
Elpriser for SIMATIC WinCC Unified

User manual

Version 1.0.0



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Abbreviations

The following abbreviations are used in this document:

MS	Microsoft
SW	Software
Windows OS	Windows operatingsystem

Prerequisites

It is assumed that the readers of this manual have knowledge and experience of operating MS Windows at user level. Some topics will therefore not be described in detail, but will instead refer to other relevant MS Windows literature.

1. Introduction

This document is an operating manual intended for users of the Elpriser SW package.

1.1 Elpriser description

Elpriser is a specially developed software package, that provides fast and easy access to electricity prices in Denmark on a daily basis. The software handle the following scenarios:

- Extract electricity Kwh / Mwh prices every hour from the datahub at "https://www.elprisenlignu.dk".
- Save the price values directly to specified WinCC tags in WinCC Unified RT.
- Prices can be extracted for both vest- and east of Great Belt.
- The SW can be used with the following WinCC Unified installation types:
 - WinCC Unified RT

The Elpriser SW package consists of the following modules:

1. **Elpriser service:**

This module is a Windows Service that runs in the background, whenever Windows OS is active.

WinCC Unified Runtime must be started, in order to receive updated information about daily electricity prices.

2. **Elpriser setup file:**

A textfile in Json-format containing the setup information for the Elpriser service to run correctly.

The following chapters describe the installation and configuration of the Elpriser service.

2. Installing the Elpriser SW package

2.1 Installation requirements

The Elpriser package has been tested with and supports the following:

Operating systems:

- MS Windows 10 Professional 64-bit
- MS Windows 11 Professional 64-bit
- MS Windows Server 2019 Standard 64-bit

Simatic WinCC Unified RT:

- Simatic WinCC Unified RT (TIA 16 or above)

All the necessary files are installed in the following directory:

- C:\Program Files\Swappcon\Elpriser

Elpriser SW package cannot be installed on:

- a PC without WinCC Unified RT installed

2.2 Installation on a WinCC Unified RT PC

On the WinCC Unified RT PC, the "setup.exe" file is activated on the installation medium:

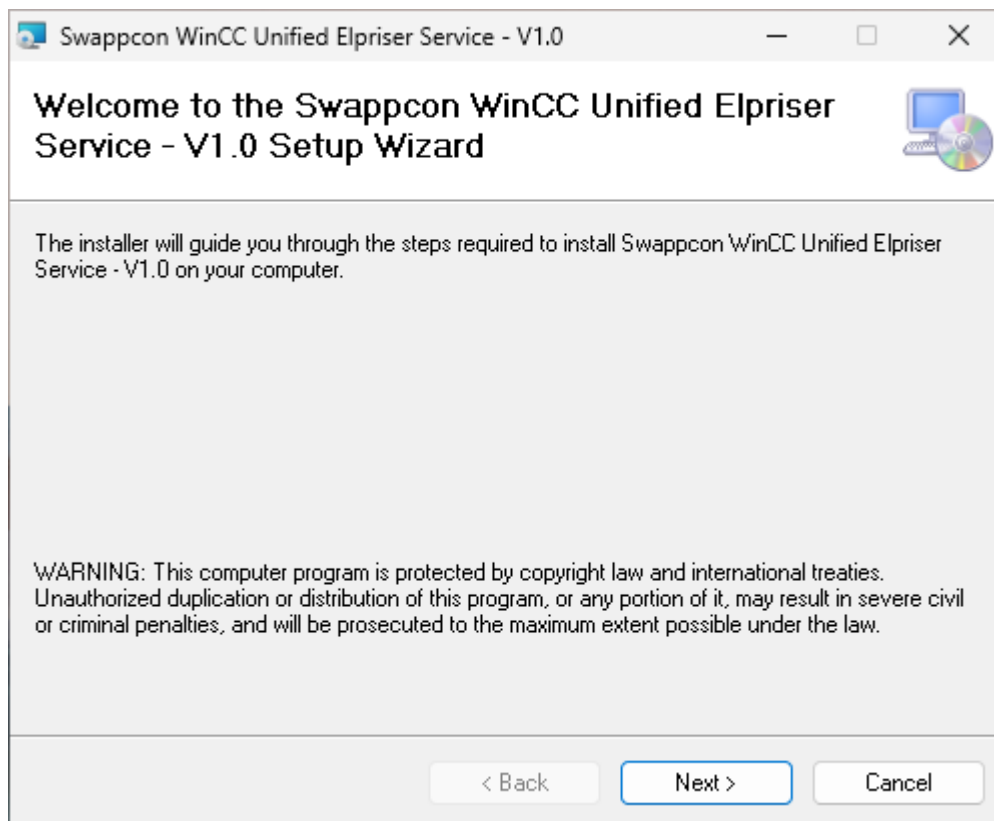


Figure 2.2.1: Installation program startup dialog.

Please press the "Next>" button.

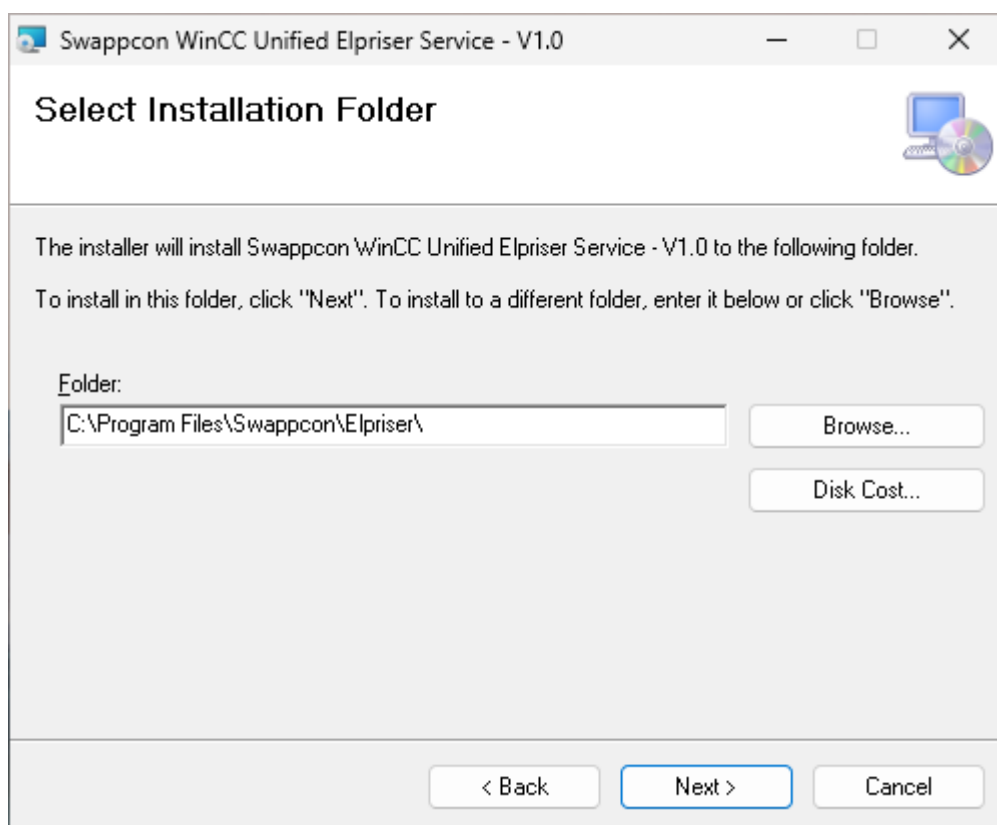


Figure 2.2.2: Installation directory dialog.

Please press the "Next>" button.

