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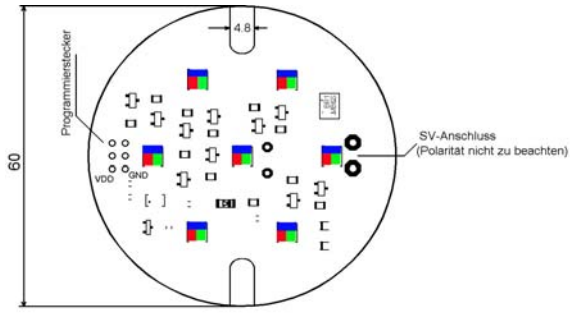
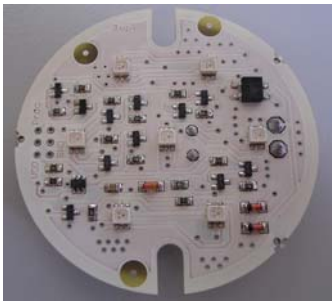
RGB-Module 7 LED, MC

Article-nr. 302009000

Technical Illustration





Description

LED-module equipped with internal on-board-controller, which controls a continuous color-fading in a fixed time sequence from approximately 20 seconds.

This module is designed for 7 multicolor-LEDs (3 in 1) . The symmetrical design ensures absolute homogenous illumination by using the right diffusor-material.

Suitable for indoor color accentuation for rooms or special objects.

Alternative power supply, either 12VAC or 24VDC.

Synchronisation of several units with AC-supply only.

Specification

LED	Color	Wavelength	Luminance	Light Power	Beam Angle	Current/Voltage	
		nm	mlm/mcd	lm/w	degrees	mA	V
Multicolor	red	617	typ 1250mcd	24	120	40	2.1
3 in 1	green	528	typ 1075mcd	13	120	20	3.5
	blue	470	typ 270mcd	3	120	20	3.6

Power Supply: 12VAC (+/-20%) oder 24VDC (16-28VDC)
Power Consumption: max. 2.5W, average value approx. 1.5W
Dimension: 60 mm diameter
Connectivity: solder connection

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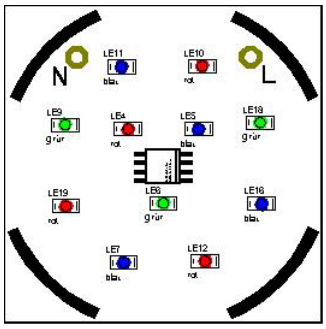
RGB-Module 11 LEDs

Article nr. 302011000

Technical Illustration



Description

LED-Module equipped with internal on-board-controller, which controls a continuous color-fading in a fixed time sequence from approximately 20 seconds.

Suitable for indoor color accentuation for rooms or special objects.

The module is encapsulated in a special plastic housing to protect against accidental contact (electrical safety) due to 230VAC power supply.

Several of this modules connected to the same power supply source are automatically synchronized.

On request: available also with 7 or 8 LEDs!

Specification

Color	LEDs	Wavelength	Luminance	Light Power	Beam Angle	Current/Voltage	
	pcs.	nm	mcd	lm/w	degree	mA	V
red	4	614	typ 1650mlm	17.5	120	0 - 45,0	2.1
green	3	520	typ 490mcd	17.5	120	0 - 22,5	3.5
blue	4	470	typ 110mcd	4	120	0 - 22,5	3.6

Power Supply: 230VAC +/- 15%
Power Consumption: max. 1.2W
Dimension: circular 42 mm; squarish 42 x 42 mm
Electrical Safety: EN 60335/VDE 0700

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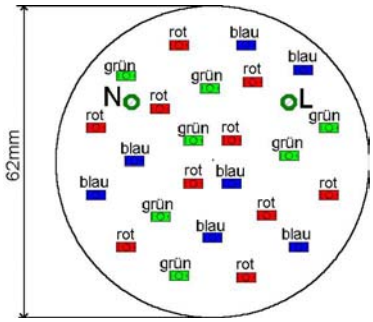
RGB-Module 24 LEDs

Article nr. 302012000

Technical Illustration



Description

LED Module with on-board-controller that realizes a pre-programmed RGB-color changing within approx. 20 seconds.

Designed for color accentuation indoors and of objects as furnature.

The RGB module is incapsulated in a transparent plastics housing to be able to connect if safely and directly to 230VAC net supply.

Several parallely uses RGB modules get synchronized in the RGB color changing automaticelly. A synchronus use is possible by temporal sluff of switching on the modules.

Specification

Color	LEDs	Wavelength	Luminace	Light Power	Beam Angle	Current/Voltage	
	pcs.	nm	mcd	lm/w	degrees	mA	V
red	10	614	typ 1650mlm	17.5	120	0 - 45.0	2.1
green	7	520	typ 490mcd	17.5	120	0 - 22.5	3.5
blue	7	470	typ 110mcd	4	120	0 - 22.5	3.6

Power Supply: 230VAC +/- 15%
Power Consumption: max. 2.5W
Dimension: diameter with protective housing 65 mm
Electrical Safety: EN 60335/VDE 0700

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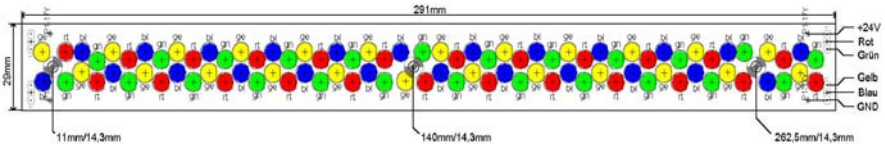
RGB-Module 96 LEDs

Article-nr. 302014000

Technical Illustration



Description

RGB-module with 96 LEDs, 24 LEDs of each color (red, green, blue, yellow) with a length of 291 mm. Via 4 PWM control inputs the brightness of each color-chanel can be changed continuously between 0 and 100%.

Due to the small beam angles and the high package density of the LEDs, this module is most suitable for perfect object illumination in the distance up to 3 m. Yellow, as additional feature, allows pastel- or warm-coloring, which is otherwise unusual for standard-LED-applications

Up to 10 of this modules can be connected together with solder-wire-connectors and controlled via PWM-controller.

