

Wireless People Counter With IMMOTION Software

User Guide

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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)



Sensor Network Gateway - Ethernet Edition (also available as optional 3G model)

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)

SNG4G 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 '<u>Wireless Sensor Configuration - First time setup</u>' 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
- SNG4G : connecting to Telstra Network in Australia. (New Zealand: Vodafone, Spark and 2degrees)

The SNG10E model is powered by a universal USB power adapter, whilst the SNG4G 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.



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	 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	• 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

IMMOTION Software Installer v1.1.4.exe Filename:

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 v1.1.4.exe and follow the on-screen instructions to complete the installation.



unknown publisher to make changes to your 2

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

IMMOTION Setup v1.0.3.exe

Publisher: Unknown File origin: Hard drive on this computer

Show more details

device?

Yes	No



Click Install

Setup will commence extracting the required files.

IMMOTION Server v1.0.3 Setup	- 0	×
Installing Please wait while IMMOTION Server v1.0.3 is being installed.		
Extract: fill_help_tables.sql		
Show details		
IMMOTION Installer		
< Back	d > 0	Cancel

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.



🔝 IMMOTION Server v1.0.3 Setup	-	×
Installation Complete Setup was completed successfully.		
Completed		
Show details		

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





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: <u>support@evolveplus.com.au</u>



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 3 separate Windows Services:

- IMMOTIONWebserver
- IMMOTIONDatabase
- IMMOTIONAPI

INDITIONAL	1					
Services					- 0	
File Action Vie	w Help					
🦛 🔿 📄 🙆	🗟 🛛 📰 🕨 🕨 🔳 💵					
Services (Local)	Services (Local)					
	Select an item to view its description.	Name	Description	Status	Startup Type	
				Running	Automatic	
1		MMOIIONDatabase		Running	Automatic	
	11	MIMIOTIONWebserver	Apache/2.4.58 (Win64) PHP/8.3.1	Running	Automatic	

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.

Allow apps to communicate through Windows Firewall To add, change, or remove allowed apps and ports, click Change settings.				
What are the risks of allowing an app to communicate?		😚 Change	settings	
Allowed apps and features:				
Firefox (C)Program File()Morilla Firefox)				
Immotion Sensor Comms				П
Immotion Web Comms	1			
T ISOS Service				
The Management Provides				
Secure World Wide Web Services (HTTPS)		9		-
SensorServer	¥		¥	F
CIMMP Service				1

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

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.

🕂 📝 📙 =	C:\Users\	.Trevor\Downloads	
File Home	Share	View	
$\leftarrow \rightarrow \cdot \uparrow$	🕹 > Tr	evor > Downloads	
	•		
📌 Quick acce	255	Name	Date
🏪 Local Dis	k (C: 🖈	ZZ SNG Tool v3.0.0.exe	24/1
🚽 Shared F	oldei 🖈		
📃 Desktop	*		

22 7-Zip self-extracting archiv	'e	×
Extract to:		
C:\Users\Trevor\Downloads\		
	Extract	Cancel



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

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

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

Connect the SNG Hub with the supplied USB cable to the computer to start the configuration

Note: The 3GSNG Hub also requires the power to be connected.

Click Yes to register a new wireless people counter sensor.

(Select 'No' if not registering an additional sensor and you wish only change the network settings)

The SNG Tool will search for new sensors (Receiver PRx20W1) to register.

In order for the 'Searching for new Sensors..' function to identify the Receiver (PRx20W1) insert (or re-insert) the AA batteries.

When inserting the batteries, the Receiver (PRx20W1) will send a registration request to the SNG Hub.

Ensure that Receiver (PRx20W1) is in close proximity to the SNG Hub and the batteries are inserted correctly.

The SNG Tool will then display the wireless people counter sensor once the registration signal sent from the counters is received (this may take up to 2 or 3 minutes depending on the local conditions).

Note: If the wireless people counter sensor does not automatically appear, remove and re-insert the batteries of the Receiver PRX20W1 counter.

Click Continue

Enter the required settings including:

SNG10E (Ethernet Network Edition)

Click Yes if the IMMOTION software is installed on this PC/Server. and the network

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

- 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

right.



