



Wireless People Counter With IMMOTION Software

User Guide

Version Date: January, 2024



© 2024 EvolvePlus Pty Ltd www.evolveplus.com.au

This publication is provided "as is" without warranty of any kind, either express or implied. The names of actual companies and products mentioned herein may be the trademarks of their respective owners. We reserve the right to revise and make changes to the content of this document from time to time without notice.

Product Overview	4
Specifications	5
Wireless Sensors	5
Box Contents	5
SNG10E Specifications	5
SNG3G Specifications	5
Installing People Counter Sensors	6
Determine the direction of the count value	6
Checking Alignment of People Counter Sensors	7
Installing People Counter Sensors	9
Installing Mounting Plate	9
Receiver PRx20W1 Sensor Installation	11
Transmitter PTx20-1 Sensor Installation	12
SNG Hub - Sensor Network Gateway	12
General Overview	12
IMMOTION SensorServer Software	13
Overview & Requirements	13
Download and Install IMMOTION Software	13
Additional Software Installation Notes	16
Default Port for IMMOTION Web Server	16
IMMOTION Windows Services	16
Network Firewall	16
Windows Firewall	16
Wireless Sensor Configuration – First time setup	17
Configuring the SNG Hub (Sensor Network Gateway)	17
Installing SNG Tool	17
SNG Hub Ethernet Edition (SNG10E) – Network Connection	20
SNG Hub 3G Edition (SNG3G) – Network Connection	21
Sensor Location Validation	21
Using IMMOTION Software Applications	21
Reporting - IMMOTION Software Applications	23
Reporting - SensorServer Software Applications	24
Central Management	26
Application and Function	27
Location Management	27
Location Information	27
Measurement Positions	28
Sensors	28
Deleting Locations/Positions/Sensors	28
Tools	28
System Options	28
User management	29
CSV Export	29

Additional Information	30
Low battery detection	30
ENI (Enhanced Noise Immunity)	30
Troubleshooting	31
Mounting brackets (Optional)	31
Appendix	32
IMMOTION WebServer port configuration	32
Windows Firewall	34
Open Firewall Port	34
Allow IMMOTION and Sensor Server Apps	36
Backup	39

Product Overview

There are three main components within our modular Wireless People Counter solution:

1. Wireless Battery Powered Infrared People Counters (Bi-Directional)

The people counters have 2 sensors, a Transmitter and Receiver, which are positioned across an entrance (max 6m*) that generates an infrared beam that is broken by people passing through, and provides separate counts for both "In" and "Out". The people counters are battery powered for easy installation, and supplied with a flush mounting plate, or installed using the optional metal rotational brackets.

** up to 8 Metres with extra power transmitter available from EvolvePlus Pty Ltd.*

2. SNG Hub (Sensor Network Gateway for the People Counter Sensors)

The SNG Hub connects wirelessly via Radio Frequency to the people counting sensors to receive the latest, up to date, count data from one or more entrances/areas within a 20 to 30-metre radius. Once received, the count data is automatically sent at regular intervals to the IMMOTION software.

The SNG Hub is available in two editions:

- Ethernet Network Edition - connecting to your network via the ethernet LAN port
- 3G Edition - connecting to the Vodafone, Telstra or Optus 3G Network (optional)

3. IMMOTION Software Application

The IMMOTION SensorServer software allows organisations to analyse count data by hour, day, week, month, and year in table or graph form. This valuable information reveals peak traffic periods to determine optimal operating hours and staffing requirements and helps calculate peak visitor times.

The IMMOTION SensorServer software application is optimised to handle multiple locations and/or people counters for easy viewing and overall analysis. The IMMOTION software is scalable so that additional SNG Hubs and/or door counters can be added at any time.

IMMOTION SensorServer is available in two editions:

- On-premise: for installation on your own server or PC (included)
- Cloud: hosted on our cloud servers (\$600 per year for up to 10 locations)



Specifications

Wireless Sensors

Dimensions	116.4 x 68.6 x 22.3 mm
Material	ABS black
Battery life	Approx 12 months
Power supply	2 x 1.5V AA
Max recording width	6 Metres (8 Metres with extra power transmitter)
Available RF frequency	915 MHz (optionally available in 868 MHz and 2.4 GHz)
Wireless Range to SNG10E	20 - 30m (unobstructed)

Box Contents

- ◆ Receiver (PRx20W2)
- ◆ Transmitter (PTx20-1)
- ◆ Magnet key hanger
- ◆ Screwdriver
- ◆ 2 x Screw to lock covers
- ◆ 4 x AA Alkaline Batteries
- ◆ 2 x Mounting Plate
- ◆ Installation Guide

SNG10E Specifications

Dimensions	73 x 117 x 24 mm
Material	ABS Grey
Power supply	5V through USB connector
Power Consumption (approx.)	300 mA
Available RF frequency	915 MHz (optionally available in 868 MHz)
Wireless Range to Moodbox	20 metres (unobstructed)

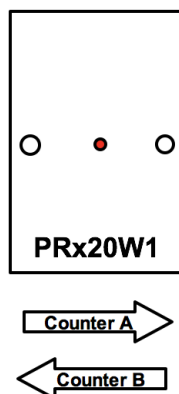
SNG3G Specifications

Dimensions	73 x 117 x 24 mm
Material	ABS Grey
Power supply	5V through supplied power cord
Power Consumption (approx.)	300 mA
Available RF frequency	915 MHz (optionally available in 868 MHz)
Wireless Range to Moodbox	20 metres (unobstructed)

Installing People Counter Sensors

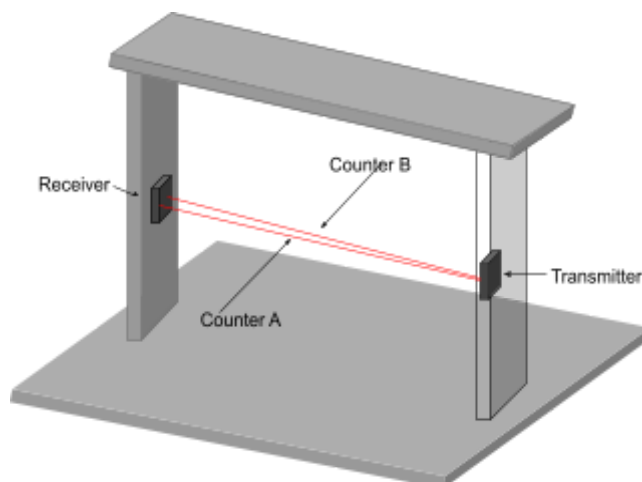
Determine the direction of the count value

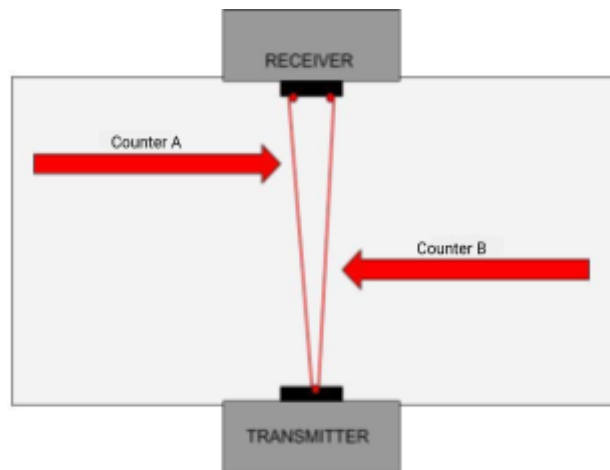
The Receiver (PRx20W1) has two counters inside, one for each direction described as Counter A & Counter B. The drawing below displays the direction for each counter:



Sensor installation example

By positioning the Receiver Sensor on your LEFT when walking in, the "A" counts represent people IN and the "B" counts represent people OUT. If the Receiver Sensor on your RIGHT when walking in, the "B" counts represent people IN and the "A" counts represent people OUT. The optimum mounting height is between 1000 mm to 1400 mm.





Important Note: In most cases, the Wireless Counters are supplied fully configured and paired ready for instant on-site installation. Please read the ['Wireless Sensor Configuration - First time setup'](#) notes if you wish to change the USB Counters configuration or reset back to the factory settings.

When mounting the People Counters take care of the following:

- The maximum distance between the Transmitter PTx20-1 and Receiver PRx20W1 is 6 metres*.
- Use a wall or other steady object to mount Transmitter PTx20-1 and Receiver PRx20W1**.
- Avoid positioning the sensors in direct sunlight for an extended length of time.
- Avoid the possibility of obstacles blocking or part blocking the infrared beam line of sight between the Transmitter PTx20-1 and Receiver PRx20W1.
- **Accuracy of the People Counter**
The accuracy of the counter will be higher when the distance between the transmitter and the receiver gets smaller. When one or more persons pass the infrared beam at once, the People Counter will increase the count value by one.

* 8 metres is possible with an extra power Transmitter PTx20-1 LP - contact EvolvePlus for more information.

** Metal rotational and/or right angled brackets and are available for purchase if required - contact EvolvePlus for more information.

Checking Alignment of People Counter Sensors

Once the batteries have been fitted, we recommend test aligning the counters before permanent wall fixing.

In order to achieve accurate counting, the Receiver PRx20W1 needs to 'see' the infrared beam from Transmitter PTx20-1.

The Receiver PRx20W1 contains an alignment feature which helps you to pair the Transmitter PTx20-1.

Positioning and Alignment Steps

Step 1

Position the Receiver PRx20W1 and Transmitter PTx20-1 opposite each other at the same height. (The optimum mounting height is between 1000mm to 1400 mm)

Step 2

To enable the alignment mode, slide the magnet on the top of the Receiver PRx20W1 in any direction.



Step 3

The LED will start blinking **RED** looking for the Transmitter PTx20-1. If the Transmitter is correctly positioned the LED will switch to a continuous solid **GREEN**. If the LED remains **RED** or occasionally flickers **RED**, move the Transmitter PTx20-1 until Receiver PRx20W1 LED lights up **GREEN** continuously.



Step 4

When the **GREEN** LED is solid, slide the magnet back in the opposite direction along the top of Receiver PRx20W1. Alternately, the alignment mode automatically stops after 1 minute.



Step 5

Mark the position of Receiver PRx20W1 and Transmitter PTx20-1 in preparation for permanent installation.