Specification

Color	LEDs	Wavelength	Luminance		Light Power	Beam Angle	Current/Voltage	
	pcs.	nm	mcd		lm/w	degrees	mA	V
red	24	630	typ	5700	17	+/- 15	30	2.1
green	24	520	typ	4725	20	+/- 30	22.5	3.5
blue	24	470	typ	1685	7	+/- 30	22.5	3.6
yellow	24	592	typ	5700	15	+/- 15	30	2.1

Power Supply:	24VDC +/- 1V	
Power Consumption:	max. 10W (100% R+G+B)	average value approx. 7.5W
Dimension:	30 x 291 mm	
Serial Connection:	- limitation power supply:	3 modules (ref. EVG 24V/25W)
	- control-input:	10 modules

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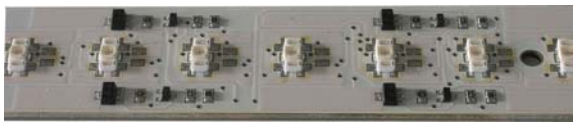
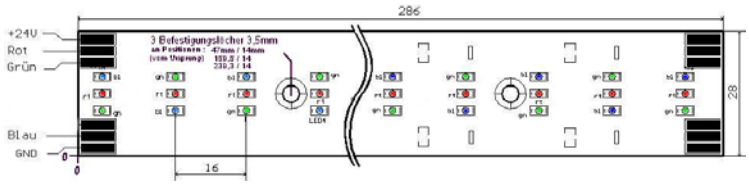
RGB-Module 54 LEDs

Article-nr. 302015000

Technical Illustration





Description

RGB-module with 54 single SMD-LEDs, 18 LEDs of each color (red, green, blue) with a length of 291 mm. Via 3 PWM control inputs the brightness of each color-chanel can be changed continuously between 0 and 100%.

Due to the wide beam angle from 120°, this modul is most suitable for backpanel illumination.

Up to 10 of this modules can be connected together with solder-wire-connectors and controlled via PWM-controller.

On request: also available with additional yellow LEDs (18 pcs) for special coloring effects.

Specification

Color	Wavelength	Luminance	Light Power	Beam Angle	Current/Voltage	
	nm	mcd	lm/w	degrees	mA	V
red	629	typ 350mcd	10	120	0 - 45,0	2.1
green	520	typ 550mcd	20	120	0 - 22,5	3.5
blue	470	typ 350mcd	13	120	0 - 22,5	3.6

Power Supply: 24VDC +/- 1V

Power Consumption: max. 6W (100% white), avarage value approx. 3W

Dimension: 28 x 289 mm

Serial Connection: - limitation power supply: 5 modules (ref. EVG 24V/25W)

- control-input: 10 modules

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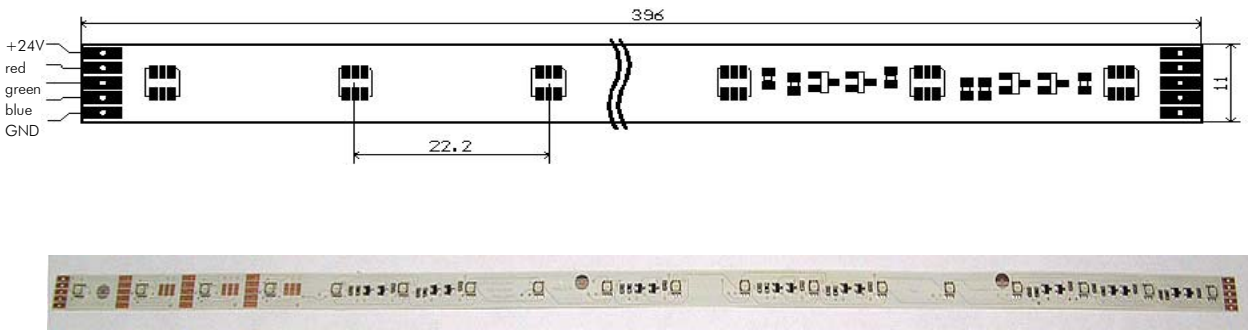
RGB-Module 18 LEDs

Article-nr. 302017000

Technical Illustration



Description

This RGB-module is equipped with 18 multicolor-LEDs (3 in 1) on a flexible PCB. With a width of only 11 mm this design is optimized to couple colored light edgewise into glass or acrylic.

Up to 10 of these standard modules with a length of 400 mm can be daisy chained via simple solder jumpers and can be controlled by only one central PWM-module (article-nr. 308003000)

Specification

LED-Type	Color	Wave Length	Luminance	Light Power	Beam Angle	Current/Voltage	
		nm	mlm/mcd	lm/w	degrees	mA	V
Multicolor	red	617	1250 mcd	24	120	40	2.1
3 in 1	green	528	1075 mcd	13	120	20	3.5
	blue	470	270 mcd	3	120	20	3.6

Power Supply: 24VDC +/- 1V

Power Consumption: 5.5W max., average approx. 3W, depending on selected color

Dimension: 11 x 400 mm

Connectivity: 5-6 modules (EVG 24V/25W) depending on color,
10 modules for one PWD control unit

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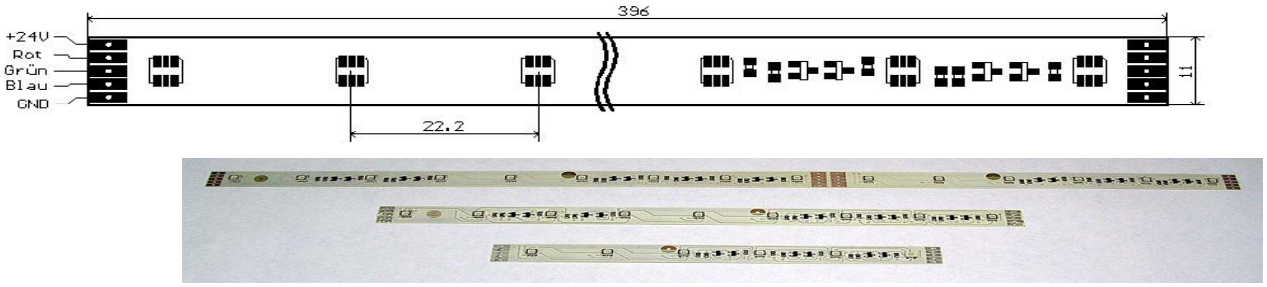
RGB-Module 15/9/6 LEDs

Article-nr. 302018000-3020200001

Technical Illustration

333/200/133



Description

Combining these modules it is possible to design each user defined length of light lines.

