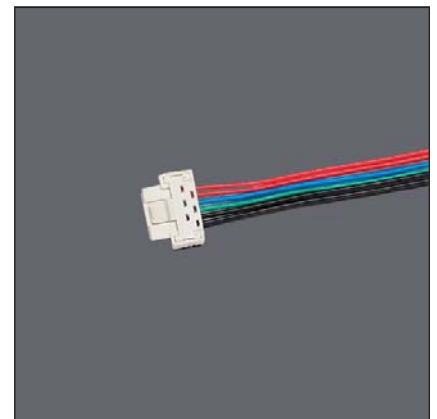
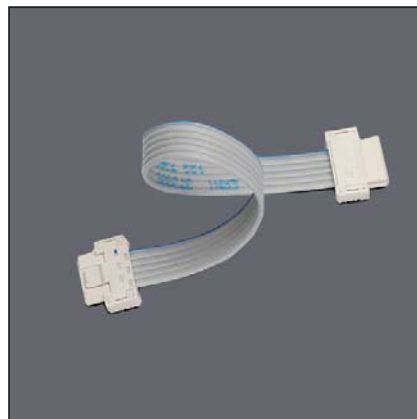
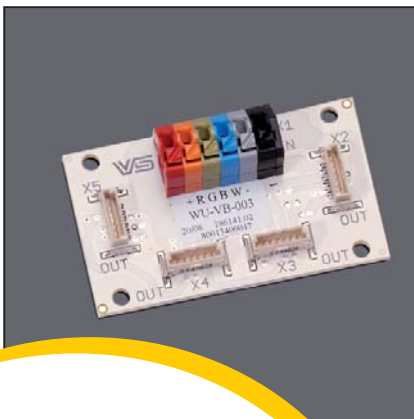




A New Lighting Experience



- perfectly matched components
- simple, quick and safe installation
- flexible and extendable thanks to modular design

Connection Technology 24V CA System

WU-VB-002-HP-20mm + WU-VB-002-HP-100mm

WU-VB-002-HP-Feed-in-500mm + WU-VB-006-HP-Feed-in-500mm-mono

WU-VB-003-DistriPCB CA + WU-VB-004-SlavePCB CA

Typical Applications

- Connection of integrated LED modules
- Distribution of rated power
- Extension of rated power (slave function)

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Connection Technology for 24V CA System

Various connection methods like flatband cables, feed in cables, PCB distributors and slaves can be used to effect electrical connections between LED assembly modules and DigiLED CA colour control units.

Flatband and feed in cables are designed to ensure that LED assembly modules can be connected to a DigiLED CA colour control unit or a PCB distributor or slave board up to the maximum current-carrying capacity specified in Table 1.

When setting up a 24V CA system, it must be ensured that the minimum supply voltage stated in the data sheets of the LED assembly modules is attained through the combination of lead lengths

Flatband Cables

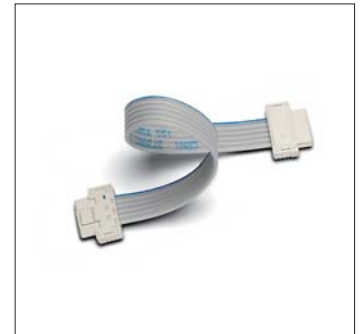
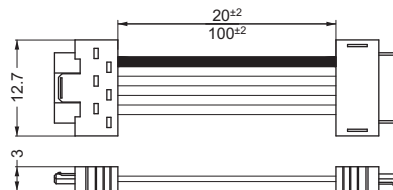
For reverse-polarity protected connections between LED assembly modules and/or groups and for connection to PCB distributors. The six-strand flatband cable is fitted with pre-assembled connectors that plug directly in to the sockets of the LED assembly modules and PCB distributors.

Type: WU-VB-002-HP-20mm

Ref. No.: 539476 Cable length: 20 mm

Type: WU-VB-002-HP-100mm

Ref. No.: 539475 Cable length: 100 mm

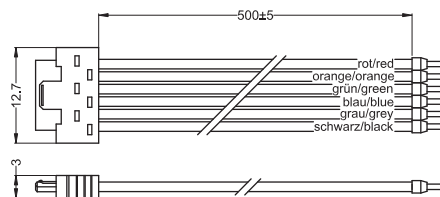


Feed in Cable

For connecting LED assembly modules and groups to a DigiLED CA colour control unit or slave board. The reverse-polarity protected connector attached to the feed in cable is plugged into the LED assembly module. The other side of the cable is then connected to the slave board or DigiLED CA colour control unit while ensuring correct polarity (colour coding).

