Installation Handbook

F100335 - 01

Topic	Description
Target Audience	1. Customer who purchased FootfallCam and would like to understand how to perform counter installation
Purpose of the document	1. Provide guidance to customer/ installer on good counter positioning 2. To ensure counter is online and connected after installation
Scopes of the document	1. Installation preparation 2. Counter installation 3. Counter configuration
Notes	1. A reference document with links to other documents such as user guide, installation guides

Revision History

Revision Number	Description of Revision	Date of Revision
1	Initial Draft	May, 21 2017
2	Revision	August, 29 2018
3	Initial Release	February, 09 2017
4	Revision and Update	December, 20 2019
5	Revision and Update	July, 13 2020

Table of Contents

1.0 Pre-Installation: Preparation

1.1 Installation Tool

Installer should prepare below equipment when attend installation. FootfallCam shall inform installer separately if special equipment is needed for installation.

|		
Cat5e Network Cable To connect the counter from midspan & midspan to network router	**RJ45 Crimp Tool** To terminate the cat5e network cable	**Screw Driller** To mount the people counter
Trunking Optional accessories to conceal the cable after the installation	**Ladder** General height of installation for counter ranges from 3 metres and above.	**Cable Cutter** To reduce the length of the cat5 network cable.

1.2 How to crimp Cat5E cable?

Installer **MUST** follow TIA / EIA 568B colour code for crimping the Cat5e cable to avoid crosstalk interference.

Crimp Network Cable Plugs

The Color code of ethernet cable MUST only follow the T568B Standard to terminate.

IMPORTANT!
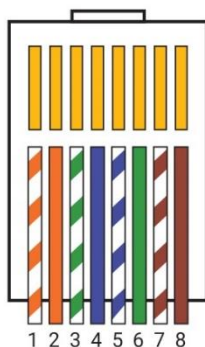
Without following the colour code ordering, it may caused cross talk interferance.

1 2 3 4 5 6 7 8

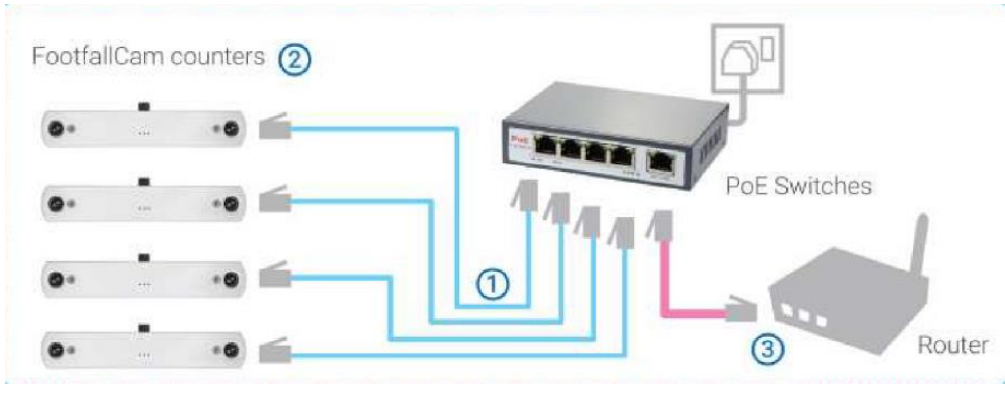| Pin	Wire Color	Wire Diagram
1	White - Orange	
2	Orange	
3	White - Green	
4	Blue	
5	White - Blue	
6	Green	
7	White - Brown	
8	Brown	

1.3 Counter Setup

Option 1 - Connect with Midspan
STEP 1 - Connect Cat5e cable (self-prepare) from counter to midspan. STEP 2 - Plug in the counter and secure it onto the ceiling with screws provided. STEP 3 - Connect another Cat5e cable (Pink) from midspan to router and turn the power on.
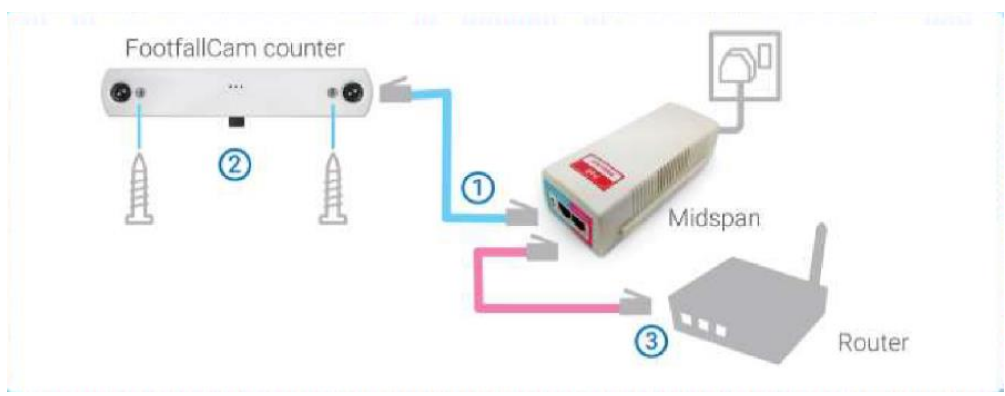
| Option 2 - Connect with Powered over Ethernet Switches |
|---|
| |
| STEP 1 - Connect Cat5e cable (self-prepare) from counter to PoE switches.

STEP 2 - Plug in the counter and secure it onto the ceiling with screws provided.

STEP 3 - Connect another Cat5e cable (Pink) from midspan to router and turn the power on. |

1.4 Generate Pairing Code

ⓘ **Note**

For more information, please refer to FootfallCam Analytic Manager User Guide

Pairing code is unique for all site(s).