There are 3 RGB modules available with different length:

- 333 mm with 15 LEDs article-nr. 302018000
- 200 mm with 9 LEDs article-nr. 302019000
- 133 mm with 6 LEDs article-nr. 302020000

Specification

LED-Type	Color	Wave Length	Luminace	Light Power	Beam Angle	Current/Voltage	
		nm	mlm/mcd	lm/w	degrees	mA	V
Multicolor	red	617	1250 mcd	24	120	40	2.1
3 in 1	green	528	1075 mcd	13	120	20	3.5
	blue	470	270 mcd	3	120	20	3.6

Power Supply: 24VDC +/- 1V

Power Consumption: max. 4.5/2.75/2W, average is 50%, depending on color

Dimension: 11 x 333/200/133 mm

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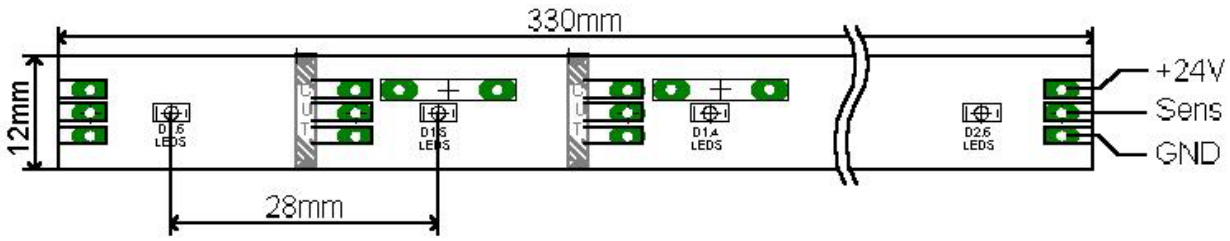
LED-Strip 330

Article-nr. 303016000-303020000

Technical Illustration



Description

LED-strip with the length of 330 mm, 12 SMD-LEDs with LED-distance 28 mm, equipped with LEDs in different colors, available in white, green, blue and red.

This LED-strip with on-board current driver is optimized concerning brightness and lifetime. All strips in version various (standard) can be cut LED-wise, so that in lightline-applications nearly every total length can be provided. The connection between several LED-modules will be made via special solder connectors.

Article-nr. 303016000	white version
Article-nr. 303017000	blue version
Article-nr. 303018000	red version
Article-nr. 303019000	green version

Specification

Color	Wavelength	Luminance	Light Power	Beam Angle	Current/Voltage	
	nm	mcd	lm/w	degrees	mA	V
white	*	typ 900mcd	33	120	22.5	3.4
blue	470	typ 350mcd	15	120	22.5	3.3
red	617	typ 580mcd	20	120	45	2.1
green	528	typ 540mcd	21.5	120	22.5	3.3

* Color-temperature: typ. 6500K +/- 500K

Power Supply:	24VDC
Power Consumption:	approx. 1.2W (white, blue, green); 1.5W (red)
Dimension:	330 x 12 mm
Connectivity:	solder connectors

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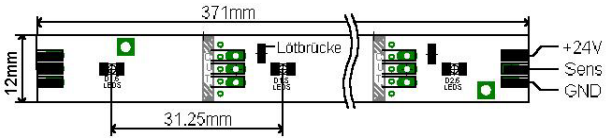
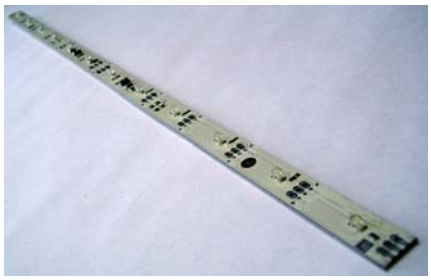
LED-Strip 371

Article-nr. 303021000-303025000

Technical Illustration





Description

LED-strip with the length of 375 mm, 12 SMD-LEDs with LED-distance 31,25 mm, equipped with LEDs in different colors, available in white, green, blue and red.

This LED-strip with on-board current driver is optimized concerning brightness and lifetime. All strips in version various (standard) can be cut LED-wise, so that in lightline-applications nearly every total length can be provided. The connection between several LED-modules will be made via special solder connectors.

Article-nr. 303021000	white version
Article-nr. 303022000	blue version
Article-nr. 303023000	red version
Article-nr. 303024000	green version

Specification

Color	Wavelength	Luminance	Light Power	Beam Angle	Current/Voltage	
	nm	mcd	lm/w	degrees	mA	V
white	*	typ 900mcd	33	120	22.5	3.4
blue	470	typ 350mcd	15	120	22.5	3.3
red	617	typ 580mcd	20	120	45.0	2.1
green	528	typ 540mcd	21.5	120	22.5	3.3

* Color-Temperature: typ. 6500K +/- 500K

Power Supply:	24VDC
Power Consumption:	approx. 1.2W (white, blue, green); 1.5W (red)
Dimension:	375 x 12 mm
Connectivity:	solder connectors

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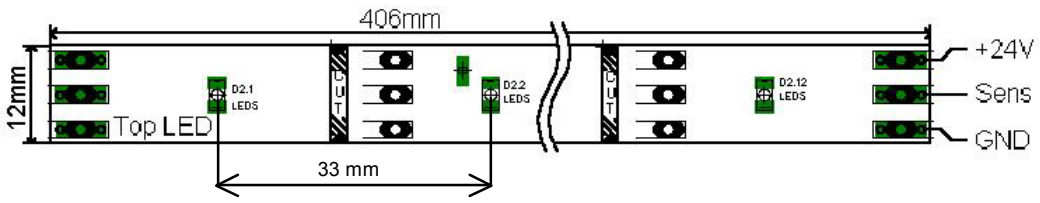
LED-FLEX-Strip 400

Article-nr. 304011000-304015000

Technical Illustration



Description

LED-strip with the length of 400 mm, 12 SMD-LEDs with LED-distance 33 mm, equipped with LEDs in different colors, available in white, green, blue and red.

Contrary to other standard strip-moduls , this version is not built up as FR4 board in thickness of 1.5 mm, but in thickness of 200 µm. According to the flexibility of this strip-version, the module can be placed in curves down to a diameter of approx. 30 mm (minimum).

To perform stability and to protect against humidity, this strips are optional available in heat shrink tube.

This LED-strip with on-board current driver is optimized concerning brightness and lifetime. All strips in version various (standard) can be cut LED-wise, so that in lightline-applications nearly every total length can be provided. The connection between several LED-modules will be made via special solder connectors.

