WinCC Professional V14 architectures

The SCADA system inside TIA Portal – Efficiency and transparency for your plant
WinCC Professional V14SP1 architectures

Legend

- WinCC Runtime Professional V14 SP1 Base Packages = Base Packages
- SIMATIC Information Server 2014 SP2 = IS2014
- SIMATIC Process Historian 2014 SP2 = PH2014
## Basic functionality

<table>
<thead>
<tr>
<th>Basic functionality</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WinCC / OPC-Server</strong></td>
<td>The WinCC OPC servers provide customer-specific OPC clients with data from the WinCC data warehouse, e.g. process values or messages. The WinCC OPC UA server is installed as Windows service and started automatically. The WinCC OPC UA server supports only the communication profile &quot;UA-TCP UA-SC UA Binary&quot;. The used port number is adjustable. &quot;OPC Historical Access&quot; enables access to archives and includes the services &quot;Historical Data&quot; and &quot;Alarms &amp; Events&quot;. The WinCC OPC UA server supports only the &quot;Historical Data&quot; service. You can read and limitedly write with an OPC UA client the values of archive tags in the tag archives. Depending on the configuration of the tag archive, the archive tag can contain either raw data or already processed process values.</td>
</tr>
<tr>
<td><strong>Runtime API</strong></td>
<td>Runtime API describes the open programming interface of WinCC. Via the API functions, you use the internal functions of WinCC in your own applications and access HMI tag data or data in the archives. <strong>Application</strong> API functions are used in the following places: Within WinCC: In user-defined C -functions and local C-scripts. Outside of WinCC: In Windows applications created in the C/C++ programming language. To use Runtime API in the C# or VB.Net programming languages, you must program a corresponding implementation.</td>
</tr>
</tbody>
</table>
# Runtime options

<table>
<thead>
<tr>
<th>Runtime options</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WinCC Server / WinCC Client</strong></td>
<td>Server/client systems</td>
<td>6AV2107-0EB00-0BB0</td>
</tr>
<tr>
<td><strong>WinCC Recipes</strong></td>
<td>Organization of data records for associated machines / production data</td>
<td>6AV2107-0JB00-0BB0</td>
</tr>
<tr>
<td><strong>SIMATIC WinCC Redundancy</strong></td>
<td>WinCC Redundancy provides a considerable increase in the availability of WinCC and the system as a whole by operating two servers at the same time linked together.</td>
<td>6AV2107-0FB00-0BB0</td>
</tr>
<tr>
<td><strong>WinCC Logging (1500/500 tags)</strong></td>
<td>Archiving of process data (including 500 archive tags)</td>
<td>6AV2107-0GB00-0BB0</td>
</tr>
<tr>
<td><strong>WinCC WebNavigator</strong></td>
<td>Control and monitoring via the web (MS Internet Explorer)</td>
<td>See WebNavigator slides</td>
</tr>
<tr>
<td><strong>WebUX</strong></td>
<td>Platform and browser-independent operator control and monitoring via the web (HTML5)</td>
<td>See WebUX slides</td>
</tr>
<tr>
<td><strong>WinCC DataMonitor</strong></td>
<td>Monitoring and analyzing of current and historical process data via the web (MS IE) For new systems, the information server is recommended</td>
<td></td>
</tr>
<tr>
<td><strong>SIMATIC Information Server 2014 SP2</strong></td>
<td>Web-based analysis and historical process data reports (browser dependent)</td>
<td></td>
</tr>
<tr>
<td><strong>SIMATIC Process Historian 2014 SP2</strong></td>
<td>Plant-wide archive for messages and process data</td>
<td></td>
</tr>
<tr>
<td><strong>Industrial Data Bridge(^1)</strong></td>
<td>Configurable connections to databases and IT systems</td>
<td></td>
</tr>
<tr>
<td><strong>SIMATIC ProDiag</strong></td>
<td>SIMATIC ProDiag allows selective and fast machine and plant diagnostics for SIMATIC S7-1500 and SIMATIC HMI:</td>
<td>6AV2107-0UB00-0BB0</td>
</tr>
</tbody>
</table>

\(^1\) WinCC RT Prof: as consumer/provider as sep. application
## Engineering options

<table>
<thead>
<tr>
<th>Engineering options</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SIMATIC EnergySuite</strong> (incl. 10 energy objects)</td>
<td>Transparency of energy consumption</td>
<td>6AV2108-0AA04-0AA5</td>
</tr>
<tr>
<td><strong>SIMATIC Visualization Architect</strong></td>
<td>SIMATIC Visualization Architect (SiVArc) enables simple, fast, and flexible automated creation of HMI contents based on the STEP 7 user program.</td>
<td>6AV2107-0PX04-0AA5</td>
</tr>
<tr>
<td><strong>MultiUser</strong></td>
<td>TIA Portal Multiuser Engineering allows several users to work on the same project simultaneously.</td>
<td>6ES7823-1AA04-0YA5</td>
</tr>
<tr>
<td><strong>TIA Portal Teamcenter Gateway</strong></td>
<td>The TIA Portal Teamcenter Gateway permits storage and management of TIA Portal projects and global libraries in Teamcenter.</td>
<td>6ES7823-1EA00-0YA5</td>
</tr>
<tr>
<td><strong>TIA Portal Cloud Connector</strong></td>
<td>The TIA Portal Cloud Connector enables access to local PC interfaces and connected SIMATIC hardware in the TIA Portal Engineering even though the engineering itself takes place via remote desktop in a private cloud.</td>
<td>6ES7823-1CA00-0YA0</td>
</tr>
<tr>
<td><strong>SIMATIC ODK 1500S</strong></td>
<td>The SIMATIC ODK 1500S allows the development of function libraries with the high-level languages C/C++ for ODK-capable SIMATIC S7-1500 PLCs.</td>
<td></td>
</tr>
<tr>
<td><strong>SIMATIC Target 1500S TM for Simulink®</strong></td>
<td>The SIMATIC Target 1500S TM for Simulink® is an add-on for Simulink from MathWorks. It allows the integration of Simulink models directly into the program cycle of an ODK-capable S7-1500 PLC.</td>
<td></td>
</tr>
<tr>
<td>S7 system components</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>External database</td>
<td>e.g.: SQL, Oracle, Access</td>
<td></td>
</tr>
<tr>
<td>Software to be installed on the computer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WinCC RT Professional V14 SP1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explanation of symbols</td>
</tr>
</tbody>
</table>