Installing People Counter Sensors

Installing Mounting Plate

1. The Receiver and Transmitter Sensor Unit is supplied with a plastic Mounting Plate to use for securing on a wall, pole, fence, etc. The mounting plate slides down off the back to reveal 2 x screw mounting holes.



2. There are two possible methods of attaching the mounting plate to your preferred area.

OPTION 1

The first method involves installing the mounting bracket onto the surface using 2 x screws. The optimum mounting height is between 800mm to 1400 mm.



Note: in some cases, organizations have used double-sided Velcro tape to temporarily affix units to the fixed objects, which allows them to test the counting distance before attaching the units to the walls with screws.

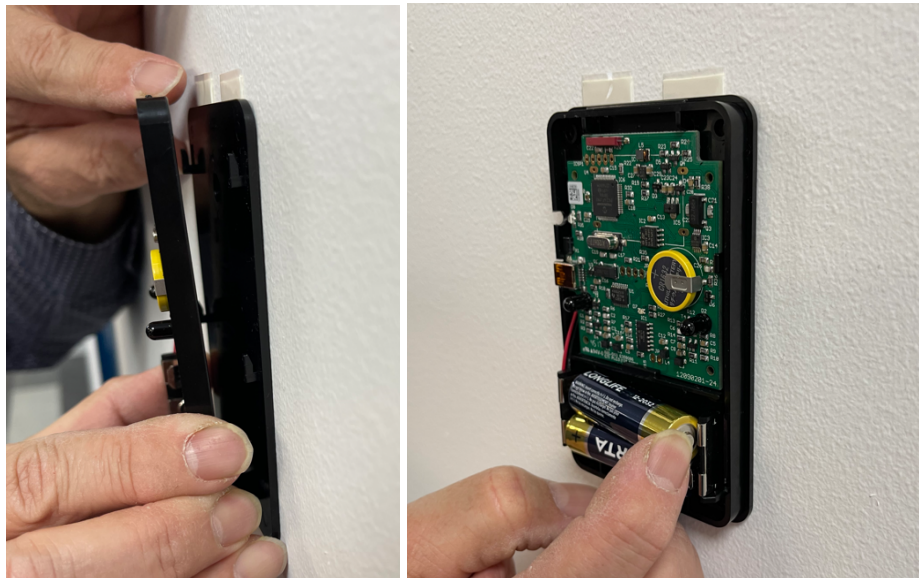
OPTION 2

The second method is to use 2 x double-sided strips for each mounting plate. If using removable Command strips, ensure to have the pull tab **VISIBLE** at the top (or bottom), this will ensure the easy removal of the mounting plate.



Receiver PRx20W1 Sensor Installation

3. Once the mounting plate has been installed, slide the People Counter Sensor onto the plate. Ensure the People Counter Sensor is the right way up (Battery Compartment at bottom). Once the People Counter Sensor is placed on the mounting plate, install the batteries into their correct polarity positions.

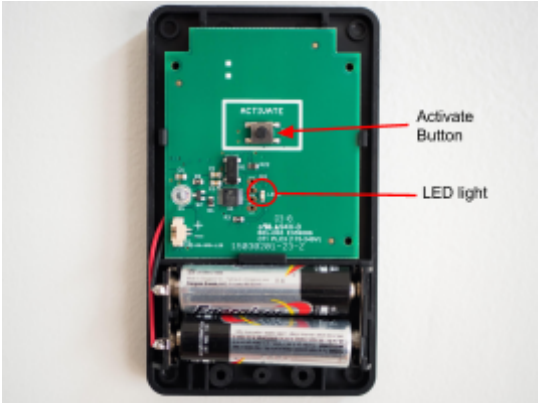


4. Now place the front cover back on. Ensure the front cover is positioned correctly by starting at the top of the sensor case. There are two lugs on the top of the counter which clip into the cover to lock a secure fit. Then push the bottom part of the cover until it fits into place. With the mini screws provided, secure the cover to the base as shown in the photo below.



Transmitter PTx20-1 Sensor Installation

5. When the Transmitter (PTx20-1) is powered correctly the red LED in the circuit board will flash. Alternately, to activate the Transmitter (PTx20-1), press and release the small ACTIVATE Button. The Status LED will blink twice during activation.



6. Front Cover Fitting: Ensure the front cover is positioned correctly (as per step 4) by starting at the top of the sensor case. There are two lugs on the top of the counter which clip into the cover to lock a secure fit. Then push the bottom part of the cover until it fits into place. With the mini screws provided, secure the cover to the base.

SNG Hub - Sensor Network Gateway

General Overview

The SNG Hub (Sensor Network Gateway) is the universal gateway for RF Wireless People Counters. The SNG Hub can be configured to receive data from up to 10 wireless sources. Setup of the SNG Hub is performed using a USB connection and a SNG Tool for Windows.

- The SNG Hub is available in two editions:
- SNG10E (Ethernet Network Edition): connecting to your network via the ethernet LAN port
 - SNG3G (3G/4G Edition): connecting to Vodafone, Telstra or Optus 3G Network in Australia. (New Zealand: Vodafone, Spark and 2degrees)

The SNG10E model is powered by a universal USB power adapter, whilst the SNG3G is powered via a separate DC input plug.

The presentation of the data can be viewed on a PC's Internet browser via the IMMOTION software application running on a Windows based server (or workstation). There is an option to install the IMMOTION software on a Linux Server as well as a custom Dashboard & Report Builder.

SNG10E	SNG3G
	

IMMOTION SensorServer Software

Overview & Requirements

Software Overview

Our IMMOTION software allows users to analyse count data by hour, day, week, month, and year in table or graph form. This valuable information reveals peak traffic periods to determine optimal operating hours and staffing requirements..

The IMMOTION software application is optimised to handle multiple locations and/or people counters for easy viewing and overall analysis.

Software Contents

This software package contains a collection of applications and services.

Services that will be installed are:

- *IMMOTION Server*: Application service connecting to SNG for uploading people counter data, as well as uploading data for USB models.
- *IMMOTION WebServer*: Web application for configuring and accessing people counter reports & statistics, utilising Apache HTTP server v2.4 and PHP v5.6)
- *IMMOTION Database*: MySQL database engine for storing people counter data
- *IMMOTION API*: Enables integration of people counter data with 3rd party systems via API built using Node.js technology.

Minimum System Requirements	<ul style="list-style-type: none">• Microsoft Windows 10 Server 2012 and above• Minimum of 4 Gb available RAM• 5 Gb available disk space• USB port for configuring the SNG• Microsoft .NET Framework 3.5 and 4.0
Firewall Requirements	<ul style="list-style-type: none">• Enable TCP Port 55555: required for data traffic from SNG to IMMOTION Server

Download and Install IMMOTION Software

Download the latest version from:

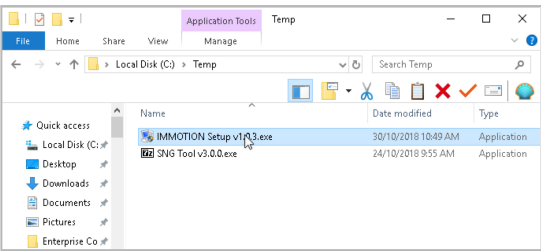
<https://downloads.evolveplus.com.au/people-counters/immotion-software>

Filename: **IMMOTION Setup v1.0.3.exe**

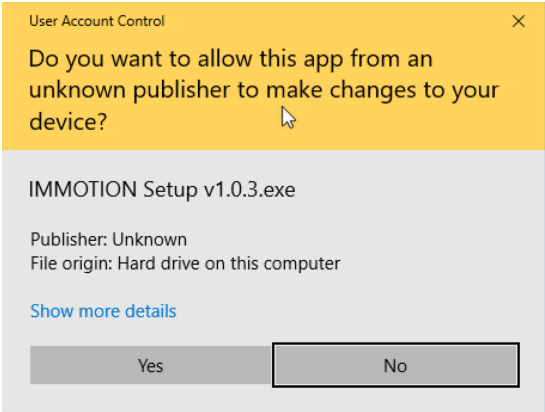
Note: The version displayed on the screenshots can differ from the downloaded version. Follow the on-screen instructions to complete the installation.

Note: The version displayed on the screen shots can differ from the downloaded version. Follow the on-screen instructions to complete the installation.

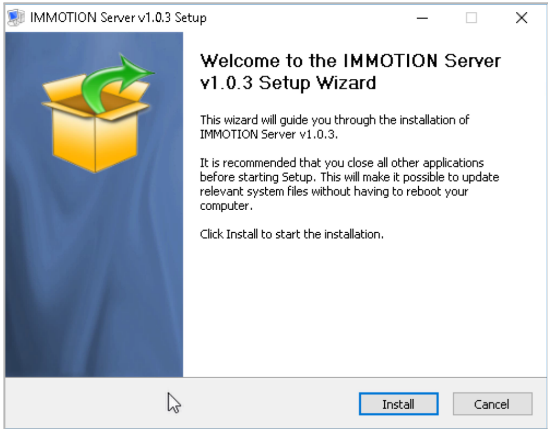
Run the IMMOTION Setup v1.0.3.exe and follow the on-screen instructions to complete the installation.



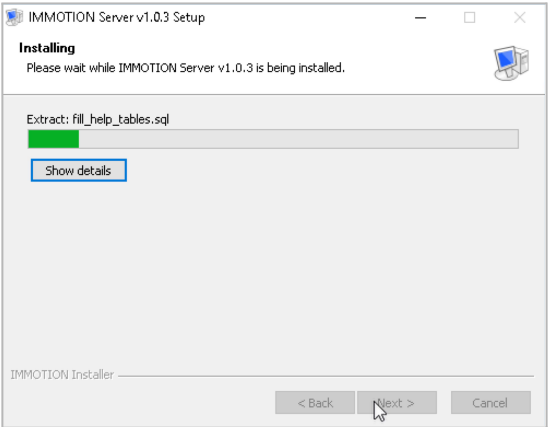
Click **Yes** when prompted *allow this app from an unknown publisher to make changes to your device?*



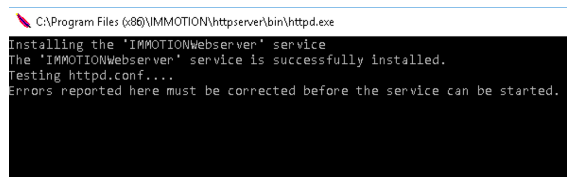
Click **Install**



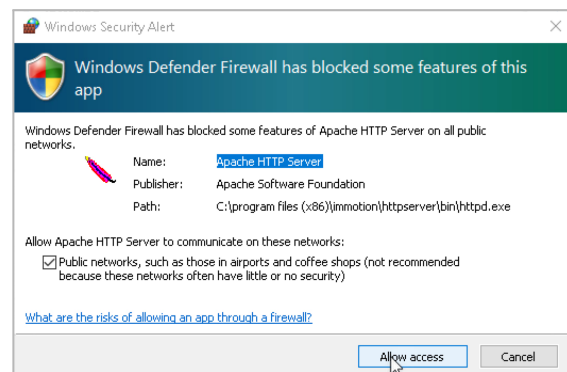
Setup will commence extracting the required files.