STEP 1 – Setup **Company Account** in FootfallCam Analytic Manager. Refer to Chapter 1: Activation for New Company Account

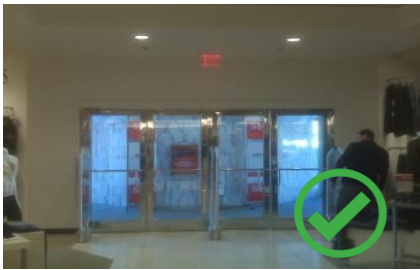**STEP 2** – Click on **Setting > Sites** to access Counter Management. Refer to Chapter 2: Allocating Counters
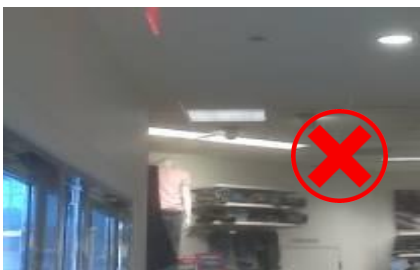
STEP 3 – Select the newly created site and click on **Setting.**
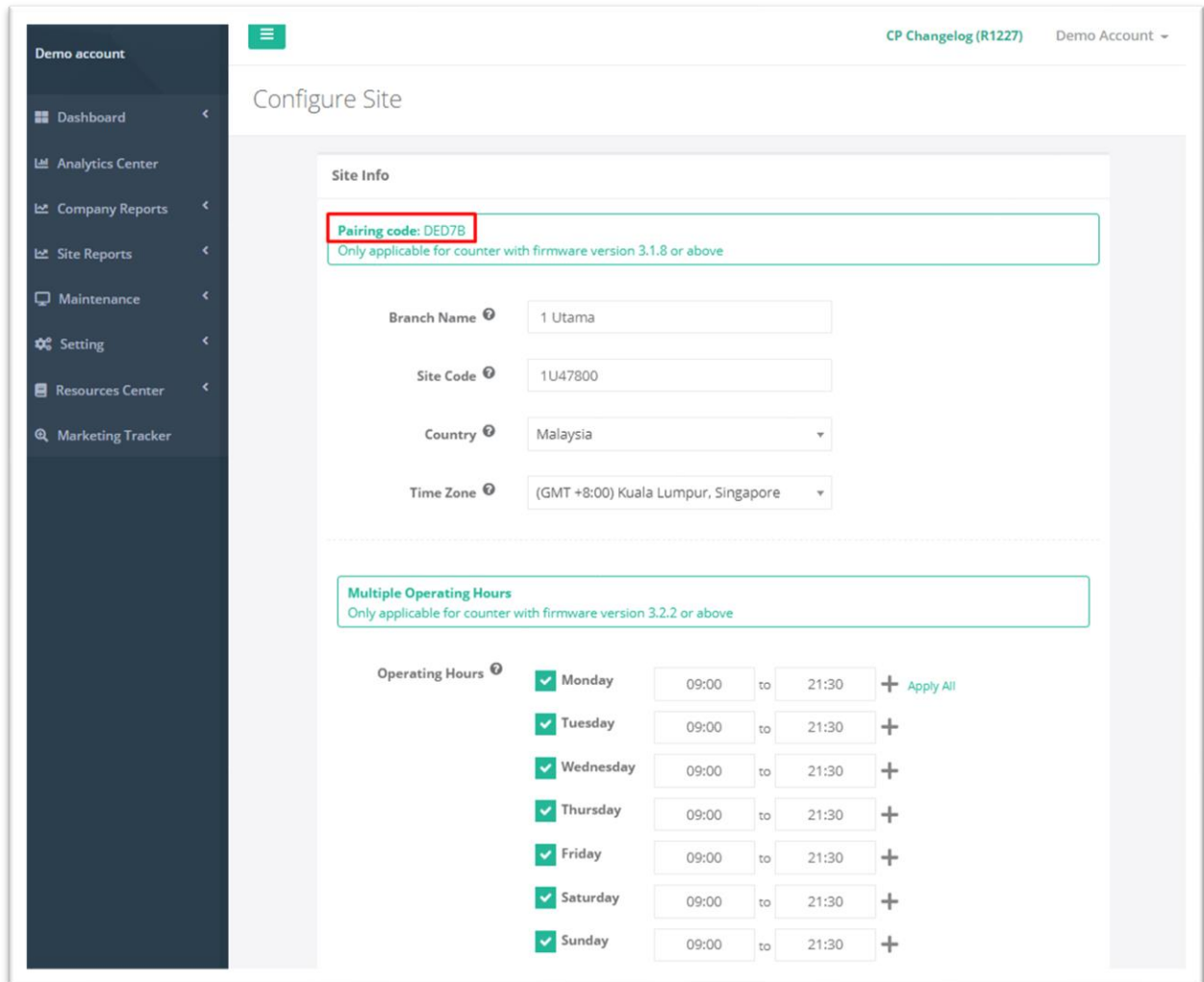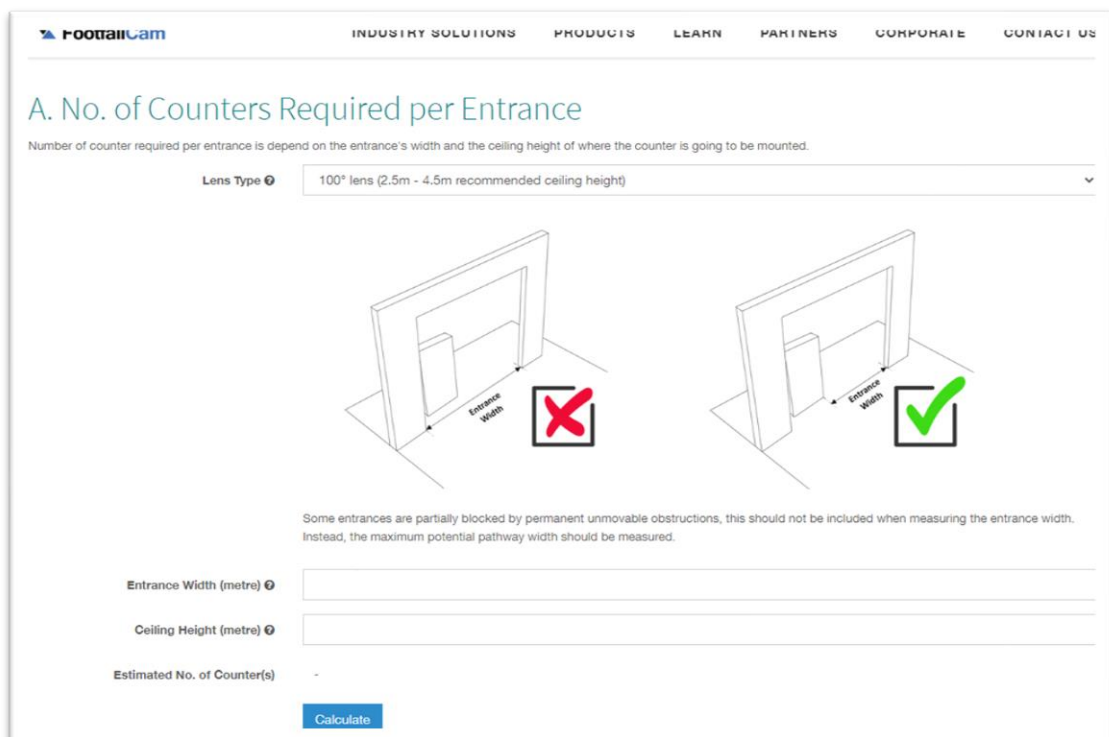
2.0 Counter Installation