- **WinCC single-user system**
- **WinCC server**
- **WinCC standard client**
- **PC without WinCC**

**Explanations**

1. Ext
2. Software to be installed on the computer
## System requirements for WinCC Engineering and Runtime

- WinCC Professional V14 SP1/V13 SP2 is generally only released for 64-bit operating systems.
- WinCC Runtime Professional V14 SP1/V13 SP2 are released for 32-bit and 64-bit operating systems.

<table>
<thead>
<tr>
<th>System software</th>
<th>Engineering 64-bit</th>
<th>Runtime Professional 32-bit</th>
<th>Runtime Professional 64-bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 10 (Professional, Enterprise Version 1607)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows 10 Enterprise LTSB 2015/2016</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows 8.1 (Professional, Enterprise)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows Server 2016 Standard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows Server 2012 R2 StdE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows 7 (Professional, Enterprise, Ultimate) SP1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows Embedded Std 7 SP1 (only SIMATIC IPC)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Side-by-side installation with all SIMATIC products

- WinCC Professional V13 SP2 can be installed on a computer in parallel with STEP 7 V5.5 SP4 (STEP 7 V5.6), STEP7 V11/V12/V13, WinCC V11/V12/V13 (apart from WinCC Professional), WinCC flexible (as of 2008). A parallel installation is not possible for WinCC V6/V7. Compatible with SIMATIC Net V14 SP1.

- A project upgrade to TIA Portal V14 is carried out exclusively on the basis of TIA Portal V13 SP1/SP2 projects (latest update recommended). To provide you with the best possible support here, the current version of V13 SP2 is included with the V14 SP1 products. A compatibility mode is not supported.

- SIMOTION SCOUT TIA from V4.4 HF5 (109218898)
Remote software

- Remote Desktop Connection (RDP) in console mode (released for WinCC clients)
  (If WinCC runs in service mode)
- "RealVNC" Enterprise Edition V5.1.0
WinCC RT Professional V14 SP1 SP1
Supported virtualization software

WinCC Engineering and Runtime

WinCC Professional V14 SP1/V13 SP2 & WinCC Runtime Professional V14 SP1/V13 SP2 are released for the following virtualization platforms

<table>
<thead>
<tr>
<th>Virtualization platforms</th>
<th>Engineering</th>
<th>Runtime Advanced/Professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>VMware vSphere Hypervisor (ESXi) from 6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VMware Workstation 12.5</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>VMware Player 12.5</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>Microsoft Windows Hyper-V Server 2016</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All of the released operating systems can be used as host operating systems in a virtualization platform.
WinCC RT Professional V14 SP1 SP1
Migration

**Migration**

*WinCC V7.3* projects can be migrated to WinCC Professional V14

*WinCC V7.4* projects can be migrated to WinCC Professional V14 SP1

Projects from earlier WinCC versions cannot be migrated directly to WinCC V14.
If you want to continue to use such projects in WinCC V14, you must first migrate them to WinCC V7.3.

The following project types are supported:

- Single-user projects
- Multi-user projects
The TIA Portal project upgrade to WinCC Professional V14 SP1 always requires WinCC Professional V13 SP1/SP2

<table>
<thead>
<tr>
<th>… WinCC Professional V11, V12, V13 † V14</th>
<th>MFLB</th>
<th>Download</th>
</tr>
</thead>
<tbody>
<tr>
<td>WinCC Professional V14 512 PowerTags</td>
<td>6AV2103-3DA04-0AE5</td>
<td>6AV2103-3DA04-0AK5</td>
</tr>
<tr>
<td>WinCC Professional V14 4096 PowerTags</td>
<td>6AV2103-3HA04-0AE5</td>
<td>6AV2103-3HA04-0AK5</td>
</tr>
<tr>
<td>WinCC Professional V14 max. PowerTags</td>
<td>6AV2103-3XA04-0AE5</td>
<td>6AV2103-3XA04-0AK5</td>
</tr>
</tbody>
</table>

V13 SP2 is included in the delivery of WinCC Professional Engineering V14 SP1.
WinCC in the TIA Portal
Project migration and licenses of WinCC V7 RC

