

PIClight remote control for lighting

Instructions for use

Features

1. Remote control of up to 20 channels (sets of lights) using the standard lighting interface board (LIB).
2. Additional interface boards can be added to extend the number of channels to 60.
3. The interface unit incorporates a very realistic flickering light unit which can be set to steady light, a random flicker (candles) or a random pulse (fire) on each channel separately. The flicker rate can be adjusted using the preset control on the LIB.
4. The remote control unit (RCU) can be used to switch individual lights on and off, set the flicker mode or turn all lights on or off.
5. Up to 10 sets of settings (on/off, steady/flicker) for the lights can be saved and restored.
6. When the interface unit is switched on, saved state no 1 is automatically restored.
7. Each channel of the interface unit can deliver up to 1.5A - the total rating for the interface unit is 5A. Most Doll's House light bulbs take about 50mA - this means that the unit can supply about 100 typical bulbs in total (up to 30 on a single channel). Some chandeliers are fitted with bi-pin candle bulbs that only take 30mA so up to 50 of these bulbs could be connected to one channel.
8. The remote control unit and interface board can be programmed with a different ID (on request) to allow two or more PIClights to be used in the same room without interfering with each other.

Contents

Remote control unit (RCU)

Lighting interface board (LIB)

Sensor unit

Cable ties and bases

2 x AA Batteries

Spare 5A fuse

(These) Instructions

Installation

The LIB should be fixed in a convenient position for wiring to the lights. The connections for the lights are on the long terminal block. Lights should be connected to the terminals for each channel. There is a common return for each group of 4 lights (see figure 1). The channels are numbered from 1-20 left to right when the terminal block is at the top (as identified on the edge of the unit).

The PIClight uses infra-red light for the control unit so the sensor should be fixed in a position that will be visible from the place where you will normally operate the remote control. The sensor is connected to the three way terminal block on the LIB (Blue - Sig, Green - 0V, Red - 5V as shown in figure 1).

A suitable power supply must be connected to the socket on the LIB. The power supply must have a regulated DC output of 12V with sufficient power to operate the total number of lights installed and must be fitted with a suitable coaxial connector with the centre pin

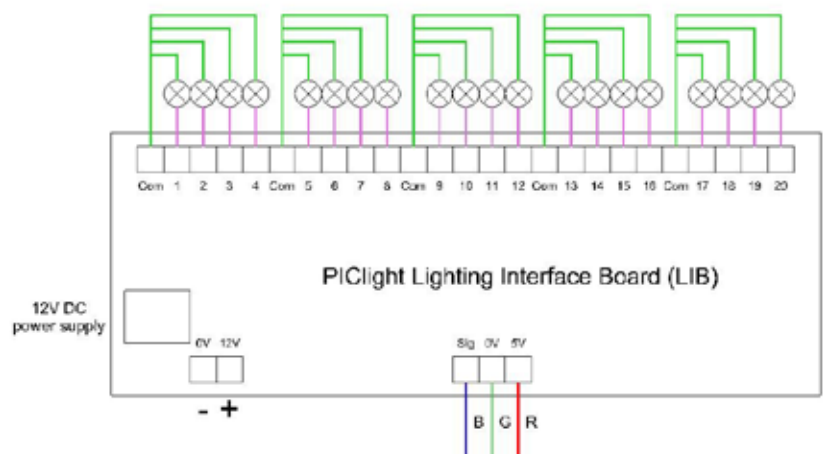
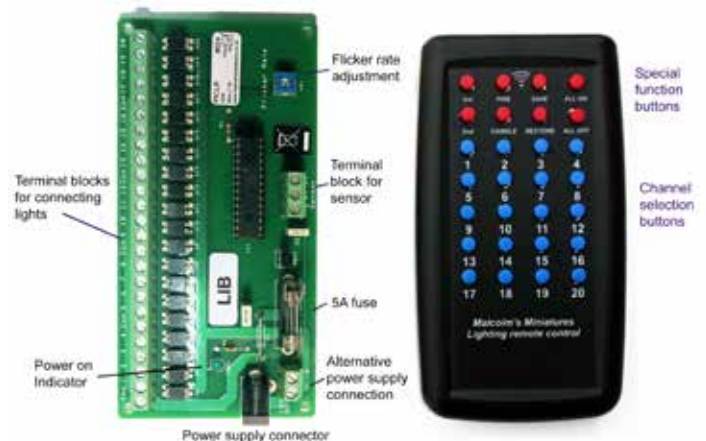


