended that a backup of the database is created, before starting the upgrade procedure.

Guidance for System Upgrades and Updates

Important notes:

Before the upgrade is started, a full database backup should be made.

SKF does rigorous testing on new firmware and software. However, it is impossible to test all parameter permutations of a configurable system.

When a customer deploys a new version of SKF software or firmware, it is advised to test the configurations on a small scale under real world operating conditions. A complete roll-out should only be performed one database at a time, after successful small-scale testing.

The SKF software has some specific tools that can help with the distribution of new firmware over a large fleet. The use of these tools is encouraged for the deployment of updates and upgrades.

General software update procedure:

Note that there is no need to uninstall the database manager such as SQL Server, in order to upgrade the system. The process for upgrading the SKF software will be generally as follows:

- Use the services interface in windows to stop all related services such as "ObsService_" plus any that are SQL related.
- If not retaining the earlier @ptitude Observer version or if required to by the install, uninstall the current @ptitude Observer instance.
- Install the new @ptitude Observer software.
- Restart any stopped services or reboot the computer.
- Use @ptitude Observer database administrator to [upgrade](#) any existing databases to the latest structures and/or [create](#) new, empty databases for use with this software version.
- Start @ptitude Observer and check via the lower status bar that it has connected correctly to the database and to the monitor service.
- Add firmware for all DADs being used in the system. This can include IMx (pkg file), MasCon 16 (pkg file), Enlight Collect IMx-1 sensor and gateway (a zip file for each).

Appendix A

End User License Agreement

By clicking the “Accept” button, an end user license agreement (“Agreement”) has been entered into between you and SKF Sverige AB (“SKF”), a company registered under the laws of Sweden, and you agree to be bound by the following terms and conditions. If your employer/organization has signed an agreement with an SKF entity regulating the use of SKF software, such agreement will prevail over this Agreement and you agree to comply with the provisions of such agreement. SKF may at any time update or change these terms and publish on SKF official web page.

1. DEFINITIONS

- (a) **Derivative Works.** The Term “Derivative Works” shall mean any work based on the Software, such as an adaptation of the Software to another platform or operating system, or any other translation, transformation, modification, or adaptation protected by copyright law in the applicable jurisdiction.
- (b) **Effective Date.** The term “Effective Date” shall mean the date on which Licensee assents to the terms of this Agreement by clicking the “Accept” button.
- (c) **Intellectual Property Rights.** The term Intellectual Property Rights shall mean all rights arising or protectable under the copyright, trademark, patent, or trade secrets laws of any applicable country, including all rights associated with the protection of computer programs and/or source code.
- (d) **Person.** The term “Person” shall mean an individual, a partnership, a company, a corporation, an association, a joint stock company, a trust, a joint venture, an unincorporated organization, or a governmental entity (or any department, agency, or political subdivision thereof).
- (e) **Software.** The term “Software” shall mean the software application entitled Software for Wireless Monitoring System V/T, SKF @ptitude Analyst, SKF @ptitude Inspector, SKF @ptitude Observer, SKF @ptitude Decision Support or any other software within the SKF @ptitude family suite, which is an application developed, owned, marketed, and licensed by Licensor. The term Software shall include the object code of Software for Wireless Monitoring System V/T, SKF @ptitude Analyst, SKF @ptitude Inspector, SKF @ptitude Observer, SKF @ptitude Decision Support or any other object code within the SKF @ptitude family suite and any and all user manuals, or other technical documentation, authored by Licensor in connection with Software for Wireless Monitoring System V/T, SKF @ptitude Analyst, SKF @ptitude Inspector, SKF @ptitude Observer, SKF @ptitude Decision Support or any other software within the SKF @ptitude family. The term “Software” includes any corrections, bug fixes, enhancements, releases, updates, upgrades, or other modifications, including custom modifications, to Software for Wireless Monitoring System V/T, SKF @ptitude Analyst, SKF @ptitude Inspector, SKF @ptitude Observer, SKF @ptitude Decision Support or any other software within the SKF @ptitude family suite and any and all user manuals. The term Software also includes any supplemental, add-on, or plug-in software code provided to Licensee in the course of receiving Product Support Plan services from Licensor. The term Software shall not be construed to include the source code for

Software for Wireless Monitoring System V/T, SKF @ptitude Analyst, SKF @ptitude Inspector, SKF @ptitude Observer, SKF @ptitude Decision Support or any other software within the SKF @ptitude family suite.