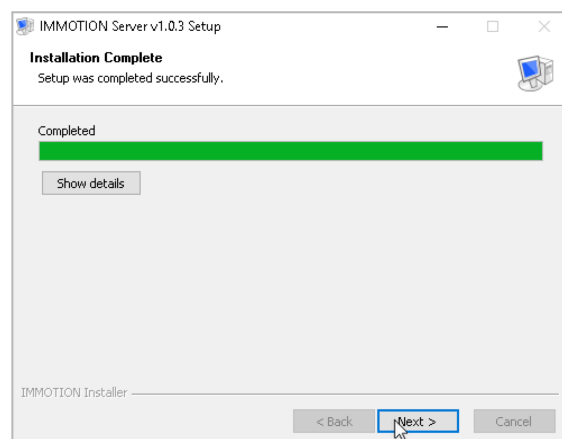
During the installation process a Windows command window may display,
(e.g. installation of the Apache web server)
No action is required - these windows will automatically close.



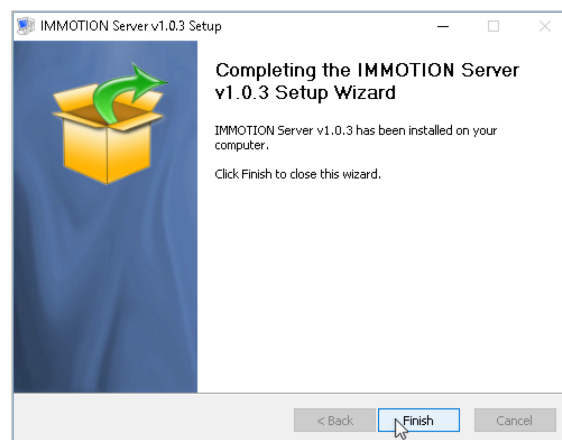
Click **Allow access** if a firewall message is displayed regarding blocking the Apache HTTP Server.



Click **Next** followed by *Close* for the *Installation Complete* message



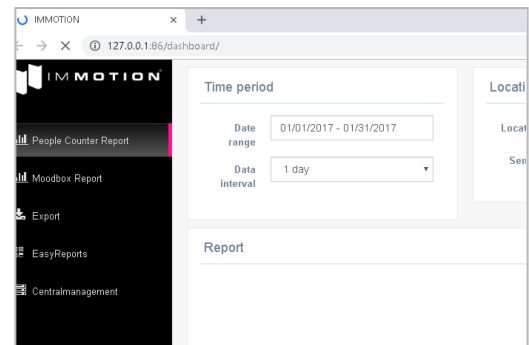
Click **Finish** to close Setup



On completion Setup will open the IMMOTION Dashboard using the default web browser at the address:

<http://localhost:86/dashboard/>

Note: if this does not display then contact EvolvePlus Support for assistance: support@evolveplus.com.au



Additional Software Installation Notes

Default Port for IMMOTION Web Server

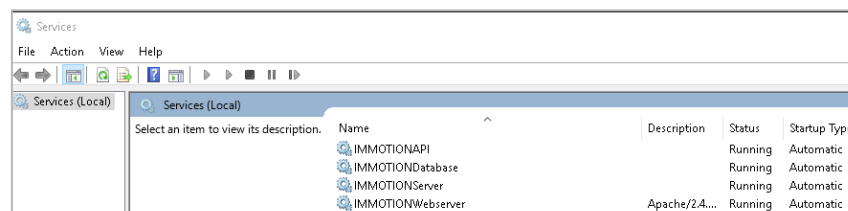
IMMOTION Web Server listens to web requests via port 86 by default. This is to ensure that it will not conflict with other web servers that you may have running on your PC or Server.

Refer Appendix at the end of this User Guide for more information about changing the Web Server to use another port (e.g. port 80).

IMMOTION Windows Services

The IMMOTION software will install as 4 separate Windows Services:

- IMMOTIONServer
- IMMOTIONWebserver
- IMMOTIONDatabase
- IMMOTIONAPI



Network Firewall

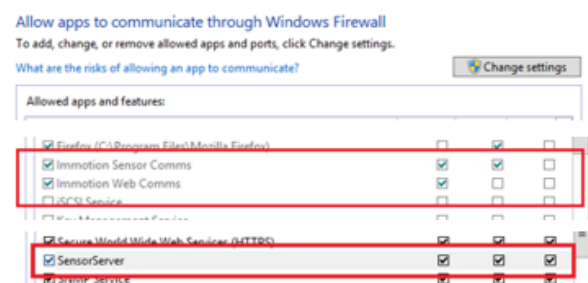
Before continuing to configure the system please be sure the IMMOTION software can communicate over TCP port 55555 - Your network/system administrator can help you to configure the firewall.

Windows Firewall

On the server hosting the IMMOTION software - check that the Windows Firewall is allowing the following Apps.

- IMMOTION Sensor Comms
- IMMOTION Web Comms
- SensorServer

Check the **Appendix** in the final section of this



manual for more information about the Windows Firewall.

Wireless Sensor Configuration – First time setup

Important Note: Skip this step if your People Counters have been supplied pre-configured by EvolvePlus.

Configuring the SNG Hub (Sensor Network Gateway)

Installing SNG Tool

The **SNG Tool** enables you to configure the network settings and register wireless counter sensors into the SNG, as well as assign names, positions and locations.

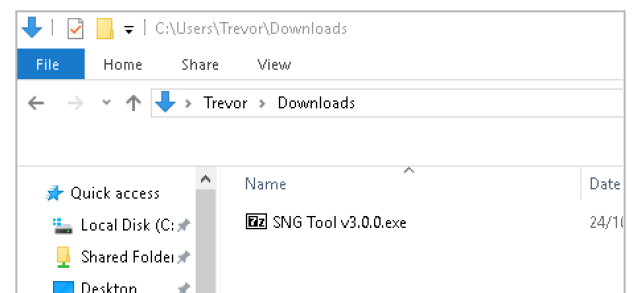
Download the latest version from:

<https://downloads.evolveplus.com.au/people-counters/immotion-software>

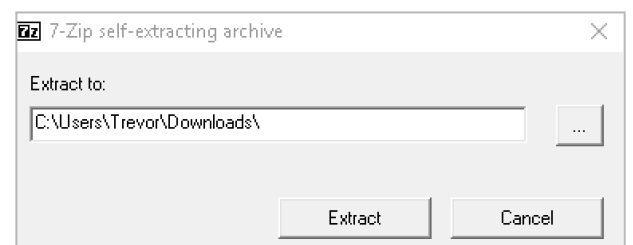
Installers to download:: SNG Tool v3.0.0.exe

Note: The version displayed on the screen shots can differ from the downloaded version. Follow the on-screen instructions to complete the installation.

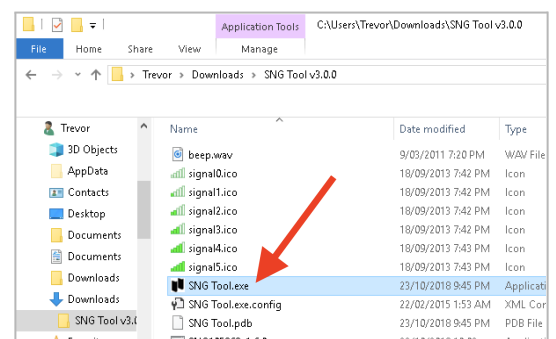
Run file *SNG Tool v3.0.0.exe* to extract the SNG Tool



Choose the folder you wish to extract the SNG Tool application files to.
(This will default to the current folder).



Open the folder *SNG Tool v3.0.0* and run the program **SNG Tool.exe**



Click *Continue*

Enter the required settings including:

- Location Code (Up to 8 Chars)
- Position Code (Up to 8 Chars)
- Name Code (Up to 8 Chars)

Note: you can provide a descriptive location name, address etc. at a later stage using the IMMOTION Central Management web app.

Click *Continue*

SNG10E (Ethernet Network Edition)

If you are configuring a SNG10E you will be prompted with the message displayed on the right.

Click Yes if the IMMOTION software is installed on this PC/Server, and the network settings will be configured automatically,

Click No if you are using the IMMOTION SensorServer Cloud edition or to manually configure the network settings for the SNG and

SNG Tool v3.0.0

SNG v1.6.0 Connected

Summary Tools

Identify Sensors

The sensors are located on the Location with Location code:

Node	Version	Sensors	Name	Position Code	Delete
54-10-EC-99-B9-	2.6	Counter_A	Sensor1	ENTRANCE	X

Please use names and position codes corresponding to the position where the sensors are placed.

Continue

SNG Tool v3.0.0

SNG v1.6.0 Connected

Summary Tools

Is the IMMOTION software installed on this PC?

Yes No

When you choose "Yes" the network settings will be configured automatically. Please be sure your PC is able to connect to the internet.

To detect your network settings automatically, the SNG Tool tries to connect with your IMMOTION Server installation.
In case the SNG Tool is not able to connect please setup the network settings manually.
When you are not sure about these settings please contact your local System Administrator.

The IMMOTION Server is the IP address or DNS Name of the PC/Server where the IMMOTION software is installed. The default port for the IMMOTION Server is 55555.

Note: If a PC on the network is used to run the IMMOTION software, please ensure that it is assigned a static IP address. If a static IP address is not assigned to the PC, it 'may' change its IP address during a network blackout or reset and the SNG10E will not be able to identify the IMMOTION software unless the SNG10E is re-configured.