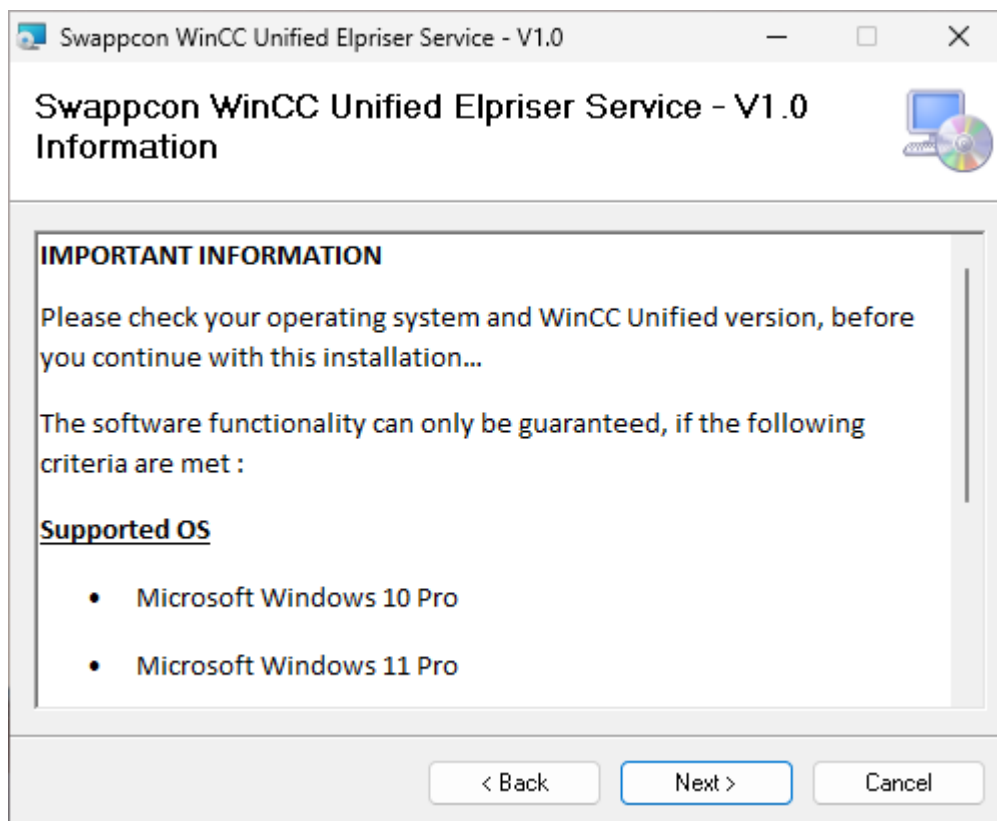


Figure 2.2.3: Information regarding supported software.

Please press the "Next>" button.

