

## INDUSTRIAL TRAINING & CONSULTANCY SERVICES

Industrial Training Centre  
Harbo Works Harrowden Road Wellingborough  
Northants NN8 5BJ England

Telephone (+44) (0) 1933 440679

Fax (+44) (0) 1933 229744

Email [enquiries@intacs-training.co.uk](mailto:enquiries@intacs-training.co.uk)

Website [www.intacs-training.co.uk](http://www.intacs-training.co.uk)

### Siemens S7 TIA-Portal Things to Know

#### STEP 7 Classic & TIA-Portal STEP 7 software

##### STEP 7 version 5.X (STEP 7 Classic software)

1. The latest non-TIA-Portal version of Siemens STEP 7 software is version 5.5. You can still buy version 5.5.
2. STEP 7 versions up to & including version 5.5 are now called STEP 7 Classic.
3. STEP 7 software (both Classic & TIA-Portal) is available in Standard & Professional versions (Professional is more expensive but gives access to the other programming languages for both programming & monitoring purposes e.g. IEC Languages, SCL, Graph, SFC as well as other tools such as the Simulator).



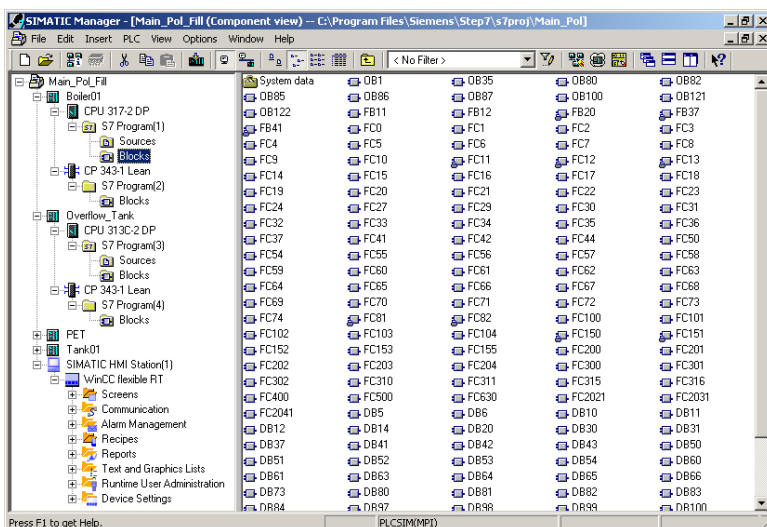
##### DO I NEED THE PROFESSIONAL VERSION OF THE SOFTWARE?

Not unless you have any Blocks (program code) written in any of the higher level Siemens S7 languages which you want to be able to access & read. One other benefit of the Professional package is the availability of the Simulator. Some people like to use this to test or prove program modifications but it is also useful as a training tool. If you already have the Standard STEP 7 software, you can purchase the Simulator as an add-on.

4. HMI & Drives programming tools were also available as separate software packages; later versions are now available within TIA-Portal.

##### DO I NEED TO UPDATE MY SOFTWARE e.g. WinCC Flex for my HMIs?

Not necessarily. As long as your current Drives or HMI software covers the hardware you have, there is no reason to buy anything else.



#### INTACS Industrial Training

Harbo Works | Harrowden Rd | Wellingborough | Northants | NN8 5BJ

Tel: +44 (0)1933 440 679 Fax: +44 (0)1933 229 744 Web: [www.intacs-training.co.uk](http://www.intacs-training.co.uk)

## What is TIA-Portal?

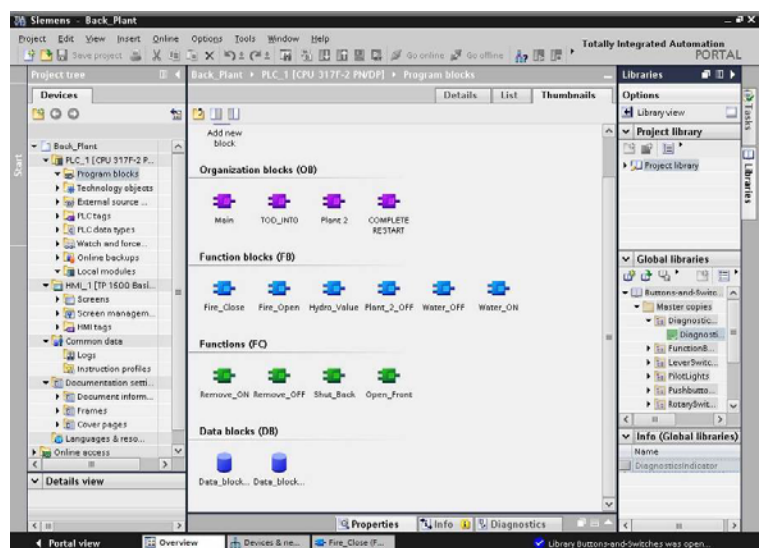
Siemens 'Totally Integrated Automation' (TIA-Portal) is the name of the software suite which encompasses the range of Siemens S7 PLC, HMI, Drives & Safety software (similar in some ways to Microsoft Office which contains Word, Excel, etc).



