

# Irisys IRC3020 & IRC3021 Relay Counter Installation Guide

## 1 Installation

- 1.1 Detach the counter head from its base by twisting anticlockwise slightly then pulling apart to expose the mounting holes on the base (Fig. 1).
- 1.2 Select a suitable location for mounting the counter base. Refer to the 'Applications Notes' document, IPU40184, for details on suitable locations. Ensure that the 'Traffic Flow Direction Arrows' of all units are all pointing in the same direction - in the direction of traffic flow (Fig. 1).
- 1.3 A 3-5cm hole in the ceiling should be provided for cable access. If mounting on solid ceilings, a number of alternative cut-out areas are provided in the base perimeter to allow for wiring access (Fig. 1). Install the base using mounting holes provided; these holes allow for a limited amount of movement of the base - once aligned correctly, secure the base using the locking screw position.
- 1.4 Connect the counter wiring as shown in Table 1. A single unit installation example is also shown below in Fig. 2. The power supply should be grounded. Note: the pull up resistors are usually required, but may already be incorporated into your data logger - contact your data logger manufacturer for guidance.

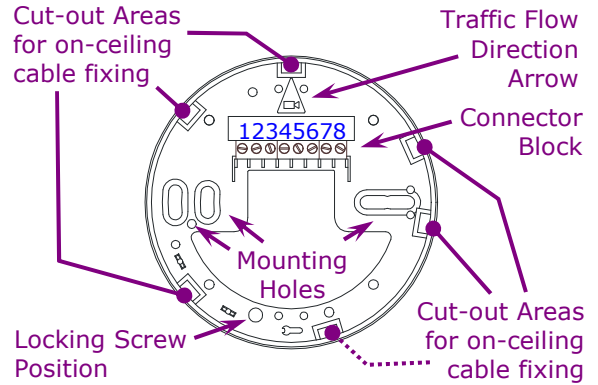


Fig. 1

Term.		Signal
1	-	RS232 Tx
2	-	RS232 Rx
3	-	Relay 2
4	-	Relay 1
5	-	CAN High
6	-	CAN Low
7	-	+12v to +28v DC
8	-	0v

Table 1 - Terminal Wiring

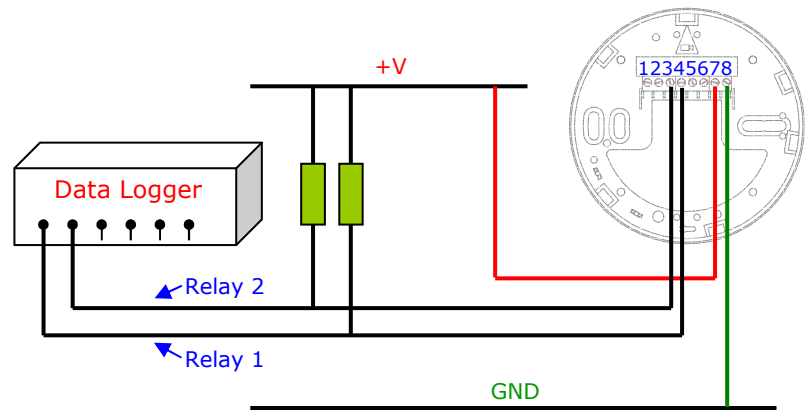


Fig. 2

- 1.5 If configuring a wide opening network of two or more units, to count through a wide opening, units should be mounted no further apart than the maximum separation shown on document IPU40188 'IRC3000 Series Mounting Height Graph'. All units should be positioned with their 'Traffic Flow Direction Arrows' pointing in the same direction. A wiring example is shown below in Fig. 3. There can be maximum number of 8 units connected in a 'daisy-chain' style. A 120ohm terminating resistor (supplied) must be connected at the first and last unit position across the data bus lines.