<table>
<thead>
<tr>
<th>WinCC V7.0…V7.4</th>
<th>-&gt; WinCC V14</th>
<th>MFLB RC</th>
<th>Download</th>
</tr>
</thead>
<tbody>
<tr>
<td>V7.X RC/RT client</td>
<td>-&gt; WinCC Professional Client</td>
<td>6AV2107-4DB04-0AE0</td>
<td>6AV2103-4BD03-0AK5</td>
</tr>
<tr>
<td>V7.X RC 128</td>
<td>-&gt; WinCC Prof. 512 + RT Prof. 128</td>
<td>6AV2103-4BD04-0AE5</td>
<td>6AV2103-4BD04-0AK5</td>
</tr>
<tr>
<td>V7.X RC 512</td>
<td>-&gt; WinCC Prof. 512 + RT Prof. 512</td>
<td>6AV2103-4DD04-0AE5</td>
<td>6AV2103-4DD04-0AK5</td>
</tr>
<tr>
<td>V7.X RC 2k</td>
<td>-&gt; WinCC Prof. 4k + RT Prof. 2k</td>
<td>6AV2103-4FH04-0AE5</td>
<td>6AV2103-4FH04-0AK5</td>
</tr>
<tr>
<td>V7.X RC 8k</td>
<td>-&gt; WinCC Prof. max. + RT Prof. 8k</td>
<td>6AV2103-4KX04-0AE5</td>
<td>6AV2103-4KX04-0AK5</td>
</tr>
<tr>
<td>V7.X RC 64k</td>
<td>-&gt; WinCC Prof. max. + RT Prof. 64k</td>
<td>6AV2103-4MX04-0AE5</td>
<td>6AV2103-4MX04-0AK5</td>
</tr>
<tr>
<td>V7.X RC 102400</td>
<td>-&gt; WinCC Prof. max. + RT Prof. 102400</td>
<td>6AV2103-4PX04-0AE5</td>
<td>6AV2103-4PX04-0AK5</td>
</tr>
<tr>
<td>V7.X RC 153600</td>
<td>-&gt; WinCC Prof. max. + RT Prof. 153600</td>
<td>6AV2103-4RX04-0AE5</td>
<td>6AV2103-4RX04-0AK5</td>
</tr>
<tr>
<td>V7.X RC 262144</td>
<td>-&gt; WinCC Prof. max. + RT Prof. 262144</td>
<td>6AV2103-4TX04-0AE5</td>
<td>6AV2103-4TX04-0AK5</td>
</tr>
</tbody>
</table>
WinCC RT Professional V14 SP1 SP1
Upgrade of WinCC in the TIA Portal (< V13.SPx to V14SP1)

The TIA Portal project upgrade to WinCC Professional V14 SP1 always requires WinCC Professional V13 SP1/SP2

SIMATIC WinCC Professional .. PowerTags V14 SP1 Upgrade V11..V13 -> V14 SP1

<table>
<thead>
<tr>
<th>PowerTags</th>
<th>MFLB</th>
<th>Download</th>
</tr>
</thead>
<tbody>
<tr>
<td>512 PowerTags</td>
<td>6AV2103-3DA04-0AE5</td>
<td>6AV2103-3DA04-0AK5</td>
</tr>
<tr>
<td>4096 PowerTags</td>
<td>6AV2103-3HA04-0AE5</td>
<td>6AV2103-3HA04-0AK5</td>
</tr>
<tr>
<td>max. PowerTags</td>
<td>6AV2103-3XA04-0AE5</td>
<td>6AV2103-3XA04-0AK5</td>
</tr>
</tbody>
</table>

V13 SP2 is included in the delivery of WinCC Professional Engineering V14 SP1.
## WinCC RT Professional V14 SP1 SP1
Migration license of WinCC V7 RT

<table>
<thead>
<tr>
<th>WinCC RT V7.0...V7.4 -&gt; WinCC V14 SP1</th>
<th>MFLB RT</th>
<th>Download</th>
</tr>
</thead>
<tbody>
<tr>
<td>V7.X RC/RT client -&gt; WinCC Professional Client</td>
<td>6AV2107-4DB04-0AE0</td>
<td>6AV2105-4DB04-0AK0</td>
</tr>
<tr>
<td>V7.X RT 128 -&gt; WinCC RT Professional 128</td>
<td>6AV2105-4BB04-0AE0</td>
<td>6AV2105-4BB04-0AK0</td>
</tr>
<tr>
<td>V7.X RT 512 -&gt; WinCC RT Professional 512</td>
<td>6AV2105-4DD04-0AE0</td>
<td>6AV2105-4DD04-0AK0</td>
</tr>
<tr>
<td>V7.X RT 2048 -&gt; WinCC RT Professional 2048</td>
<td>6AV2105-4FF04-0AE0</td>
<td>6AV2105-4FF04-0AK0</td>
</tr>
<tr>
<td>V7.X RT 8192 -&gt; WinCC RT Professional 8192</td>
<td>6AV2105-4KK04-0AE0</td>
<td>6AV2105-4KK04-0AK0</td>
</tr>
<tr>
<td>V7.X RT 65536 -&gt; WinCC RT Professional 65536</td>
<td>6AV2105-4MM04-0AE0</td>
<td>6AV2105-4MM04-0AK0</td>
</tr>
<tr>
<td>V7.X RT 102400 -&gt; WinCC RT Professional 102400</td>
<td>6AV2105-4PP04-0AE0</td>
<td>6AV2105-4PP04-0AK0</td>
</tr>
<tr>
<td>V7.X RT 153600 -&gt; WinCC RT Professional 153600</td>
<td>6AV2105-4RR04-0AE0</td>
<td>6AV2105-4RR04-0AK0</td>
</tr>
<tr>
<td>V7.X RT 262144 -&gt; WinCC RT Professional 262144</td>
<td>6AV2105-4TT04-0AE0</td>
<td>6AV2105-4TT04-0AK0</td>
</tr>
</tbody>
</table>
The following security programs were tested:

**Supported antivirus programs**
- Symantec Endpoint Protection 12.1
- Trend Micro Office Scan Corporate Edition 11.0
- McAfee VirusScan Enterprise 8.8
- Kaspersky Anti-Virus 2016
- Windows Defender (from Windows 8.1)
- Qihoo "360 Total Security Essential" 9.7

**Encryption software:**
- Microsoft Bitlocker

**Host-based intrusion detection system:**
- McAfee Application Control 6.2.0
## WinCC RT Professional V14 SP1

### Compatible operating systems

<table>
<thead>
<tr>
<th>Web server on:</th>
<th>Single-user system</th>
<th>Server</th>
<th>Client</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Windows</strong></td>
<td>![Checkmark]</td>
<td>![Checkmark]</td>
<td>![Checkmark]</td>
</tr>
<tr>
<td>• 7 SP1</td>
<td></td>
<td>Max. 3 clients without redundancy</td>
<td>![Checkmark]</td>
</tr>
<tr>
<td>• 8.1</td>
<td></td>
<td></td>
<td>![Checkmark]</td>
</tr>
<tr>
<td>• 10</td>
<td></td>
<td></td>
<td>![Checkmark]</td>
</tr>
<tr>
<td><strong>Windows server</strong></td>
<td>![Checkmark]</td>
<td>![Checkmark]</td>
<td>![Checkmark]</td>
</tr>
<tr>
<td>• 2012 R2 StdE</td>
<td></td>
<td></td>
<td>![Checkmark]</td>
</tr>
<tr>
<td>• 2016 Standard</td>
<td></td>
<td></td>
<td>![Checkmark]</td>
</tr>
<tr>
<td><strong>Windows embedded</strong></td>
<td>![Checkmark]</td>
<td>![X]</td>
<td>![Checkmark]</td>
</tr>
</tbody>
</table>
WinCC RT Professional V14 SP1
Licenses

Runtime
WinCC differentiates between RT licenses (Runtime) and ES licenses (Configuration) as well as the number of tags. RT licenses permit the operation of WinCC in runtime for an unlimited period of time. With this license you can use up to 262 144 external tags and up to 500 archive tags in Runtime. Engineering is not possible.

New: ... the license for sporadic use: 50h of actual use – where the usage can be interrupted as often as required

Engineering
You require a license key for:

- WinCC engineering system, e.g. WinCC Professional
- Options for the WinCC engineering system

Web options
The license type of the web options (WEBNAVIGATOR, DATAMONITOR and WebUX) becomes consistently countable.
Web solutions with WebNavigator and WebUX

In the future, these SCADA options will have **standardized MLFBs as of V7.4 or V14** and therefore there will no longer be any in-house MLFBs for **WinCC RT Professional V14 SP1**

**Scalable web access**

**Switching between two license models:**
- Separate or combined web licenses
  - WebUX Monitor Client (read only)
  - WebUX Operate Client (read-write)
  - Web Navigator Client (read-write)

**The web licenses are additive:**
- all WebClients = sum of the individual licenses (**countable**)
  - (1, 3, 10, 30, 100 clients)
- Reserving licenses for users
- No update costs, because version-independent licenses (existing licenses remain valid after upgrade)

**NEW**

1x WinCC WebUX MonitorClient **FREE!**
## SIMATIC WinCC Professional xx PowerTags V14 SP1 Engineering

<table>
<thead>
<tr>
<th>Description</th>
<th>Order number EU</th>
<th>Order number ASIA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DVD</td>
<td>Online software download</td>
</tr>
<tr>
<td>512 PowerTags</td>
<td>6AV2103-0DA04-0AA5</td>
<td>6AV2103-0DA04-0AH5</td>
</tr>
<tr>
<td>4096 PowerTags</td>
<td>6AV2103-0HA04-0AA5</td>
<td>6AV2103-0HA04-0AH5</td>
</tr>
<tr>
<td>Max. PowerTags</td>
<td>6AV2103-0XA04-0AA5</td>
<td>6AV2103-0XA04-0AH5</td>
</tr>
<tr>
<td>NEW: SIMATIC 50h Engineering with STEP 7 Professional V14SP1 Combo.</td>
<td>6ES7823-1GE04-0YA5</td>
<td>-</td>
</tr>
</tbody>
</table>

## SIMATIC WinCC Runtime Professional … PowerTags V14 SP1 Base Packages (RT incl. 500 archive tags)

<table>
<thead>
<tr>
<th>Description</th>
<th>Order number EU</th>
<th>Order number ASIA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DVD</td>
<td>Online software download</td>
</tr>
<tr>
<td>128 PowerTags</td>
<td>6AV2105-0BA04-0AA0</td>
<td>6AV2105-0BA04-0AH0</td>
</tr>
<tr>
<td>512 PowerTags</td>
<td>6AV2105-0DA04-0AA0</td>
<td>6AV2105-0DA04-0AH0</td>
</tr>
<tr>
<td>2048 PowerTags</td>
<td>6AV2105-0FA04-0AA0</td>
<td>6AV2105-0FA04-0AH0</td>
</tr>
<tr>
<td>4096 PowerTags</td>
<td>6AV2105-0HA04-0AA0</td>
<td>6AV2105-0HA04-0AH0</td>
</tr>
<tr>
<td>8192 PowerTags</td>
<td>6AV2105-0KA04-0AA0</td>
<td>6AV2105-0KA04-0AH0</td>
</tr>
<tr>
<td>65536 PowerTags</td>
<td>6AV2105-0MA04-0AA0</td>
<td>6AV2105-0MA04-0AH0</td>
</tr>
<tr>
<td>102400 PowerTags</td>
<td>6AV2105-0PA04-0AA0</td>
<td>6AV2105-0PA04-0AH0</td>
</tr>
<tr>
<td>153600 PowerTags</td>
<td>6AV2105-0RA04-0AA0</td>
<td>6AV2105-0RA04-0AH0</td>
</tr>
<tr>
<td>262144 PowerTags</td>
<td>6AV2105-0TA04-0AA0</td>
<td>6AV2105-0TA04-0AH0</td>
</tr>
<tr>
<td>WinCC Client for RT Prof V14</td>
<td>6AV2107-0DB04-0AA0</td>
<td>6AV2107-0DB04-0AH0</td>
</tr>
</tbody>
</table>
### WinCC WebNavigator (countable)