2. LIMITED LICENSE

(a) Grant of License. Conditioned upon your compliance with the terms and conditions of this Agreement, SKF hereby grants to you a limited, revocable, non-exclusive, personal, non-sub licensable, non-transferable, non-assignable license to use the Software in strict accordance with the terms and conditions of this Agreement, including any concurrent use, network or other limitations set forth in subsection (b) below. All rights not specifically granted by SKF under this Agreement are retained by SKF and withheld from you.

(b) Installation and Use Rights. You shall use the Software only on your internal computer equipment, whether such equipment is owned, leased, or rented, at your principal business office. The following paragraphs govern your installation and use rights with regard to the Software, depending on the type of license you have obtained from Licensor.

(i) If you obtained a stand-alone license of the Software, you may install one (1) copy of the Software on one (1) computer residing in your principal business office.

(ii) If you obtained a network license of the Software, you may install one (1) copy of the Software on as many networked clients (workstations) as authorized by your network license, as set forth more particularly in the applicable purchase order or other ordering documents memorializing your license acquisition; provided, however, that all network clients

(workstations) are connected to a single licensed database residing in your principal business office.

(iii) If you obtained a network license of the Software, you may connect to multiple licensed databases, you may install the database-dedicated clients up to the total number of networked clients acquired by you under the applicable purchase order or other ordering documents memorializing your license acquisition.

(c) Other Conditions of Use. Licensor understands and agrees that the Software works in conjunction and is compatible with database software licensed to you by Microsoft. Upon installation of the Software, the Software may detect an installed database software application from Microsoft, and if so, the Software will be fully installed. If no installed database software application from Microsoft is detected, the Software will not install until such time as you install a valid and Software compatible copy of a Microsoft SQL Server database and consents to the license terms of such database software application. If you do not agree to the terms of the Microsoft SQL Server license, or if you fail to install such database software, the Software will not work. You are responsible for maintaining a valid database license in accordance with Microsoft license agreement (which ever is applicable) at all times.

(d) Restrictions on Use. Licensee may use the Software only for its internal business purposes, only for the intended purpose and on the identified equipment on which the Software was first installed or for which it is otherwise licensed; provided, however, that Licensee may temporarily use the Software on a back-up system in the event that the primary licensed system

is inoperative or test system not used for production but solely for the purposes of testing the Software. Licensee may not use the Software for any other purpose. Except as expressly specified in this Agreement, you may not:

- (i) permit any parent, subsidiaries, affiliated entities or third parties to use the Software;
- (ii) use the Software in the operation of a service bureau;
- (iii) allow access to the Software through any workstations located outside of Licensee's principal business offices;
- (iv) transfer, sublicense, lease, lend, rent or otherwise distribute the Software to any third party;
- (v) reproduce, distribute, or publicly display the Software;
- (vi) make the Software accessible to any Person by any means, including posting on a web site or through other distribution mechanisms over the Internet;
- (vii) reverse assemble, disassemble, reverse engineer, reverse compile, decompile, or otherwise translate any components of the Software or prepare Derivative Works based on the Software or permit or authorize a third party to do so, except to the extent such activities are expressly permitted by law notwithstanding this provision;
- (viii) place, reproduce, or make available the Software on Licensee's computer network if Licensee is only authorized by this Agreement to operate the Software on a single workstation;

(ix) exceed at any given point in time the total number of network clients authorized by the applicable purchase order or ordering document to use or access the Software;

(x) edit or modify the Software except as expressly authorized by Licensor, including altering, deleting, or obscuring any proprietary rights notices embedded in or affixed to the Software;

(xi) use the Software in any manner that disparages Licensor, Microsoft, or use the Software in a way that infringes the Intellectual Property Rights of the foregoing parties; or

(xii) use the Software in any unlawful manner, for any unlawful purpose, or in any manner inconsistent with this Agreement.

