

ICELED[®]

DIGITAL LIGHTING

**UFO
PIXEL DRIVER**

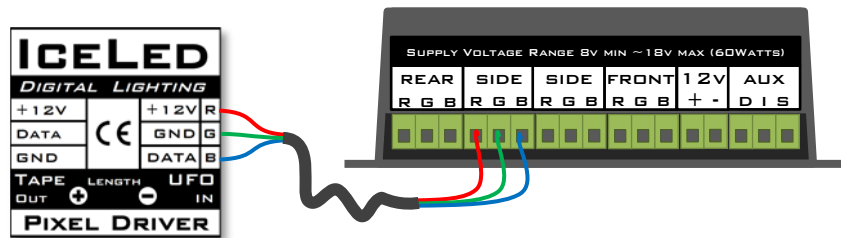
**USER
GUIDE**

Features

ICELED Pixel Drivers are used to interface UFO tube channels to arbitrary lengths of WS2811 or WS2812 based Pixel Tape for use in addition, or as a flexible alternative to ICELED tubes.

Connecting the Pixel Driver to UFO

The 3-way connector labelled **UFO IN** terminates the red green and blue wires from the chosen UFO channel as shown.



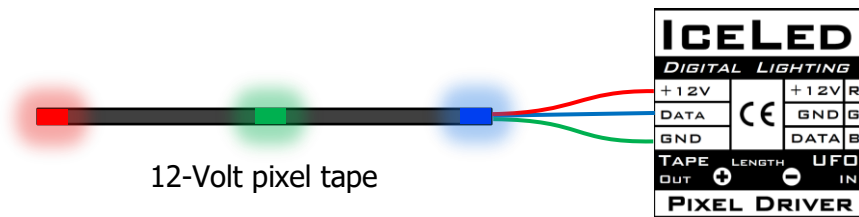
It is important to locate the Pixel Driver as close as possible to the pixel tape so any significant separation from the UFO controller should be accomplished with the ICELED cabling shown above.

Connecting and Setting up the Pixel Tape

Observing the markings on the pixel tape, connect the three wires to the **Tape Out** terminals on the Pixel Driver as shown below. Wire colours may vary from one tape to another so ensure that power and data are correctly identified.

The driver can be set to 'fill' any number of pixels from 3 to 200 with the UFO pattern on the connected channel. This setting is accomplished using the two recessed buttons labelled **Length** and marked with (+) and (-).

The extent of the pattern fill during setting is indicated by three illuminated pixels as shown below whenever either button is pressed:



Initially the tape driver is set to drive the first three pixels only and **the sequence of RGB should be as shown below** – Red on the third pixel, Green on the second and Blue always nearest the tape cable end. All other pixels should remain off:

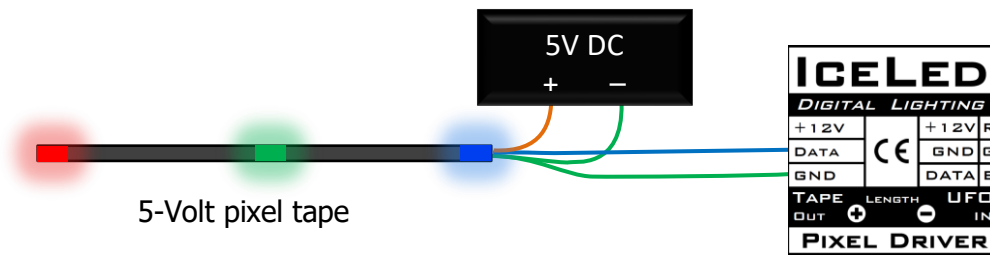


- ▶ If a pixel tape having a different RGB ordering is connected (e.g. WS2812 based product) the colour sequence may differ to the above and UFO colour settings would be incorrect as a consequence.
- ▶ In this case the RGB ordering must be corrected by pressing and holding the (-) button while at the minimum three pixel length setting. The sequence then cycles through each of the six possible combinations at two-second intervals while the button is held.

Once the correct sequence has been confirmed, the (+)/(-) buttons can then be used to 'send' the Red pixel to the far end of the tape. This enables the driver to 'fill' the tape with the entire UFO pattern sent out on the connected channel (rear, side or front).

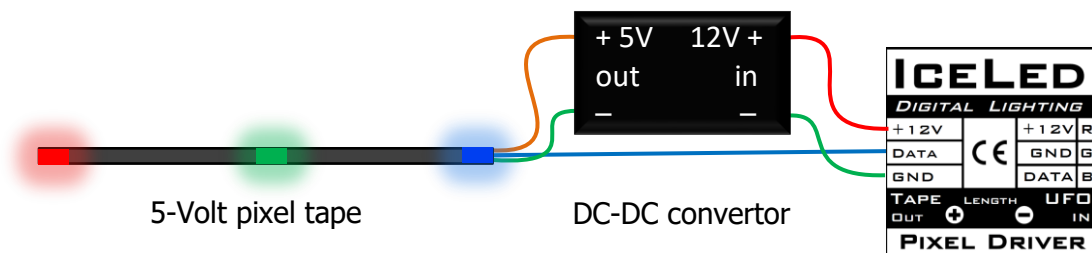
Connecting the Pixel Driver to 5V tape

Pixel Driver is primarily intended to drive 12-Volt pixel tape serving as a direct replacement for ICELED UFO tubes. However, the signalling data format is also compatible with some 5-Volt tapes so provided that a suitable separate 5-Volt power supply is available, this type of tape may be connected as follows:



Note that the two ground wires should join at the tape not at the driver or supply.

With the above scheme the pattern will remain frozen on the tape if UFO is powered-off because the supply remains connected. To remedy this, the 5-Volt supply could be obtained from a non-isolating 12V to 5V DC-DC convertor powered from the Pixel Driver +12V and ground terminals:



A common ground connection must exist between the 12V input and 5V output – if not a wire should link connect the two – (minus) terminals together.

Whichever scheme is used, be aware that 5-Volt tape consumes three times the current as 12-Volt tape so ensure that sufficient capacity is available from the interconnecting wiring and power supply.

Specifications

Nominal supply voltage:	12 Volts DC (¹)
Standby current drain:	0.02 Amps
Maximum load current:	10 Amps
Data input:	Any ICELED controller output
Data output:	WS2811 or WS2812 signalling

(¹) Voltage range of between 8 and 18 Volts. Reverse polarity and over-voltage protection are built in.

Resources

To see the full ICELED product range visit <http://www.iceled.co.uk> the official ICELED website.

For more suggestions and advice visit <http://iceled.co.uk/area51/> the official ICELED user forums.

ICELED Pixel Driver Conforms to:

EMC Directive (2004/108/EEC)

