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## Installing MorphoAccess Readers

### Installation Note

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## Contents

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1	Introduction .....	4
2	Before you begin .....	4
3	Installing Morphokit v6.0.12 .....	4
4	Supported Fingerprint Enrolment Devices.....	10
4.1	Which Firmware and Drivers are required for your MorphoSmart MSO 300 .....	10
4.2	Upgrading the Biometric Enrolment Device Firmware.....	11
5	Installing the Verif Dongle.....	11
6	Installing the MACI License .....	11
7	Installing MorphoAccess Readers .....	12
7.1	Physically installing MorphoAccess Readers .....	12

## 1 Introduction

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The Biometric Integration feature provides the ability to connect MorphoAccess biometric readers to Gallagher Command Centre and configured as hardware items, for the purpose of biometric identification.

There are a number of procedures that make up the process for configuring Biometric Integration, both within Gallagher Command Centre and external to Gallagher Command Centre. This document covers the procedures that are performed externally from the Gallagher Command Centre system, (e.g. physically installing and configuring MorphoAccess readers).

For detailed procedures regarding configuration within Gallagher Command Centre, refer to the 'Biometric Integration' chapter in v7.50 of the *Gallagher Command Centre Classic User Guide* (part number C209000).

## 2 Before you begin

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- If Morpho is already installed and are upgrading your system, you need to remove the Morpho related drivers or software from the Command Centre server and any workstation that will be capturing biometrics, as follows:
  1. Remove the dongle and any biometric enrolment devices.
  2. Open the Windows **Add or Remove Programs** utility, and remove:
    - Morpho MorphoSmart USB Drivers, and
    - Sentinel Protection Installer 7.x.x.
- All Morpho resources and documents are compressed into the **Morpho Utilities.zip**, located at the root level of the Command Centre installation files, available from the ftp server or on DVD disc on request.
- The Morpho Drivers provided with Morphokit v6.0 (Morpho License Protection Installer 2.2.4 and Sentinel Protection Installer 7.6.6) are not compatible with DEP on Microsoft Windows Vista, Windows 7, Windows 8, Windows 8.1, Server 2008 and Server 2012 operating systems. To ensure correct operation of the Morpho Biometric Integration, ensure that DEP is configured as follows:
  1. From the **Control Panel**, click **System**.  
The System Properties screen displays.
  2. Click the **Advanced** tab, and then the **Settings** button under 'Performance'.  
The Performance Options screen displays.
  3. Click the Data Execution Prevention tab.
  4. Select the **Turn on DEP for essential Windows programs and services only** radio button.

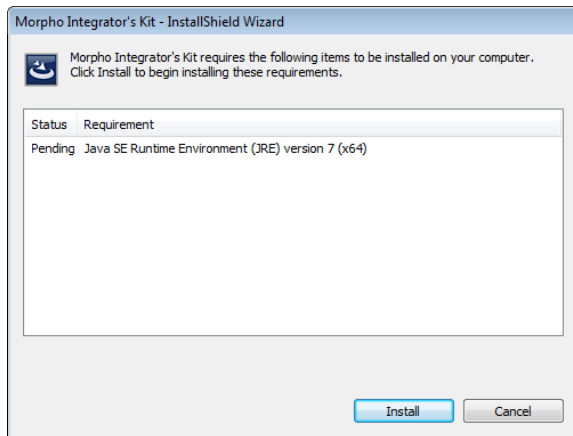
## 3 Installing Morphokit v6.0.12

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The Biometric Dongle Driver must be installed on the Command Centre server and any workstation that will be capturing biometrics.

**Note:** Ensure the dongle is **not** plugged in before running the executable to install the driver.

1. Run and install the **Setup.exe** file located in the following folder:  
'Morpho Utilities\Morphokit\_6.0.12'  
A screen displays indicating that the Morpho Integrator's Kit requires Java SE Runtime to be installed on the computer.



