

# Tensor plc



## PC SPECIFICATION Tensor .NET

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### The Main PC/ Server(s) – Virtual or Physical System Requirements

Tensor recommends that the Main PC/Server is installed with either Windows 2016 Server/Windows 10 Pro or a later Microsoft OS product (please consult the Microsoft website for the networking abilities of the various OS products. The minimum requirement is Windows 2012 R2/ Windows 10 Professional. If more than 20 concurrent connections will be required, then a Windows Server Edition must be used.

Microsoft .NET Framework 4.7.2 or higher and Internet Information Services (IIS) with ASP.NET (4.7.2 or above) are pre-requisites for the Tensor.NET software and should be installed prior to commencing installation.

The latest Service Pack and updates should be installed prior to the Tensor software installation commencing. The Main PC/Server should have a minimum of 8 GB RAM (12 GB if SQL server is installed on the same server). A dual core 2.0 GHz processor is sufficient (Quad core 2.4 GHz if SQL server is installed), but for optimum performance, more cores with faster logical processors should be used.

**Please note that these recommendations do not account for other software that your company may intend to run on the same Main PC/Server that will also have a drain on memory and performance.**

Regional Settings should be set to English (United Kingdom) with a short date style of dd/mm/yyyy.

The Main PC/ Server constantly run the Tensor Communications Services and will often host the SQL database server. The Tensor.NET Services can be monitored on ports 9890 – 9950 UDP. The databases will be held on MS SQL Server 2016 and above (The minimum SQL server is 2014 SP3) The database server should have the latest service packs installed. The Main PC/Server(s) hosting the Tensor Communications Services must have a static or reserved IP address.

Tensor's T32xx and T852x devices run at 100Mb (UDP) and Tensor's T846x Ethernet devices run at 10Mb and use small packets (TCP), on the ports 10001-10012 <sup>1</sup> depending on the Tensor hardware & software options purchased. Direct Ethernet printing requires port 9100. These ports must be open across your network to allow communications between the various Tensor hardware devices. Where possible it is recommended that all of the Tensor Ethernet devices and the PC hosting the Tensor Communications Services <sup>2</sup> are on a separate Tensor VLAN.

<sup>1</sup> Tensor will reserve these ports during the server installation, as there is a known issue with the Microsoft DNS Servers reserving 2500 different UDP ports.

<sup>2</sup> The Tensor services and database servers may be distributed across servers if required. These servers must have static IP addresses.

The specification for the server or servers will depend on what services are hosted on it and how much data is to be handled by each service.

# PC SPECIFICATION

## Tensor .NET



### Base Server, Web Server and Communications Services, NO SQL Server.

ITEM SPECIFICATION	MINIMUM	RECOMMENDED
Processor	Dual Core processor (2.0 GHz)	Quad Core processor (2.4 GHz) +
Ram	8GB	12 GB +
Operating System	Windows 10 Pro Windows Server 2012 R2	Windows Server 2016 +
Installation Storage	2 GB	10 GB +
Data Storage	10 GB	20 GB +
Database Server	N/A	N/A
Web Server	IIS 8.5	IIS 10.0 +
Additional Installed Software	.NET Framework 4.7.2	.NET Framework 4.8 +

### Base Server, Web Server Installed together with Communications services and SQL Server 2012 or above

ITEM SPECIFICATION	MINIMUM	RECOMMENDED
Processor	Quad Core processor (2.4 GHz)	Hexa Core processor (2.4 GHz) +
Ram	12 GB	16 GB +
Operating System	Windows Server 2012 R2	Windows Server 2016 +
Installation Storage	10 GB	20 GB +
Data Storage	100 GB	200 GB +
Database Server	MS SQL Server 2014 SP3 Express	MS SQL Server 2016 + Standard/Enterprise
Web Server	IIS 8.5	IIS 10.0 +
Additional Installed Software	.NET Framework 4.7.2	.NET Framework 4.8 +

Installations will require local administrator rights to complete successfully. Please ensure that a member of staff is available to provide these at the time of installation. Please note that users will require full read/write access to Tensor installed files once the installation is complete. The software will require reboots during installation commonly if Microsoft components installed are newer than those already installed on the PC. Please be prepared for this and inform Tensor in advance of installation if reboots are required to be conducted at specific times.

**Please note that virus scanners can interfere with speed/performance of the Tensor applications and these may need to be configured to omit some of the Tensor files from their scans. Please consult the Tensor Systems department or Tensor Helpdesk for further advice.**

## MOBILE SSM APP

This product requires the following prerequisites:

- Microsoft's Internet Information Services, version 7.0, 7.5 or 10.0.
- A compatible version of Tensor SSM.
- Any edition of a compatible version of Tensor.NET registered with WinTA, SSM and SSM Mobile serial numbers.
- A mobile device running Android version 9.0 (Pie) or above..
- A mobile device running IOS version 9.0 or above.
- An account to download the android app from Google Play or an account to download the IOS app from the Apple App Store.
- Configuration changes to the user organisation's DNS must be made to allow app connectivity.

## FRC APP

This product requires the following prerequisites:

- Microsoft's Internet Information Services, version 7.0, 7.5 or 10.0.
- A compatible version of Tensor SSM.
- Any edition of a compatible version of Tensor.NET registered with SSM and Mobile FRC serial numbers.
- A mobile device running Android version 9.0 (Pie) or above.
- A mobile device running IOS version 11.3 or above.
- An account to download the android app from Google Play or an account to download the IOS app from the Apple's App Store.
- Configuration changes to the user organisation's DNS must be made to allow Internet connectivity.

## SSVM APP

This product requires the following prerequisites:

- Microsoft's Internet Information Services, version 7.0, 7.5 or 10.0.
- A compatible version of Tensor SSM.
- Any edition of a compatible version of Tensor.NET registered with WinMCVS and SSM serial numbers.
- A mobile device running Android version 9.0 (Pie) or above.
- A mobile device running IOS version 11.3 or above.
- An account to download the android app from Google Play or an account to download the IOS app from the iTunes Store.
- Configuration changes to the user organisation's DNS, or the allocation to tablets of static IP addresses, must be made to allow app connectivity.