

Product code	Voltage	Rating	Length	Width	Colour	Watts/m	LEDs/m
ILSTRGBA173E	24V	IP20	5m	12mm	RGB	14.4W/m	240LEDs/m
ILSTRGBA175E	24V	IP20	3m	12mm	RGB	28.8W/m	240LEDs/m

INSTALLATION INSTRUCTION

Spotless RGB 24V INTEGRAL LED Strip IP20 - 5 Year Warranty

⚠ WARNING ⚠

**DO NOT CONNECT THE LED STRIP DIRECTLY TO A MAINS SUPPLY.
THE LED STRIP MUST ONLY BE CONNECTED TO A SUITABLE CONTROLLER AND LED DRIVER. SWITCH OFF MAINS POWER BEFORE INSTALLING THE STRIP.**

Important Notice

1. This product should be installed according to the instructions in this guide and by a qualified electrical installer. All electrical work must be completed in accordance with all applicable regulations and laws in the country in which it is being installed. (In accordance with IET regulations in the UK).
2. This product falls in the low voltage Class III circuit category.
3. The LED strip must be installed in sheltered and dry areas indoors.
4. Do NOT install in an environment, which exposes the strip to direct sunlight, rain, water, moisture or other particles.
The strip will dissipate heat, so it should be installed in a ventilated area.
5. Always SWITCH OFF the power at the mains when installing, adjusting, cutting or maintaining the LED strip.
6. Observe the correct polarity when connecting to a driver and controller. See Instruction – Section (D)
7. When the LED strip is ON, avoid staring directly at the LED strip.
8. Observe the operating temperature levels of the LED strip: -25° C to +45° C.
9. Ensure the constant voltage 24V LED driver(s) and controller are correctly specified for the area and total connected length of the LED strip used.
10. Do NOT power the strip whilst in the packaging reel to avoid overheating.
11. To avoid damage or malfunction, Do NOT coat the LED strip with paint, varnish or similar.
12. Always handle the LED strip with care. Do NOT twist or heavily press down on the LED strip and observe the bending rule.
13. Always switch OFF the power supply before cutting or connecting the LED strip.
14. Safely route and secure all wires so that they cannot be pinched or damaged. The driver must be connected to a stable power supply.

Introduction

1. Depending on the installation, you can purchase optional or additional accessories such as connectors, drivers and controllers. Please get in touch with your supplier or see integral-led.com for accessories options.
2. The strip has a 5-year warranty. Questions? Please get in touch with your supplier or see integral-led.com.

(A) CHOOSING A 24V LED DRIVER

1. The LED strip operates with a 24V constant voltage LED driver. The total length of the strip (check length specification) can be powered directly with one appropriate LED Driver. LED Drivers are sold separately in a variety of fixed wattage options. Ensure the IP rating matches the requirements of the installation.
2. The specification of the LED driver will depend on the total power wattage required by the connected strip(s). The power wattage rating of the LED driver should be at least 20% higher than the total wattage required of the strip(s) being powered.
 - For example, if the strip power is 6W per metre (6W/m) and the total length of all the connected strips is 12m. Total wattage required is 6W x 12 = 72W. Multiply by 1.2 to give the minimum driver wattage 72W X 1.2 = 86W. A 100W LED driver would be suitable for 12m. It is important to specify the correct LED driver.

(B) PRE-INSTALLATION GUIDE

1. It is worth taking some time to plan the project for the desired effect before removing the backing tape of the LED strip. The specification, length, mounting position and distance from an object determines the appearance of the LED strip light and the possibility of using an aluminium profile with a diffuser. In conjunction with the installed position of the LED strip, you will need to consider the safe placement and concealment of the LED driver, wires and power switch or controller to turn the strip ON and OFF.
2. We recommend that you temporarily experiment with the strip (and holding the strip without removing the backing tape in place by using suitable resealable tape such as masking tape if required). Safely connect the power supply – you can carefully move the strip to try different angles and positions to gain the desired illumination effect and position. Check for light hot spots, glare, reflections and shadows. Take care in measuring the length required before cutting the strip. Take into account the space needed for connectors.

(C) PRECAUTIONS FOR INSTALLING LED STRIPS

1. High-power strips should be installed on a surface with sufficient cooling capacity to keep the strip within its temperature levels. We recommend installing the strip in an appropriate aluminium profile or on heat-sink plates for heat dissipation and strip longevity.
2. The surface to which the strip is applied must be stable, clean, dry, smooth, oil & grease-free, and at room temperature- ideally, metal, ceramics, wood and plastics. On removal of the strip, some damage to paint, wallpaper or other substrates may occur.
3. Do NOT install in an environment, which exposes the product to direct sunlight, rain, water, moisture or other particles. The strip will dissipate heat, so it should be installed in a ventilated area.
4. Avoid stretching, compressing, folding, twisting or bending the strip to less than 50mm.