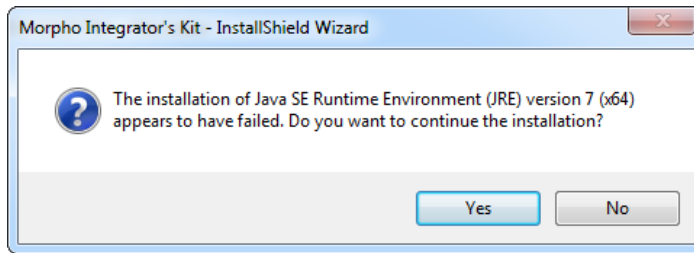
2. Click the **Install** button.  
A dialog box displays, asking if you would like to install Java SE Runtime.
3. Click the **Yes** button.  
A “Java Setup - Welcome” screen displays.



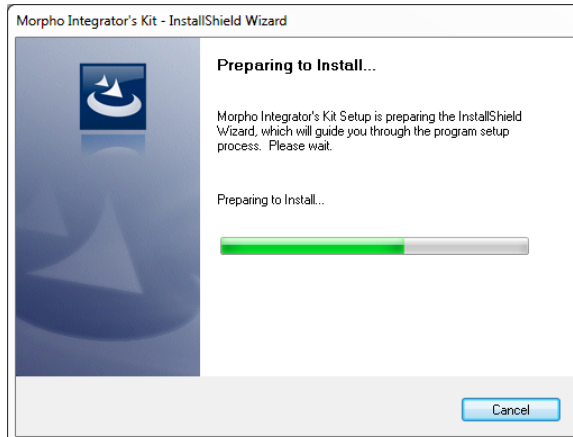
4. Click the **Install** button.  
A status bar indicates progress, followed by the “Java Setup - Complete” screen.



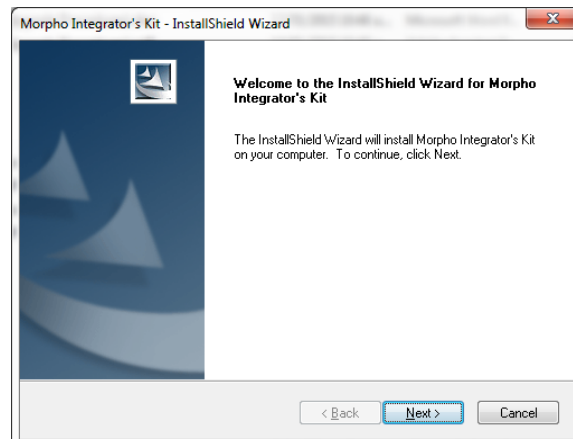
5. Click the **Close** button.  
**Note:** An error message indicating the Java installation has failed may display on machines that are not able to access an external internet connection at time of installation. If so, click the **Yes** button to continue the installation.



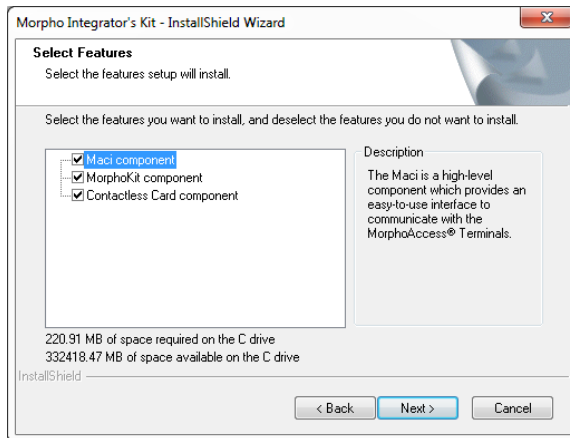
6. The following InstallShield Wizard screen displays indicating that it is preparing to install:



Once complete, the “Welcome” screen of the Install Wizard displays.



7. Click the **Next** button.  
The “License Agreement” screen displays.
8. Ensure you fully understand the terms and conditions listed in the License Agreement you are about to enter into, and click the **Yes** button to accept.  
The “Choose Destination Location” screen displays.
9. Click the **Next** button.  
The “Select Features” screen displays.