SNG Tool v3.0.0		_	
			Summary
SNG VI.	6.0 Connected	[Tools
	Search	ing for new S	Gensors
Please power on the new sensors to register them into the SNG.	Node	Name	Signal
By battery powered People Counters this can be done by placing the batteries into the Receiver (PRx)	54-10-EC-99-B9-F2	Sensor1	
			Continue

NG Tool v3.0.0						- 0	×
	SN	IC v1.6.	0 Connect	ed			Summary Tools
					Id	entify Se	ensors
The sensors are located on the Location with Location code:	Node 54-10-EC-99-89-	Version 2.6	Sensors Counter_A	Name V Sensor1		ition Code RANCE	Delete X
Please use names and position codes corresponding to the position where the sensors are placed.						Ca	ontinue
SNG Tool v3.0.0						_	
	SN	IC v1.6	0 Connect	ed			Summary Tools
	ls the IMMOTIC)N soft	ware insta	lled on th	ìs PC?		
		Yes	No				
When you	i choose 'Yes' the n Please be sure yo	etwork ur PC is	settings will k able to conne	pe configur act to the in	ed automa ternet.	itically.	

To detect your network settings automatically, the SNG Tool tries to connect with your

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

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 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 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 4G Edition (SNG4G) – Network Connection

Once the 4G 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 4G is now connected to a 4G network and is now ready to use.



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: <u>http://127.0.0.1:86/dashboard/</u>



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.

\leftrightarrow \rightarrow C \triangle (1) 127.0.0.1:86/0	lashboard/	
MOTION	Time period	
People Counter Report	Date range	2019-09-23 - 2
III Moodbox Report	Data interval	1 day
Ł Export	Report	
EasyReports		ł
E Centralmanagement		т

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		ldro oo	Zin		City
control	Code	Control (Name	Ac	ldress	Zip	Mularava	City
central	Code	Central (Name Dity	Ac 5a Hartnett Close	ldress e	Zip 3170	Mulgrave)

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

Locations CSV Export Help Dashboard

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

									Location info
Name	Central City							Address	5a Hartnett Close
Code	central							Zip	3170
Phone	03 8560 3200							Fax	
Comments	Central City Office	9							
	Positions					Day repo	ort		Week report
									Measurement position
		Hour	Day	Week	Month	Year	Total		
Position	Cafe Entrance	23	400	2555	10893	89845	372396	6	
Position	Gallery	2	68	370	4585	57564	212584	1	
Position	TOTAL IN	12	239	1460	7796	74669	294565	5	
Position	TOTAL OUT	13	229	1465	7682	72740	290415	5	

Positions

A position is a group of sensors on a location. The total count value of all the sensors on the position is the position value which is shown in the overview.

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

	Positions				Day repo	ort	
		Hour	Day	Week	Month	Year	Total
Position	Cafe Entrance	23	400	2555	10893	89845	372396
- Sensor	IN Cafe (Counter A)	11	200	1269	5442	45190	187172
- Sensor	OUT Cafe (Counter B)	12	200	1286	5451	44655	185224
Position	Gallery	2	68	370	4585	57564	212584

Reports

Reports can be displayed using the Day, Week, Month and Year report buttons. Each report shows count values with different time intervals.

Day Report

	Positions					Day repo	ort
						- 1 P	
		Hour	Day	Week	Month	Year	Tota
	Cafe Entrance	23	400	2555	10893	89845	3723
r	IN Cafe (Counter A)	11	200	1269	5442	45190	1871
-	OUT Cofe (Counter D)	40	200	1006	E / E /	AAGEE	1051

With the Day Report you can see the hourly values per day of a complete month. Before you see the count values you need to select a Position and optionally a Sensor.

Selecting only a Position will display a table containing the total count value of all the sensors on that position.

Selecting a Sensor will display the count values of the Sensor.

