Great signs for great brands

Philips Affinium LED string system (medium power)

easy installation with guaranteed brand identity benefits for channel letters of 1 to 4 meter high and other signage applications

As a sign maker or reseller, you know that your job is to enhance and protect your customers' brands. They want signs that look great and keep working perfectly over long periods. The Philips Affinium LED string system is designed to guarantee this.

Philips enables you to protect your customers' brands by offering you an easy-to-install LED string system, including both LED string and driver. The system can be used in virtually every situation, thanks to its fully outdoor proof IP66 rating. Excellent light quality and uniformity are ensured by the broad viewing angle plus the flexible string wiring, which allows accurate positioning of the individual LEDs.

Big benefits for signmakers

- Easy installation
- Outdoor proof
- Excellent light and color uniformity of your signs
- Optimal for large channel letters of 1 to 4 meter high, and other signage applications.

Easy installation

The LED strings are very flexible and can be cut at any position and attached to your backplate with a choice of mounting clips or tape. This enables fast layouts and installation, saving you time and money. The system operates at 24V making it safe to install.

Outdoor proof

Both the overall LED string system and all individual components are fully outdoor proof and have an IP66 rating, ensuring high reliability. What's more, the LED string starts instantly, even at temperatures as low as -20°C.

Quality and uniformity of light

To ensure a uniform light distribution in your signs, the LEDs in the string have a broad angle of light output (angle of luminous flux is 110°). Furthermore the wiring developed for the string is extremely flexible, allowing a uniform light distribution even in the most complex layouts. All LEDs are carefully selected from the same range, ensuring visually consistency between the different sections and strings. The white color is also well maintained between different signs for consistent presentation of your customer's corporate identity.

PHILIPS

sense and simplicity

Quality and cost savings for your customer
- Savings in energy consumption
- Savings in maintenance costs

Signs made with the Affinium LED string system offer an outstanding solution for your customer. Not only do they provide a reliable, high-quality brand presentation, they also offer significant savings on both energy and maintenance costs.

Savings in energy consumption

Energy consumption of the LED string is only around 3W per meter, compared with 20W per meter for a neon lamp. This reduction of energy consumption with LED strings allows substantial savings to be made in operating costs.

Savings in maintenance costs

As well as immediate energy savings, the high reliability and long lifetime of LED strings also offer savings in maintenance costs. Both the LED strings and drivers are maintenance-free for up to 50,000 hours, whereas conventional systems often need replacing after just 20,000 hours. The lumen maintenance of the system is 50% at 50,000 hours at an ambient temperature of 40°C.

Tools to support your customer presentation

To help you in presenting your LED string proposition to your customers, Philips has developed two important tools. From September 2007 the Affinium medium power version will be included in the LED string layout creator too.

1. LED Sign Advisor

The design of an LED string based channel letter is different from that of a traditional neon or fluorescent system. To help you create the optimal design that meets your customer's requirements, Philips has developed a unique LED string Sign Advisor. Based on the graphic format of your sign, this tool calculates the layout of the LEDs for optimal light distribution, as well as the total costs involved to realize this layout.

2. Cost savings calculator

Based on your customer's actual data and numbers, this tool provides insights into the actual savings that your customer can expect when selecting the Philips Affinium LED string system over a neon or fluorescent solution.

Guaranteed performance and service

The Philips Affinium LED string system gives you guaranteed performance – both of the products themselves and of our pre and after-sales service. Our guarantee is based on proven system reliability thanks to:
- Long lifetime of LEDs and all other components
- Exhaustive system testing
- Outdoor-proof to IP66 (both system and components)

This guarantee ensures high customer satisfaction together with low service call rates for signmakers. For more information about the Philips Affinium LED string system guarantee, visit our website www.philips.com/signage or contact your distributor.

Applications in indoor and outdoor

- Channel letters, and band lighting (1 - 4 meter high), and other signage applications.

Compliances and approvals

- Safety EN 60598
- Endurance
  - High temp storage +100°C 96hrs IEC 68-2-1
  - Low temp storage -40°C 96hrs IEC 68-2-2
  - Damp heat 85%RH/85°C 96hrs IEC 68-2-3
  - Temp/shock -40°C/100°C 45'/45' 260 cycles IEC 68-2-14
- Mechanical
  - Vibration and bump IEC 60068-2-29 (Affinium LED string tested with mounting clips)
- Quality
  - Ingress protection IP 66 (EN 60598, EN 60529)
  - Complying damp and wet locations (ANSI/UL 2108, low voltage lighting systems)
  - Approval marks ENEC 05, UL recognition (pending) CSA approved
  - Quality standard ISO 9001-2000
  - Environmental standard ISO 14001
  - CE marking