10. Ensure the three components, (i.e. Maci, MorphoKit and Contactless Card) are all selected, and click the **Next** button.

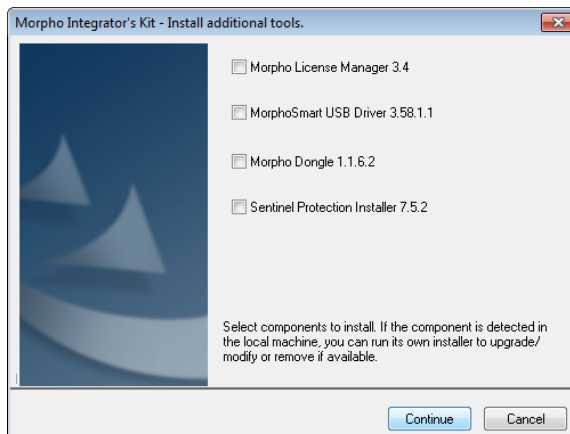
The "Ready to Install the Program" screen displays.

11. Click the **Install** button.

The "Setup Status" screen displays.

Installation may take a few minutes, during which time the Status bar indicates progress.

An "Install additional tools" screen displays.

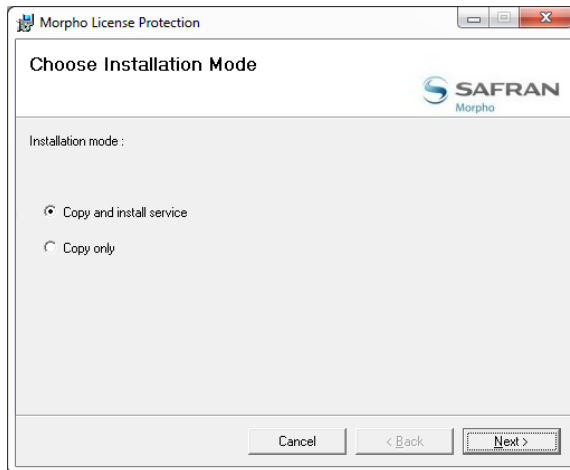


12. Check all four components checkboxes, (i.e. Morpho License Manager 3.4, MorphoSmart USB Driver 3.58.1.1, Morpho Dongle 1.1.6.2 and Sentinel Protection Installer 7.5.2), then click the **Continue** key. The "Welcome" screen of the Morpho License Protection Setup Wizard displays.

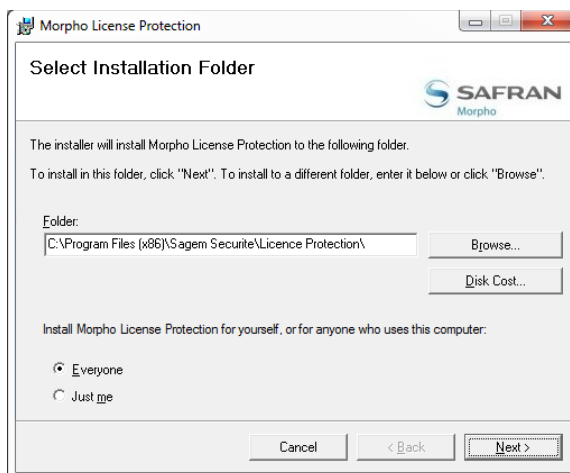


13. Click the **Next** button.

The "Choose Installation Mode" screen displays.



14. Click the **Copy and install service** radio button, then click the **Next** button. The “Select Installation Folder” screen displays.



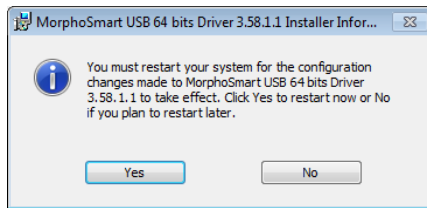
15. Click the **Everyone** radio button, then click the **Next** button. The “Confirm Installation” screen displays.
16. Click the **Next** button, and then the **Close** button on the “Installation Complete” screen. The “Welcome” screen of the MorphoSmart USB Driver 3.58.1.1 Wizard displays.