Figure 1. Basic wiring of the PIClight LIB

positive. Figure 2 shows the symbols that will appear on a suitable power supply. If the power supply does not have a coaxial connector the power supply can be wired to the 2 way terminal block next to the power supply connector - observing the correct polarity, of course. Connecting an AC power supply (transformer) or a power supply with the wrong polarity may cause damage to the unit and will invalidate the warranty. Suitable power supplies are available from Malcolm's Miniatures.

Fit the batteries into the RCU by sliding back the cover and inserting the batteries into the battery holder. Note the orientation of the batteries - fitting the batteries incorrectly may cause damage to the unit.

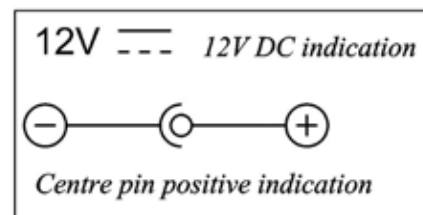


Figure 2. Power supply labels

Operation

The RCU has 28 buttons divided into numerical buttons (1-20) and special function buttons (save, restore, candle, fire, all on, all off, 2nd and 3rd).

When the LIB is switched on, saved state 1 is restored. Until settings have been saved to set 1, the saved state will, of course, be all lights set to steady and switched off.

Operation of the RCU is then as follows:

1. To switch on an individual light press the appropriate numerical key.
2. Entering the same number again will switch the light off, ie pressing the numerical keys toggles the state of the light on/off.
3. Pressing the All On or All Off buttons will switch all the lights on or off, respectively. Note that the LIB switches the lights on sequentially to avoid a surge on the power supply. If one or more of the channels has a lot of bulbs connected (eg a large chandelier) it is best to use the lower numbered channels for them to minimise the effect of the current surge.
4. To set one of the flickering light modes press the Candle or Fire button followed by the appropriate numerical key. This will set the mode to Candle or Fire, respectively and turn the light on. Repeating this procedure will cancel the flickering light mode and turn the light off.
5. Once Candle or Fire mode has been set, the LIB “remembers” the setting, so switching the light on or off by just pressing the numerical key will not change the flicker setting.
6. To save the settings, press Save followed by one of the numerical keys 1-10. The current state of on/off and steady/candle/fire mode will be saved for each channel.
7. To restore the saved settings, press Restore followed by one of the numerical keys 1-10. The settings for on/off, etc will be restored.

Extending the number of channels

One or two additional LIBs can be fitted if more than 20 channels are required. This could be used to fit more lights to a dolls house. In this mode one sensor can be connected to all the LIBs. They must be powered from separate power supplies (see figure 3). All of the LIBs respond to the same RCU, so only one RCU is needed.

The second (and third) LIB packs include lengths of black and blue wire to connect the LIBs, as shown.

Another use of this feature is to operate two dolls houses in the same room using only one RCU. In this case separate LIBs would be installed on each house with their own sensors.

To operate the lights on the second (or third) LIB, press 2nd (or 3rd) on the RCU followed by candle or fire (if required) and the appropriate numerical key. The special function keys for save, restore, all on and all off operate on both (or three) LIBs simultaneously.