<table>
<thead>
<tr>
<th>Description</th>
<th>Order numbers DVD EU</th>
<th>Online software download EU</th>
<th>Order numbers DVD ASIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>WinCC WebNavigator - 1 client</td>
<td>6AV6362-1AB00-0BB0</td>
<td>6AV6362-1AB00-0AH0</td>
<td>6AV6362-1AB00-0BB0</td>
</tr>
<tr>
<td>WinCC WebNavigator - 3 clients</td>
<td>6AV6362-1AD00-0BB0</td>
<td>6AV6362-1AD00-0AH0</td>
<td>6AV6362-1AD00-0BB0</td>
</tr>
<tr>
<td>WinCC WebNavigator - 10 clients</td>
<td>6AV6362-1AF00-0BB0</td>
<td>6AV6362-1AF00-0AH0</td>
<td>6AV6362-1AF00-0BB0</td>
</tr>
<tr>
<td>WinCC WebNavigator - 30 clients</td>
<td>6AV6362-1AJ00-0BB0</td>
<td>6AV6362-1AJ00-0AH0</td>
<td>6AV6362-1AJ00-0BB0</td>
</tr>
<tr>
<td>WinCC WebNavigator - 100 clients</td>
<td>6AV6362-1AM00-0BB0</td>
<td>6AV6362-1AM00-0AH0</td>
<td>6AV6362-1AM00-0BB0</td>
</tr>
<tr>
<td>WinCC WebNavigator Diagnostic Client</td>
<td>6AV6362-1BA00-0BB0</td>
<td>6AV6362-1BA00-0AH0</td>
<td>6AV6362-1BA00-0BB0</td>
</tr>
</tbody>
</table>

### WinCC DataMonitor (countable)

<table>
<thead>
<tr>
<th>Description</th>
<th>Order numbers DVD EU</th>
<th>Online software download EU</th>
<th>Order numbers DVD ASIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>WinCC DataMonitor - 1 client</td>
<td>6AV6362-3AB00-0BB0</td>
<td>6AV6362-3AB00-0AH0</td>
<td>6AV6362-3AB00-0BB0</td>
</tr>
<tr>
<td>WinCC DataMonitor - 3 clients</td>
<td>6AV6362-3AD00-0BB0</td>
<td>6AV6362-3AD00-0AH0</td>
<td>6AV6362-3AD00-0BB0</td>
</tr>
<tr>
<td>WinCC DataMonitor - 10 clients</td>
<td>6AV6362-3AF00-0BB0</td>
<td>6AV6362-3AF00-0AH0</td>
<td>6AV6362-3AF00-0BB0</td>
</tr>
<tr>
<td>WinCC DataMonitor - 30 clients</td>
<td>6AV6362-3AJ00-0BB0</td>
<td>6AV6362-3AJ00-0AH0</td>
<td>6AV6362-3AJ00-0BB0</td>
</tr>
</tbody>
</table>
## WinCC WebUX (Monitor: countable)

<table>
<thead>
<tr>
<th>Description</th>
<th>MLFB DVD EU</th>
<th>Online software download EU</th>
<th>MLFB DVD ASIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>WinCC WebUX Monitor</td>
<td>1 client</td>
<td>6AV6362-2AB00-0BB0</td>
<td>6AV6362-2AB00-0AH0</td>
</tr>
<tr>
<td>WinCC WebUX Monitor</td>
<td>3 clients</td>
<td>6AV6362-2AD00-0BB0</td>
<td>6AV6362-2AD00-0AH0</td>
</tr>
<tr>
<td>WinCC WebUX Monitor</td>
<td>10 clients</td>
<td>6AV6362-2AF00-0BB0</td>
<td>6AV6362-2AF00-0AH0</td>
</tr>
<tr>
<td>WinCC WebUX Monitor</td>
<td>30 clients</td>
<td>6AV6362-2AJ00-0BB0</td>
<td>6AV6362-2AJ00-0AH0</td>
</tr>
<tr>
<td>WinCC WebUX Monitor</td>
<td>100 clients</td>
<td>6AV6362-2AM00-0BB0</td>
<td>6AV6362-2AM00-0AH0</td>
</tr>
</tbody>
</table>

## WinCC WebUX (Operate: countable)

<table>
<thead>
<tr>
<th>Description</th>
<th>Order number DVD EU</th>
<th>Online software download EU</th>
<th>Order number DVD ASIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>WinCC WebUX Operate</td>
<td>1 client</td>
<td>6AV6362-2BB00-0BB0</td>
<td>6AV6362-2BB00-0AH0</td>
</tr>
<tr>
<td>WinCC WebUX Operate</td>
<td>3 clients</td>
<td>6AV6362-2BD00-0BB0</td>
<td>6AV6362-2BD00-0AH0</td>
</tr>
<tr>
<td>WinCC WebUX Operate</td>
<td>10 clients</td>
<td>6AV6362-2BF00-0BB0</td>
<td>6AV6362-2BF00-0AH0</td>
</tr>
<tr>
<td>WinCC WebUX Operate</td>
<td>30 clients</td>
<td>6AV6362-2BJ00-0BB0</td>
<td>6AV6362-2BJ00-0AH0</td>
</tr>
<tr>
<td>WinCC WebUX Operate</td>
<td>100 clients</td>
<td>6AV6362-2BM00-0BB0</td>
<td>6AV6362-2BM00-0AH0</td>
</tr>
</tbody>
</table>
# WinCC RT Professional V14 SP1? In which case?