Type: WU-VB-002-HP-Feed-in-500mm

Ref. No.: 535900 Cable length: 500 mm

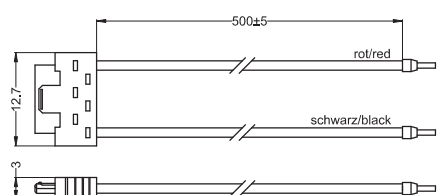


Feed in Cable Mono

For reverse polarity protected connection between monochromatic LED assembly modules and 24V voltage supply. The dimming function is not supported.

Type: WU-VB-006-HP-Feed-in-500mm mono

Ref. No.: 542267 Cable length: 500 mm

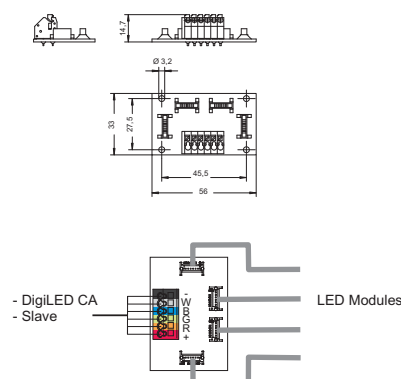


PCB Distributor

For connecting up to four LED assembly modules or groups to a DigiLED CA colour control unit or slave board. The maximum current-carrying capacity per contact is 5 A on the input side (terminal) and as detailed in Table 1 on the output side (connector). A standard six-strand conductor (e.g. LIYY 6X0.75 mm²) and up to four flatband cables can be used.

Type: WU-VB-003-DistriPCB CA

Ref. No.: 186141



The values contained in this data sheet can change due to technical innovations. Any such changes will be made without separate notification. Please find further detailed information at www.vs-optoelectronic.com.

Connection Technology for 24V CA System

Table 1: Terminal Connections

Terminal	Colour coding of feed in cable and PCB distributor	Function	Max. current-carrying capacity	Flatband cable colour coding
1	• Red	Supply line for LED assembly modules (+24V)	5 A	• Blue
2	• Orange	PWM signal line for channel 1	1.25 A	• Grey
3	• Green	PWM signal line for channel 2	1.25 A	• Grey
4	• Blue	PWM signal line for channel 3	1.25 A	• Grey
5	• Light grey	PWM signal line for channel 4	1.25 A	• Grey
6	• Black	Supply line for LED assembly modules (GND)	5 A	• Grey

Slave PCB

Type: WU-VB-004-Slave PCB CA

Ref. No.: 186140

Optional system extensions can be achieved using slave boards for connection to a DigilED CA colour control unit or to an upstream slave:

1. Output can be increased by connecting up to two converters to the X3 and/or X4 terminal(s). The LED modules and groups connected to these terminals (see 2a) or subsystems (see 2b) are supplied by the converter and controlled using the DigilED CA colour control unit via the X1 terminal.

2. Extending connection capacity
 a. of up to three LED assembly modules or groups by connecting a feed in cable to the X2 to X4 terminals. Care must be taken to ensure correct polarity in accordance with the colour coding.
 b. of up to three further PCB distributors or slaves to terminals X2 to X4 using a standard six-strand lead (e.g. IYY 6X0.75 mm²)

Should no additional converters be connected to terminal(s) X3 and/or X4, the respective solder bridges will have to be placed next to the terminals (see drawing).

When using low-power LED assembly modules with a four-strand RGB+ connection using an X3 or X4 terminal, this terminal cannot be used to connect any other power supply unit. A solder bridge will have to be effected between the two solder pads.