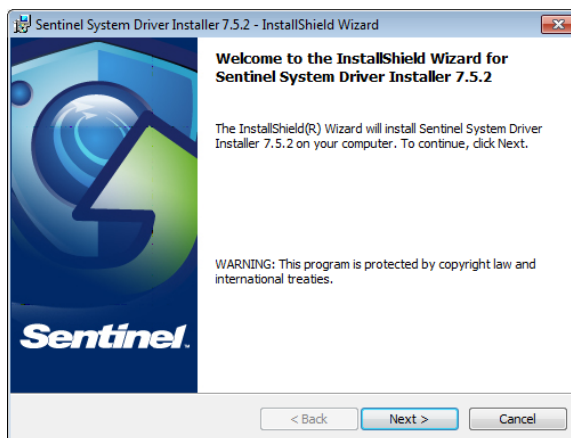
17. Click the **Next** button. The “Destination Folder” screen displays.
18. Click the **Next** button. The “Ready to Install the Program” screen displays.
19. Click the **Install** button. The “InstallShield Wizard Completed” screen displays.



20. Click the **Finish** button.  
A dialog box displays to restart the system.



21. Click the **No** button.  
The “Welcome” screen of the Sentinel System Driver Installer 7.5.2 Wizard displays.  
**Important:** If you click the **Yes** button, the system will restart and the Sentinel Protection Installer will not run.



22. Click the **Next** button.  
The “License Agreement” screen displays.
23. Ensure you fully understand the terms and conditions listed in the License Agreement you are about to enter into, and click the radio button to accept.
24. Click the **Next** button.  
The “Setup Type” screen displays.
25. Click the **Complete** radio button, then click the **Next** button.  
The “Ready to Install the Program” screen displays.
26. Click the **Install** button.  
The “InstallShield Wizard Completed” screen displays.
27. Click the **Finish** button.
28. What is this installation on?

If on workstation...	then...
or the server that will <b>not</b> be capturing biometrics,	go to the <b>Installing the Verif Dongle</b> procedure (on page 8).
that <b>will</b> be capturing biometrics,	a) Install the Morpho Dongle Hardware and ensure Windows finds the new hardware. b) Go to the <b>Supported Fingerprint Enrolment Devices</b> (next).

**Note:** For biometric enrolment to work the following needs to be installed, (i.e. both 32 bit and 64 bit):

For the...	you need...
Server Workstation	+ Microsoft Visual C++ 2005 Redistributables (x86 & x64)
Client Workstation	+ Microsoft Visual C++ 2005 Redistributables (x86 & x64) + Microsoft Visual C++ 2010 Redistributables (x86 & x64)

These files are located in the 'Morpho Utilities\Microsoft Visual C++ Redistrib (x86 & x64)' folder.

## 4 Supported Fingerprint Enrolment Devices

The following MorphoSmart Fingerprint enrolment devices are supported:



### MorphoSmart MSO 300

- Fingerprint enrolment device.
- Enrols users Finger templates for use with Morpho Readers.
- USB connection to Gallagher enrolment workstation.



### MorphoSmart MSO FVP Finger Vein

- Finger print and Finger Vein enrolment device.
- Enrols users Finger Vein templates for use with Morpho Finger Vein readers.
- USB connection to Gallagher enrolment workstation.