## Project TIA Portal for PLC
- WinCC-integrated, system diagnostics, time stamping at the source
- Process diagnostics
- SIMATIC Energy Suite

## WinCC RT Advanced does not have a sufficient range of functions
- > 16 384 PowerTags
- Expanded archiving (database, size, etc. ...)
- Client/server architecture, web clients, WebUX
- ...

## System architecture
- No expanded range of functions such as:
  - Several servers and multi-clients *(see V7)*
  - KPI evaluation *(conf. V7 Performance Monitor)*
  - Connecting telecontrol stations *(conf. V7 TeleControl)*

## Recipes (Engineering)
- Elements per recipe: **500**
- Data records: **10 000**
- **max 1,000,000** recipe elements (total)
WinCC RT Professional V14 SP1
Communication with the process

Ethernet card of the PC:
- SOFTNET-IE S7
  max. 64 connections (6GK1704-1CW14-0AA0)
- SOFTNET-IE S7 Extended
  max. 128 connections (6GK1704-1BW14-0AA0)

With CP
- CP 1623 PCIe: (6GK1162-3AA00)

Ethernet card of the PC
- Protocols 1200/1500, S7 TCP/IP, Ind. Eth
  Licenses for
  SOFTNET-IE S7 Lean max. 8 connections (included in the WinCC package)
  With > 8 connections \(\Rightarrow\) license required for Softnet-IE S7

- CP 1623 PCIe Hardnet Assembly
  (license for Hardnet-IE S7 (S7 1613) required)
  It is recommended that you use separate network cards for reducing the load on the PC-CPU
  -max. 64 x S7-1500 connections
  -max. 64 x S7-1200 connections
  -max. 64 x S7-300/400 connections

Example:
- LAN card 1 64 x 1200/1500
- LAN card 2 64 x 300/400

CP 5621 PCIe Softnet Module
- S7 MPI/Profibus protocols included in WinCC

CP 5613 A2 PCI Hardnet Module
- S7 MPI/Profibus protocols
- A license is required
Single-user system:
Operator control and monitoring with a single PC

Additional information
Quantity structure:

Process tags: up to 262,144 (depending on license selected)
Archive tags: max. 80,000 (depending on WinCC Logging option)
(Note: WinCC Pro 500 archive tags are included in the basic version.)

Base Packages
SIMATIC WinCC Runtime Professional ... PowerTags V14 SP1

WinCC RT Prof n
e.g.:
- 512 PowerTags
- 2048 PowerTags
- 4096 PowerTags
- 8192 PowerTags
- 65,536 PowerTags
- 102,400 PowerTags
- 153,600 PowerTags
- 262,144 PowerTags

SIMATIC WinCC Engineering System Base Packages V14 SP1

- 512 PowerTags
- 4096 PowerTags
- Max. PowerTags
Redundant single-user systems
2 operator control and monitoring stations with a high degree of availability

Additional information
The two stations run in parallel (both are connected to the process). In the event of a fault in one of the two WinCC stations, the other takes over the archiving of messages, and the process/user data (recipe). Automatic synchronization of all archives after restoration of the normal operating state.

Base packages
WinCC RT Prof n
SIMATIC Net V14 SP1

WinCC redundancy
MLFB: 6AV2107-0FB00-0BB0

WinCC Engineering
- 512 PowerTags
- 4096 PowerTags
- Max. PowerTags
IMPORTANT
Changes can be made in the two WinCC servers via the engineering station. The requirement for this is that the engineering station must be configured, for example, with:

- WinCC Prof V14
- WinCC Prof V14 + STEP 7 Basic V14 (S7-1200) or STEP 7 Prof V14 (S7-1500)

**Base packages**
- WinCC RT Prof n
- SIMATIC Net V14 SP1

**WinCC redundancy**
- MLFB: 6AV2107-0FB00-0BB0

**WinCC Engineering**
- 512 PowerTags
- 4096 PowerTags
- Max. PowerTags
With WinCC Recipes, the user can manage his archives in tabular form, E. g.: Recipe management – managing the batch parameters, ...
The recipe license is located on the server.
WinCC Logging
Archive tags

The number of the archive tags can be increased with WinCC Logging. (countable licenses)

The license for 500 archive tags is included in the basic package. The logging license is located on the server. With a license for 1500 archive tags and the basic license for 500 archive tags, you then have 2000 archive tags at your disposal.

1. Base packages
   - WinCC RT Prof
     SIMATIC Net V14 SP1
   - MLFB: 6AV2107-0DB04-0AA0

2. WinCC client
   - MLFB: 6AV2107-0DB04-0AA0

3. WinCC server
   - MLFB: 6AV2107-0EB00-0BB0

4. WinCC Logging
   - e.g.: 1500 archive tags
     MLFB: 6AV2107-0GB00-0BB0
   - e.g.: 5000 archive tags
     MLFB: 6AV2107-0GD00-0BB0
Multi-user systems – central server with operating and monitoring stations
Only standard client

Please note:
A standard client does not have a WinCC project. It is connected to a specific server from which it receives data and views.
Multi-user systems with standard clients – Engineering

Scenario 1 – Development on the server

Scenario 1: The engineering license is located on the server. Changes to the project are made directly on the server.