2.1 FootfallCam Calculator

STEP 1 – Snap the entrance photos as per below guideline and share with FootfallCam Support Team.

Do's		
Provide overall entrance photo including ceiling from EXTERNAL view	Provide overall entrance photo including ceiling from INTERNAL view	Provide the side view of the entrance
Don'ts		
Focus on ceiling	Focus on ceiling	Focus on floor

STEP 2 - Access to FootfallCam Calculator to determine the number of counter(s) required and installation spot.
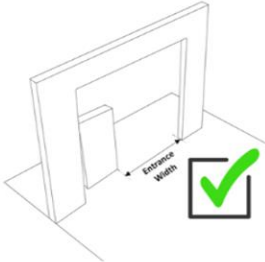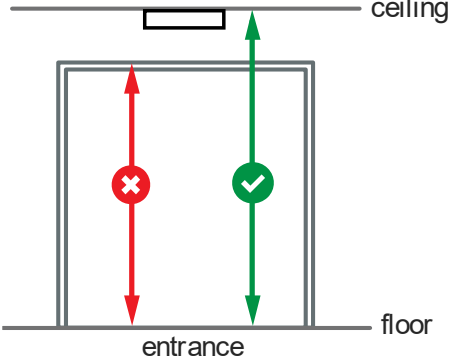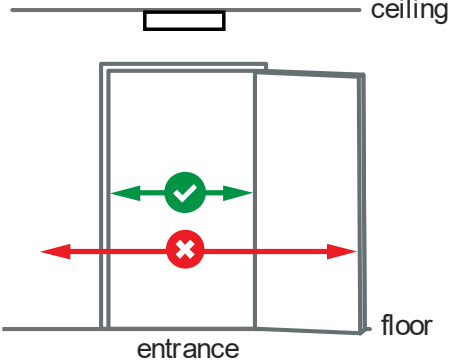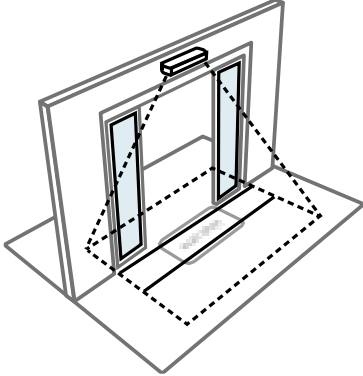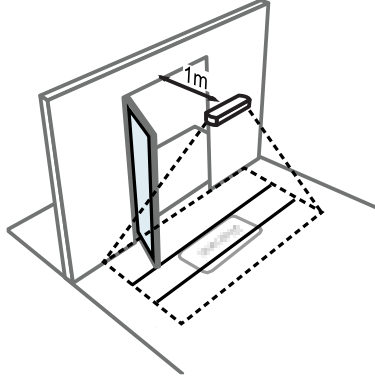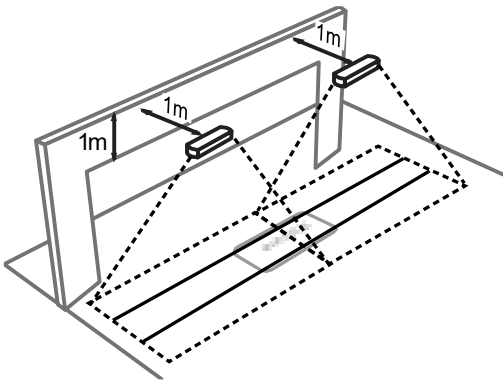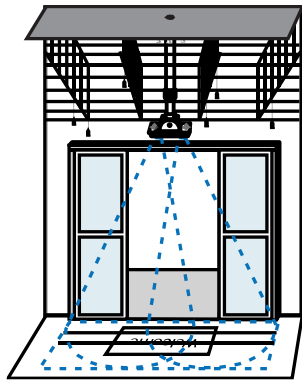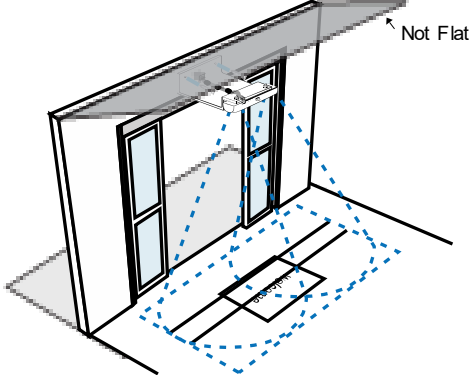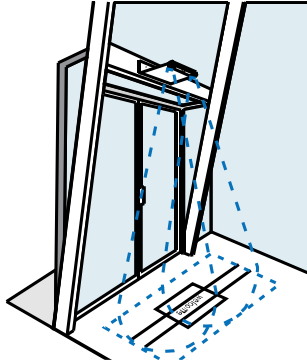
STEP 3 – Input ceiling height and entrance width. Click on **Calculate.**
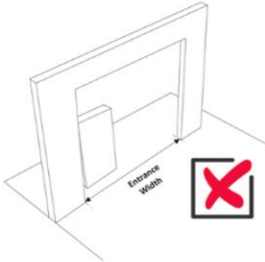
Item	Description
Lens Type	65° lens (Recommended ceiling height: 4.5m - 7.0m)
	100° lens ((Recommended ceiling height: 2.5m - 4.5m)
	140° lens (Recommended ceiling height: 2.2m - 2.5m)
	160° lens (Recommended ceiling height: 2.5m – 4.5m)
Ceiling Height	Measure from floor to the camera mounting height.
Door Width	Measure the door width only on the walkable area.