Available in different colors: white, red, green, blue

Specification

Color	Wavelength	Luminance	Light Power	Beam Angle	Current/Voltage	
	nm	mcd	lm/w	degrees	mA	V
white	*	typ 900mcd	33	120	22.5	3.4
blue	470	typ 350mcd	15	120	22.5	3.3
red	617	typ 580mcd	20	120	45.0	2.1
green	528	typ 540mcd	21.5	120	22.5	3.3

* Color-Temperature: typ. 6500K +/- 500K

Power Supply: 24VDC
Power Consumption: approx. 1.2W (white, blue, green); 1.5W (red)
Dimension: 396 x 12 mm
Connectivity: solder connectors

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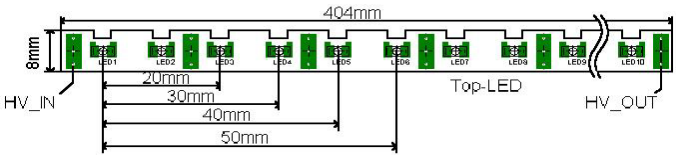
LED-FLEX-Strip HV

Article-nr. 305010000-305073000

Technical Illustration



Description

Flexible LED-strip from rolls that finds mainly use in outdoor advertisment applications: Available in the colors white/blue/green/red with grid spaces of 20/30/40/50 mm. Power supply is done by a current controlled supply with a working current of uo to 300V. Depending on the grid space and color strip lenghes of 150 cm (20 mm grid space, white, blue, green) and 600 cm (50 mm grid space, red) can be recognized, confectioned from rollware.

Parallely to the LED a zener diod is installed. It limits a possible failure of a LED to that single lightpoint.

The mechanical flexibiliy of the strips allows diameters of 25 mm minimal. To protect direct touching , rise stability and to protect from lumidity the LED slip is covered by a transparent shrinking tube.

Installing the strips can be done with standard installations as self adhesive cable fixings of different kinds.

Specification

Color	Wavelenght	Luminace	Light Power	Beam Angle	Current/Voltage	
Details for TopLED	nm	mcd	lm/w	degrees	mA	V
white	*	typ 1000mcd	33	120	25	3.4
blue	470	typ 123mcd	15	120	25	3.3
reed	617	typ 650mcd	20	120	50	2.1
green	528	typ 600mcd	21.5	120	25	3.3

* Color-Temperature: typ. 6500K +/- 500K

Power Supply: 0-300V @ 25/50mA
Power Consumption: max. 7.5W (white/blue/green); 15W (red) for striplenght 80 LEDs
Dimension: variable length, max. 160/600 cm, width approx. 10 mm
Connectivity: solder connectors

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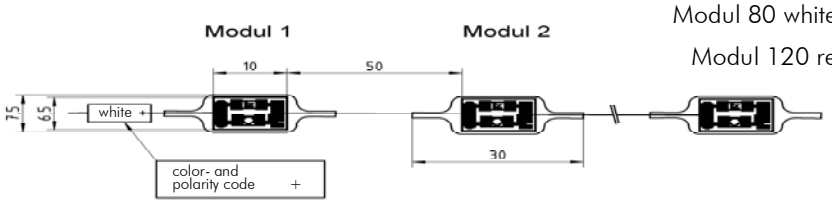
LED-Chain: white/blue/green/red/yellow

Article-nr. 305080000-305084000

Technical Illustration



Modul 80 white/green/blue

Modul 120 red/yellow

Description

LED-chain provided on a reel, preferably installed in outdoor advertising systems. The chain is available in white/blue/green/red or yellow. The required power is provided by a current controlled electronic regulated power supply that generates up to 300VDC.

LED-chain in white, blue or green: equipped with **up to 80 LEDs**
LED-chain in red or yellow: equipped with **up to 120 LEDs**

Type white	(article-nr. 305080000)	Type red (617nm)	(article-nr. 305083000)
Type blue	(article-nr. 305081000)	Type red (633nm)	(article-nr. 305083001)
Type green	(article-nr. 305082000)	Type yellow	(article-nr. 305084000 on request)

The chain length depends on the selected color and the distance between each LED. So it can vary between 160 cm (LED grid space of 20 mm, white, blue and green) and 720 cm (LED grid space of 60 mm, red and yellow). The required length can be achieved by cutting off the chain at each point of the chain.

A zener diode is installed parallel to each LED to prevent the drop out of the complete chain if one LED fails.

The strips are mounted with adhesive pads (standard). But other fixing methodes are also possible by using standard mounting material.

Specification

Color	LEDs	Wave Length	Luminace	Light Power	Beam Angle	Current/Voltage	
	pcs	nm	mcd/mlm	lm/w	degrees	mA	V
white	80	*	typ 1000mcd	33	120	25	3.4
blue	80	470	typ 390mcd	15	120	25	3.3
red	120	617 / 633	typ 650mcd	20	120	50	2.1
green	80	528	typ 600mcd	21.5	120	25	3.3

* Color-Temperature: typ. 6500K +/- 500K

Power Supply: 0-300V @ 25/50mA
Power Consumption: max. **7.5W** (w/b/gr) and **15W** (r/ye)
Dimension: up to **81 LEDs (w/b/gr)** and up to **120 LEDs (r/ye)**
Connectivity: Wago clips

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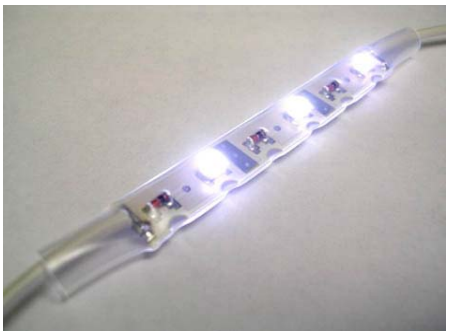
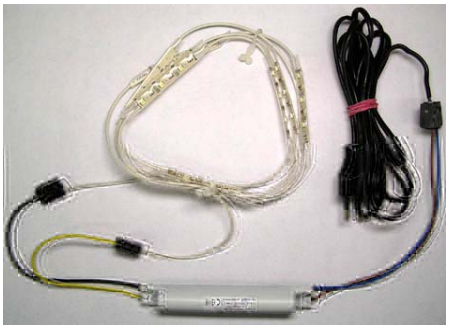
LED-Triple-Chain: white/blue/green/red/yellow

Article-nr. 305090000-305094000

Technical Illustration





Description

LED-triple-chain provided on a reel, preferably installed in outdoor advertising systems. The chain is available in white/blue/green/red or yellow. The required power is provided by a current controlled electronic regulated power supply that generates up to 300VDC.