To be observed – Differences compared to the preceding scenario:
An engineering license is also required on the server.
TIA is possible (i.e. STEP7 can be installed on the server.)

In the event of changes, it may be necessary to shut down the server.
Multi-user systems with standard clients – Engineering
Scenario 2 – Engineering station

Case 2: Changes are made on an in-house engineering station
(e.g.: work station of a system integrator who is not constantly connected)

1. Base packages
   - WinCC RT Prof n
   - SIMATIC Net V14 SP1
   
2. WinCC client
   - MLFB: 6AV2107-0DB04-0AA0

3. WinCC server
   - MLFB: 6AV2107-0EB00-0BB0

4. WinCC Engineering
   - 512 PowerTags
   - 4096 PowerTags
   - Max. PowerTags

IMPORTANT
Changes can be made on the WinCC server via the engineering station.
The requirement for this is that the engineering station must be configured.
Multi-user systems with standard clients – Engineering
Scenario 3 – Engineering station on a client

Case 3: Changes are made on an engineering station that is running on a client (e.g.: work station of a maintenance employee)

- **Base packages**
  - WinCC RT Prof n
  - SIMATIC Net V14 SP1

- **WinCC client**
  - MLFB: 6AV2107-0DB04-0AA0

- **WinCC server**
  - MLFB: 6AV2107-0EB00-0BB0

- **WinCC Engineering**
  - WinCC Prof (512 / 4096 / max)

**Important**
Changes can be made on the WinCC server via the engineering station. The requirement for this is that the engineering station must be configured.
Dedicated archive server (Process Historian 2014 SP2) – Data archiving

Access to short and long-term archiving

WinCC Single-user system

Long-term archiving

PH

The WinCC computer transparently accesses the archives of the PH server (visualization of the data in trend and message objects).

Access to short and long-term archiving

WinCC Logging optionally for > 500 archive tags
E. g.: for 5000 archive tags
MLFB: 6AV6371-1DQ17-4BX0

Additional information
The Process Historian can only be installed on an OS Server 2008 or 2012 R2. WinCC is not needed on a PH server (and must not be installed). The Alarm Logging and Tag Logging archives are transferred in real time with a secure connection to the PH server. In the event of a communication interruption, the data is buffered on the WinCC computer (MSMQ).

Base packages
1. WinCC RT Prof n
2. SIMATIC Net V14 SP1
3. Process Historian 2014 SP2
4. Basic Package
MLFB: 6AV6361-1BA01-4AA0

WinCC Logging
- optionally for > 500 archive tags
- E. g.: for 5000 archive tags
- MLFB: 6AV6371-1DQ17-4BX0

Note:
Process Historian 2014 SP2 is compatible with
- WinCC RT Prof V13 SP1 or higher
- WinCC 7.0 SP3 or higher
Archive server (PH) – Centralized data archiving

Additional information
All of the archive tags and the messages of all of the servers are centrally managed on the PH server. The clients transparently access the data of the servers and of the PH server.

*) There is no archive license on the PH server. If required, the archive licenses are located on the affected servers and/or single-user computers.
### SIMATIC Process Historian 2014 - Redundancy –
Archiving with a high degree of availability

**Additional information**

The PH redundancy is based on SQL server replication mechanisms. 

Note: It is possible to switch to PH redundancy – if a PH Single Server already exists – with:

- a new PH Single license
- a PH Redundancy license (61V6361-1CA01-4AA0)
Additional information

Standard and user-specific reports (via Report Builder of MS SQL Reporting Services)
SIMATIC Information Server 2014 SP2 – Reporting system in the web

WinCC clients

WinCC server

Information server

WinCC single-user system

1 Base packages
WinCC RT Prof n
SIMATIC Net V14 SP1
MLFB: 6AV6361-2CA07-4AX0

2 WinCC client
MLFB: 6AV2107-0DB04-0AA0

3 WinCC server
MLFB: 6AV2107-0EB00-0BB0

4 WinCC IS 2014SP2 base package
MLFB: 6AV6361-2CA07-4AX0

5 WinCC IS Client Access (1)
MLFB: 6AV6361-2BD00-0AD0

6 WinCC IS Datasource Access (2)
MLFB: 2 x 6AV6361-2CD00-0AD0

Additional information
The client access and data source access licenses are required in parallel. In the example, a max. of four clients exist simultaneously and two WinCC data sources.
SIMATIC Information Server 2014 SP2 – Reporting system in the web with redundant WinCC server

Additional information
The client access licenses are required in parallel.

1 **Base packages**
   - WinCC RT Prof n
   - SIMATIC Net V14 SP1
   - MLFB: 6AV2107-0DB04-0AA0

2 **WinCC client**
   - MLFB: 6AV2107-0EB00-0BB0

3 **WinCC server**
   - MLFB: 6AV2107-0FB00-0BB0

4 **WinCC redundancy**
   - MLFB: 6AV6361-2AA01-4AA0

5 **WinCC IS 2014 SP2 base package**
   - MLFB: 6AV6361-2BD00-0AD0

6 **WinCC IS Client Access (1)**
   - MLFB: 6AV6361-2BD00-0AD0
## SIMATIC Information Server 2014 SP2 – Reporting system in the web