For the SNG Network Settings: use DHCP to have these automatically assigned or manually enter the network settings. You

SNG Tool v3.0.0

SNG v1.6.0 Connected

Summary Tools

Network Settings

Enter the IP Address or the DNS name of the PC where the IMMOTION software is installed. The SNG will connect to this PC to forward the sensor data to the database. Please be sure no firewall is blocking the communication of the SNG on top port 55555. Ask your IT specialist for more details about your network.

IMMOTION Server

Server port

SNG Network Settings

☒ Use DHCP to obtain IP configuration automatically
☐ Use a static IP Configuration

IP Address
Subnet Mask
Gateway
DNS Server
MAC
Version

Finish

should ask your system administrator for these settings.

SNG3G (3G/4G Edition)

If you are configuring a SNG3G you will be prompted with the message displayed on the right.

The IMMOTION Server is the IP address or DNS Name of the public server where the IMMOTION software is installed.
The default port for the IMMOTION Server is 55555.

Note: since the SNG3G is transmitting data to the IMMOTION software via the Mobile Broadband Network the server will need to have a static public IP address OR a public DNS name.

The APN for the Australian mobile network will depend on the mobile network you are using:

Vodafone:	live.vodafone.com
Telstra:	telstra.wap
Optus:	connect

The APN for the New Zealand mobile network will depend on the mobile network you are using:

Spark:	Internet
2degrees:	internet

Generally the PIN field will be left blank.

Click on the 'Finish' button to apply the network settings.

Disconnect the USB connector cable from the SNG Hub.

SNG Tool v3.0.0

SNG3G v2.1.0 Connected

Summary
Tools

Mobile Network Settings

For the Server field:
Enter the Public Internet IP Address or the DNS name of the PC where the IMMOTION software is installed.
The SNG will connect to this PC to forward the sensor data to the database.
Please be sure no firewall is blocking the communication of the SNG on tcp port 55555
Ask your IT specialist for more details about your network.

IMMOTION Server
Server: port:

Mobile Network
APN:
Pin:

Continue

SNG Hub Ethernet Edition (SNG10E) – Network Connection

Connect the SNG Hub (SNG10E) to the network using the supplied ethernet cable and USB connection power supply. For optimal RF connection with the wireless sensors, ensure that there is at least 20cm clearance around the SNG10E.

With the Ethernet Cable connecting the SNG10E to the Local Area Network (LAN) and the power source coming from a power outlet, a green light should illuminate permanently in the middle of the back panel of the SNG10E indicating a successful connection to the IMMOTION Software.



Note: If the Green LED does not illuminate permanently - it will flash from time to time. This indicates that the SNG Hub is trying to connect to the IMMOTION Software however there is a network obstruction (e.g.: Configuration settings not correct, firewall blocking port number, different networks etc.)

SNG Hub 3G Edition (SNG3G) – Network Connection

Once the 3G SNG has been configured, connect it to its power source. When the Left LED lights turn a solid green (shown below) that means the SNG 3G is now connected to a 3G network and is now ready to use.



Note: since the SNG3G will transmit the data via the Mobile Broadband Network, the IMMOTION Software Application will need to be accessible via Public IP or DNS Name. If this is not possible -EvolvePlus- can offer an optional IMMOTION Cloud subscription for \$600/year.

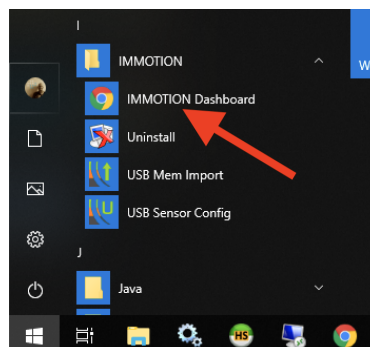
Sensor Location Validation

If the SNG Hub is configured and connected correctly the new Sensor Counters, Positions and Locations will be created automatically on the IMMOTION software.

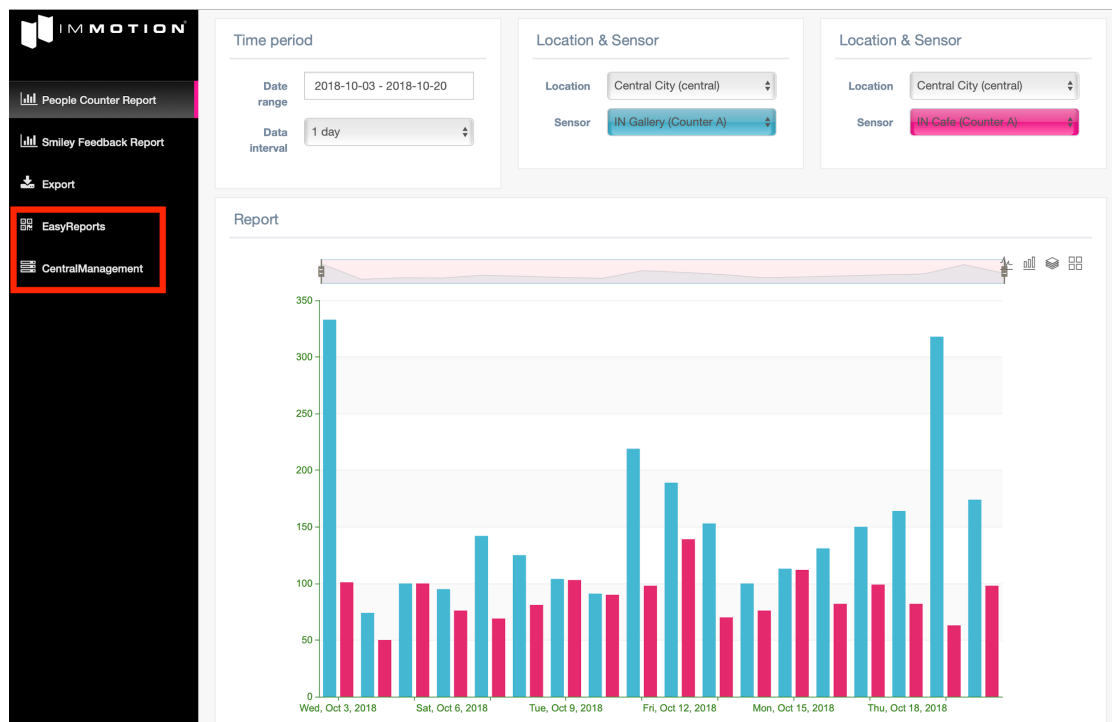
Data which is collected from sensor(s) will be received and stored into the IMMOTION database. After a Location is added automatically by the system it will immediately be visible in the EasyReports.

Using IMMOTION Software Applications

You can access the IMMOTION Dashboard application by choosing *IMMOTION Dashboard* from the Windows start menu:



You can also access the IMMOTION Dashboard by opening your web browser with the following URL:
<http://127.0.0.1:86/dashboard/>



The initial IMMOTION Dashboard provides snapshot of standard for specific locations and sensors for a given date range, as well as providing links to:

Smiley Feedback (also shown as Moodbox) Reports:

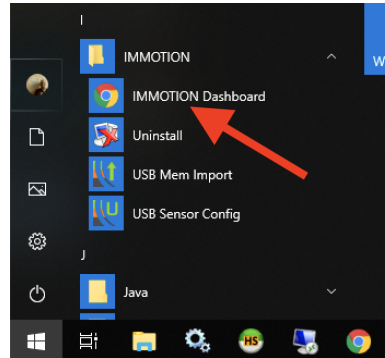
Providing statistical analysis of the optional Smiley Feedback Counters

Export

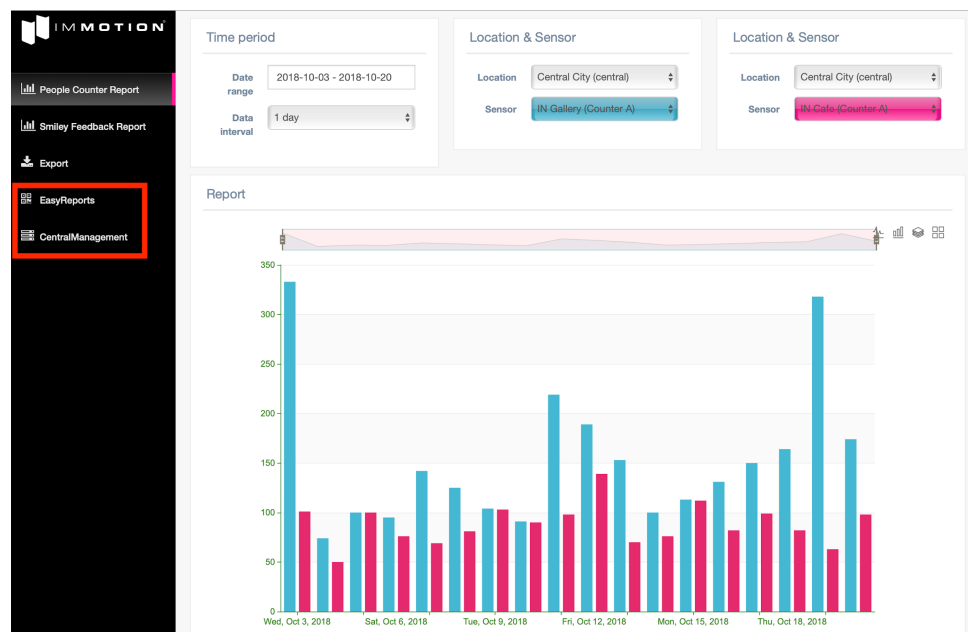
Enabling CSV export of IMMOTION People Counter data

Reporting - IMMOTION Software Applications

You can access the IMMOTION Dashboard application by choosing *IMMOTION Dashboard* from the Windows start menu:



You can also access the IMMOTION Dashboard by opening your web browser with the following URL:
<http://127.0.0.1:86/dashboard/>



The initial IMMOTION Dashboard provides snapshot of standard for specific locations and sensors for a given date range, as well as providing links to:

Smiley Feedback (also shown as Moodbox) Reports:

Providing statistical analysis of the optional Smiley Feedback Counters

Export

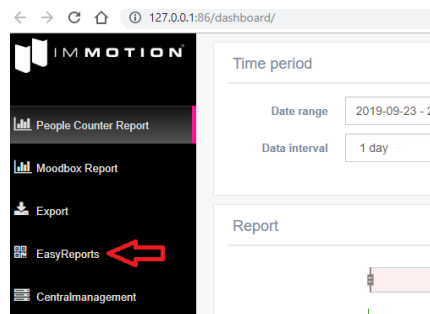
Enabling CSV export of IMMOTION People Counter data

Reporting - SensorServer Software Applications

EasyReports

EasyReports is the web based reporting application which displays the people counting data in a range of different views including hourly, daily, weekly, monthly and yearly.