(e) **Copies.** Licensee, solely to enable it to use the Software, may make one archival copy of the Software's computer program, provided that the copy shall include Licensor's copyright and any other proprietary notices. The Software delivered by Licensor to Licensee and the archival copy shall be stored at Licensee's principal business office. If you purchased a network license of the Software, you may install one additional copy of the Software on your network for the limited purpose of testing the Software's operation. Except for the limited reproduction rights set forth in this paragraph, Licensee shall have no other right to copy, in whole or in part, the Software. Any copy of the Software made by Licensee is the exclusive property of Licensor.

(f) **Modifications.** Licensee agrees that only Licensor shall have the right to alter, maintain, enhance or otherwise modify the Software.

(g) **Protection of Software.** Licensee agrees that it will take action by instruction, written agreement, or otherwise as appropriate with any person permitted access to the Software to enable Licensee to comply with its obligations hereunder. Licensee shall maintain records of the number and location of all copies of Software. Licensee shall not provide, permit access to or use of, or otherwise make available any Software in any form without Licensor's prior written agreement, except to Licensee's employees for purposes specifically authorized by this Agreement. Licensee understands and agrees that the source code for the Software is a valuable copyright and contains valuable trade secrets of Licensor. Licensee agrees not to discover or attempt to discover, or assist or permit any Person to discover or attempt to discover, by any means whatsoever the source code of the Software.

(h) **Licensor's Audit Rights.** Licensor shall possess the right to audit Licensee's use of the Software to determine compliance with this Agreement (hereinafter referred to as "Licensor's Audit Rights"). Licensor's Audit Rights shall be exercised in accordance with the following paragraphs:

(i) **Notice of Audit.** Licensor shall provide Licensee with at least five (5) calendar days advance written notice of its intent to exercise the Licensor's Audit Rights.

(ii) **Conduct of Audit.** The audit conducted by Licensor shall consist of a physical review of the computer hardware, software, and middleware operated by Licensee at its principal business office and any

other office for which Licensor, in its sole and arbitrary discretion, deems an audit appropriate. Licensee shall provide Licensor with unrestricted access to its computer hardware, software, and middleware in connection with any audit conducted by Licensor.

(iii) **Costs of Audit.** If Licensor's audit uncovers a violation of this Agreement by Licensee, Licensee shall pay all costs and expenses incurred by Licensor in exercising the Licensor Audit Rights, including, without limitation, all attorneys' fees and agent fees incurred by Licensor. If Licensor concludes that no violation of this License Agreement has occurred, Licensor shall bear all costs and expenses incurred in exercising the Licensor Audit Rights. If Licensee obstructs, restricts, or otherwise prevents Licensor from conducting a full and unrestricted audit, Licensee shall bear all costs and expenses, including attorneys' fees, incurred by Licensor in enforcing this Section 2(h) before any court.

(iv) **Frequency of Audits.** Licensor's Audit Rights shall be exercised no more than two (2) times in any one calendar year.

(i) **Validity of Intellectual Property Rights.** In any action, dispute, controversy, or lawsuit arising out of or related to this Agreement, Licensee shall not contest the validity of Licensor's Intellectual Property Rights related to the Software. Licensee hereby agrees that it has had an opportunity to investigate the validity of Licensor's Intellectual Property Rights, and acknowledges that Licensor's Intellectual Property Rights related to the Software are valid and enforceable.

(j) **Material Terms and Conditions.**

Licensee specifically agrees that each of the terms and conditions of this Section 2 are material and that failure of Licensee to comply with these terms and conditions shall constitute sufficient cause for Licensor to terminate this Agreement and the license granted hereunder immediately and without an opportunity to cure. This subsection 2(j) shall not be construed to preclude, or in any way effect, a finding of materiality with respect to any other provision of this Agreement.

3. LICENSE FEE

The applicable licensee fees will be set forth in the quote issued to Licensee by Licensor or otherwise established in the applicable purchase order or other ordering documents memorializing your license acquisition.