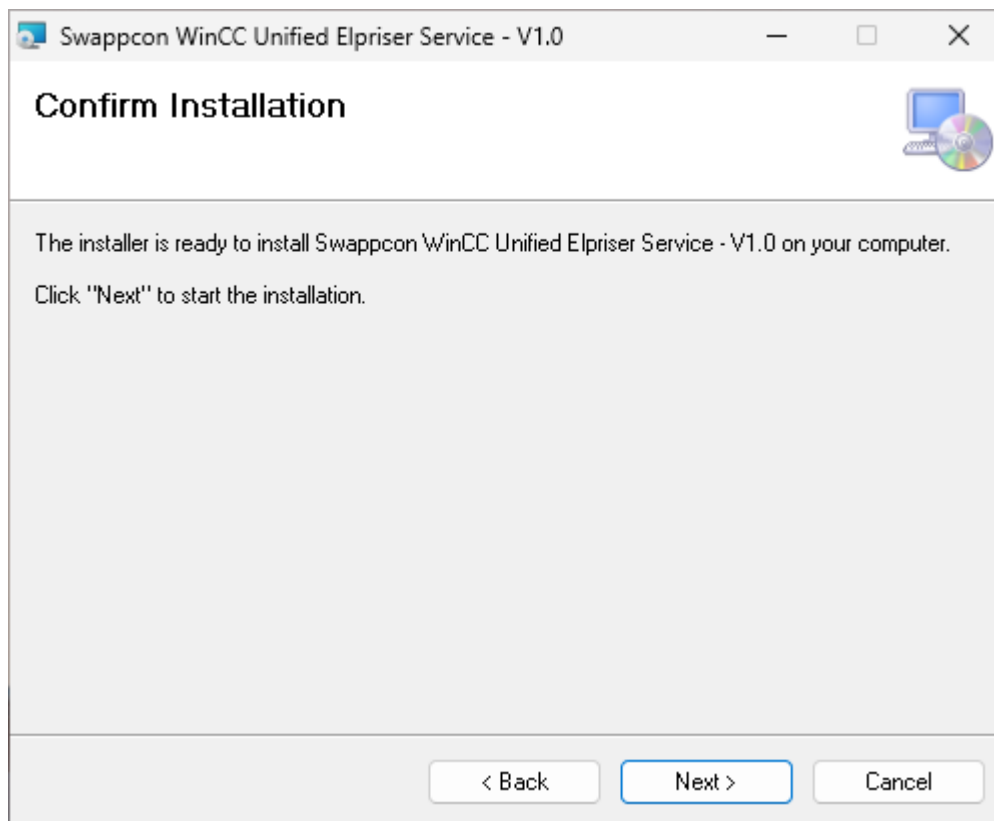


Figure 2.2.4: The installation program is ready for the installation itself.

Please press the "Next>" button.

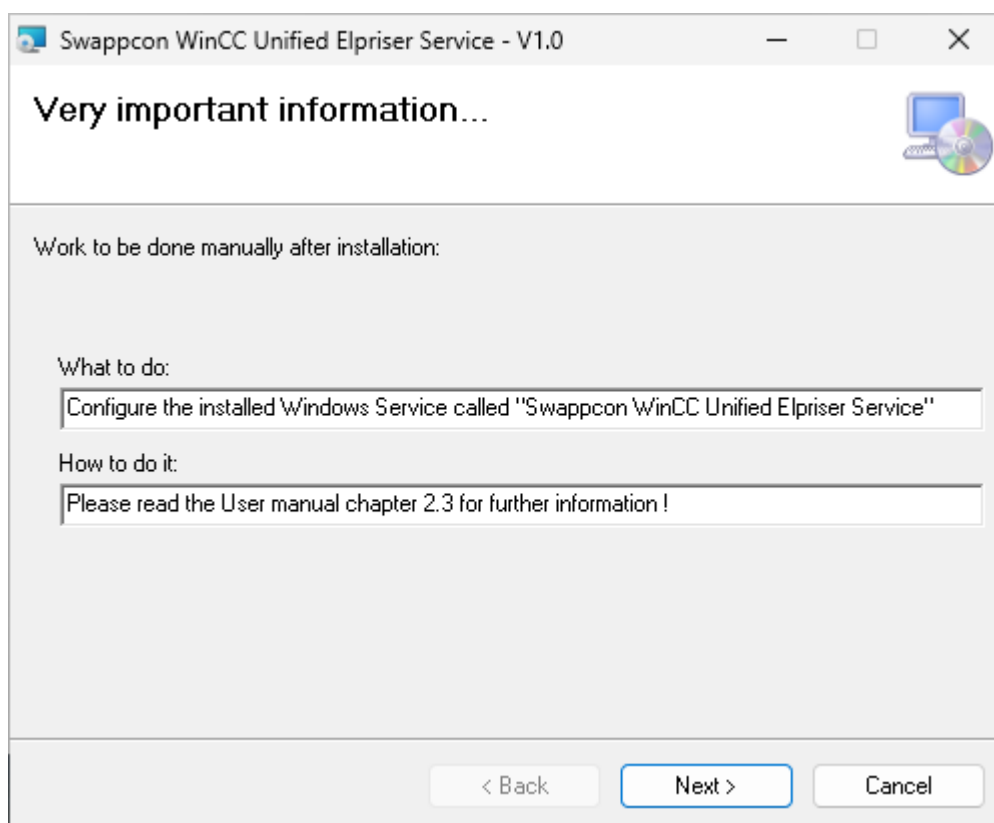


Figure 2.2.5: Installation program important dialog.

Please press the "Next>" button.

