

LED Assembly Kit

Installation Instructions



A New Lighting Experience

1 Introduction

1.1 Product Description

The "VS LED Assembly Kit" is designed to let you easily and safely create lighting solutions using state-of-the-art LED technology. The components contained in the kit are intended for use by luminaire manufacturers and enable numerous combinations of VS LED modules and VS ballasts. The respective ballasts must either satisfy the requirements of independent ballasts or suitable LED supply units must be used. This also applies, for instance, to the installation of ballasts in junction boxes. Supply units with built-in ballasts, such as the colour control modules of the DigiLED series, must be dimensioned in line with the safety regulations.

As the VS LED Assembly Kit is IP20-protected, the ballasts for the respective LED modules must be configured as a SELV power supply (Safety Extra Low Voltage: voltage supply featuring electrically safe insulation between input and output voltage). Technical details on LED ballasts can be found at www.vs-optoelectronic.com.

The following VS LED assembly modules can be used with the VS LED Assembly Kit:

- LEDLine Flex HighBrightness (WU-M-359)
- LEDLine Flex SMD (WU-M-266)
- EasyLED (WU-M-308, -309 oder WU-M-335, -336)

Module WU-M-	Colour	Frame 537561 (1030 mm)	Frame 537562 (2060 mm)
266	red, yellow, RGB	6 x 171 mm	12 x 171 mm
266	white, green, blue	12 x 85.5 mm	24 x 85.5 mm
359	all	6 x 171 mm	12 x 171 mm
EasyLED	all	5 x 200 mm	10 x 200 mm

The VS LED Assembly Kit consists of the following components:

Base Frame

Material: Al6063 T5 / E6/EV1, matt silver
Dimensions (LxWxH): Lx30x26 mm

Ref. No.: 537561 length: 1030 mm

Ref. No.: 537562 length: 2060 mm



Base Frame

Attachment

Material: PMMA

Dimensions (LxWxH): Lx27.3x9.2

Transparent

Ref. No.: 537563 length: 1030 mm

Ref. No.: 537563 length: 2060 mm

Milky white

Ref. No.: 537565 length: 1030 mm

Ref. No.: 537566 length: 2060 mm



Attachment transparent



Attachment milky

Installation Material

End caps, Material: POM, black

Ref. No.: 537568 without logo

Ref. No.: 539163 with VS logo

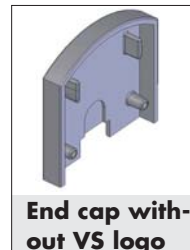
Clips, Material: POM, black

Ref. No.: 537569

Ref. No.: 537723 End clip

Adhesive tape, Material: 3M 7953 MPL

Ref. No.: 543085 51.5x9.5x0.2 mm



End cap without VS logo



End cap with VS logo



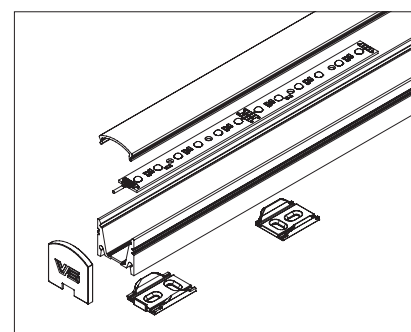
Adhesive tape



Clip



End clip



LED Assembly Kit

Installation Instructions



2 Installation of VS LED Modules in the LED Assembly Kit

2.1 Cleaning the Frame

To ensure a perfect adhesive bond is achieved between the LED modules and the frame, the contact surfaces need to be dry and clean, i.e. free of dust, oil, oxides, separating agents or any other contaminants. Frames must be cleaned with a clean, lint-free disposable cloth and a suitable cleaning agent that leaves no residue and does not corrode the aluminium frame. Vossloh-Schwabe recommends using isopropyl alcohol for cleaning purposes. Module and frames should be bonded immediately after cleaning to avoid re-contaminating the contact surfaces with dust or finger prints.



2.2 Preparing the Aluminium Frame with Adhesive Tapes

The aluminium frame does not have to be prepared with adhesive tape when using white, warm white, red, green and blue LED modules of the LEDLine Flex series (WU-M-266-W/WV/SO/SG/SB). As these modules are backed with adhesive tape, they can be directly stuck in the frames.