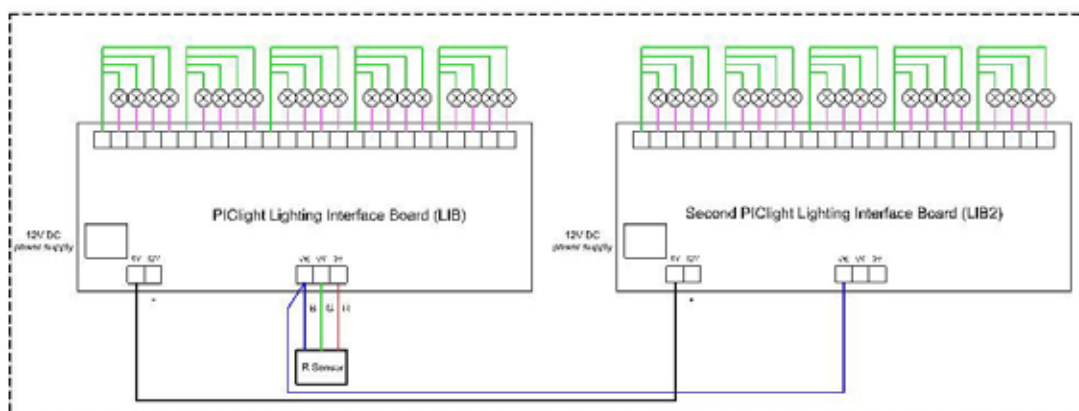


Figure 3. Wiring of two LIBs with separate power supplies

Typical example of wiring a house for remote control

The diagram below shows a typical house with four floors and ten rooms. The lights are a mixture of pendant, chandelier, wall lights and fires, some with multiple bulbs. Obviously where a light fitting contains multiple bulbs they are wired together internally so that only two wire connections are provided.

Notes:

- The Lighting Interface Board (LIB) should be mounted in a convenient position for wiring - usually on the back of the house
- One wire from each light is connected to the common return terminals of the LIB (shown in green)
- The common returns are connected together wherever convenient and single wires are taken back to the LIB
- Run several common return wires to the LIB, as shown, to spread the electrical load
- The other wire from each light (shown in pink) is connected to one of the channel outputs of the LIB
- Some lights may be wired together to one channel so that they are switched on/off together, others are wired individually to their own channel, depending how the lights are to be controlled
- Lights may be wired to any channel of the LIB, but it is sensible to group lights in the same room together as much as possible for ease of use
- Where wires are to be joined together (for common returns or to extend the wire), the wires can be twisted together (or soldered) and the join protected with heat-shrink sleeving