### Base packages

1. **WinCC RT Prof n**
   - SIMATIC Net V14 SP1
   - MLFB: 6AV2107-0FB00-0BB0

2. **WinCC client**
   - MLFB: 6AV2107-0DB04-0AA0

3. **WinCC server**
   - MLFB: 6AV2107-0EB00-0BB0

4. **WinCC redundancy**
   - MLFB: 6AV2107-0FB00-0BB0

5. **Process Historian 2014**
   - MLFB: 6AV6361-1AA01-4AA0

6. **WinCC IS 2014 SP2 base package**
   - MLFB: 6AV6361-2AA01-4AA0

7. **WinCC IS Client Access (1)**
   - MLFB: 6AV6361-2BD00-0AD0

### Additional information

PH and Information Server can be installed on the same computer. If IS is connected to PH, no "IS DataSource Access" license is needed.
Single-user web server
(requirement operation with Internet Explorer)
Remote web client on the Internet/intranet

With Internet Explorer or WinCCViewerRT

1 – 100 web clients

1 Base packages
WinCC RT Prof n
SIMATIC Net V14 SP1

2 WinCC WebNavigator
e.g.: for three clients
MLFB: 6AV6362-1AD00-0BB0

Additional information
WinCC/WebNavigator allows operator control and monitoring from a remote operator station via a local intranet or the Internet.

In each case, a web license for n clients allows a simultaneous connection with the WinCC web server for these n clients
Remote diagnostics of WinCC systems in connection with WebNavigator / WebUX
Combined licenses for WebNavigator /WebUX and Diagnostic Client

Additional information
For four connections: In this case, a package for three work stations for connecting any three clients and a fourth stand-alone client with the diagnostics license can be added. The WebDiagnostics server license is not required if a WebNavigator license exists!
Web server single-user system –
Special case with only one web connection (WebNavigator Diagnostics)

Additional information
In contrast to the preceding case, the license is installed on a web client.
Thus, no license is necessary on the server(s) for this client.
Several diagnostic clients can be connected to a diagnostics server

1 Base packages
WinCC RT Prof n
SIMATIC Net V14 SP1

2 WinCC WebDiagnostics client
MLFB: 6AV6362-1BA00-0BB0
Web solution based on thin clients († Link)

With the services of the Windows Terminal Server, the functionalities of the WebNavigator can be used for thin clients (limited resources and operating system not supported by WinCC) Example: SIMATIC Thin Client

1 Base packages
WinCC RT Prof n
SIMATIC Net V14 SP1

2 WinCC WebNavigator
e.g.: for 10 clients
MLFB: 6AV6362-3AF00-0BB0

3 ThinClient
e.g.: Simatic ITC 1200
MLFB: 6AV6646-1AA22-0AX0
Virtualization for WinCC clients and/or server

**Example: Virtual WinCC clients on Hypervisor**

1. Base packages
   - WinCC RT Prof n
   - SIMATIC Net V14 SP1
   - MLFB: 6AV2107-0DB04-0AA0

2. WinCC client
   - MLFB: 6AV2107-0EB00-0BB0

3. WinCC server

WinCC clients run with the Hypervisor system. WinCC servers can also be operated using the Hypervisor system. The maximum number of clients that the virtualization server can host depends on the physical resources of the host computer:
- RAM, SSD
- CPU, number of cores
### Functional differences of WinCC RT Professional V14 SP1 and WinCC 7.4 SP1

<table>
<thead>
<tr>
<th>Functions</th>
<th>WinCC Prof V14SP1</th>
<th>WinCC V7.4 SP1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PowerTags</strong></td>
<td>ES: 512, 4k, max. RT: 128, 512, 2k, 4k, 8k, 64k¹ 100K, 150K, 265K</td>
<td>RC: 128, 512, 2k, 8k, 64k, 100K, 150K, 256k RT: 128, 512, 2k, 8k, 64k, 100K, 150K, 265k</td>
</tr>
<tr>
<td>Screens / screen objects</td>
<td>No limit / no limit</td>
<td>No limit / no limit</td>
</tr>
<tr>
<td>Alarms</td>
<td>150,000</td>
<td>150,000</td>
</tr>
<tr>
<td></td>
<td>256 alarm classes, 32 types in groups, 17 alarm priorities</td>
<td>256 alarm classes, 17 alarm priorities (0 to 16)</td>
</tr>
<tr>
<td>Server/client</td>
<td>1 server / 32 clients</td>
<td>18 servers / 64 clients, 50 multi-clients</td>
</tr>
<tr>
<td>Trends *)</td>
<td>archive tags add. 1,500, 5,000, 10k, 30k, 80k max. 80,000 (server)</td>
<td>Archive tags add. 1,500, 5,000, 10k, 30k, 80k max. 80,000 (server)</td>
</tr>
<tr>
<td>500/ 512 archive tags incl.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recipes **)</td>
<td>Recipes: 500 / Elements per recipe: 10 000</td>
<td>Recipes: No limit / Elements per recipe: 100,000</td>
</tr>
<tr>
<td>WebNavigator</td>
<td>1, 3, 10, 30, 100 clients</td>
<td>1, 3, 10, 30, 100 clients</td>
</tr>
<tr>
<td>WebUX</td>
<td>1, 3, 10, 30, 100 clients</td>
<td>1, 3, 10, 30, 100 clients</td>
</tr>
</tbody>
</table>

¹ Max. 80,000 tags (32-bit OS) / 260,000 tags (64-bit OS) in a project (incl. logging tags)

² Max. 3,000/6,000 screens in a project

³ Max. 320,000/640,000 screen objects in a project (32-bit OS/64-bit OS)

⁴ 32-bit OS/64-bit OS

*) V7.x: Archive tags

**) V7.x: UserArchives

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Thank you very much for your attention!

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