### 4.1 Which Firmware and Drivers are required for your MorphoSmart MSO 300

The MorphoSmart MSO enrolment device now being shipped may require new Firmware and USB drivers loaded. If your MSO 300 does not work when trying to enroll biometrics, then check which model you have. They can be identified by the different sensors, as shown next:



*Older MSO 300*



*Newer MSO 300*

New MSO Enrolment devices are shipped with the latest firmware already installed. The following table provides a reference to firmware and driver versions for both MSO 300 models and MSO FVP Finger Vein:

Firmware	USB Drivers	MSO device
V11.02.C	V3.59.1.0	Both MSO 300 models
V11.00.i	V3.58.1.1	
V10.00.g	V3.56.0.1	
V09.02.c	V3.54.23.6	
V08_07_g	V3.54.23.6	Newer MSO 300
V08.04.f	V2.41.22.4 <b>OR</b> V3.54.23.6	Older MSO 300
FVP_V01.10.b	FVP_V3.59.1.0	MSO FVP Finger Vein

**Notes:**

- Downgrading the firmware on the MSO Enrolment devices will cause the MSO Enrolment devices to malfunction.
- Check with Gallagher Technical Support before upgrading MSO Enrolment device firmware.
- The USB drives should be installed automatically when you run the Morphokit\_6.0.12.
- The USB drives are also available in the 'Morpho Utilities\ Firmware & Drivers' folder.

## 4.2 Upgrading the Biometric Enrolment Device Firmware

Please contact Gallagher Technical Support before attempting to upgrade any Morpho Firmware on any Morpho Hardware Device. Constraints with how Morpho manage their Firmware to market may prevent installers from down-grading any Firmware version in the future.

## 5 Installing the Verif Dongle

A verif dongle/MACI license pair are required for each Command Centre Server and any workstations running the Morpho Reader Integration. The dongle and corresponding MACI license are ordered under Part No. C864401.

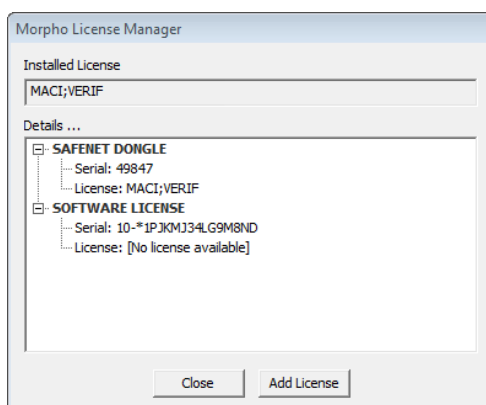


1. Plug in the dongle and biometric enrolment device.  
An "Installing device driver software" notification icon displays in the Windows taskbar, (in the notification area, next to the clock), indicating that Windows has detected a new USB device.  
**Note:** Removing and re-inserting the dongle on the server or workstation will require a restart of Command Centre services. This is not recommended practice.
2. Wait while Windows identifies the driver software and installs the necessary files. This may take some period of time depending on the version of Windows you are running.

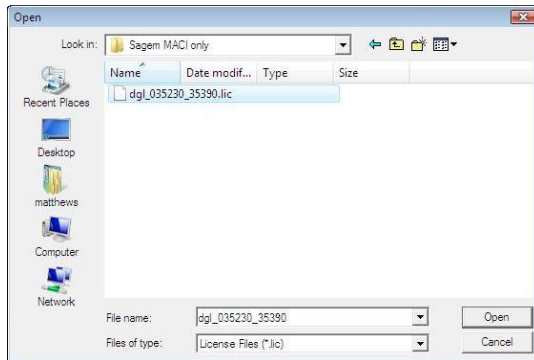
## 6 Installing the MACI License

The MACI license file will be sent to you as part of your order of part number C864401. To install the license follow these steps:

1. Click **Start > All Programs > Morpho > License Management 3.4.0 > Manager 3.4.0 (GUI)**.



- Click the **Add License** button. The “Add a new license” dialog displays.
- Click the **Browse** button. The “Open” dialog displays.



- From the license files provided with the dongle, select the appropriate license file for the dongle plugged into the PC, and click the **Open** button.  
The message “*License has been correctly set*” displays.
- Click the **OK** button.

## 7 Installing MorphoAccess Readers

### 7.1 Physically installing MorphoAccess Readers

Install the reader as per the appropriate Morpho installation document for the type of reader. The following table indicates the name of the installation documents and where they are located.