In reality this is a re-branding exercise for latest generation Siemens Industrial software taking existing software tools (enhancing & developing them) & adding some new ones, but each presented with a common look & feel. Components of this software suite include Siemens STEP 7, WinCC HMI & SCADA & S7 Safety software.

## TIA-Portal software

1. TIA-Portal versions of STEP 7 & WinCC HMI software are DIFFERENT to earlier software versions with a new look & feel to the user interface & other significant differences.
2. Pre TIA-Portal versions of STEP 7 Classic were generally compatible, with later versions being able to open & read earlier S7 Projects. TIA-Portal STEP 7 Projects are different to STEP 7 Classic Projects & not immediately compatible.  
**YOU CANNOT IMMEDIATELY OPEN A STEP 7 PROJECT IN TIA-PORTAL & YOU CANNOT OPEN A TIA-PORTAL PROJECT IN STEP 7. IS THIS A PROBLEM?**  
There are potential issues here (read more below). If you have had S7-300/400 PLCs on-site for a few years & you also have S7-1200 or the newest S7-1500, you may well conclude that you will need to operate with BOTH STEP 7 & TIA-PORTAL software. Obviously this is an unwelcome complication & will probably require additional training if people need to be competent with both.
3. TIA-Portal was first launched with STEP 7 Basic version 10.5 to program the new S7-1200 PLCs.
4. Within TIA-Portal, STEP 7 Basic versions 10.5, 11, 12 & 13 software are "cut down" versions of the full STEP 7 toolkit & are for use with the S7-1200 range.
5. TIA-Portal software includes WinCC Basic which is used to program the KTP Basic lower range of HMIs.  
**WITHIN TIA-PORTAL, STEP 7 BASIC & WINCC BASIC ARE LIMITED VERSIONS OF THE FULL STEP 7 & WINCC FLEX SOFTWARE, USED WITH THE S7-1200 PLCs.**
6. Simatic WinCC (Basic/Comfort/Advanced/Professional) software is the latest package to support the full range of Siemens HMIs & Siemens SCADA.  
**IS MY WINCC FLEX SOFTWARE STILL OK OR DO I NEED THE LATEST VERSION (SIMATIC WINCC)?**  
You really only need the latest version of WinCC if you have a new HMI Panel which is not supported in your earlier software.
7. Software components within TIA-Portal (such as STEP 7) continue to be developed with new revisions being announced as they become available.
8. STEP 7 version 13 is the latest STEP 7 version of software.



## INTACS Industrial Training

Harbo Works | Harrowden Rd | Wellingborough | Northants | NN8 5BJ  
Tel: +44 (0)1933 440 679 Fax: +44 (0)1933 229 744 Web: [www.intacs-training.co.uk](http://www.intacs-training.co.uk)

## Potential software incompatibilities

1. **Important:** the Hardware Catalog for TIA-Portal versions of STEP 7 software does not include all of the available S7 hardware modules (particularly some of the older S7-300/400 CPUs & I/O hardware).  
**YOU WILL NEED TO CONSIDER THIS POINT.**
2. This means that TIA-Portal versions of STEP 7 will **not necessarily be fully compatible** with any existing S7 installations you may have & you could well need both STEP 7 Classic for your existing /older Siemens S7 PLCs & a TIA-Portal version of STEP 7 if you have any “newer” S7-300/400 PLCs (or S7-300/400 modules) or S7-1200s or the new S7-1500. Both software packages can reside in parallel on the same machine.
3. The file storage format has changed from STEP 7 Classic to TIA-Portal STEP 7.
4. Siemens have developed a “Readiness Check Tool” which you can use to easily check if the S7 hardware contained in your S7 Projects is supported within TIA-Portal.
5. The Readiness Tool is compatible with STEP 7 versions 5.4 & 5.5, WinCC version 7 & WinCC Flex 2008.  
**YOU WILL PROBABLY FIND THIS TOOL USEFUL.**
6. See below to download the “Readiness Tool”.

## Current software selection

Any users currently considering purchasing Siemens S7 software have to consider the following:

1. Is it needed to access existing (older) S7 systems (because if so the hardware may be incompatible)? You may still need a version of STEP 7 Classic.
2. Is it needed to access S7-1200 PLCs (if so you will need a TIA-Portal version of STEP 7)?
3. Is it needed to access the very latest S7-1500 PLC systems (if so you will need TIA-Portal STEP 7 version 13)?
4. If you are a contractor or move between different sites or have a wide range of Siemens S7 PLC equipment on your own site, you will probably need a Classic version of STEP 7 software as well as a TIA-Portal version of STEP 7; probably version 13.
5. If you buy STEP 7 Professional 2010 (around £1000 more than the Standard STEP 7 version 5.5), the package includes STEP 7 version 5.5 as well as TIA-Portal STEP 7 version 13.
6. What operating system is your PC/PG using? STEP 7 version 13 is not supported on Windows XP. Visit the link below for the system requirements for STEP 7 version 13.
7. What if my PC/PG is running Windows XP? There are ‘work-arounds’ for this – contact us to discuss these options; but currently (as of 13/03/2014) users can specify what version they wish to purchase (version 12 or version 13).