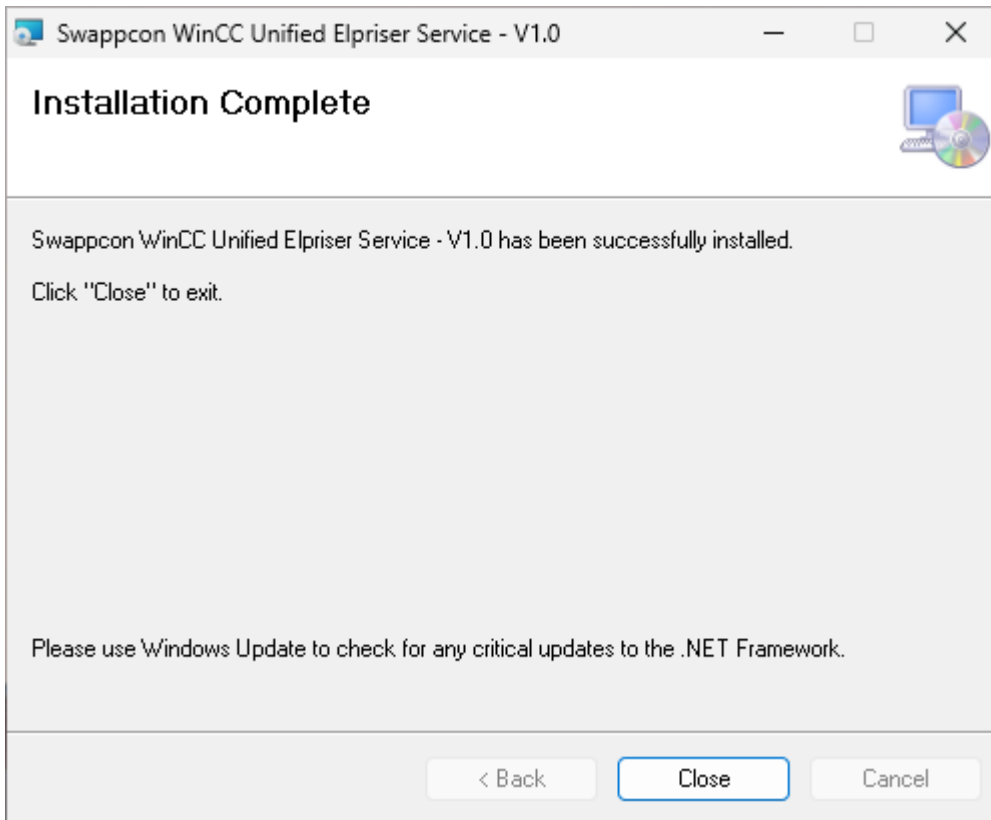


Figure 2.2.6: Installation program complete dialog.

After the installation process, the service must be configured and started manually, please read chapter 2.3 and chapter 3 ...

2.3 Important information about user rights for the service

The service is installed as a Windows service called:

- “Swappcon WinCC Unified Elpriser Service”

The service must run under a user account with the following rights:

- A user who is a member of the "SIMATIC HMI" user group.
- Rights to write to the Windows Event Log system.
- Rights to shutdown Windows services.

3. Configure Elpriser service

3.1 Configuring the Elpriser service before first start

The service is dependent on a Json configuration textfile. A setup demo configuration file is installed in the installation directory:

- C:\Program Files\Swappcon\Elpriser\ Setup_ElPriser.json

The json-file must be edited with the installed application called “ElPriser - Setup”

A Windows shortcut-link, to the setup application, is created during the installation process, and can be found at this location:

- All apps / Swappcon / ElPriser - Setup

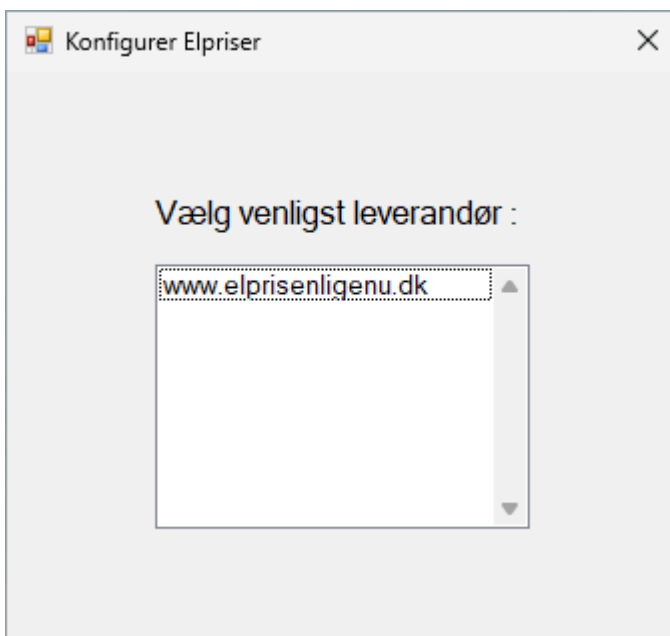


Figure 3.1.1: Distributor dialog in “ElPriser – Setup” application.

Please choose www.elprisenligenu.dk in the list

www.elprisenligenu.dk - C:\Program Files\Swappcon\ElPriser\Setup_ElPriser.json

Indtast WinCC tag navne

Time 0 - 1 :	Time_0	Time 12 - 13 :	Time_12	Sidst opdateret :	LastDownload
Time 1 - 2 :	Time_1	Time 13 - 14 :	Time_13	Gældende for :	DateValid
Time 2 - 3 :	Time_2	Time 14 - 15 :	Time_14	Område :	☒ Vest for Storebælt
Time 3 - 4 :	Time_3	Time 15 - 16 :	Time_15		☐ Øst for Storebælt
Time 4 - 5 :	Time_4	Time 16 - 17 :	Time_16	Timepris :	☒ DKK/Kwh
Time 5 - 6 :	Time_5	Time 17 - 18 :	Time_17		☐ DKK/Mwh
Time 6 - 7 :	Time_6	Time 18 - 19 :	Time_18		
Time 7 - 8 :	Time_7	Time 19 - 20 :	Time_19		
Time 8 - 9 :	Time_8	Time 20 - 21 :	Time_20		
Time 9 - 10 :	Time_9	Time 21 - 22 :	Time_21		
Time 10 - 11 :	Time_10	Time 22 - 23 :	Time_22		
Time 11 - 12 :	Time_11	Time 23 - 24 :	Time_23		

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Figure 3.1.2: Setup dialog in “ElPriser – Setup” application.

The setup consists of following information:

- configuration of 24 WinCC tagnames, each containing information about hourly price.
- configuration of 1 WinCC tagname containing date/time for last price update.
- configuration of 1 WinCC tagname containing last valid date for the price readings.
- configuration of country zone determining the area for the price readings.
- configuration of price calculated in per Kwh or per Mwh.

The setup values have the following characteristics:

Time 0 – 23	:	Name of WinCC tag of datatype “Floating-point number 32.bit IEEE 754”
Sidst opdateret	:	Name of WinCC tag of datatype “Date/Time”
Gældende for	:	Name of WinCC tag of datatype “Date/Time”
Område	:	Prices valid for vest of Great Belt Prices valid for east of Great Belt
Timepris	:	Prices stored as DKK/Kwh Prices stroed as DKK/Mwh

Figure 3.1.2. is just an example of some test data, and the tag names are also just examples. The user has free choice of tag names in the setup application.

4. Log files : Information, Warnings and Errors

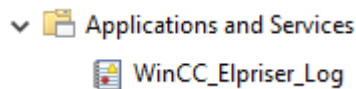
The Elpriser service writes information to the standard “Event Viewer” application in MS Windows. If the Elpriser service does not work as expected, the user can seek information in the “Event Viewer” application to help solving the problem.

4.1. Using the “Event Viewer” application

4.1.1. Starting the “Event Viewer”

The application can be started in the following way:

1. Open a “Run” dialog in MS Windows.
2. Type “eventvwr.msc” and press the “OK” button.
3. Wait a moment while the application is initializing.
4. Expand the left tree view called “Applications and Services Logs”



4.1.2. WinCC_Elpriser_Log:

- This log contains information from the Elpriser service. Information is written every time the service is started or stopped. Any errors will also be written to the log.