



## IRC 3020

### **IRISYS IRC3020 INDOOR PEOPLE COUNTER WITH RELAY OUTPUT**

The IRISYS IRC3020 people counter is the latest model in the Irisys thermal array based people counter family, running the same counting algorithms as the recently launched IRC3010 IP enabled People Counter but with a simple relay output. The IRC3020 is a direct replacement for the existing IRC1004 unit which will cease production from May 2010. The IRC3020 can also be used as a replacement for other relay output counting devices (beam-break devices etc.), providing an easy upgrade and an improvement to counting accuracy. The IRC3020 is applicable to a wide variety of counting applications:

- Retail, Shopping Malls & Shops
- Leisure, Hotels & Casinos
- Transportation
- Smart Buildings

#### The key benefits include:

- Operation independent of ambient light
- Minimal set up
- User-Definable Count Lines & functionality
- Wide Opening Capability up to 8 units
- Ease of setup using a Windows computer
- Lower installation costs
- Low ongoing support costs

A high accuracy, easy replacement upgrade for relay output counters. IRC3020 interfaces directly to existing data logging systems.

#### Description of the IRC 1004

The IRC3020 is a people counting device with the imaging optics, sensor, signal processing and interfacing electronics all contained within a moulded plastic housing. The unit is used in a downward looking manner as the unit functions optically 'seeing' the heat emitted by people passing underneath as Infra-Red radiation collected 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 3.25 x 3.25m square on the floor. Mounting height ranges between 2.2 and 4.8m can be covered with the standard lens and a 40° field of view version offering increased mounting heights is also available.

The IRC3020 can be used as a stand-alone counting unit which can be connected directly to a pulse counting logging unit. Alternatively, up to 3 IRC3020 units can be connected together to cover a wide entrance. Up to 3 units can be linked together in this manner to span the wide opening, with any one of the units acting as the 'master' unit outputting data to the logging unit. The wide opening arrangement is configured as if it is a single counter unit with a wide 'footprint'. Each IRC3020 unit has both relay outputs and CAN data bus connections, allowing any one IRC3020 unit to operate as either stand alone counting unit, or as master counter or node on a wide opening network.

Counter configuration is carried out via a serial interface connection accessed by a clip-on module. Any laptop running Windows software can be used to configure the counting lines for accurate counting in many environments. Firmware upgrades to the counter may also be available periodically which can also be loaded via the serial link.



*“ Providing an easy upgrade and an improvement to counting accuracy ”*



## IRC 3020

### SPECIFICATION

#### Coverage Pattern:

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

**Detection Speed Range:** 0.5ms-1 – 3ms-1

**Temperature Sensitivity:** < 2.0K

Mounting Height Options	Mounting Height Range (m)	Width of Field of View (m)
60° Field of View IRC3020	2.2 - 4.8	1.8 - 4.3
40° Field of View IRC3020	4.0 - 7.0	1.8 - 4.3

#### 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.

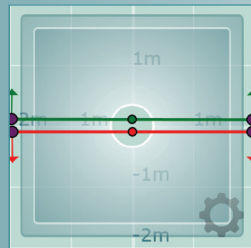


Fig 1.

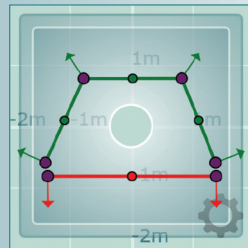


Fig 2.

#### 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 field of view and the count line.

#### 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 clip-on adapter IWC XXXX or via base terminals.

#### Power Supply Requirements:

Supply voltage:	10-28VDC	
Ripple:	≤ 2Vpk-pk within supply voltage range	
Supply Current:	@ 24V	@ 12V
Current Consumption:	60mA	90mA

#### 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:	White ABS
Dimensions:	111mm diameter x 70mm deep
Weight:	0.2kg
Mounting:	Four fixing holes in base

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

#### Limitations to Use:

Users are requested to observe the following guidelines:

**Safety Critical Use:** The IRC3020 is not intended for use in any safety critical or personal safety application.

\*See Irisys publication 'IPU40184 Applications Notes' for guidance on the use and application of the IRC3020 detector.

#### Environment:

The counters are intended for use in indoor environments, free from rapid changes in temperature or humidity. For more severe environments the outdoor version should be used (available 2009).

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