The frame will, however, need to be prepared with adhesive tape before installing Flex RGB (WU-M-266-RGB/2) and High Brightness Flex (WU-M-359-xx) modules in order to ensure additional electrical insulation between the frame and the flexed modules. The adhesive tape is also required when using modules of the EasyLED series. To begin with, the double-backed adhesive tape (Ref. No.: 543085) needs to be edge-aligned and stuck inside the frame, but without removing the protective strip from the top. Two adhesive strips are required for the 1030 mm frame; four are required for the 2060 mm frame.

Follow steps 1 to 3 to stick the tape in the frame:



Step 1: remove protective strip from one side of the tape



Step 2: stick tape into the frame to be flush with the sides



Step 3: remove top protective strip

2.3 Inserting the LED Modules

2.3.1 Installing Modules of the EasyLED Series

Prior to insertion into the frame, EasyLED modules must first be laid end to end and electrically connected by solder bridges, whereby care must be taken not to damage the light points. Five 200 mm EasyLED modules are required for the 1030 mm frames and 10 EasyLED modules are needed for the 2060 mm frames.



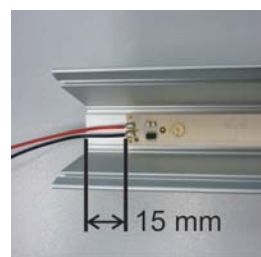
Solder bridges for EasyLED Mono



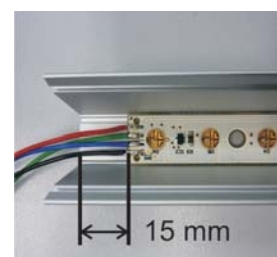
Solder bridges for EasyLED RGB

Cables must be soldered on to the modules before they are inserted into the frame. Care should be taken when doing this to ensure that the polarity of the modules is suitable marked or that colour-coded cables are used (see photo).

Central alignment of the interconnected EasyLED modules within the respective frame is crucial to ensure uniform illumination, which means that a distance of approx. 15 mm should be maintained to either side (see photos). The LED strips must be firmly pressed down to ensure full-contact bonding – but without touching the light points.



Cables for EasyLED Mono



Cables for EasyLED RGB

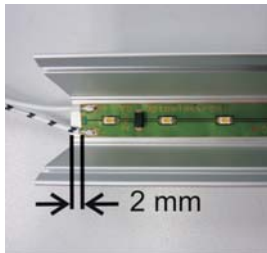
LED Assembly Kit

Installation Instructions

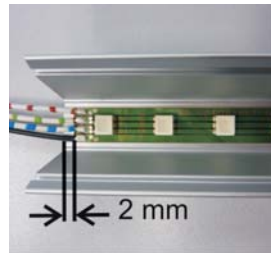


2.3.2 Installation of Modules of the LEDLine Flex and LEDLine Flex HighBrightness Series

Before any VS LEDLine Flex modules can be inserted into the frame, they first have to be cut to length with a pair of scissors. A total of six 171 mm LEDLine Flex segments (amounting to 1026 mm) are needed for the 1030 mm frame and, correspondingly, twelve 171 mm LEDLine Flex segments (amounting to 2052 mm) are needed for the 2060 mm frame. Commonly available cables must be soldered on to the modules before inserting them into the frame. Care should be taken when doing this to ensure the polarity of the modules is suitably marked or that colour-coded cables are used. After the cables have been soldered on, the protective strip must be removed from the Flex modules so that they can be stuck into the frame. Central alignment of the Flex modules within the respective frame is crucial to ensure uniform illumination, which means that a distance of approx. 2 mm should be maintained to either side (see photos). The LED strips must be firmly pressed down to ensure full-contact bonding – but without touching the light points.



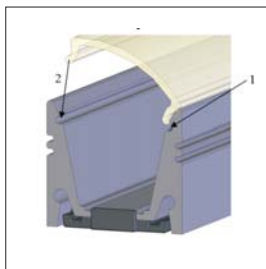
Cables for LEDLine Flex Mono



Cables for LEDLine Flex RGB

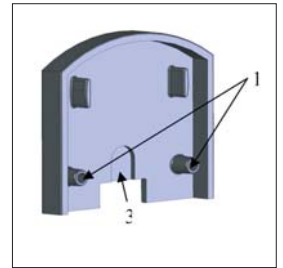
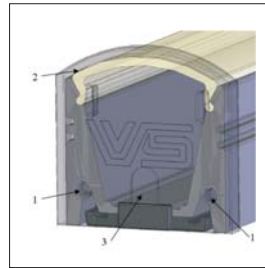
3 Fitting the Frame Cover

The cover of the frame can be fitted without any additional tools. The cover must first be inserted into the frame on one side (1), after which the other side (2) is snapped into place by applying gentle pressure along the length of the frame.