LED-chain in white, blue or green: equipped with **27 triple-modules** (in total 81 LEDs)
LED-chain in red or yellow: equipped with **40 triple-modules** (in total 120 LEDs)

The distance between the LEDs on a triple-module measures 20 mm. The length of the PCB is 60 mm. The cable length between the tripel-modules is 100 mm.

The strips are mounted with adhesive pads (standard). But other fixing methods are also possible by using standard mounting material.

Type white	(article-nr. 305090000)	Type red (617nm)	(article-nr. 305093000)
Type blue	(article-nr. 305091000)	Type red (633nm)	(article-nr. 305093001)
Type green	(article-nr. 305092000)	Type yellow	(article-nr. 305094000 on request)

Specification

Color	LEDs	Wave Length	Luminance	Light Power	Beam Angle	Current/Voltage	
	pcs	nm	mcd/mlm	lm/w	degrees	mA	V
white	81	*	typ 1000mcd	33	120	25	3.4
blue	81	470	typ 390mcd	15	120	25	3.3
red	120	617/633	typ 650mcd	20	120	50	2.1
green	81	528	typ 600mcd	21.5	120	25	3.3

* Color-Temperature: typ. 6500K +/- 500K

Power Supplpy: 0-300V @ 25/50mA
Power Consumption: max. **7.5W** (w/b/gr) and **15W** (r/ye)
Dimension: up to **81 LEDs (w/b/gr)** and up to **120 LEDs (r/ye)**
Connectivity: Wago clips

electronic service willms
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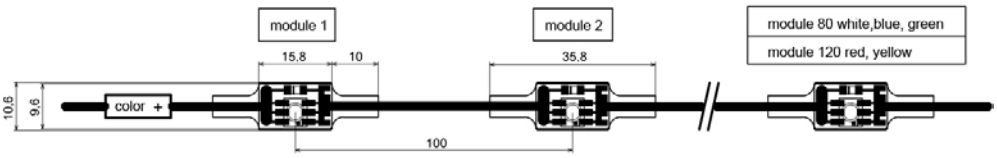
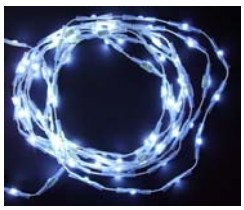
LED-Power-Chain, 80 LEDs, white

Article-nr. 305510000

Technical Illustration





Description

Flexible LED chain with enhanced power LEDs with 3 to 4 times more light output in comparision wit hthe standard chain with 0.1W LEDs. The distance between the modules is 100 mm. The voltage feeding of the LED chain is done by a current regulated ballast with 60mA up to the approx. working voltage of 300VDC.

LED-Power-chain white: **80 LEDs**

The full length of a LED power chain in the colors white, green, blue is about 8 m (80 LEDs). As the cables can be layed and fixed flexibly nearly all pixel distance of 100 mm and smaller can be realized. The LED chain can be cut at any postion. A zener diod integrated parallely to the LED bridges each LED in the unpropable case of disfunction. The installation of the strips is being done with adhesive pads (standard), it van be done induvidually with standard finxing material from the cable industry (self-adhesive cable fixures).

White LEDs design (article-nr. 305510000) more light colors see article-nr. 305530000

Specification

Color	LEDs	Wave Length	Luminance	Light Power	Beam Angle	Current Voltage	
	pcs	nm	mcd/mlm	lm/w	degree	mA	V
white	80	*	typ 4500mcd	65.0	120	60	3.4
			typ 15lm				

* Color-Temperature: typ. 6500K +/- 500K; specification for 1 LED!

Power Supply: 0-300V @ 60mA
Power Consumption: approx. 18W
Dimension: 80 LEDs approx. 800 cm
Connectivity: Wago clips

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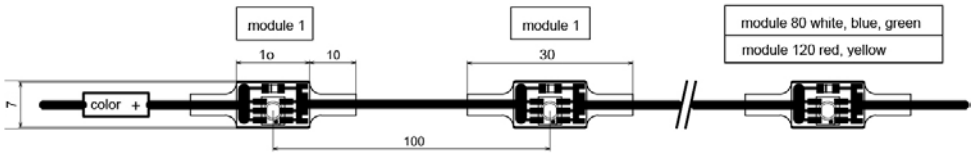
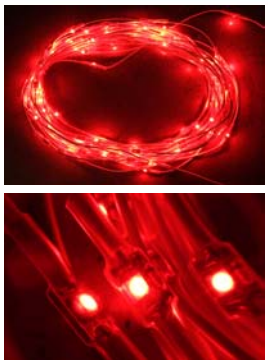
LED Power-Chain, 120 LEDs, red

Article-nr. 305530000

Technical Illustration





Description

Flexible LED chain with enhanced power LEDs with 3 to 4 times more light output in comparision wit hthe standard chain with 0.1W LEDs. The distance between the modules is 100 mm. The voltage feeding of the LED chain is done by a current regulated ballast with 60mA up to the approx. working voltage of 300VDC.

LED-Power-chain white: **120 LEDs**

The full length of a LED power chain in the colors white, green, blue is about 12 m (120 LEDs). As the cables can be layed and fixed flexibly nearly all pixel distance of 100 mm and smaller can be realized. The LED chain can be cut at any postion. A zener diod integrated parallely to the LED bridges each LED in the unpropable case of disfunction. The installation of the strips is being done with adhesive pads (standard), it van be done induvidually with standard finxing material from the cable industry (self-adhesive cable fixures).

White LEDs design (article-nr. 305530000) more light colors

Specification

Color	LEDs	Wave Length	Luminace	Light Power	Beam Angle	Constant Current	
	pcs	nm	mcd/mlm	lm/w	Grad	mA	V
red	120	617	typ 3000mcd	50.0	120	60	3.4
			typ 10lm				

Lichttechnische Angaben für 1 LED!