## Other things to know about TIA-Portal STEP 7

1. For most end users, **there is enough that is different** about TIA-Portal STEP 7 software to **require further training**.
2. For sites that already have Siemens S7 PLCs, we have a **2 day STEP 7 Classic to TIA-Portal STEP 7 Conversion course** (£590+VAT) for people who are confident with regular STEP 7 Classic but who will also need to use TIA-Portal STEP 7 software.
3. For sites that are completely new to Siemens S7 PLCs (& therefore will not already have STEP 7 Classic software), we will still be running our regular Siemens S7 based Level 1 & Level 2 courses using STEP 7 Classic software but we will also be offering S7 Level 1 & Level 2 courses based on the new TIA-Portal STEP 7 software. Please request course dates.  
**IF I TRAIN MY PEOPLE ON TIA-PORTAL, WILL I STILL NEED TO DO TRAINING FOR MY OLDER S7-300/400s? The answer is almost definitely YES if you are still going to be using the STEP 7 software as well as TIA-Portal.**
4. Software support for S7-200 PLCs is not included with TIA-Portal (you will still need MicroWin software).

**A LOT OF COMPANIES USE THE SMALLER S7-200 PLCs. MICROWIN IS THE ONLY SOFTWARE TOOL YOU CAN USE. Watch out for the complication caused by the different programming lead issue which may cause you expensive downtime if you do not know about it.**

## INTACS Industrial Training

Harbo Works | Harrowden Rd | Wellingborough | Northants | NN8 5BJ  
Tel: +44 (0)1933 440 679 Fax: +44 (0)1933 229 744 Web: [www.intacs-training.co.uk](http://www.intacs-training.co.uk)

5. **Important:** S7 PLC program code can be migrated into TIA-Portal, the hardware can only be migrated if all of the modules are supported by TIA-Portal.  
**THIS IS SOMETHING WHICH YOU SHOULD BE AWARE OF IF YOU ARE GOING TO BE MANAGING YOUR PLC INVENTORY EFFECTIVELY.**
6. STEP 7 SCL program code is now integrated into the Project in the same way as for LAD, STL & FBD.
7. Later versions of TIA-Portal STEP 7 offer improved “Know How” protection with individual Blocks able to have their own passwords.
8. TIA-Portal STEP 7 version 11 does not have integrated “Archive & Retrieve” tools like STEP 7 Classic. Project raw “.ap11” files need to be externally zipped / unzipped.
9. TIA-Portal STEP 7 version 13 does have integrated “Archive & Retrieve” tools like STEP 7 Classic. Project raw “.ap13” files are Archived to create “.zap13” files.
10. TIA-Portal STEP 7 has some additional program instruction tools & some SFCs appear within the standard toolkit.
11. The TIA-Portal STEP 7 program “Upload” tool is much more complicated to use than in STEP 7 Classic.  
**SO THERE ARE ESSENTIAL THINGS TO KNOW ABOUT HERE!**
12. With TIA-Portal STEP 7, the Firmware revision of a module e.g. a CPU, cannot be updated or edited as in STEP 7. The module must be deleted & rebuilt.  
**SO THERE ARE ESSENTIAL THINGS TO KNOW ABOUT HERE!**
13. The PG/PC Interface for establishing PLC communications is not incorporated within TIA-Portal (access this through Control Panel).  
**SO THERE ARE ESSENTIAL THINGS TO KNOW ABOUT HERE!**
14. The PC Adapter serial comms cable is not supported within TIA-Portal so users will need to use the USB cable option.  
**SO THERE ARE ESSENTIAL THINGS TO KNOW ABOUT HERE & YOU MAY NEED A NEW PROGRAMMING CABLE!**
15. The PLCsIm Simulator tool is not enabled for S7-1200 PLCs.

#### Further information & Downloads

[Click here](#) for the full detail on **software requirements** for TIA-Portal version 13.

[Click here](#) for the full detail on **which S7 hardware is supported** by TIA-Portal version 13.

[Click here](#) to access & download the S7 Hardware “**Readiness Check Tool**”.

If you require any further information relating to any of our training courses or support services, please email us at

[enquiries@intacs.co.uk](mailto:enquiries@intacs.co.uk)

or call 01933 440679.

---

#### INTACS Industrial Training

Harbo Works | Harrowden Rd | Wellingborough | Northants | NN8 5BJ  
Tel: +44 (0)1933 440 679 Fax: +44 (0)1933 229 744 Web: [www.intacs-training.co.uk](http://www.intacs-training.co.uk)