You can access EasyReports via the IMMOTION Dashboard menu item list.



You can also directly access EasyReports directly by opening your web browser with the following URL:
<http://127.0.0.1:86/EasyReports/>

Location list

To get a list of the available Locations in the system click on the Locations item in the menu. When the User Management is Enabled you need to login to get access to your Locations.

The list only contains the 'validated' locations.

Locations	CSV Export	Help	Dashboard
-----------	------------	------	-----------

Code	Name	Address	Zip	City
central	Central City	5a Hartnett Close	3170	Mulgrave
EXHIBIT	Exhibition Centre			Wellington

By default the location list is ordered by the time a location was added to the system.

To change the order click on the table header: Code, Name, Address, Zip, City or Country to order on these items.

To view the statistics of a Location just **click** on the location. (Click anywhere on the location line details to view)

Location Page

On the Locations page you see the main location info, the report selection menu and an overview of the Measurement Positions on the location.

Locations	CSV Export	Help	Dashboard
-----------	------------	------	-----------

Location info				
Name	Central City	Address	5a Hartnett Close	
Code	central	Zip	3170	
Phone	03 8560 3200	Fax		
Comments	Central City Office			

Positions		Day report		Week report	
-----------	--	------------	--	-------------	--

Measurement position							
		Hour	Day	Week	Month	Year	Total
Position	Cafe Entrance	23	400	2555	10893	89845	372396
Position	Gallery	2	68	370	4585	57564	212584
Position	TOTAL IN	12	239	1460	7796	74669	294565
Position	TOTAL OUT	13	229	1465	7682	72740	290415

Click on a position to expand the Counter A and Counter B sensors which are linked to that position.

Name	Central City	Address	5a Hartnett Close
Code	central	Zip	3170
Phone	03 8560 3200	Fax	
Comments	Central City Office		

Positions	Day report	Week report
-----------	------------	-------------

Select position:
Cafe Entrance
▼

Select sensor:
IN Cafe (Counter A)
▼

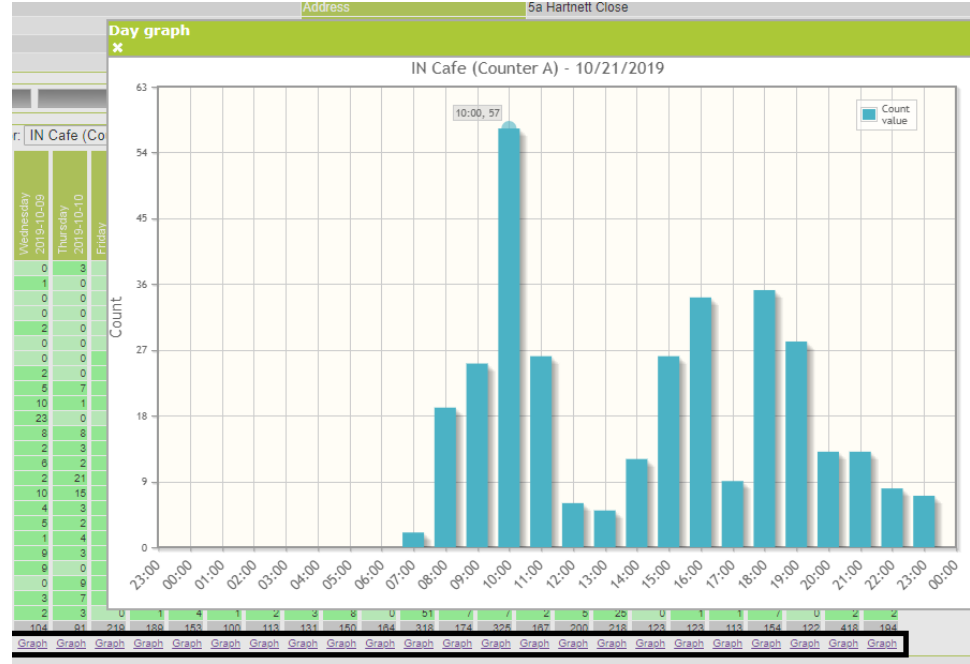
Select month:
October
▼

Select year:
2019
▼

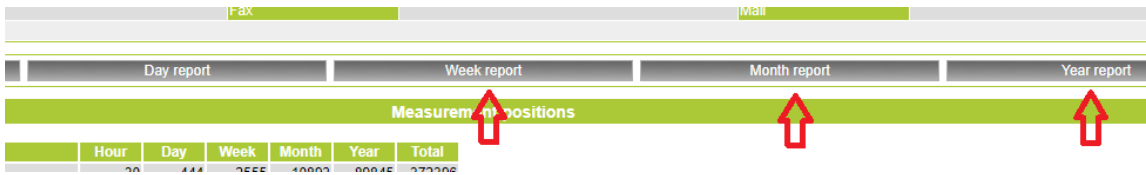
Refresh

	Tuesday 2019-10-01	Wednesday 2019-10-02	Thursday 2019-10-03	Friday 2019-10-04	Saturday 2019-10-05	Sunday 2019-10-06	Monday 2019-10-07	Tuesday 2019-10-08	Wednesday 2019-10-09	Thursday 2019-10-10	Friday 2019-10-11	Saturday 2019-10-12	Sunday 2019-10-13	Monday 2019-10-14	Tuesday 2019-10-15	Wednesday 2019-10-16	Thursday 2019-10-17	Friday 2019-10-18	Saturday 2019-10-19	Sunday 2019-10-20	Monday 2019-10-21	Tuesday 2019-10-22	Wednesday 2019-10-23	Thursday 2019-10-24	Friday 2019-10-25	Saturday 2019-10-26	Sunday 2019-10-27
0:00 - 1:00	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0
1:00 - 2:00	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 - 3:00	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0

To see the hourly values in a chart click on the **Graph** link beneath the daily totals.

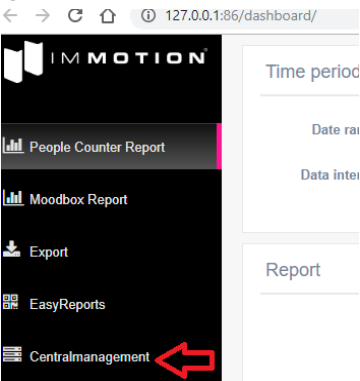


Repeat the same process to view the count data for week, month and year by selecting the corresponding report buttons.



Central Management

Central Management is the system administration web application for configuring locations, positions and sensors within the IMMOTION database, as well as providing a range of monitoring and user management features. You can access Central Management via the IMMOTION Dashboard menu item list.



You can also directly access Central Management directly by opening your web browser with the following URL:

<http://127.0.0.1:86/Centralmanagement/>

Contact EvolvePlus Support if you wish to apply a separate password to Central Management to prevent unauthorised users from accessing this application.

Application and Function

The Central Management is the web based environment from which the system is managed.

By clicking on the Locations button in the top menu the CentralManagement will show you any new locations created for the first time.

Click on the OK button to accept the new location or click the Edit button to accept and edit the new location.

When the **Edit** button is clicked you can start editing the location details.

Location info			
Name:	Office	Code:	office
Address:		Phone:	
Zip:		Fax:	
City:		Mail:	
Country:		Comment:	Added by the SensorServ
<input type="button" value="X"/> <input type="button" value="Save"/>			

Sensors					
Name	Hardware ID	Type	Version	Signal	
counter	00-04-A3-3A-23-31	Counter A	0	59	<input type="button" value="X"/> <input type="button" value="Save"/>
counter	00-04-A3-3A-23-31	Counter B	0	59	<input type="button" value="X"/> <input type="button" value="Save"/>

Measurement positions			
Position code	Position name		
entrance	entrance	<input type="button" value="X"/> <input type="button" value="Sensor"/>	<input type="button" value="Save"/>
		<input type="button" value="+"/>	

Location Management

To edit a location, click on the Locations → Edit item in the top menu.

Using the Search field you can find the Location you want to Edit. Enter the Name, Location Code or the City of the Location in the search field.

Note: When you click on search without a search query, all the Locations will be displayed.

Search		
cent	<input type="button" value="Search"/>	

Search results		
	Code	Name
<input type="button" value="Edit"/>	central	Central City
<input type="button" value="Edit"/>	EXHIBIT	Exhibition Centre
		Mulgrave
		Wellington

Look for the Location you want to edit in the Search results and click on the Edit button.

Location Information

This section contains the main information about a location. The Code field is read only and automatically created from the USB Sensor Configuration. Use the fields in the Location Info table to add detailed information about the location. Press **Save**.

Location info	
Name: Plus 39 cafe	Code: PLUS39
Address:	Phone:
Zip:	Fax:
City:	Mail:
Country:	Comment: Added by the MEM Read
<input type="button" value="X"/> <input type="button" value="Save"/>	

Measurement Positions




Each location contains at least one Position. A Position is a place within the Location where the people counters sensors are installed. *For example: the entrance of a Cafe.*

The Position Code field is read only and automatically created from the USB Sensor Configuration. Use the Position name field to add detailed information (if required). Press **Save**.

Measurement positions	
Position code	Position name
ENTRY	ENTRY - Little Bourke St

Sensors

Each Location can have multiple Sensors which are all linked to one or more Positions. Use the Name field to add detailed information (if required). Press **Save**.

Sensors					
Name	Hardware ID	Type	Version	Signal	
Not Applicable	00-04-A3-3B-8E-29	TempBat	2.2		<input type="button" value="X"/> <input type="button" value="Save"/>
Front	00-04-A3-3B-8E-29	Contact 1	2.2		<input type="button" value="X"/> <input type="button" value="Save"/>
Not Applicable	00-04-A3-3B-8E-29	Contact 2	2.2		<input type="button" value="X"/> <input type="button" value="Save"/>

Deleting Locations/Positions/Sensors

To delete a Location, Position or Sensor click on the red 'X' button behind the item you want to delete.