Name					Central	City										Add	ess					5a Ha	5a Hartnett Close				
Code					central											Zip			3170	3170							
Phone					03 856	0 3200										Fax											
Comments					Central	City O	ffice																				
			Po	sitions									D	ay rep	ort									Week	report		
Select position	on: Ca	afe Ent	rance			•	Select	senso	r: IN	Cafe (Count	er A)		•	Select	month:	Octo	ber		,	Sele	ect year	r: 201	9	۲	Refre	sh
	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	2019-10-09 Inuraday 2019-10-10 2019-10-11 2019-10-12 2019-10-12 2019-10-13 2019-10-15 2019-10-16 2019-10-18 2019-10-18 2019-10-18 2019-10-18 2019-10-20 2019-10-22 2019-10-22 2019-10-23 2019-10-23 2019-10-25 20						Saturday 2019-10-26	Sunday 2019-10-27										
0:00 - 1:00	0	0	0	0	0	1	0	0	0	3	3 0 0 0 1 0 0 0 0 0 2 0 0 1 0							0	0	0							
1:00 - 2:00	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	3	0	2	0	0	0	0	0	0	2	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.

	L	ocation info	
Name:	Office	Code:	office
Address:		Phone:	
Zip:		Fax:	
City:		Mail:	
Country:		Comment	Added by the SensorServ
X Sa	ve		
	Measu	urement pos	itions
Position	code Posi	ition name	
entrance	entra	ance	X Sensor Save
			+

Location Management

To edit a location, click on the Locations \rightarrow 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 Search									
	Search results								
Code	Name	City							
Edit central	Central City	Mulgrave							
Edit EXHIBIT	Exhibition Centre	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*.

	Loc	ation in	fo
Name:	Plus 39 cafe	Code:	PLUS39
Address:		Phone:	
Zip:		Fax:	
City:		Mail:	
Country:		Comment.	Added by the MEM Read
X Sav	e	-	

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	Х	Sensor	Save	
		+			

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**.

	9	Sensors			
Name	Hardware ID	Туре	Version	Signal	
Not Applicable	00-04-A3-3B-8E-29	TempBat	2.2	Π_{n}	X Save
Front	00-04-A3-3B-8E-29	Contact 1	2.2	.	X Save
Not Applicable	00-04-A3-3B-8E-29	Contact 2	2.2	.	X 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 \rightarrow Options you have the possibility to change some system settings.

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System	Options
EasyReports language CentralManagement language	English Save Save
User management	Disabled Save
SensorServer Automatic In Out position creation	Disabled 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			
ln	In	X	Sensor	Save
Out	Out	X	Sensor	Save
entrance	entrance	Х	Sensor	Save
		+		

Sensors					
Name	Hardware ID	Туре	Version	Signal	
Counter	00-04-A3-3A-23-31	Counter A	0	49	X Save
Counter	00-04-A3-3A-23-31	Counter B	0	49	X Save

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 \rightarrow 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:	Password:	Location: Head Office (office) 💌 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
user1 user2	user1	Head Office (office) 🗸 Add
	Password: Save Delete	Head Office (Head Office) Delete

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 \rightarrow CSV Export menu item.

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

Export configurations

Add new CSV export

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 <mark>export_name</mark> Where <mark>export_name</mark> 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 mał 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\system	em32\cmd.exe		
Microsoft Windows [Version Copyright (c) 2006 Micros	n 6.0.6002] oft Corporation. All r	ights reserved.	
C:\Users\Administrator>ne TCP 0.0.0.0:80 TCP [::]:80	tstat -a ¦ find ":80" TESTLAB8:0 TESTLAB8:0	LISTENING 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
 I

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

 C:\Users\Administrator>
 I

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.

Services					- 0	
File Action View	Help					
♦ ♦ 1	🛓 🚺 🖬 🖡 🖌 🖉 🖬 🖬 🖬					
Services (Local)	🔍 Services (Local)					
	Select an item to view its description.	Name	Description	Status	Startup Typ	pe
		MMOTIONAPI		Running	Automatic	С
		IMMOTIONDatabase IMMOTIONWebserver ImmotionWebserver	Apache/2.4.58 (Win64) PHP/8.3.1	Running Running	Automatic Automatic	C

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/ http://127.0.0.1:80/CentralManagement/ http://127.0.0.1:80/EasyReports/ or http://127.0.0.1/dashboard/ or http://127.0.0.1/CentralManagement/ 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 **<u>do</u>** 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.