2.2 Counter Positioning Guideline – Types of Store Layouts

User may determine counter positioning based on type of entrance.

Type of Entrance	
Sliding Door Counter require to install in the middle of the entrance perpendicularly down towards the floor. Counting line must align with the entrance and parallel to the door.	**Swinging Door** Counter require to install at least 0.5 - 1 metre away from the door. Counting line must clearly define the swinging path and make sure the door is not overlapping the counting zone.
Bulkhead Obstruction Counter should be installed at a distance (1 metre) similar to the width of bulkhead (1 metre) to avoid obstruction from camera viewing angle.	**Open Ceiling Environment** Use a drop pole to overcome the obstacles that are obstructing the live view of the counter.
Slanted Ceiling Use a wall bracket on the along the side of the wall to ensure that the counter will be installed along an even surface.	**Glass Entrance** Use a wall bracket on the along the side of the wall to ensure that the counter will be installed along an even surface.

2.3 Counter Mounting Guide

2.3.1 Surface Mounting

People counter is installed directly on the surface of the ceiling. This method is commonly used for installation and can be done easily.

2.3.2 Flush Mounting

Customer may opt to use flush mount for installation should they wish to hide the people counter out of visibility.
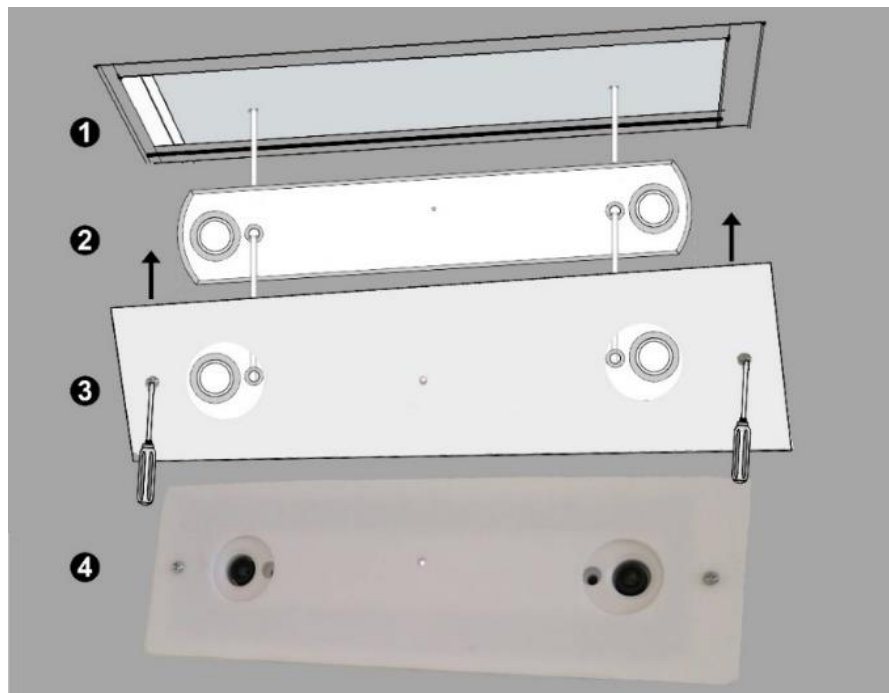
2.3.3 Drop Pole

There are 2 types of drop pole which are 0.6 meters and 3.0 meters. Drop pole is used for installation when the height exceeds standard ceiling height of 4 meters.

2 types:
0.6meter & 3.0meter
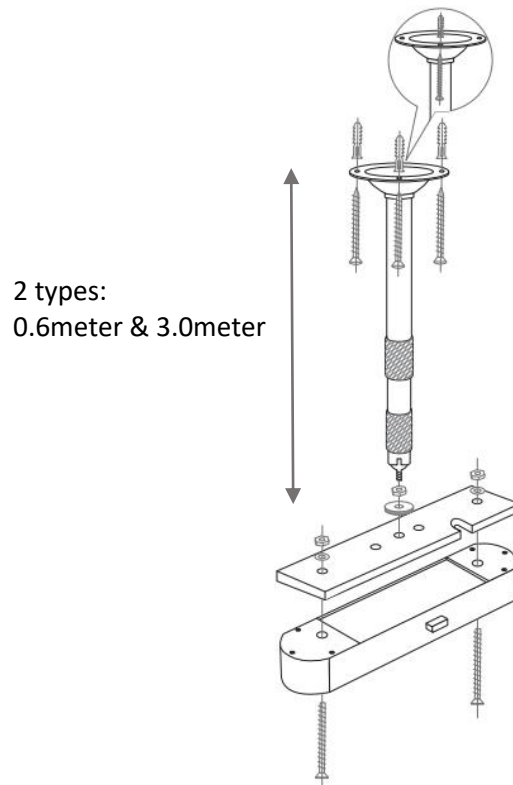
2.3.4 Wall Bracket

Customer may install people counter using wall bracket should surface mounting is infeasible based on store environment.
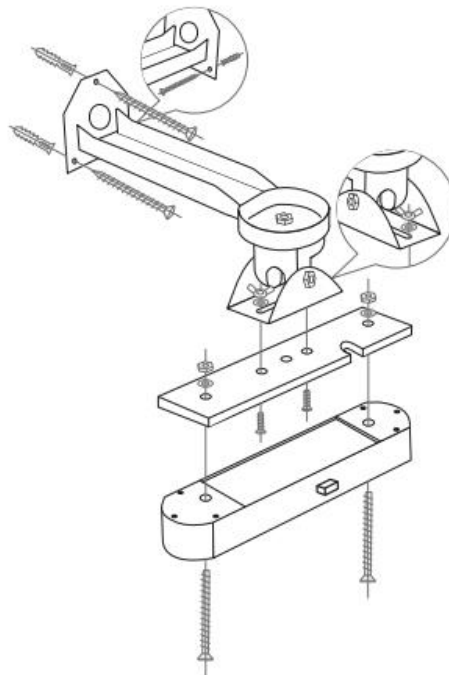
3.0 Counter Configuration -- Post Installation