- A Location can only be deleted when there are no Sensors and Positions on the Location.
- A Position can only be deleted when there are no Sensors linked to the position.

Note: When you remove a Sensor all the collected data of that sensor will also be deleted.

Always be sure if you want to delete something, there is no undo function to get the data back. As an extra precaution the software let you confirm before something will be deleted.

Tools

System Options

Via the menu item Tools → Options you have the possibility to change some system settings.

System Options	
EasyReports language	English <input type="button" value="Save"/>
CentralManagement language	English <input type="button" value="Save"/>
User management	Disabled <input type="button" value="Save"/>
SensorServer Automatic In Out position creation	Disabled <input type="button" value="Save"/>

By enabling the **User management** users need to login on the EasyReports to be able to see the statistics.

The **SensorServer Automatic In Out position creation** is by default Disabled. When Enabled IMMOTION will automatically create In and Out positions when the software automatically creates a new Location. The sensor of type Counter A will automatically linked to the In position and Counter B to the Out position.

Measurement positions				
Position code	Position name			
<input type="text" value="__In__"/>	<input type="text" value="In"/>	X	<input type="button" value="Sensor"/>	<input type="button" value="Save"/>
<input type="text" value="__Out__"/>	<input type="text" value="Out"/>	X	<input type="button" value="Sensor"/>	<input type="button" value="Save"/>
<input type="text" value="entrance"/>	<input type="text" value="entrance"/>	X	<input type="button" value="Sensor"/>	<input type="button" value="Save"/>
<input type="text"/>	<input type="text"/>	+		

Sensors					
	Name	Hardware ID	Type	Version	Signal
<input checked="" type="checkbox"/>	counter	00-04-A3-3A-23-31	Counter A	0	49
<input type="checkbox"/>	counter	00-04-A3-3A-23-31	Counter B	0	49

The Position codes for the automatically created In and Out positions are: __In__ and __Out__

User management

When the *User Management* is Enabled in the System Options users need to login into the EasyReports to get access to a location.

On the Use Management page (Tools → Users) new user accounts can be created which can get access to one or more locations.

To add a user enter a Username and a Password and choose which Location the user can access on the EasyReports.

New User			
Username:	<input type="text"/>	Password:	<input type="text"/>
Location:	Head Office (office) <input type="button" value="Add"/>		

The User List contains all the available user accounts. Click on a user in the list to change a user account. In the Location Access box Locations can be added or deleted to which the user has access to.

User List	Edit User	Location Access
<div>user1</div> <div>user2</div>	<div>user1</div> <div>Password:</div> <div><input type="text"/></div> <div><input type="button" value="Save"/> <input type="button" value="Delete"/></div>	<div>Head Office (office) <input type="button" value="Add"/></div> <div>Head Office (Head Office) <input type="button" value="Delete"/></div>

CSV Export

To integrate the collected data into a 3rd party application like Microsoft Excel or into your own business application a CSV Export feature is included with the SensorServer.

Multiple exports can be created which can be configured via the Modules → CSV Export menu item.

Click on the Add new CSV export button to create a new CSV Export configuration



An export configuration stores information about the export which will be used by the CSV Export application.

Below the description of each field:

- **Name:** The name of the export configuration. This name is used for executing the export.
- **Header:** This is the first line in the export file.
- **Path:** Location on the PC where the CSV export file needs to be stored for example: C:\Export
- **Filename:** The filename of the CSV Export
- **Append:** When not checked every time the export is executed the existing file will be overwritten.
- **Separator:** The separator used to separate each column in the export
- **Quoted string:** When checked all text fields will be surrounded with the "character.

To execute the export run the following command:

C:\Program Files\IMMOTION\users\default\apps\CSVExport.exe **export_name**

or on 64bit operating systems:

C:\Program Files (x86)\IMMOTION\users\default\apps\CSVExport.exe **export_name**

Where **export_name** is the name of an export configuration.

To schedule the export you can make use of the Scheduling features of Microsoft Windows.

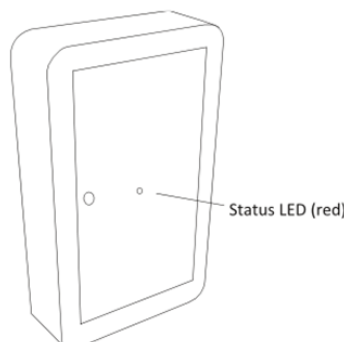
Note: By default the configured export configurations will create an hourly export of the current day when the export is executed.

Please contact EvolvePlus Support when another type of export is desired.

Additional Information

Low battery detection

The Receiver and Transmitter are both equipped with a low battery alert. When low battery power is detected, the status LED red light will blink every 2.5 seconds to indicate a low battery state. During the period of low battery state the 2 AA batteries should be replaced.



ENI (Enhanced Noise Immunity)

The Receiver (PRx20W1) is equipped with ENI technology which enables it to work in environments where transmission noise exists. If there is too much transmission noise the red LED on the receiver will light up. In this case, find the source of the disturbance and remove it.

Be aware of infrared light from other sources like bright lights and infrared devices. When the Receiver PRx20W1 receives infrared from other sources, instead of the PTx20-1 Transmitter, unexpected behavior could be the result.

Due to the strong field of AM anti-shoplifting systems, it is recommended to place the People Counter at least 1 metre away from an AM system.

The maximum measurement width will decrease when the infrared signal goes through glass.

Troubleshooting

The People Counter does not count

Check the alignment of the Receiver PRx20W1 and Transmitter PTx20-1 or replace the batteries. The Receiver PRx20W1 needs to receive the infrared beam from the Transmitter PTx20-1.

The red LED on the Receiver PRx20W1 is blinking

In this situation, the Receiver PRx20W1 detects disturbance from the environment. Find the source of this disturbance which could be another infrared source like spotlights.

When a disturbance is detected correct counting cannot be guaranteed.

Mounting brackets (Optional)

In the event the "PT" Series Infrared Horizontal People Counters are unable to be installed on a wall, door frame or column so that they are facing each other we provide a range of optional mounting brackets that can be purchased.

Metal Rotational Bracket

The versatility of the pivoting door sensor holder makes fitting simple at entrances where the mounting location may not be at right angles.

These are provided in a black finish and supplied as a set of two.



Polycarbonate Right Angled Bracket

This sleek-looking bracket is suitable for door/frame mounting for use when fixing the people counters flush against a wall is not possible. The bracket is also available in an extended length to clear interference from power sliding doors

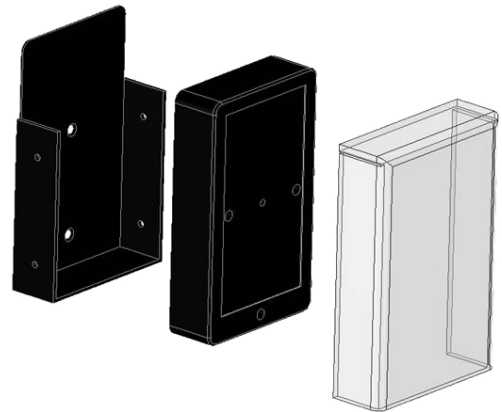
Available only in a clear finish and supplied as a set of two.



Protective Brackets

Consisting of a rear/side mounting bracket with a clear plastic cover, these brackets provide robust housing for people counters that require additional protection when mounted in tougher indoor conditions like washroom entrances.

Note: these brackets are only available for the Wireless and LCD Display models, are not weatherproof, and are supplied as a set of two.



Robust Case

Provides good outdoor weatherability and sensor security.

The sensor units are inserted into the specialised Outdoor Case Supplied as a set of two.

Contact EvolvePlus if wish to purchase or require further information: Phone 03 8560 3200 or email sales@evolveplus.com.au



Appendix

IMMOTION WebServer port configuration

The IMMOTION WebServer service is an Apache HTTP Server which is configured to listen on the default http port 86. In cases where port 86 is already in use by another installation of a webserver on the system or you wish to use the standard http port 80, the IMMOTION WebServer port can be changed to another port number.

During this example we are going to use port 80 as the new port number.

When port 86 is in use you will notice that the CentralManagement and EasyReports can not be found when

opening in the web browser.

To determine if port 80 is already in use take the following steps.

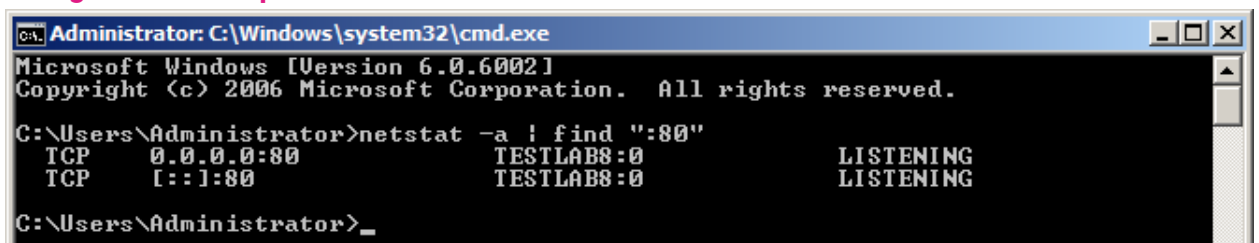
Determine free and used ports

Open a Command Prompt by executing the *cmd* command.

Use netstat to determine if port 80 is in use:

```
netstat -a | find ":80"
```

Change WebServer port



```
Administrator: C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.0.6002]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.

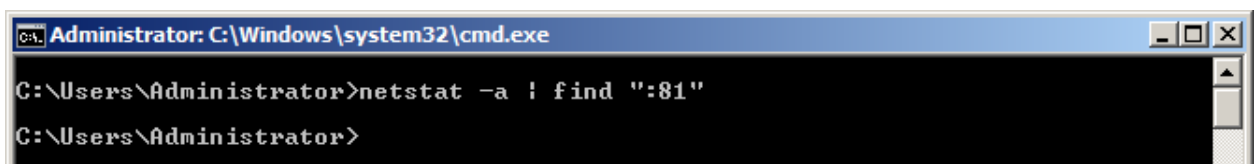
C:\Users\Administrator>netstat -a | find ":80"
TCP    0.0.0.0:80          TESTLAB8:0          LISTENING
TCP    [::]:80            TESTLAB8:0          LISTENING

C:\Users\Administrator>
```

In the picture above you can see that something already is LISTENING on port 80.