Spannungsversorgung: 0 bis 300V bei 60mA
Leistungsaufnahme: max. 18W
Abmessungen: 120 LEDs max. 1200 cm
Elektrischer Anschluss: Wago-Klemmen

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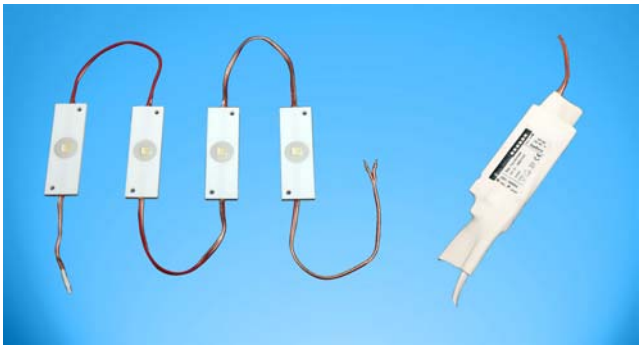
High-Power-LED-Modules, 2.5W version

Article-nr. 306010000-306020000

Technical Illustration



Description

LED-chain with four or six single high-power-LED-modules, type 2.5W, preferably for installation in large-size outdoor advertising systems, available in white (other colors on request)

To optimize the thermal configuration and lifetime cycle of the LEDs, the modules have to be fixed on an additional aluminium groundplate. This can be handled very easy by using the two 4 mm drill holes.

Specification

Color	LED	Color-temperature	Luminace	Light Power	Beam Angle	Current/Voltage	
	pcs.	K	mcd/mlm	lm/w	degrees	mA	V
white	4	typ. 6500	typ 480 lm	50	120°	700	3.4
	6		typ 720 lm				

Power Supply: constant current 700mA
Power Consumption: typ. 2.3W p. LED
Connectivity: Wago clips
Dimension: 100 x 30 mm

Operation Temperature: max. +60°C (Tc-point)
LED-distance (chain): variable between 10 cm and 40 cm
Fixing: 2 x 4 mm drill holes
Protection Class: IPX7

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RGB-Control Unit

Article-nr. 308001000

Technical Illustration

Description

RGB-control unit with four analog output signals, voltage 1-10VDC, to control up to 4 color-chanels (R-G-B-Y). Connection to the RGB-LED moduls equipped for standard Western-connectors (RJ45).

Multi-function control, so as switching between different colors, fading from color to color, fading through the whole color-spectrum, single color mode. The function mode will be displayed via multi-function LED-dispay.

Beside function control it`s possible to program general settings with this module, so as brightness, time-settings, individual color-settings.

Based on 10 memory cells, up to 10 different and indiviual colors can be defined and stored into memory. During function mode, the module gets access to this memory data.

Specification

Power Supply:	24VDC
Power Consumption:	approx. 1W
Dimension:	approx. 60 x 100 x 30 mm
Connectivity:	- solder connectors for power supply - RJ-45 circular plug for 4-channel 1-10V-analog bus

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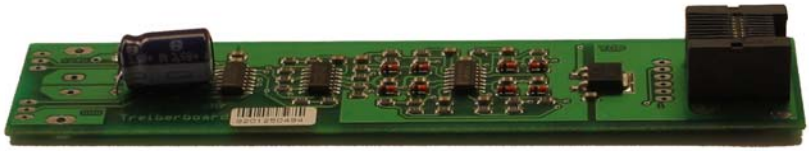
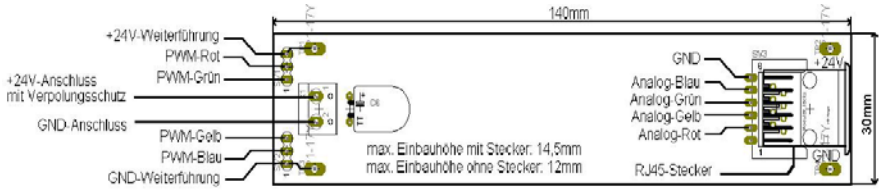
PWM-Module

Article-nr. 308002000

Technical Illustration





Description

Electronic control with 4 channel PWM exit to control the RGB module 300 mm (product no. 302014000).

With one PWM module max. five RGB modules with 96 LEDs can be controlled.

Specification

Power Supply:	24VDC
Power Consumption:	approx. 2.5W
Outputs:	4 x PWM, approx. 10V, modulation frequency approx. 1kHz
Dimension:	approx. 30 x 100 mm
Connectivity:	- solder connectors for power supply - RJ-45 circular plug for 4-channel 1-10V-analog bus

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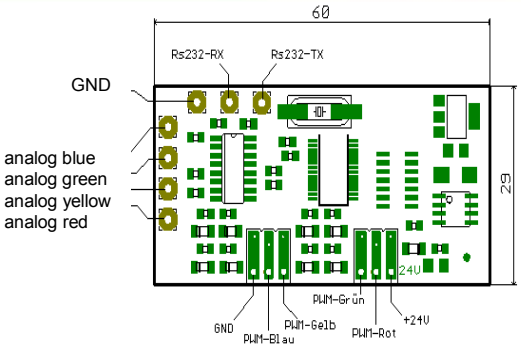
PWM-Universal Module

Article-nr. 308003000

Technical Illustration



Description

Intelligent control unit supporting 4-channel-PWM-outputs (Pulse-Width-Modulation) to control all esw RGB-modules. (except: article-nr. 302012000 and 302013000). Selectable functions are:

a) 4-fold PWM-module with 4 analogue inputs: 1-10VDC (optional. 0-10VDC)

alternatively

b) RGB control unit supporting these functions: Continuous color gradient, start/stop-function, single color selection: red, green, blue, yellow, white

alternatively

c) RGB control unit (functionality see b)) with integrated power supply 24VDC/8W

Specification

Power Supply :	24VDC
Power Consumption:	2W
Control Inputs:	4 x analogue (red, green, blue, yellow) 1-10V DC (opt. 0-10VDC)
PWM-Outputs:	4 x PWM, 12V, frequency of modulation 250Hz
Dimension without Case:	30 x 60 mm
Dimension incl. Case:	approx. 30 x 40 x 120 mm
Connectivity:	circular plug

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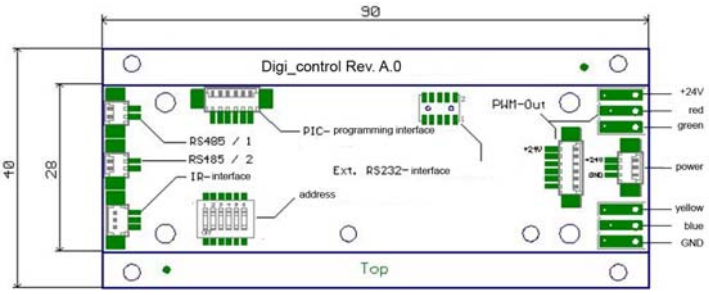
RGB-Control Module Universal

Article-nr. 308004000

Technical Illustration



Description

Indipendent intelligent electronic control with 4-channel PWM output to controll all esw RGB modules (not: Article-nr. 302012000 und 302013000), alternativly available as