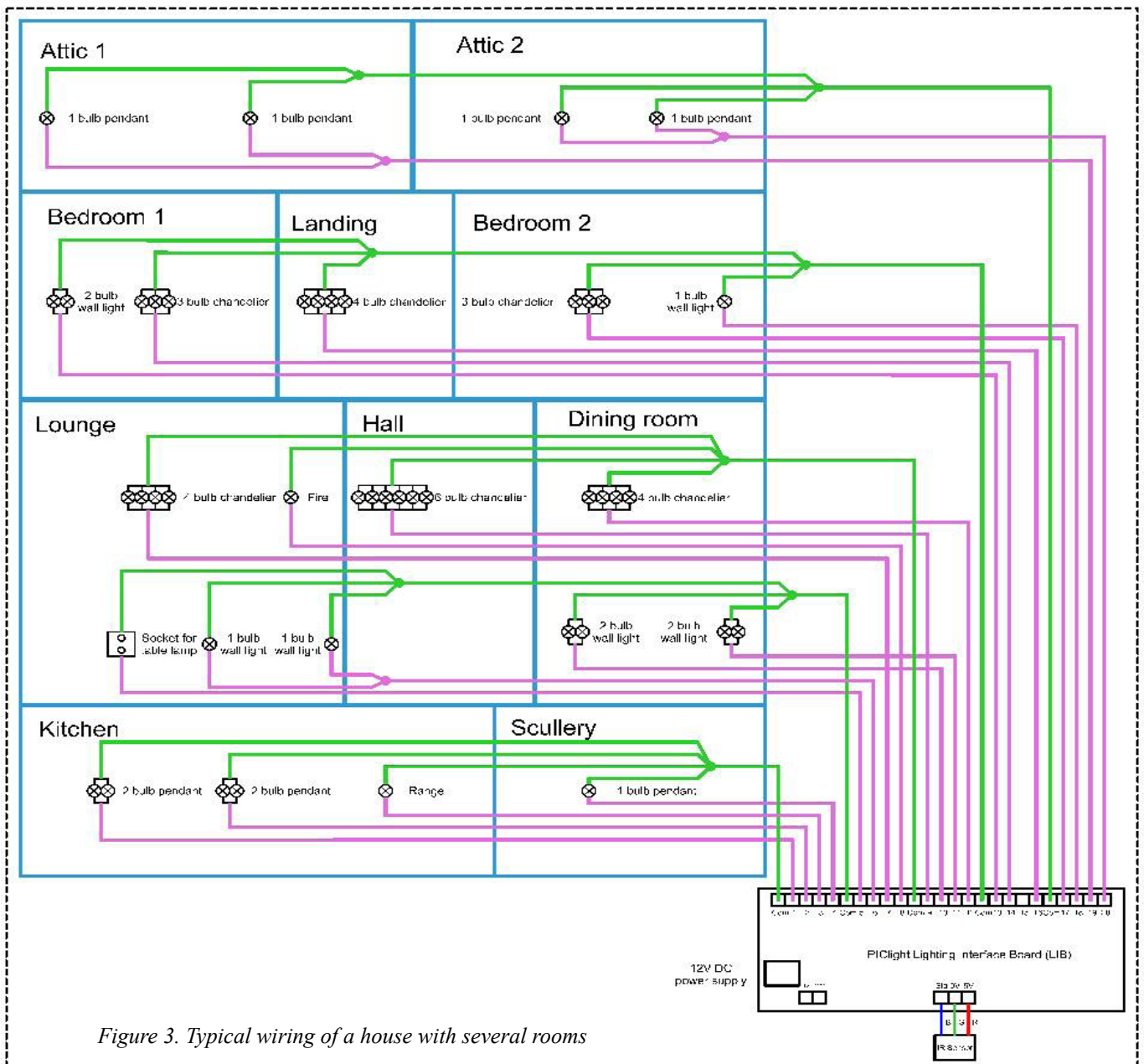


Figure 3. Typical wiring of a house with several rooms

The table below shows the allocation of lights to the channels of the LIB in the example shown in figure 3.

Channel	Room	Light
1	Kitchen	2 bulb pendant
2	Kitchen	2 bulb pendant
3	Kitchen	Range fire
4	Scullery	1 bulb pendant
5	Lounge	Socket for table lamp
6	Lounge	Two 1 bulb wall lights
7	Lounge	4 bulb chandelier
8	Lounge	Fire
9	Hall	6 bulb chandelier
10	Dining room	2 bulb wall light
11	Dining room	2 bulb wall light
12	Dining room	4 bulb chandelier
13	Bedroom 1	2 bulb wall light
14	Bedroom 1	3 bulb chandelier
15	Spare	
16	Landing	4 bulb chandelier
17	Bedroom 2	3 bulb chandelier
18	Bedroom 2	1 bulb wall light
19	Attic 1	Two 1 bulb pendants
20	Attic 2	Two 1 bulb pendants

Notes:

- Although there is a spare channel, it has been decided to connect the two wall lights in the lounge together to channel 6 and to connect the two single bulb pendants in each attic together to channels 19 and 20, respectively
- All other lights can be switched individually
- A socket has been provided in the lounge for a table or standard lamp to be plugged in - this has also been wired back to its own channel
- Channels 3 (kitchen range) and 8 (lounge fire) will be set to Fire flickering mode

The PIClight is guaranteed against defects in manufacture for 1 year from purchase.

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