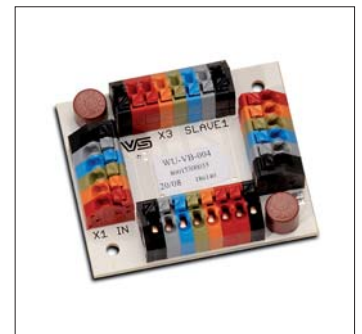
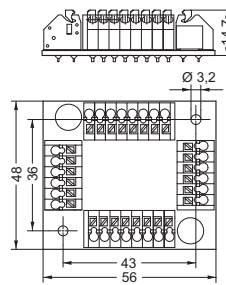
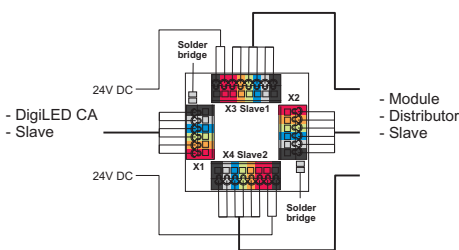


Table 2: Terminal Connections for X1 (IN) und X2 (OUT)

Terminal	Colour coding	Function	Max. current-carrying capacity	Recommended lead	Connection
1	• Red	Supply line for LED assembly modules (+24V)	5 A	High-power feed in cable (Ref. No.: 535900) or Standard six-strand lead (e.g.: IYY 6X0.75 mm ²)	LED assembly modules or module groups for a 24 V CA system or PCB distributor or slave for a 24 V CA system
2	• Orange	PWM signal line for channel 1	1.25 A		
3	• Green	PWM signal line for channel 2	1.25 A		
4	• Blue	PWM signal line for channel 3	1.25 A		
5	• Light grey	PWM signal line for channel 4	1.25 A		
6	• Black	Supply line for LED assembly modules (GND)	5 A		

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Connection Technology for 24V CA System

Table 3: Terminal Connections for X3 (IN/OUT) and X4 (IN/OUT)

Terminal	Colour codig	Function	Max. current-carrying capacity	Recommended lead	Connection
1	• Black	Supply line for optional 24 V converter (GND)	5 A	Standard two-strand supply lead (0.5–1.5 mm ²)	24V DC converter (optional)
2	• Red	Supply line for optional 24 V converter (+24V)	5 A	High-power feed in cable (Ref. No.: 535900) or Standard six-strand lead (e.g.: IYY 6X0.75 mm ²)	LED assembly modules or module groups for a 24V CA system or PCB distributor or slave for a 24V CA system
3	• Red	Voltage supply line for LED assembly modules (+24V)	5 A		
4	• Orange	PWM signal line for channel 1/Red	1.25 A	Standard six-strand lead (e.g.: IYY 6X0.75 mm ²)	LED assembly modules or module groups for a 24V CA system or PCB distributor or slave for a 24V CA system
5	• Green	PWM signal line for channel 2/Green	1.25 A		
6	• Blue	PWM signal line for channel 3/Blue	1.25 A		
7	• Light grey	PWM signal line for channel 4/White	1.25 A	Standard six-strand lead (e.g.: IYY 6X0.75 mm ²)	LED assembly modules or module groups for a 24V CA system or PCB distributor or slave for a 24V CA system
8	• Black	Voltage supply line for LED assembly modules (GND)	5 A		

Notes on Installation and Safe Operation

Installation must be carried out under observation of the relevant regulations and standards. The components of the 24V CA system are designed for operation within a casing or luminaire. Installation must be carried out in a voltage-free state (i.e. disconnection from the mains). The following advice must be observed; non-observance can result in the destruction of the components, fire and/or other hazards.

- ESD (electrostatic discharge) protection measures must be observed when handling and installing LEDs. See VS application notes on ESD protection.
- The maximum current-carrying capacity as detailed in Table 1, 2 and 3 must not be exceeded.
- PCB distributors and slave boards 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
 - avoid vibrations of 2 kHz up to a load of 40 G
- PCB distributors and slave boards are designed for attachment using M3 plastic screws or suitably insulated, non-loosening metal screws.
- Due to the manufacturing process, the printed boards of the PCB distributors and slaves can have sharp edges and corners. Care must therefore be taken during handling and installation to avoid injury.
- In the event of outdoor applications or applications in damp locations, care must be taken to protect PCB distributors and slave boards against humidity, splashes and jets of water. Any corrosion damage resulting from humidity or contact with condensation will not be recognised as a defect or a manufacturing fault.
- PCB distributors and slave boards are not specially protected against foreign bodies or dust. Depending on the type of application, further protection must be ensured to prevent dust and foreign bodies from entering.
- Flatband cables and feed in cables must not be subjected to any undue or permanent mechanical stress, e.g. kinks. Pre-equipped cables must not be modified or damaged.

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