- Master-Module for RS485-control bus, esw-Protokoll, RS485 output
- Slave-Module for RS485-control bus, esw-Protokoll, input RS485, 4-channel PWM output
- Master-Module for RS485-control bus, DMX-Protokoll, RS485 output (DMX-Bus)
- Slave-Module for RS485-control bus, DMX-Protokoll, input RS485, 4-channel PWM output

Specification

Power Requirement:	24VDC	
Power Consumption:	3W	
Control Inputs:	2-wire-bus RS485, DMX-compatible	
PWM-Outputs:	4 x PWM, 12V, 250Hz	
Dimension without Case:	40 x 90 mm	
Dimension incl. Case:	30 x 60 x 120 mm	
Connectivity:	- printed board design:	solder connectors
	- case design:	RJ circular plug and clips

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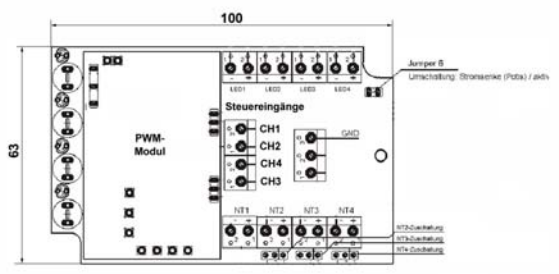
LED-Dimm-Module, 4-fach

Article-nr. 308005000

Technical Illustration



Description

Dimm module to control the brightness of connected LED modules alternatively via potentiometer or 0-10VDC input.

1-4 input for net power supply connection

1-4 independent adjustable PWM outputs for LED connection

Jumper for switching between potentionmeter/analog

Jumper for single or multientry power supply

Specification

Inputs:	1-4 pcs., max. 50W per channel,
Control Inputs:	24VDC +/- 20%
Power Consumption:	150W
Outputs:	1-4 pcs., PWM, 24V, Imax. 1.5A
Potentiometerinput:	10KOhm, linear or logarithmical
Analoginputs:	4 pcs., 1-10VDC, common GND
Dimension:	35 x 65 x 105 mm
Connectivity:	Wago clips

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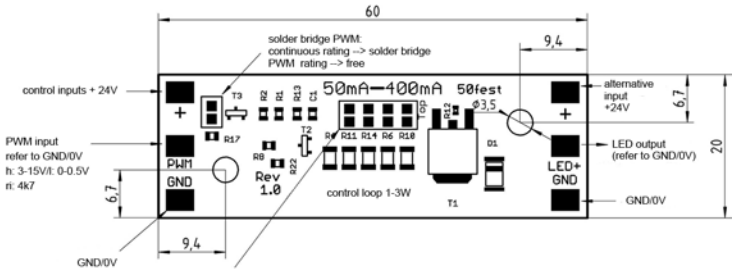
Current Driver analog pcb version

Article-nr. 308008000

Technical Illustration



Description

This analog current driver with constant current output in pcb version on metal core pcb is dimensioned for the use of LEDs upto 3W power consumption. By menas of soldering bridges the output current can easily be adapted in 50mA. See the current output settings here:

current output setting	
current output	soldering bridge
50mA	----------
100mA	Br-R11
150mA	Br-R14
200mA	Br-R11 / Br-R14

current output setting	
current output	soldering bridge
250mA	Br-R6
300mA	Br-R11 / Br-R6
350mA	Br-R14 / Br-R6
400mA	Br-R11 / Br-R14 / Br-R6

current output setting	
current output	soldering bridge
450mA	Br-R10
500mA	Br-R11 / Br-R10
550mA	Br-R14 / Br-R10
600mA	Br-R11 / Br-R14 / Br-R10

current output setting	
current output	soldering bridge
650mA	Br-R6 / Br-R10
700mA	Br-R11 / Br-R6 / Br-R10
750mA	Br-R14 / Br-R6 / Br-R10
800mA	Br-R11 / Br-R14 / Br-R6 / Br-R10

Remark: In the case of less than 6 LEDs connected in row to 24VDC mind the resulting poswer dissipation and it´s thermal aspects.

Specification

Power Supply:	approx. 24VDC +/-1
Power Consumption:	approx. 20W @ 800mA output at 24VDC power supply
PWM-Input Voltage:	High: 3-15V; Low: 0-0,5V
PWM-Input Impedance:	4,7 kOhm
Approx. Output Voltage:	22,5VDC @ 24V power supply
Constant Current Output:	50-800mA in steps of 50mA
Approx. Power Dissipation :	5W (without additional coding)
Current Output Setting:	soldering bridges
Dimension:	20 mm x 60 mm
Fixation:	2 boreholes 3.5 mm diameter
Electrical Connection:	Soldering Pads

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Current Driver Analog, 300mA/750mA

Article-nr. 308008101-308008201

Technical Illustration

Description

Constant current driver for High-Power LED-chains, available in different versions
- 24VDC, constant current output 300mA to drive 4-6 LEDs, type 1W
- 24VDC, constant current output 700mA to drive 4-6 LEDs, type 2.3W
- 48VDC, constant current output 300mA to drive 10-13 LEDs, type 1W
- 48VDC, constant current output 700mA to drive 10-13 LEDs, type 2.3W

Also available in protection class IPX7

Connected to the max. number of LEDs (6 or 13) the current driver moduls can be used without additional heat sink. In version 700mA for 2.3W-LEDs the modules have to be mounted on an additional cooling plate (Aluminium, min. size of 100cm²/150cm²) if the number of LEDs will be reduced (min. 4/10)

Specification

	version 24VDC	version 48VDC
Input Voltage:	22VDC to max. 24VDC	46VDC to max. 48VDC
Output Voltage:	typ. 21VDC for 6 LEDS min. 10VDC for 4 LEDs	typ. 45VDC for 13 LEDs min. 35VDC for 10LEDs
Output current:	300mA/700mA, +/-5%	300mA/700mA, +/-5%
number of LEDs:	min. 4/max. 6	min. 10/max. 13
Connectivity:	Wago clips	
Dimension:	100 x 30 x 20mm	150 x 30 x 20mm
Operation Temperature :	max. +50°	
Fixing:	2 x 4 mm drill holes	
Protection Class:	IPX7	