4. OWNERSHIP

(a) **Title.** Licensee understands and agrees that Licensor has been granted the right to sublicense and market the Software and that all Intellectual Property Rights related to the Software, including custom modifications to the Software, whether made by Licensor or any third party is vested in a member of the SKF Group. Licensee agrees that this Agreement effects a license, not a sale, of the Software and that any first sale doctrine which may be applicable under the governing law does not apply to the transaction effected by this Agreement. The licensed open source software and applicable license terms including credits and applicable terms for usage by the Licensee can be found in the 3rd Party Licenses section of the SKF @ptitude Observer User Manual.

(b) **Transfers.** Under no circumstances shall Licensee sell, license, sublicense, publish, display, distribute, assign, or otherwise transfer (hereinafter referred to collectively as a "Transfer") to a third party the Software or any copy thereof, in whole or in part, without Licensor's prior written consent. Any Transfer

effected in violation of this Section 4(b) shall be void ab initio and of no force or effect.

5. MAINTENANCE AND SUPPORT

The local SKF sales unit (SKF) may provide you with support services related to the Software. Licensee acknowledges that SKF may use any technical information provided by Licensee in the course of receiving services for SKF's business purposes, including for product support and development. SKF will not utilize such technical information in a manner that identifies Licensee.

6. CONFIDENTIAL INFORMATION

Licensee agrees that the Software contains proprietary information, including trade secrets, know-how and confidential information (hereinafter referred to collectively as the "Confidential Information"), that is the exclusive property of Licensor. During the period this Agreement is in effect and at all times after its termination, Licensee and its employees and agents shall maintain the confidentiality of the Confidential Information and shall not sell, license, publish, display, distribute, disclose or otherwise make available the Confidential Information to any Person nor use the Confidential Information except as authorized by this Agreement. Licensee shall not disclose the Confidential Information concerning the Software, including any flow charts, logic diagrams, user manuals and screens, to persons not an employee of Licensee without the prior written consent of Licensor.

7. LIMITED WARRANTIES

(a) If nothing else has been agreed in writing, Licensor warrants that the Software will perform substantially in accordance with its documentation for a period of 180 days from the date of shipment of the Software; provided, however, that the foregoing warranty only applies if: (i) Licensee makes Licensor aware of any defect with the Software within seven (7) days after the occurrence of the defect; (ii) Licensee has paid all amounts due under this Agreement; and (iii) Licensee has not

breached any provision of this Agreement. If the Software does not fulfil what is set out above, Licensor shall, with the promptness the default demands correct the default if possible. The foregoing warranty does not apply in the event that: (i) the Software and documentation have been subject to misuse, neglect, alteration, modification, customization, improper installation, and/or unauthorized repair; (ii) the Software or any associated software or equipment have not been properly maintained in accordance with applicable specifications and industry standards or have been maintained in unsuitable environmental conditions; or (iii) Licensee has used the Software in conjunction with other equipment, hardware, software, or other technology that created an adverse impact on the operation, functioning, or performance of the Software.

- (b) EXCEPT AS SET FORTH IN THIS SECTION 7 AND TO THE EXTENT PERMITTED BY APPLICABLE LAW, ALL EXPRESS AND/OR IMPLIED WARRANTIES OR CONDITIONS, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY, MERCHANTABILITY OF A COMPUTER PROGRAM, INFORMATIONAL CONTENT, SYSTEM INTEGRATION, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT, ARE HEREBY DISCLAIMED AND EXCLUDED BY LICENSOR. SKF is not responsible for any calculations made with the Software nor for any cost or losses due to decisions based on the use of the Software. Except as otherwise set out herein the Software is provided on an “as-is” basis.
- (c) The remedies set forth in this Section 7 are the exclusive remedies available to Licensee for any problem in the performance of the Software.