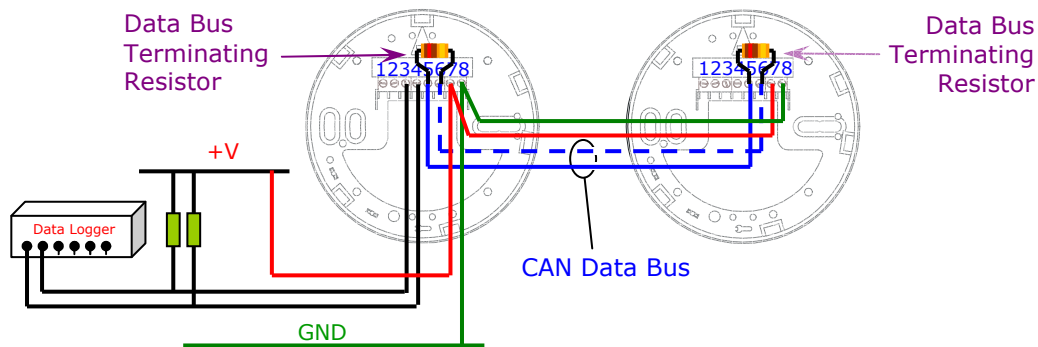


Fig. 3

1.6 After making all connections, the counter head can then be installed onto its base. To do this push the counter head up into the base and turn anticlockwise until the tabs engage into position and then turn clockwise a few degrees to lock. Power can then be applied and the counter will begin its warm up routine.

## 2 Configuration

All counters require configuring before use. Configuring of the IRC3020 and IRC3021 counters requires the Setup Tool to be installed on your laptop and a serial setup module (part number IWC3052), see Fig. 4.



Fig. 4

- 2.1 Install the setup tool software on your laptop. If not already present, you will also need to install the Microsoft .Net v4.0 run time files prior to installing the setup tool – the setup tool installer checks for this. If you intend to use the USB to serial adapter, supplied with the serial setup module, you will also have to install the drivers for this as well. For more details see document IPU 40183 'IRC3000 Series Setup Tool Software Manual'.
- 2.2 Connect the setup module to the counter as described in document IPU 40260 'IWC3052 Setup Module for Relay Counters User Guide' and connect the trailing lead to your laptops COM port. You can utilise the USB to serial port adapter, at this point, if your laptop does not have native COM ports.
- 2.3 Once installed, run the Setup Tool software by selecting it from the Irisys link on the Windows start menu. Configure the counter(s) as described in the documents IPU 40183 'IRC3000 Series Setup Tool Software Manual' and IPU 40184 'IRC3000 Series Applications Notes'. Document IPU 40183 also gives details on trouble shooting connection problems, if required.
- 2.4 Ensure that the counters relay output settings are set correctly as required by your relay capturing device ('data logging box'). If necessary, consult the logging equipment manufacturer for details of the relay output settings required for correct interfacing of the two devices. Failure to interface the counter to the logging equipment correctly may result in under counting or over counting being wrongly reported.
- 2.5 Once all counter settings are made, ensure that they are saved into Flash memory before exiting the setup software by selecting the 'Permanent All' option from the main menu.
- 2.6 The setup module can now be removed from the counter and the counter re-connected to its base. Once the counter has warmed up, it will begin counting normally.

## 3 Built in Serial

The IRC3020 and IRC3021 units also feature a built in serial interface which as available for connection at the terminal block. This is provided to allow permanent RS232 connection which can be run down to a more convenient location, if required.

To utilise the built in serial you should connect to the terminal block as below and run the setup tool as described above.

Term.		Signal		D-Type
1	-	RS232 Tx	-	2
2	-	RS232 Rx	-	3
3	-		-	
4	-		-	
5	-		-	
6	-		-	
7	-		-	
8	-	Gnd	-	5

Table 2 – RS232 Wiring

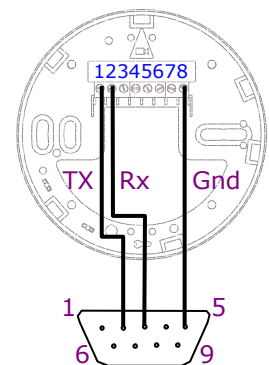


Fig. 5



**Warning:** This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.