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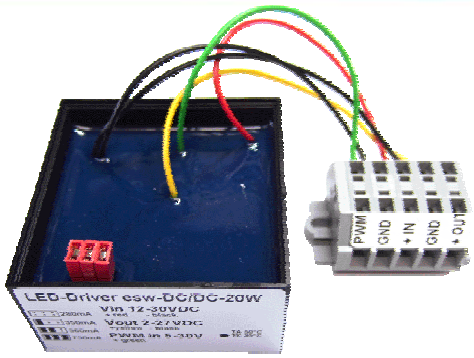
LED driver DC/DC-20W

Article-nr. 308015000

Technical Illustration



Description

- 1-channel LED-driver for high-power-LEDs in the range between 1 and 2.5W
- Constant current driver for 1 to 6 LEDs in series
- Dimm-function via PWM control input
- 4 different jumper settings for constant current output in the range between 280mA and 750mA

Specification

Power Supply:	12V-30V
Output Voltage:	2V-27V
Output Current:	280mA/350mA/560mA/750mA
Output Power:	max. 20W
PWM Input:	5V-30V (activ high, if used without PWM, input has to be connected to power-supply)
Temperature Range:	-20° to +50°
Connectivity:	Wago clips, 5pin
Size:	50 x 50 x 25 mm (excl. terminal-connector)
Protection Class:	IP67 (excl. terminal-connector)

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Power-Supply 24V/8W

Article-nr. 309001000

Technical Illustration

Description

The 8W power-supply esw-EVG-8W makes the family of power-supplies for LED applications complete as the finalst member.

The unit is equipped with strain relief and clips couvering for stand alone use.

The connection is done with screwing connections for in- and outputs.

Specification

Power Supply:	220VAC +/-15%	**Connectivity:**	screw type terminal for input and output
Input Frequency:	50/60Hz		
Output Voltage:	24VDC (-0,5/+1,5V)	**Ambient Temperature:**	-10° bis + 60 °C
Output Ripple:	max. +/-100mV	**Storage Temperature:**	-30° bis + 100 °C
Output Rating:	8W	**Electric Strength:**	2,75kV$_{eff}$
Efficiency Factor:	82%	**Suppression:**	EN 55015
Dim Function:	no	**Harmonic Content:**	EN 61000-3-2
Short-Circuit-Proof:	electronic regulated,	**Immunity:**	EN 61547
Overload-protection:	electronic limitation	**Certification:**	CE
Temperature protected:	electronic switch off, reversible	**Dimension:**	120 x 40 x 30 mm

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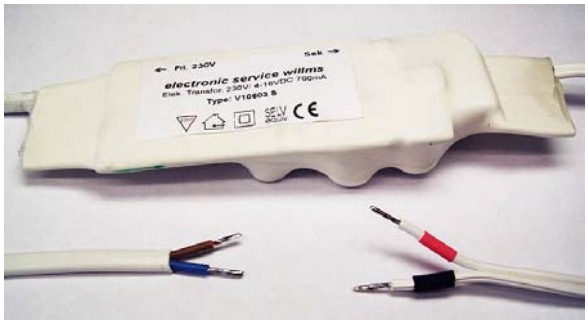
Power-Supply 4-16VDC, Constant Current 700mA

Article-nr. 309001001

Technical Illustration



Description

Power-Supply with constant current output (700mA) for outdoor advertising-applications.
Specially designed to provide either 1-6 high-power LEDs, type 1W or 1-4 high-power LEDs, Typ 2.5W

Specification

Power Supply:	220VAC +/- 15%	**Ambient Temperature:**	-10° to +60°C
Input Frequency:	50/60Hz	**Storage Temperature:**	-30° to + 100°C
Output Voltage:	4-16VDC	**Electric Strength:**	2,75 kV_{eff}
Output Current (constant):	700mA +/-5%	**Radio Interference:**	
Output Rating:	0-9W	**Suppression:**	EN 55015
Efficiency Factor:	82%	**Harmonic Content:**	EN 61000-3-2
Dim Function:	no	**Immunity:**	EN 61547
Short-Circuit-Proof:	electronic regulated, reversible	**Certification:**	CE/ENEC
		Dimension:	100 x 40 x 25 mm
Overload-protection:	electronic limitation	**Protection Class:**	IPX5
Temperature protected:	electronic switch off, reversible	**Connectivity:**	WAGO clips

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Power-Supply 24V/25W

Article-nr. 309002000

Technical Illustration

Description

The esw-EVG-25W power supplies fulfills the strong requirements of the EN 61000-3-2 (class D and C) including power-correction-factor (PCF) for lighting products.

This new generation of DC-switched regulated power supplies is based on a complete new circuit logic specially designed for LED-applications.

Specification

Power Supply:	230VAC +/- 15%
Input Frequency:	50/60Hz
Output Voltage:	24VDC (-0,5/+1,5 V)
Output Ripple:	max. +/- 500mV
Output Rating:	0.5-15W or 1-25W
Efficiency Factor:	85%
Dim Function:	no
Short-Circuit-Proof:	electronic regulated, reversible
Temperature protected:	electronic switch off, reversible
Connectivity:	screw type terminal for input and output
Ambient Temperature:	-10° to + 60°C
Storage Temperature:	-30° to + 100°C
Electric Strength:	3 kV_{eff}
Radio Interference Suppression:	EN 55015
Harmonic Content:	EN 61000-3-2
Immunity:	EN 61547
Certification:	CE, ENEC
Dimension:	102 x 67 x 30 mm

electronic service willms
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EVG 0-300V, 7.5W/15W/18W

Article-nr. 309006000-309008000

Technical Illustration

Description

Power-supply developed for HV-versions of LED-Flex-Strips and LED-Chains, three different types available. Designed as a constant current source.

Article-nr. 309006000	0-300V, 7.5W, 25mA constant current for LED strips and chains in white, green and blue for operating max. 80 LEDs
Article-nr. 309007000	0-300V, 15W, 50mA constant current for LED strips and chains in red and yellow for operating max. 120 LEDs
Article-nr. 309008000	0-300V 18W 60mA for LED-Powerchain white and red for operating max. 80 LEDs white and 120 LEDs red

Specification

Power Supply:	230VAC +/- 15%
Input Frequency:	50Hz
Output Current:	25/50mA/60mA
Output Voltage:	10-300VDC
Max. Power:	7.5/15W/18
Partial load Operation:	0.1-7.5/15W/18W
Connectivity:	silicon cable outlet with Wago clips
Temperature Range:	-25° to 60°C
Electric Strength Input/Output:	3 kV_{eff}
Dimensions:	130 x 17 x 19 mm
Protection class:	IP67
Certification:	CE, ENEC (KEMA 2093971.01)

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