

IRC 3120, 3121, 3123

OUTDOOR RUGGEDIZED PEOPLE COUNTERS WITH RELAY OUTPUT

The Irisys IRC 312X outdoor people counters are a direct replacement for the IRC1003 series of devices which are no longer available. The IRC312x are applicable to a wide variety of people counting applications in outdoor environments:

- Retail, Shopping Malls & Shops
- Pedestrian, Outdoor & Pavement
- Surveillance & Security
- Transportation
- Smart Buildings

The **key benefits** include:

- Operation independent of ambient light
- Minimal set up
- User-Definable Count Lines
- Wide Opening Capability up to 8 units
- All weather operation
- Mounting height ranges: 2.2-4.8m (IRC3120 standard), 4-7.5m (IRC3121) and 7-15m (IRC3123)

Description of the IRC 312x

The IRC312x functions optically, seeing the heat emitted by people passing underneath as Infra-Red radiation, through a germanium lens with a 60° field of view. The sensing area is a square on the floor whose width is approximately equal to the mounting height; for example, at 3.5m the unit 'sees' a 3.25x3.25m square on the floor. Mounting height ranges from 2.2-4.8m can be covered with the standard lens IRC3120, and a 40° and 20° field of view lenses, offering mounting heights 4-7.5m and 7.5-15m respectively, are available as IRC3121 and IRC3123 models.

The unit may be used as a single counting node or configured to span a wide opening. In the wide opening mode up to 8 units are linked to span the wide opening and will appear to the user system as a single counter unit with a wide 'footprint'.

Two relays are provided which allow connectivity to the majority of user input/output requirements: two relays to providing simple count data from the system. The set-up tool is a laptop PC.

The set-up tool is a laptop PC. The set-up tool is used to configure the counting lines which may be configured uniquely to the requirements of the scene, as described overleaf.



“ The IRC 312x is an outdoor people counting device fully integrated within an IP66 rated housing ”

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SPECIFICATION

Coverage Pattern:

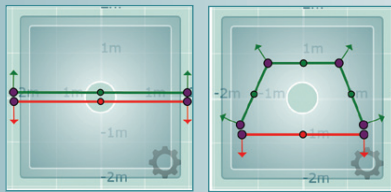
The mounting height determines the maximum coverage area available, as shown below.

	Height (m)	Min Coverage (m)
60° (IRC 3120)	2.2 - 4.8	1.78 - 4.33
40° (IRC 3121)	4.0 - 7.5	2.16 - 4.34
20° (IRC 3123)	7.5 - 15.0	2.03 - 4.14

Detection Speed Range: $0.5\text{ms}^{-1} - 3\text{ms}^{-1}$
Temperature Sensitivity: $< 2.0\text{K}$

Count Lines:

There are two count lines, allowing counting in both directions (i.e. 'in' and 'out').



The lines may be user-configured in a number of ways:

1. User Configurable

The count lines are user configured by a drag and drop mechanism. Both line position and shape may be modified. Figure 1 shows a standard line position, whilst Figure 2 shows a user configured alternative.

2. Count Direction

People are counted when they cross the count lines. Different 'count modes' are available. The direction of line crossing which increments the count is user selectable and is indicated by the arrows on the counting lines shown in Figures 1 & 2 above.

3. Count Modes:

Various count modes are available, including:

- Counts increment when person crosses line
- Counts increment when person leaves the field of view
- Ignore or register U-turns
- Count every line crossing or only the first line crossing

4. Placement Restrictions:

The user is free to place and adjust the count lines, providing that a certain amount of initialisation space is allowed between the edge of the counters field of view and the count line. This is dependant on the height of the counter and other factors, see 'IPU40184 Applications Notes'.

Counter System Implementations:

- Single counter with relay output
- A wide opening group of counters controlled via a master counter to give a total count output via relays

Configuration:

Configuration of the counter is carried out by a plug-in configuration cable connected to a socket covered by a removable bung

Relay Output Specification:

Two common ground relays are provided connected via a screw terminal block in the unit base. Power is also supplied via the screw terminals.

Mechanical:

Housing: Die-Cast Aluminium
Coating: Grey Powder Coat (RAL7001)
Dimensions: 140 x 133 x 80mm (60° & 40° lenses)
 140 x 133 x 88mm (20° lens)
Weight: <500g
Mounting: Four fixing holes in base or mountable using accessory ball joint mounting IWC2030

The front part of the unit is removable from the base in a 'twist and pull' action.

Power Supply Requirements:

Supply voltage: 10-28VDC
Ripple: $\leq 2\text{Vpk-pk}$ within supply voltage range
Typical Supply Current: 100mA at 12V
 70mA at 24V

Limitations to Use:

Users are requested to observe the following guidelines:

- Safety Critical use:** The IRC312x is not intended for use in any safety critical or personal safety application.
- Occupancy:** i.e. calculation of the number of people within a given area should be approached with caution*.
- Adverse thermal environments:** Areas of intense sunlight with localised temperature variations and rapid changes in temperature may adversely affect the Performance of the counter*.

*See IRISYS publication IPU40184 'People Counter Application Notes' for more details on these effects.

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