MA Reader	Folder 'Morpho Utilities\ Documentation\...	Document Name
5xx	MA 500 Series'	MA500 Series Installation Guide.pdf
Sigma	MA Sigma'	2014_0000000606_v4 - MA SIGMA - Installation Guide.pdf and MA Sigma Configuration Instructions.pdf
Sigma Lite	MA Sigma Lite'	2015_2000007248 – MA SIGMA Lite – Installation Guide.pdf and MA Sigma Lite Configuration Instructions.pdf
J	MorphoAccess J Series'	MorphoAccess J Series Installation Guide.pdf
VP	MorphoAccess VP Series'	MorphoAccess VP Series Installation Guide.pdf

### MA5xx, MA Sigma MA J and MA VP Series Wiring

*Ethernet (T568A standard)*

*These readers have an internal RJ45 connector which accepts a standard twisted pair cable.*

*Alternatively, the terminal block can be used:*

Reader	Cable Colour (T568A standard)	PIN #	10BaseT Signal 100BaseT Signal
RX+	White/Green	1	Transmit +
RX-	Green	2	Transmit -
TX+	White/Orange	3	Receive +
TX-	Orange	4	Receive -

*Controller/Device to Reader*

Device	Pin	Reader
Gallagher 6000 8R/4R Plug-in Module	V out -	GND
	V out +	12V
	In (R1/R3/R5/R7)	Wiegand Out D0
	In (R2/R4/R6/R8)	Wiegand Out D1
	Out (R1/R3/R5/R7)	Wiegand LED 2
	Out (R2/R4/R6/R8)	Wiegand LED 1
Gallagher 3000	0V	GND
	VOUT	12V
	1 DATA0 / IN1	Wiegand Out D0
	2 DATA1 / IN2	Wiegand Out D1
	3 OUT1 COMA	Wiegand LED 2
	4 OUT2 COMB	Wiegand LED 1
Gallagher GBus URI	3 GND	GND
	4 VOUT	12V
	12 DATA 0	Wiegand Out D0
	11 DATA 1	Wiegand Out D1
	10 OUT1	Wiegand LED 1
	9 OUT2	Wiegand LED 2

Device	Reader 1 Pins	Reader 2 Pins	Reader
Gallagher GBus URI - Wiegand variant	3 GND	3 GND	GND (PIN 16)
	4 VOUT	4 VOUT	12V (PIN 15)
	27 R1 DATA 0	12 R2 DATA 0	TR+/D0
	26 R1 DATA 1	11 R2 DATA 1	TR-/D1
	25 R1 OUT 1	10 R2 OUT 1	Wiegand LED 1
	24 R1 OUT 2	9 R2 OUT 2	Wiegand LED 2

**Important Notes:**

- For site security, it is recommended that the password on MA5xxx readers be changed after readers have been configured.
- Changing default reader settings other than those mentioned in this document may adversely impact reader functionality. Please contact your Gallagher Technical Account Manager before making such changes.
- Morpho Biometric Readers have their time synchronised with the Command Centre server daily. By default it synchronises at 3:30 am.

**Power Supply Requirements**

Reader	Requirements
MA5xx	9 to 16 Volts $\pm$ 5% power supply (750mA max @12V, 250mA typ @12V)
MA Sigma and MA Sigma Lite	12 to 24 Volts (regulated) 1 Amp min @ 12V
MA J Series	12 V $\pm$ 5% (regulated) 0.5 Amp. Minimum (peak) (1 Amp. with Wi-Fi™ option)
MA VP Series	12 V [9 to 16 Volts] (regulated) 1 Amp. Minimum

**Note:** Morpho Biometric Readers require significantly more current than Gallagher readers. It is strongly recommended that a biometric reader is connected directly to the systems power supply and not to a Gallagher Controller or URI.