(D) TYPICAL INSTALLATION CONFIGURATION

The LED strip is powered by an appropriate LED driver and controller with a suitable wattage output (See Section A). For controller options, please get in touch with your supplier or see integral-led.com. Ensure the power is OFF and that the correct polarity is observed when wiring the LED driver. When wiring the receiver of controller to the strip, always observe polarity for connections to control unit, positive (+) to positive, red (R) to red, green (G) to green and blue (B) to blue (Fig.1). Additional accessories (sold separately) may be required for complex configurations. Identify the most appropriate configuration before installation to specify wiring, LED drivers, controllers and connections.

The maximum powered length (←→) = Total length of LED strip model (3 or 5m).

- 1. STRAIGHT RUN** - a LED driver powers the receiver of controller and first LED strip. Additional strips can be connected in series up to the maximum length (Fig.2).
- 2. POWERED FROM THE CENTRE** Power two strip lengths with the driver and the receiver of controller in the middle, up to the maximum strip length on each side (check length specification) (Fig.3).
- 3. ARRAY** Two or more strips in a parallel connection to the maximum length (Fig.4).

VOLTAGE DROP: If the total length of the connected strips is more than the total maximum powered length, you may find that the LEDs furthest away from the driver will be unlit or dimmed. To avoid this, you will need additional drivers.

(E) INSTALLATION INSTRUCTIONS

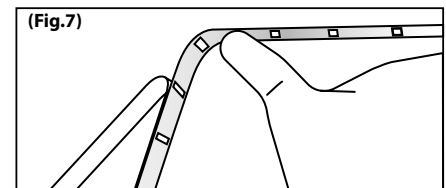
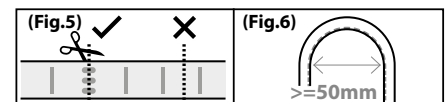
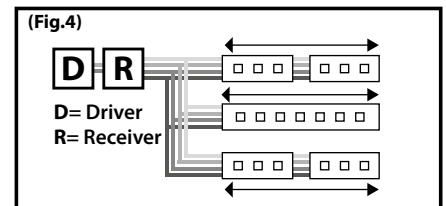
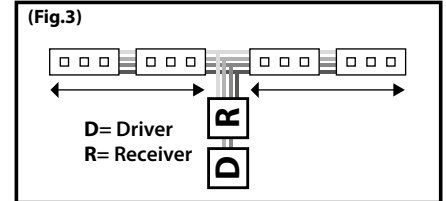
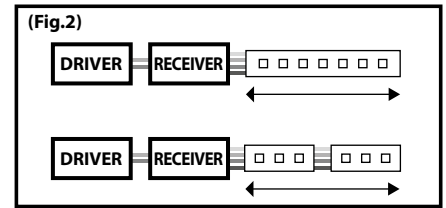
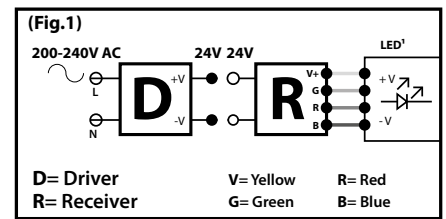
- To ensure a successful installation – please read the precautions, pre-installation and configuration recommendations and clarify the position and wiring of the strip. Release the strip from the reel.
- Measure and carefully cut the strip to the required length using an appropriate cutting tool. Only cut at the cut-marks with the power OFF (Fig.5).
- The bending diameter of the strip cannot be less than 50mm (Fig.6).
- Gradually remove the self-adhesive backing tape during installation. Do NOT remove the backing tape all at once to avoid the strip becoming entangled (Fig.7).
- Stick the strip to the mounting areas by carefully but firmly pressing down on the strip to activate the adhesive. Avoid pressing heavily on LEDs and other components.
- Once the strip is affixed correctly, it is ready to be wired. The power can be turned ON after checking the supply voltage and wire connections – Please see Section (D).

CAUTION: Distorting or over bending the strip, cutting at non-cut points, incorrectly powering the strip or exposing the strip to unsuitable conditions will invalidate the warranty. The strip cannot be returned or exchange once cut (unless faulty due to parts or workmanship) (your statutory rights remain unaffected).

(F) ISSUES AND SOLUTIONS

If you find the strip is not working, only part of the strip is lit, all or some of the LEDs are intermittently flashing, or the strip is dim or unevenly lit – Please read the following solutions.

- Check the LED is compatible – constant-voltage and has the correct voltage – and calculate that the total wattage of the strips connected to the driver is appropriate. Overvoltage can damage the strip (see Section A).
- Check all connections, joins, soldering and polarity to the driver, controller and strips for intermittent and improper connections.
- Check that the strip is correctly installed and not over-bent.
- Check the wire lengths between drivers and strips and between strips. If the wire lengths are too long, shorter or thicker wires may need to be used.



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