To check if the new port is free we can use the same command:

```
netstat -a | find ":81"
```



```
Administrator: C:\Windows\system32\cmd.exe

C:\Users\Administrator>netstat -a | find ":81"

C:\Users\Administrator>
```

When the command doesn't give any results, like in the image above, you know the port is not in use.

To change the WebServer port open a text editor like notepad with administrator rights and open the file:

C:\Program Files\IMMOTION\httpserver\conf\httpd.conf

Or on 64 bit systems:

C:\Program Files (x86)\IMMOTION\httpserver\conf\httpd.conf

Change the line:

```
Listen 86
```

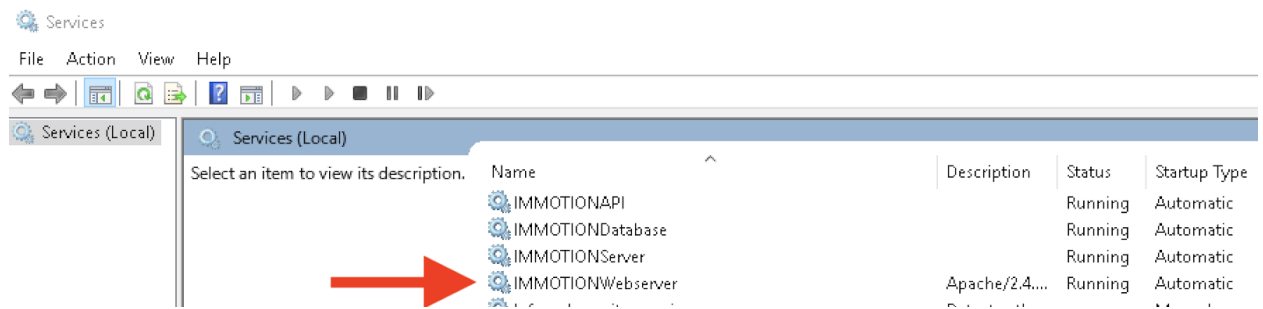
to:

```
Listen 80
```

Start the IMMOTION WebServer

To start the IMMOTIONWebserver with the new port configuration open the Services Control Panel and find the IMMOTIONWebserver service.

Right click on the service to start (or restart) the Webserver.



Updating Shortcuts

Now the Webserver is running and using the new port configuration.

The URL to access the Dashboard, CentralManagement and EasyReports is now changed.

Instead of:

http://127.0.0.1:86/dashboard/
 http://127.0.0.1:86/CentralManagement/
 http://127.0.0.1:86/EasyReports/

The new URL will be:

http://127.0.0.1:80/dashboard/ or http://127.0.0.1/dashboard/
 http://127.0.0.1:80/CentralManagement/ or http://127.0.0.1/CentralManagement/
 http://127.0.0.1:80/EasyReports/ or http://127.0.0.1/EasyReports/

You will need to update any shortcuts to the Dashboard, EasyReports and CentralManagement on the Desktop and in the Start menu.

Windows Firewall

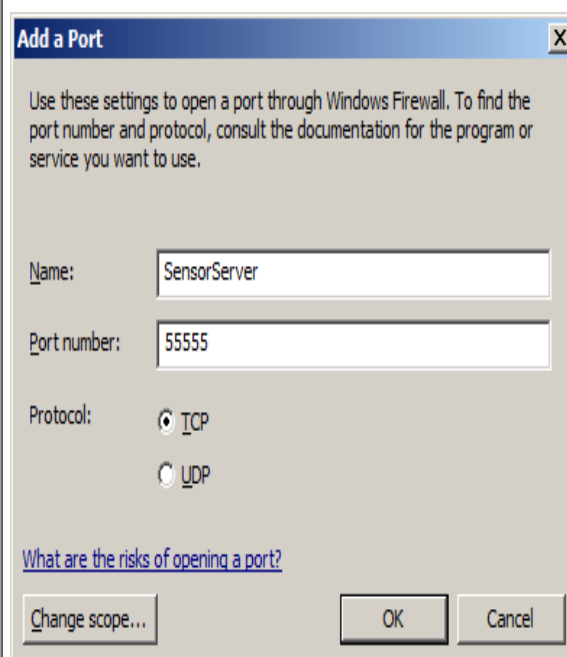
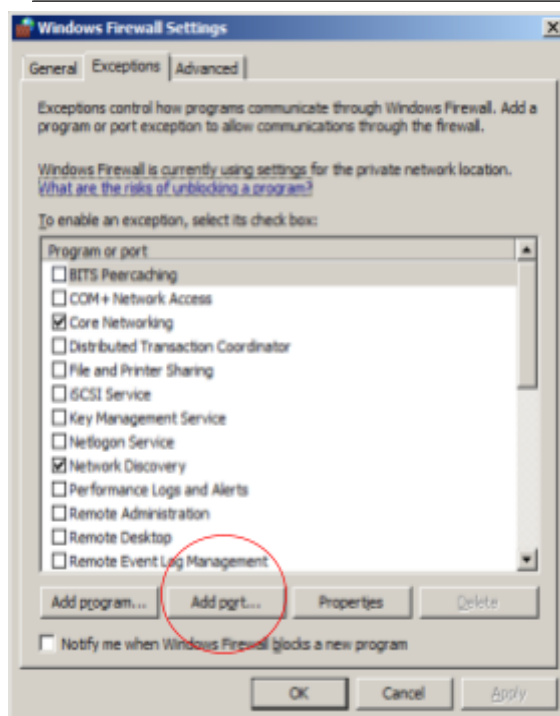
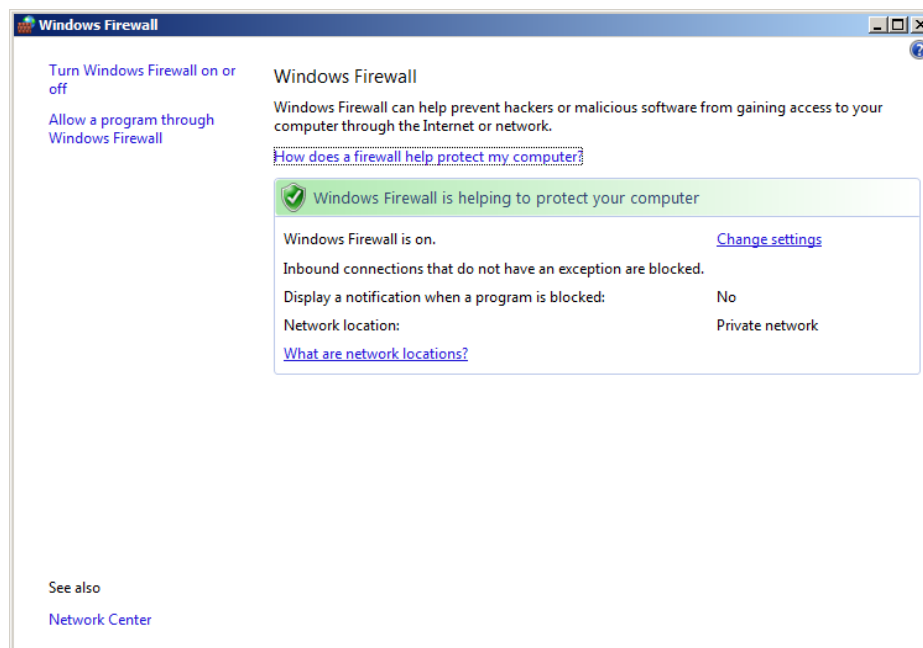
The IMMOTION software uses the network to communicate with SNG Hubs. Default Windows installations do have the Firewall enabled.

- This Firewall might block the communication with the IMMOTION software on TCP port 55555.
- This Firewall might not be allowing the following Apps.
 - IMMOTION Sensor Comms
 - IMMOTION Web Coms
 - SensorServer

Open Firewall Port

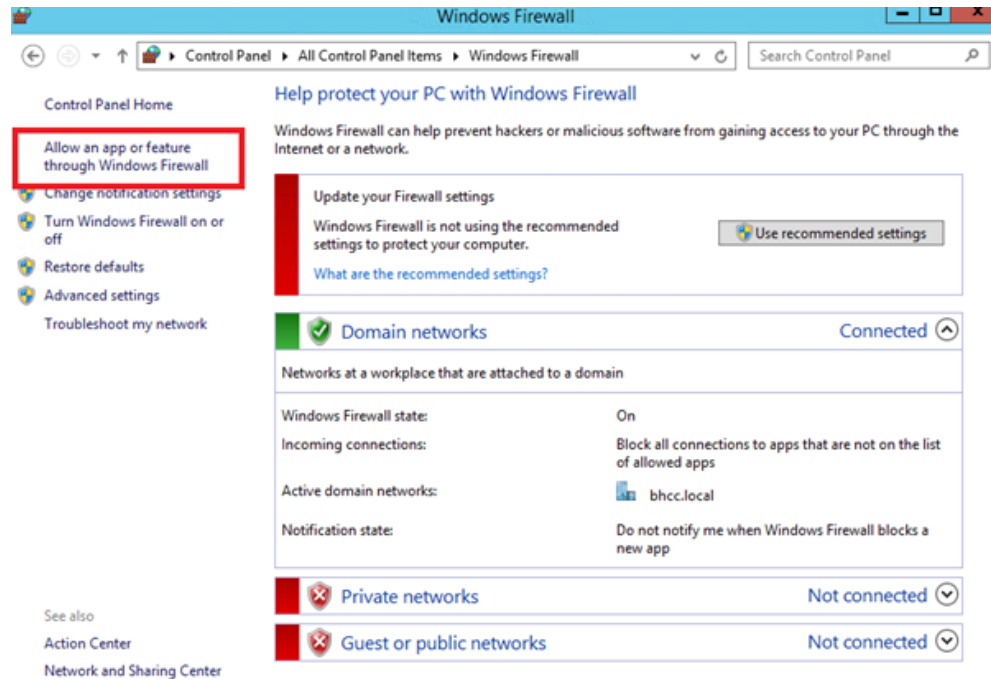
To add an exception to the firewall which allows communication over TCP port 55555. Click on the **Add Port..** button in the Firewall Settings to add the port.

Note: If you want to access the web interface over the network you may also need to add an exception for TCP port 80 which is used by the IMMOTIONWebserver.