Step 1: Login Counter – Setup Wizard Page
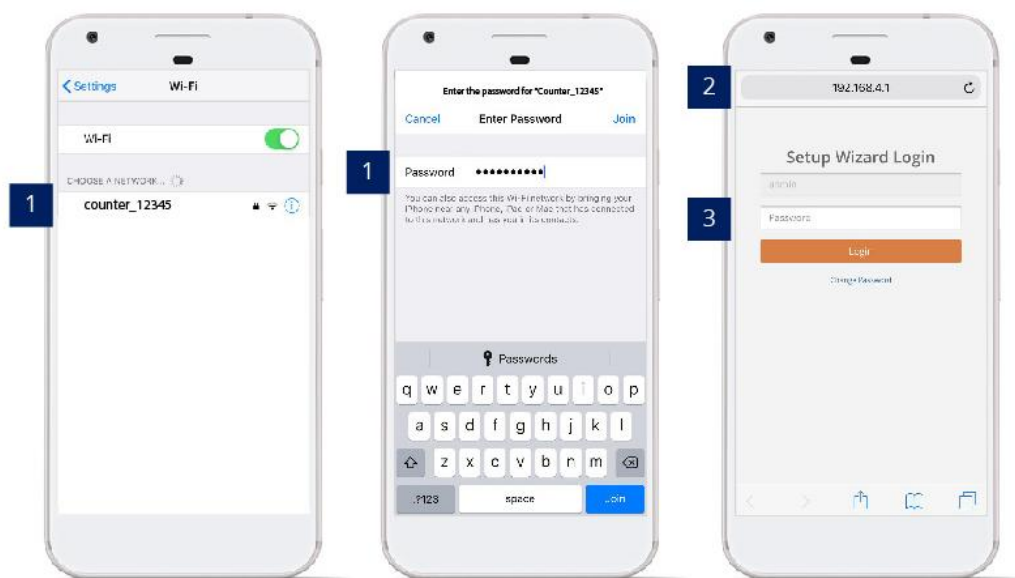
STEP 1 – Connect counter SSID via Wi-Fi and login with password: counter888.

STEP 2 – Access to web browser (Safari, Google Chrome) and enter URL: http://192.168.4.1.

STEP 3 – Login with password: 123456.

Step 2: Counter Live View

STEP 1 – Input mounting height and counter name.

STEP 2 – Screenshot the live view page and send to FootfallCam support group for checking purpose.

Item	Description
1. Mounting Height	Enter the measurement from floor to the camera mounting height.
2. Counter Name	Enter the name of counter location.

Step 3: Counter Network Setting

STEP 1 – Under setup wizard page click on **Settings** tab.

STEP 2 – Fill in software pairing code. Refer to section 3.0 Generate Pairing Code.

STEP 3 – Fill in the information based on type of IP Setting (DHCP or Static IP).

IP Setting is DHCP by default:

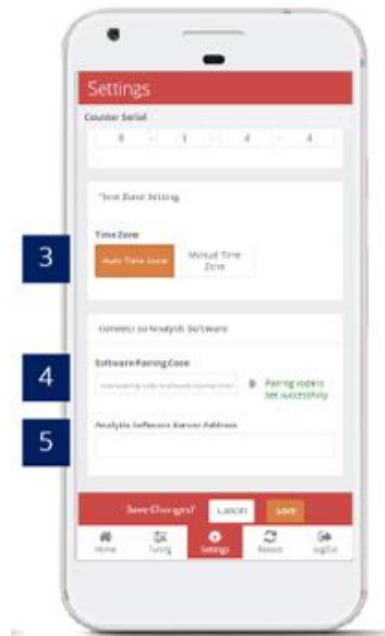| DHCP	Description
1. Software Pairing Code	Enter the pairing code.
2. Analytic Software Server Address	Enter the server address if user is not using the FootfallCam Cloud Portal.

OR

User may configure using Static IP if below information is provided:

Static IP	Description
1. IP Address	Input the IP setting
2. Subnet Mask	Input the subnet mask details
3. Gateway	Input the gateway details
4. Software Pairing Code	Input the pairing code
5. Analytic Software Server Address	Enter the server address if user is not using the FootfallCam Cloud Portal.

Appendix A: Installation Completion Checklist

Step 1: Arrive at store

[ ] Inform FootfallCam Support Team in WhatsApp group when engineer arrive onsite with store details as per below format:

* Please contact sales@footfallcam.com if you required installation support & setup WhatsApp group*

Message Template

Site	: Fred Perry Leicester
Ceiling height	:
Ceiling width	:

[ ] Take photos of the entrance based on Section 2.0 Counter Installation

Step 2: Install the counters

[ ] Connect up the counters at back office

[ ] Set the IP settings of the counters

[ ] Monitor the LED

[ ] Check if the Cat 5e cable colour sequence is crimped correctly

[ ] Photos for back office connection – Router / PoE Switches

Step 3: Counters checking before leave site

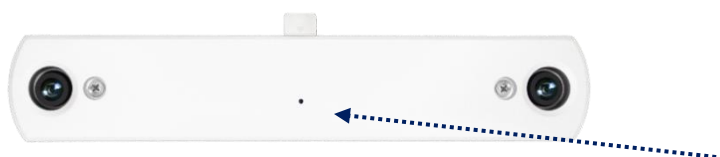[ ] Screenshot of Homepage including Live View & Depth Map & Network page