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Turn Windows Firewall on or	Windows Firewall			0		
off	Windows Firewall can help prevent had	kers or malicious softwar	e from gaining access to	your		
Windows Firewall	computer through the Internet or netwo	vork.				
		inputer.				
	Windows Firewall is helping to	o protect your compute	er			
	Windows Firewall is on.		Change settings			
	Inbound connections that do not have	e an exception are blocke	ed.			
	Display a notification when a program	n is blocked:	No			
	What are network locations?		Private network			
	<u>What are network locations.</u>					
See also						
See also						
Network Center						
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Allow IMMOTION and Sensor Server Apps

Select 'Allow an app or feature through Windows Firewall'

2	Windows Firewall	
🗧 🍥 👻 🕆 🔐 🕨 Control F	Panel + All Control Panel Items + Windows Firewall	✓ ♂ Search Control Panel
Control Panel Home	Help protect your PC with Windows F	Firewall
Allow an app or feature through Windows Firewall	Windows Firewall can help prevent hackers or ma Internet or a network.	alicious software from gaining access to your PC through the
Change notification settings	Update your Firewall settings	
Turn Windows Firewall on or off	Windows Firewall is not using the recomm settings to protect your computer.	ended 😵 Use recommended settings
Restore defaults	What are the recommended settings?	
Advanced settings		
Troubleshoot my network	🛛 🤡 Domain networks	Connected 🐼
	Networks at a workplace that are attached to a c	domain
	Windows Firewall state:	On
	Incoming connections:	Block all connections to apps that are not on the list of allowed apps
	Active domain networks:	bhcc.local
	Notification state:	Do not notify me when Windows Firewall blocks a new app
for the	Private networks	Not connected 📀
Action Center	Q Guest or public networks	Not connected 🕑
Network and Sharing Center	÷ ,	

Check that the Windows Firewall is allowing the following Apps.

- IMMOTION Sensor Comms
- IMMOTION Web Comms
- SensorServer

Allow apps to communicate through Windows Firewall

To add, change, or remove allowed apps and ports, click Change settings. What are the risks of allowing an app to communicate? Cha			
Allowed apps and features:			
Firefox (C) Program Files (Mazilla Firefox)			
Immotion Sensor Comms Immotion Web Comms Inscript Sension	N N		
			-
SensorServer	×.	Ø	
SHAMP SERVICE			

Allowing the SensorServer App to communicate through Windows Firewall

Select 'Allow another app'

↑ 🔐 « All Control Panel Items → Windows Firewall → Allowed apps ✓ C Search Control Par Allow apps to communicate through Windows Firewall To add, change, or remove allowed apps and ports, click Change settings. What are the risks of allowing an app to communicate? 🛞 Change settings Allowed apps and features: Name Private Public Domain ~ BranchCache - Content Retrieval (Uses HTTP) BranchCache - Hosted Cache Client (Uses HTTPS) BranchCache - Hosted Cache Server (Uses HTTPS) BranchCache - Peer Discovery (Uses WSD) COM+ Network Access COM+ Remote Administration Data Protector - 20100-20199
Data Protector - Omnilnet Distributed Transaction Coordinator
 Email Signature Manager Client Access Service File and Printer Sharing Details... Remove Allow another app...

Select 'Browse'

apps to	Add an app 🛛 🗙	
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Browse to:

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

	, add on app	Browse		1		
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🔆 Favorites	Name	Date modified	Туре	Size		
Desktop	🎉 logs	27/10/2020 9:54 AM	File folder			
🐊 Downloads	🅌 USB Mem Upload	27/10/2020 9:54 AM	File folder			
Recent places	CSVExport	25/07/2012 8:19 PM	Application	20 KB		
	Mailer	29/02/2012 7;47 PM	Application	20 KB		
🐏 This PC	SensorServer	27/06/2018 9:37 PM	Application	56 KB		
<table-of-contents> Network</table-of-contents>						

Select the SensorServer Application and 'Add'

↑ 💣 ≪ All Control Pa	nel Items 🕨 Windows Firewall 🕨 Allowed apps 🛛 🗸 🖒	Search Contro
Allow apps to	Add an app	
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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 your 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.

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)

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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 "<mark>path to database backup file</mark>"; mysql> quit