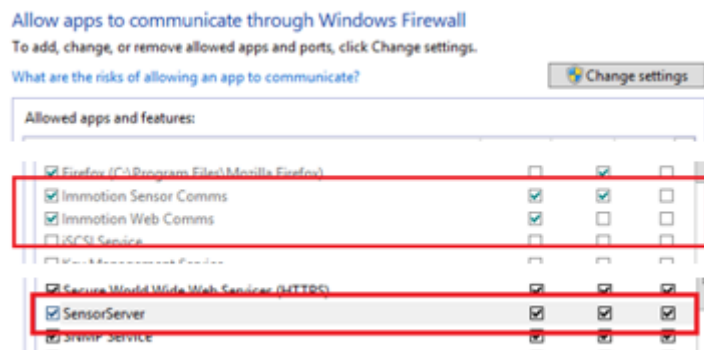
Allow IMMOTION and Sensor Server Apps

Select 'Allow an app or feature through Windows Firewall'



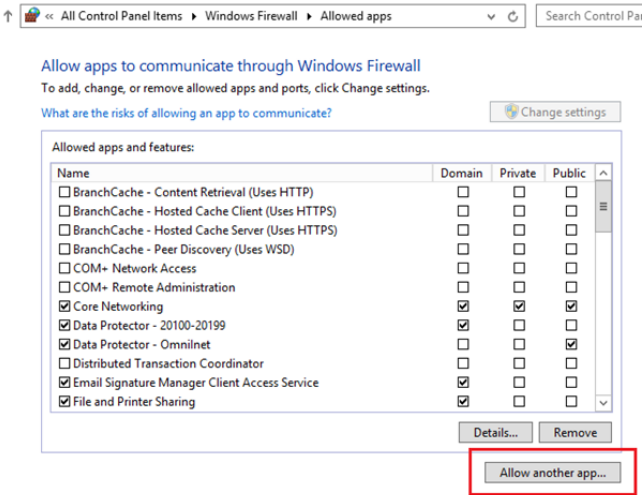
Check that the Windows Firewall is allowing the following Apps.

- **IMMOTION Sensor Comms**
- **IMMOTION Web Comms**
- **SensorServer**

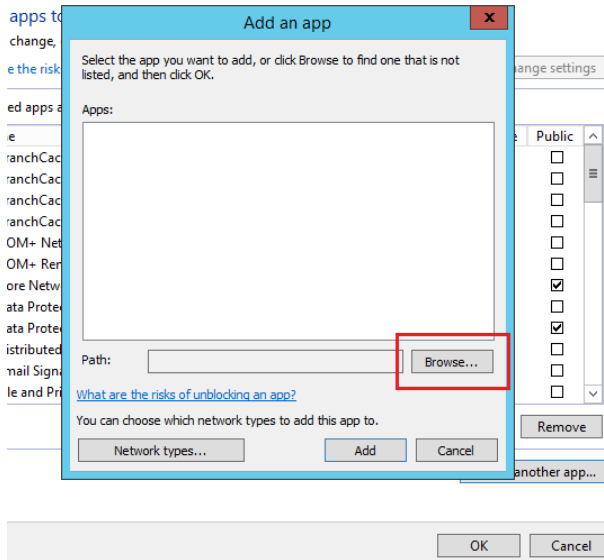


Allowing the SensorServer App to communicate through Windows Firewall

Select 'Allow another app'

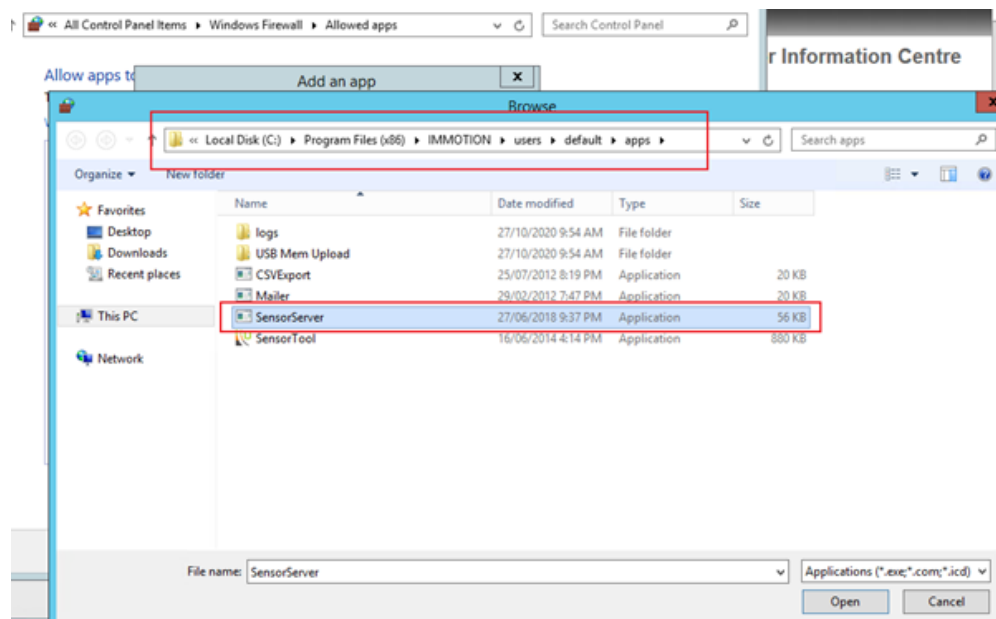


Select 'Browse'

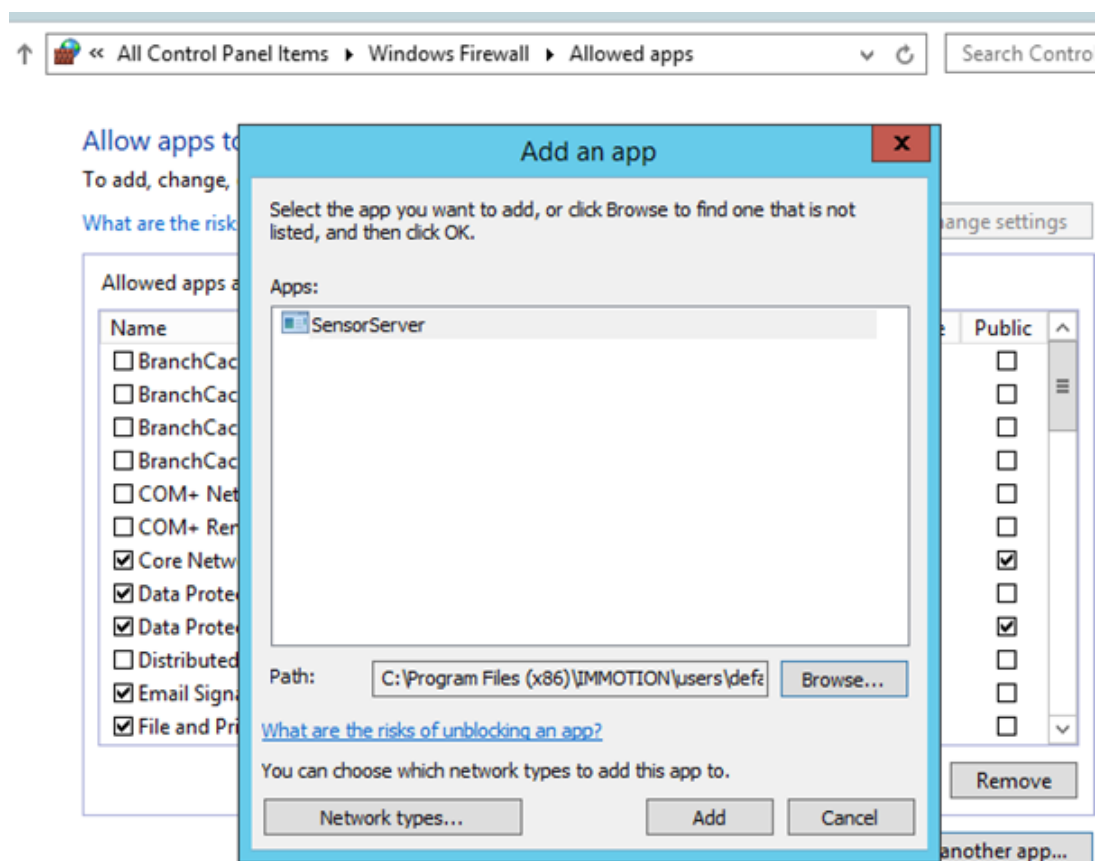


Browse to:

C:\Program Files (x86)\IMMOTION\users\default\apps\SensorServer.exe



Select the SensorServer Application and 'Add'



Backup

All the collected data and settings are stored into the database. In this section we describe how to create and restore a database backup using the MySQL command line utilities. *You can also install third party utilities which enable easy backup of the MySQL database via a Graphical User Interface or you Web Browser.*

Create backup

To create a live backup from the database execute the following command.

```
"C:\Program Files (x86)\IMMOTION\dbserver\binx64\mysqldump.exe" --host=127.0.0.1 --port=3386 -u immotion -pimmotion -q --single-transaction immotion > "destination file"
```

destination file is the path and filename for the backup file. An existing file will be overwritten.

Note: Be sure that the user who is executing the backup has the sufficient rights to create a file on the desired location. In some cases you may need to use the C:\Program Files (x86)\IMMOTION\dbserver\binx86 folder.

Example:

```
"C:\Program Files (x86)\IMMOTION\dbserver\binx64\mysqldump.exe" --host=127.0.0.1 --port=3386 -u immotion -pimmotion -q --single-transaction immotion > "c:\backup\backupfile.sql"
```

Note: Changes made in the database during the backup process are not included in the backup.

Restore backup

After a fresh installation of the IMMOTION software you can restore a backup. A backup can be restored using the MySQL console application.

To start the MySQL Console execute the following command:

```
"C:\Program Files (x86)\IMMOTION\dbserver\binx64\mysql.exe" --host=127.0.0.1 --port=3386 -u immotion -pimmotion
```

When successfully started the MySQL console will be visible:

```
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 5.7.15 MySQL Community Server (GPL)
```

```
Copyright (c) 2000, 2016, Oracle and/or its affiliates. All rights reserved.
```

```
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
```

```
mysql>
```

Use the following command to restore the backup.

```
mysql> source "path to database backup file";
mysql> quit
```