8. LIMITATIONS ON LIABILITY

- (a) **Limitations and Exclusions.** IN NO EVENT WILL LICENSOR BE LIABLE TO LICENSEE FOR ANY DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR OTHER SPECIAL DAMAGES, LOST PROFITS, OR LOSS OF INFORMATION SUFFERED BY LICENSEE ARISING OUT OF OR RELATED TO THIS AGREEMENT OR THE USE OF THE SOFTWARE, FOR ALL CAUSES OF ACTION OF ANY KIND (INCLUDING TORT, CONTRACT, NEGLIGENCE, STRICT LIABILITY, BREACH OF WARRANTY OR CONDITION, AND STATUTORY) EVEN IF LICENSOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE PRECEDING EXCLUSION AND DISCLAIMER OF DAMAGES SHALL APPLY TO ALL CLAIMS MADE BY LICENSEE RELATED TO OR ARISING OUT OF LICENSEE’S USE OF THE SOFTWARE, INCLUDING, BUT NOT LIMITED TO, CLAIMS ALLEGING THAT THE SOFTWARE, OR ANY COMPONENT THEREOF, FAILED OF ITS ESSENTIAL PURPOSE OR FAILED IN SOME OTHER RESPECT.
- (b) **Acknowledgment.** Licensee agrees that the limitations of liability and disclaimers of warranty set forth in this Agreement will apply regardless of whether Licensor has tendered delivery of the Software or Licensee has accepted the Software. Licensee acknowledges that Licensor has set its prices and entered into this Agreement in reliance on the disclaimers of warranty and the limitations and exclusions of liability set forth in this Agreement and that the same form an essential basis of the bargain between the Parties.

9. TERM AND TERMINATION

- (a) Term.** This Agreement shall commence on the Effective Date and shall continue in existence until it is terminated in accordance with Section 9(b) below.
- (b) Termination.** Licensor may terminate this Agreement and the license conveyed hereunder in the event that Licensee breaches any provision, term, condition, or limitation set forth in this Agreement, including but not limited to the license restrictions set forth in Section 2(d) of this Agreement.
- (c) Effect of Termination.** Within ten (10) days after termination of this Agreement and the license granted hereunder, Licensee shall return to Licensor, at Licensee's expense, the Software and all copies thereof, and deliver to Licensor a certification, in writing signed by an officer of Licensee, that all copies of the Software have been returned to Licensor and that Licensee has discontinued its use of the Software.

10. CHOICE OF LAW

This Agreement (including all Exhibits), including its formation, execution, interpretation, and performance, and the rights and obligations of the Parties hereunder, shall be governed by and construed in accordance with the laws of Sweden, without regard to any conflicts of law (or choice of law) principles thereof.

11. EXPORT CONTROLS

Licensee shall not export or reexport, directly or indirectly, the Software without complying with pertinent export controls imposed by any applicable country (or any future export control legislation) and the regulations promulgated thereunder.

12. GOVERNMENT END USERS

If Licensee is acquiring the Software for or on behalf of a subdivision of the U.S. federal government, this Section 12 shall apply. The Software was developed completely at private expense, is existing computer software, is a trade secret for all purposes of the Freedom of Information Act, is "restricted computer software" and in all respects proprietary data belonging solely to Licensor, and all rights are reserved under the copyright laws of the United States. Use, duplication, or disclosure by the Government is subject to restricted rights as set forth in subparagraphs (a) through (d) of the Commercial Computer Software Restricted Rights clause at FAR 52.227-19, or for DoD units, the restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013.

13. TRADEMARKS

Licensee agrees that SKF @ptitude Analyst, SKF @ptitude Inspector, SKF @ptitude Observer, SKF @ptitude Decision Support or any other software within the SKF @ptitude family suite and the trade dress, logos and other designations of source used by Licensor to identify the Software are trademarks or registered trademarks of the SKF Group or its licensors. Licensee shall not use such trademarks or service marks without the prior written consent of Licensor. If the Software contains any active links to web sites, you agree to maintain such active links and not redirect or modify them. Access to this Software does not grant the user any license under any patents owned by or licensed to SKF.

14. DATA COLLECTION

Licensee acknowledges and agrees that Licensor may collect, use and analyse technical information included in data or other information which the Licensee transfers or makes available to Licensor in the Software and information derived from Licensee's use of the Software. Data will be aggregated. Analyses will be the proprietary, confidential and wholly owned information of Licensor. The analyses will e.g. allow Licensor to improve its products and services.

15. PERSONAL DATA

Licensor will handle any personal data obtained from the Licensee in accordance with the SKF Privacy Policy at www.skf.com.

CM-F0176 (Revision G, March 2021)