4 Attaching the End Caps

The end caps must be attached as follows: the round end-cap pins (1) must first be precisely aligned in front of the round holes in the frame (transparent in the diagram below) and then gently pressed into the holes as well as up and over the frame cover to rest in the upper, rounded inside edge (2). The end caps come with a predetermined breaking point (3) to make a hole for the cables. This predetermined breaking point is easy to open using a pair of wire-cutting pliers.

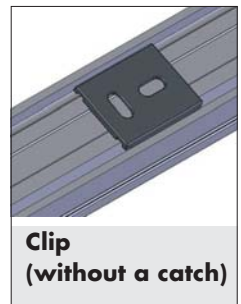


5 Mounting the Frame

Frames are mounted using mounting clips (Ref. No.: 537569 and 537728). These are designed for use with M4 countersunk screws. In the event of vertical mounting, the mounting end clip (Ref. No.: 537723) must be used at the "bottom" so that the frame rests on the catch, thus preventing slippage.



End Clip (with a catch)



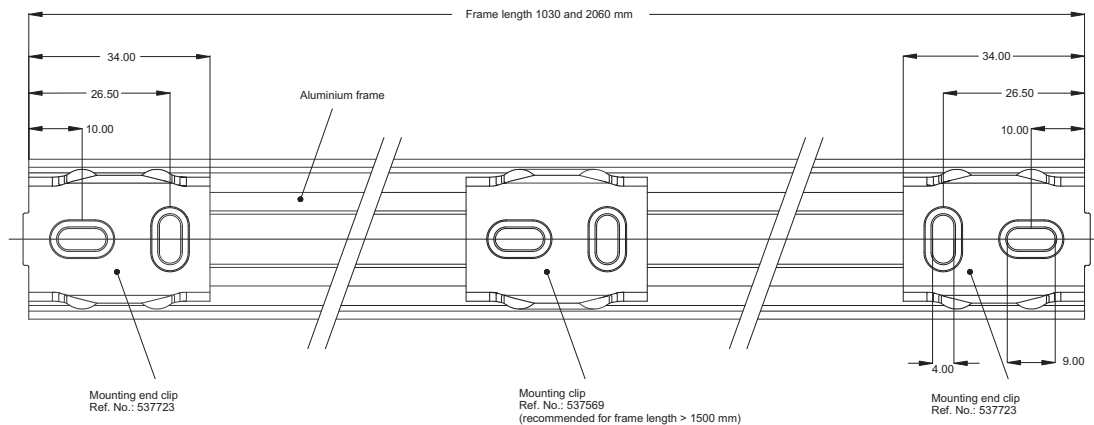
Clip (without a catch)

LED Assembly Kit

Installation Instructions



The positions of the drill holes can be seen in the diagram below:



6 General Safety and Installation Guidelines

6.1 Installation

Installation must be carried out under observation of the relevant regulations and standards. The LED Assembly Kit is designed for indoor use only. Installation must be carried out in accordance with these installation instructions and in a voltage-free state (i.e. while disconnected from any power supply). The following advice must be observed; non-observance can result in the destruction of the LED modules, fire and/or other hazards.

- ESD (electrostatic discharge) protection measures must be observed when handling and installing LED modules – see VSO's application notes on ESD protection.
- LED modules must not be subjected to any undue mechanical stress, e.g.:
 - do not treat as bulk cargo
 - avoid shear and compressive forces during handling and installation
 - do not damage circuit paths
 - do not touch or press on the light points or LEDs while inserting and fixing the LED modules in the frame
- Adhesive tape (Ref. No.: 543085) must be used to fix the LED modules in the frame
- When using adhesion to attach LED modules, care must be taken to ensure a clean, smooth and even surface that is free of grease, oil, silicone and dirt particles.
- Operating devices that comply with EN 61347-2-13 and are suitable for use with the respective LED modules must be used for power supply purposes. Vossloh-Schwabe recommends operating VS LED modules with matching VS operating devices (SELV or SELV equivalent, short-circuit-, overload- and temperature-protected).
- The LED Assembly Kit is not suitable for outdoor use or for operation in damp locations.