## Configuring a Biometric Reader

Readers must be configured with their IP address to be available on the network. This is done by writing files onto a USB key, with the **USB\_Network\_Tool.exe** utility located in the following folder:

'Morpho Utilities\Tools\USB Network Tool'

**Note:** See *USB Network Tool User Guide.pdf* in the same folder for instructions.

## Supported Reader Firmware

Please contact Gallagher Technical Support before attempting to upgrade any Morpho Firmware on any Morpho Hardware Device. Constraints with how Morpho manage their Firmware to market may prevent installers from down-grading any Firmware version in the future.

## Installing a MA5xx Extended Licence (C864402) or MA J Upgrade to 3k Users (C864106)

By default, a MA5xx reader supports 3000 fingerprints stored in database 0.

A MA5xx reader can be upgraded to support 50,000 fingerprints, 10,000 fingerprints stored in databases 0 to 4, by installing a MA5xx Extended Licence on the reader.

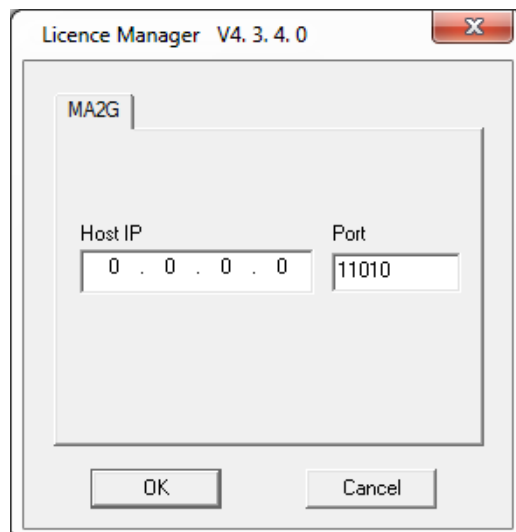
By default, the Morpho J Series readers support 500 users. The Morpho J Series readers can be upgraded via licence to support up to 3000 users.

Use the following procedure to install a MA5xx/MA J Extended Licence:

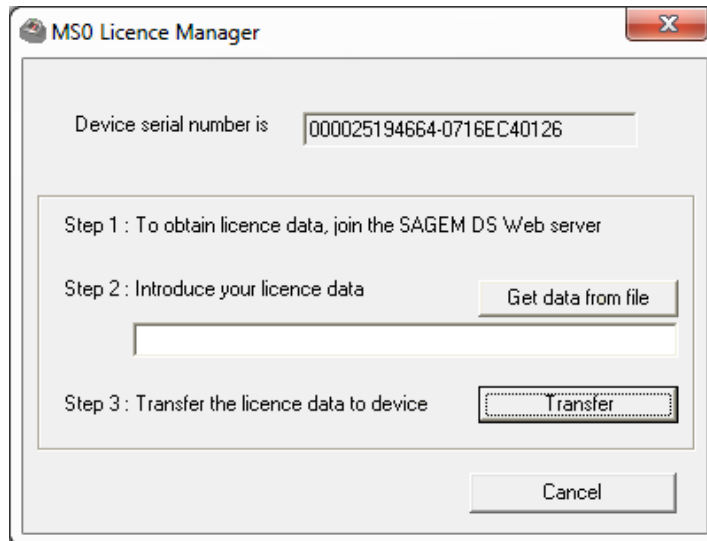
1. Determine the serial number of the MA5xx or MA J reader by running the **Licence Manager.exe** utility located in the following folder:

'Morpho Utilities\Tools\Licence Manager'

The following dialog will display:



2. Enter the IP address of the MA5xx/MA J reader and press the **OK** button.  
The following dialog will display:



3. Send the above Device Serial Number for each MA5xx/MA J reader, along with your licence order (part number C864402 or C864106 depending on the reader model), to your Gallagher Accredited Dealer.  
Your Gallagher Accredited Dealer will send you a file containing the licence information for each reader being upgraded.
4. Run the Licence Manager.exe utility again and enter the reader's IP address, and press the **OK** button.
5. Press the **Get data from file** button and open the licence file received in Step 3.
6. Press the **Transfer** button to install the licence.