[ ] Counter's Depth Map is perfect

[ ] Screenshot on System page

[ ] Counter is connected to server

[ ] All cables are labelled properly before leave

Appendix B: Counter Troubleshooting

LED Light
Singular LED light use to diagnose issues if the counter is not functioning as proposed

| LED Light	Cause / Solution
Blue Light ●	**No issues detected** Counter is functioning and no solution is required.
No Light ○	**Switch to supply power is turned off** Ensure the power cord is plugged in tightly to the midspan / PoE switch and emits both green and orange lights.
	Faulty power socket Test the power socket with another device.
	Loose cable in midspan / PoE switch Unplug cable from Midspan and plug it in again.
	Loose cable in router port Unplug cable from router and plug it in again.
	External physical damage Verify that the device is installed in a suitable environment that complies to the hardware operating standards. (Info: Please refer to Product Specification.)
Yellow Light ●	**Network cable is crimped incorrectly** Ensure the cable is crimped in the correct sequence and wires are connected to the end of the pin. (Info: Please refer to Section 3.2.2 Installation Cable.)
	Loose network cable Ensure the network cable is plugged in tightly to the midspan / PoE switch and emits both green and orange lights.
Green Light ●	**No network** Confirm the availability of network with store staff.
	DNS issue Ensure the server address is entered correctly.
	Functionality of the router port Change the Cat 5e network cable from the current port to another port.
	Incorrect network setting Open smartphone Wi-Fi SSID to search for counter and login into the control panel to check IT Settings.
	No network Confirm the availability of network with store staff.
Red Light ●	**System error during bootup sequence** Power Cycle - Power off device for 5 minutes, unplug both pink cable and grey internet cable from Midspan/ PoE switches, and plug it in again. Open smartphone Wi-Fi SSID to search for counter and login into the control panel again. Please contact FootfallCam if the issue persists.

Appendix C: Judging of Counter Live View
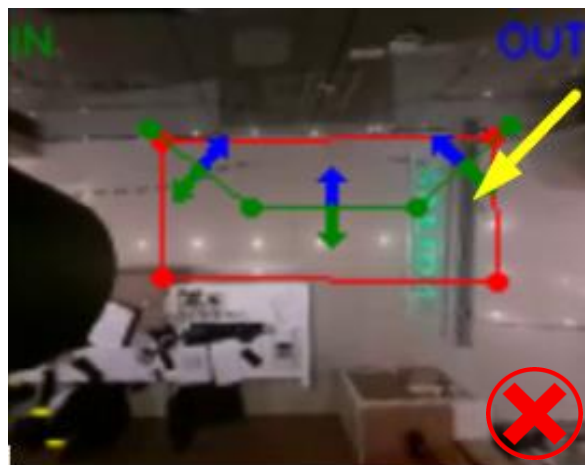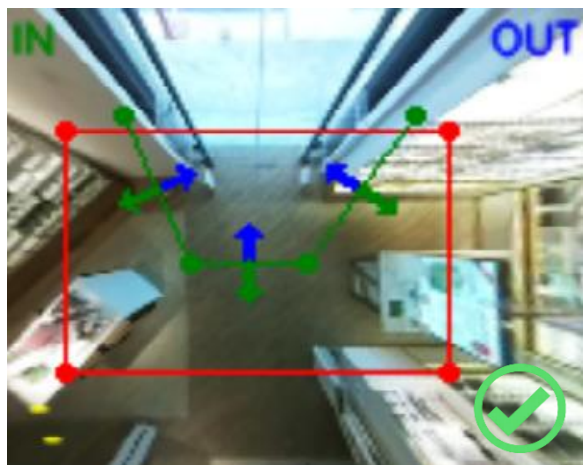
| Clear Live View |
|---|
| |
| Installation Advice:

 1. No obstacles shall block the counter live view as it will affect footfall accuracy. FootfallCam need to be installed away from potential blockage to avoid miscount of footfall.

 2. Ensure the IN and OUT direction is correct based on the remark on the counter |

Inward Swinging Door
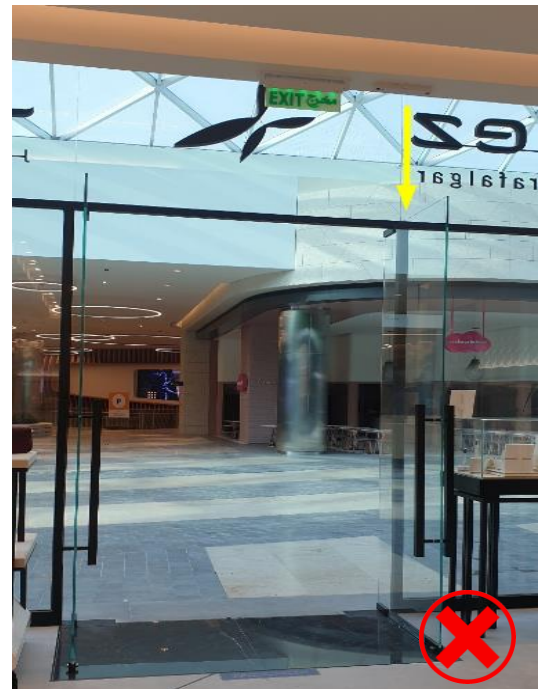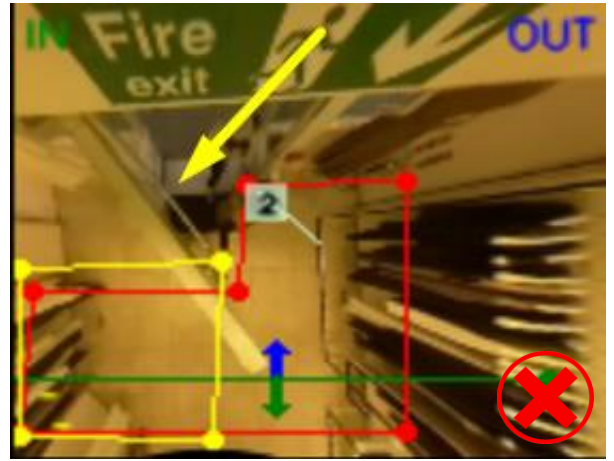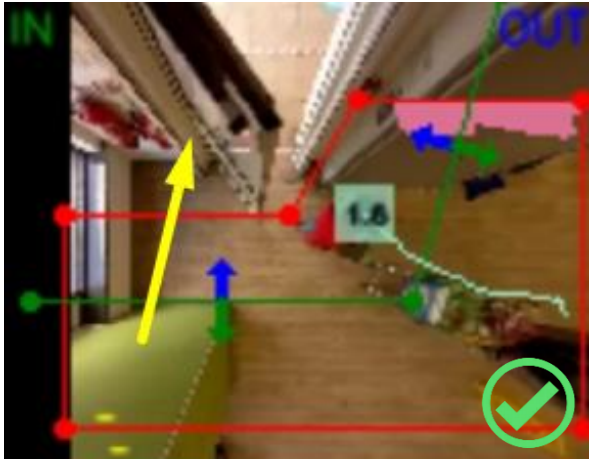
Installation Advice:

1. FootfallCam installed close to swinging door will have accuracy issue as swinging door will create noise to footfall counting

2. Counter shall be installed 1 meter away from swinging door. Please refer to 2.2 Counter Positioning Guideline – Types of Store Layouts for guidance.

3. Swinging door should NOT appear under live view as it will create noise to footfall counting and affect the accuracy of the counter.
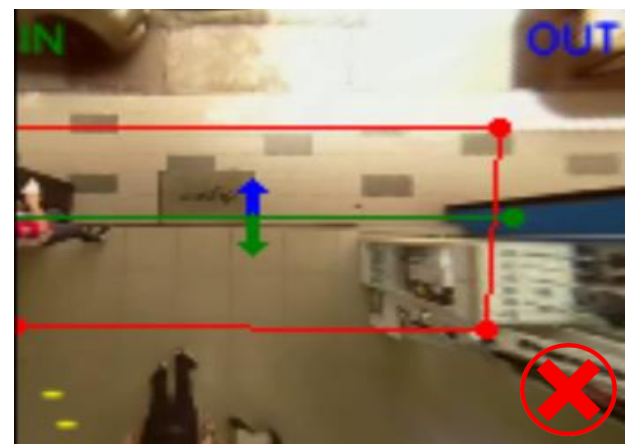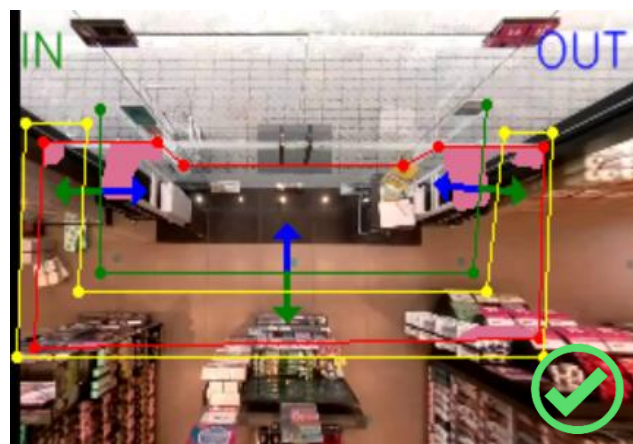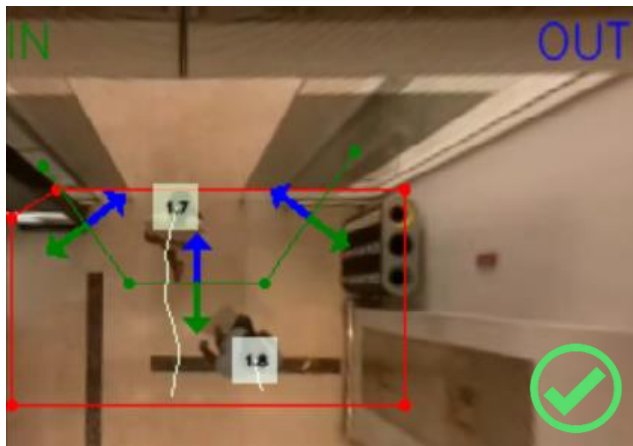
Lighting Environment
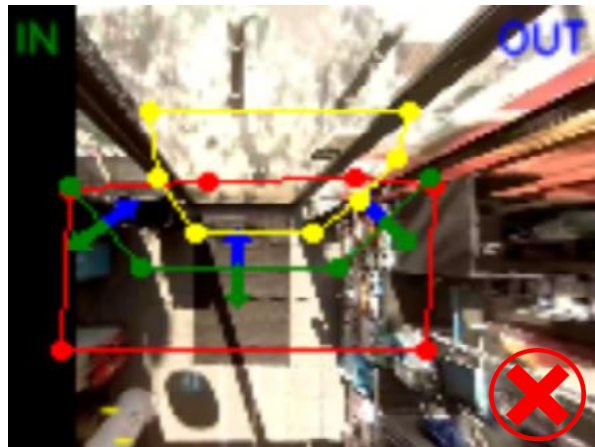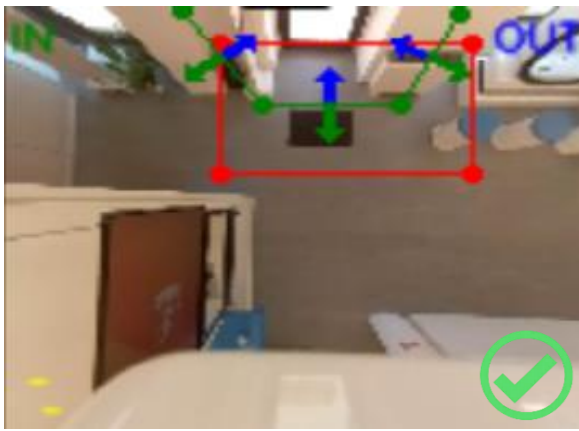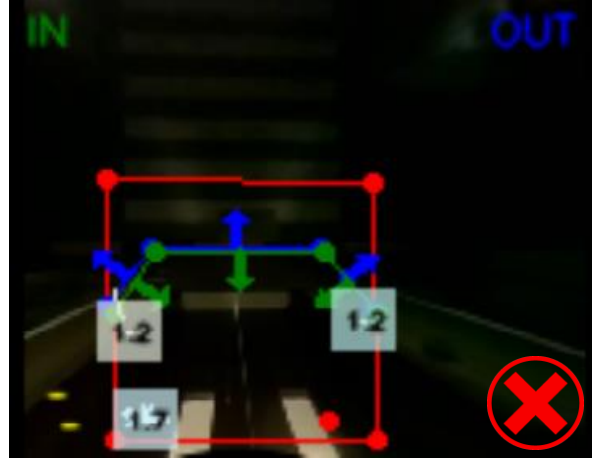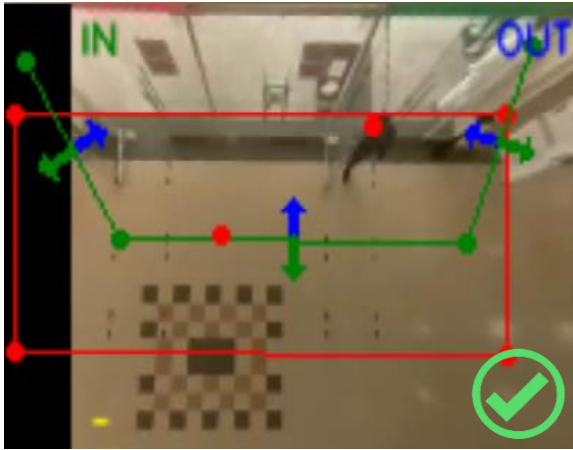
Installation Advice:

1. Ensure sufficient lighting is turn on and avoid install FootfallCam under inconsistent lighting environment such as having direct sunlight into the counting zone.

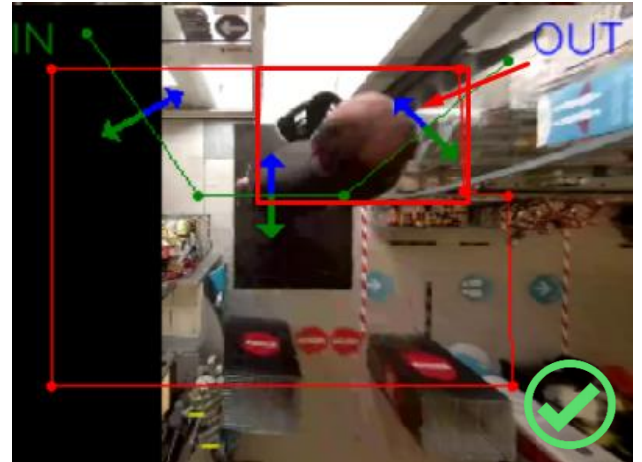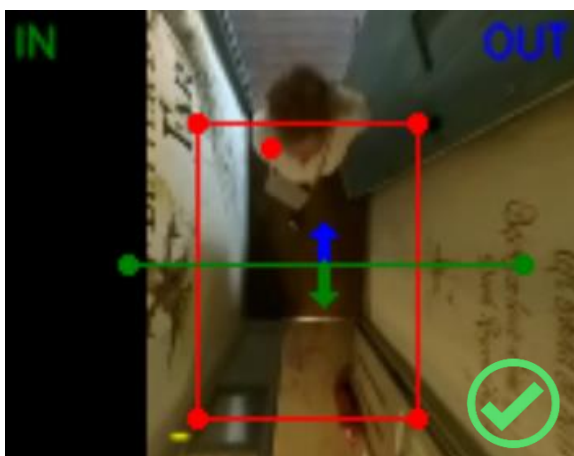2. Minimum 1 lux illumination is required for FootfallCam to count accurately.

Coverage Area of Camera

Issue:

1. Inaccuracy issue due to insufficient coverage of camera and thus miscount of potential footfall. Use FootfallCam Calculator to determine number of counter(s) required and installation position.
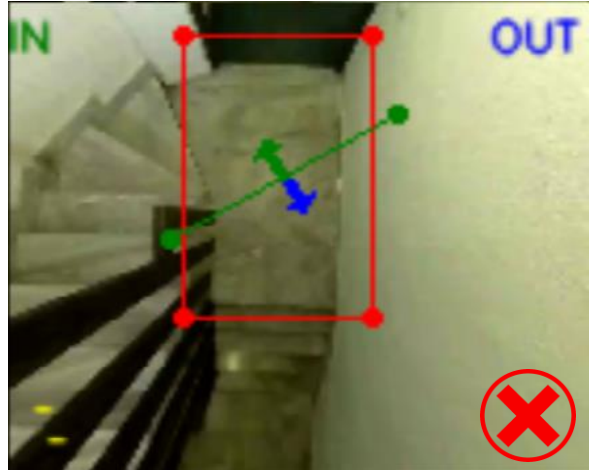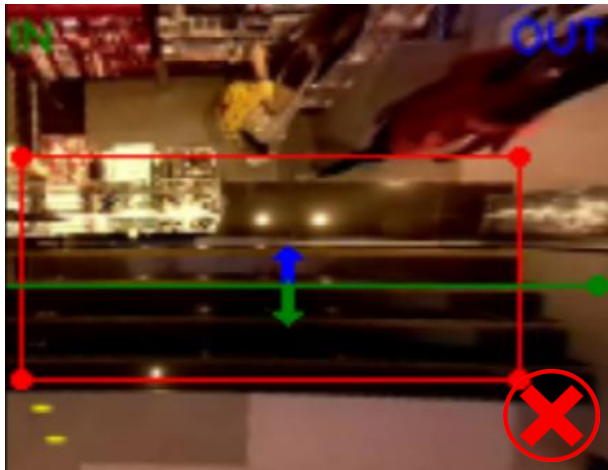
Lens Type

Installation Advice:

1. Use FootfallCam Calculator to determine suitable degree lens type.
2. Customer may opt for accessories for high ceiling installation by using drop pole. Please refer to Section 2.3 Counter Mounting Guide.

Counter Installed Above Staircase/ Escalator (Not Recommended)

Issue:

1. Changes in human height while using staircase or escalator will affect footfall counting. Thus, user(s) should **AVOID** install FootfallCam above staircase/ escalator.

2. Customer(s) may install