Specification

Type	LED Power Driver W	Wavelength nanometer nm	Color temp. Kelvin K	Power mW	Lumen per device Lm	Lumen per meter Lm/m
Affinium LED string mp P10 amber	20 / 60 / 100	594+/-5		360	8.5	85
Affinium LED string mp P10 blue	20 / 60 / 100	476+/-7		360	4.5	45
Affinium LED string mp W3000 P10 warm white	20 / 60 / 100		3000+/-175	360	13	130
Affinium LED string mp W6300 P10 cool white	20 / 60 / 100		6300+/-700	360	16	160
Affinium LED string mp W8000 P10 bluish white*	20 / 60 / 100		8000+/-1000	360	16	160

Type	LED Power Driver W	Beam angle °	Ambient temp. range °C	Spacings between devices min/max cm.
Affinium LED string mp P10 amber	20 / 60 / 100	110	-20 / +60	7 / 10
Affinium LED string mp P10 blue	20 / 60 / 100	110	-20 / +60	7 / 10
Affinium LED string mp W3000 P10 warm white	20 / 60 / 100	110	-20 / +60	7 / 10
Affinium LED string mp W6300 P10 cool white	20 / 60 / 100	110	-20 / +60	7 / 10
Affinium LED string mp W8000 P10 bluish white*	20 / 60 / 100	110	-20 / +60	7 / 10

Note:

** Available per special order*

Definition

String: Chain of sections

Section: Chain of LED devices, always starting with LED Driver Device

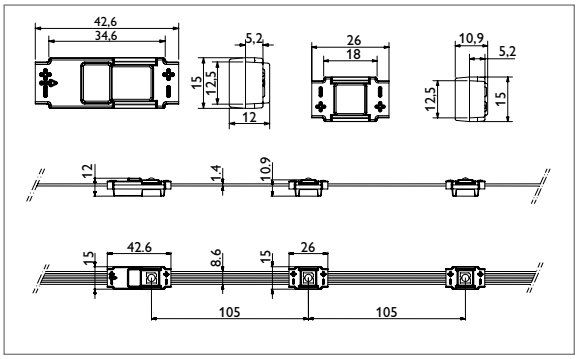
LED Driver Device: Encapsulated LED with integrated electronics = minimum operating string length on one LED Power Driver

LED Device: Encapsulated LED without integrated electronics; can not operate without LED Driver Device

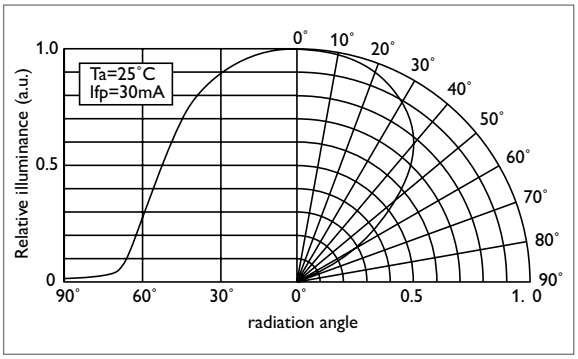
LED Device (LD)

LED Driver Device (LDD)

Dimensions



Optical characteristics



Relative illuminance vs radiation angle for the white LEDs

Quantities of LEDs per driver (for upto three branches*)

No extra wire

Affinium LED string medium power	max nr. of LEDs	LED Power Driver		
		20W	60W	100W
all versions	per driver [1]	55	160	260
	per branch [2]	50	100	100

Note:

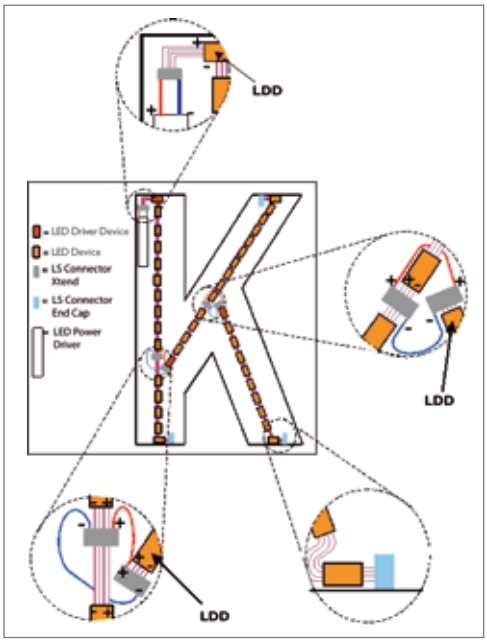
per driver [1] *per driver the nr. of LEDs divided over the branches may not be exceeded and*

per branch [2] *if more branches (upto 3) are used the nr. of leds per branch may not be exceeded*

* *if you want to apply more than 3 branches, please contact your local Philips office.*

You can find information on extended cable lengths between drivers and LED strings in the technical application and installation manuals.

Installation example



Constructing a channel letter using LED strings

More detailed information and installation advice in:

1. the technical application and installation manuals
2. the installation instructions added to the LED string packing
3. www.philips.com/signage or
4. via your distributor or local Philips office.

Note:

Please note that the LED string is only suitable for connection to a Class 2 power source (Philips LED power driver), with energy limited supply.

Ordering data

Affinium LED string (medium power) *	Packaging	Dimensions (cm.)			Weight	EOC
	Qty	L	W	H	(kg)	8711559
Affinium LED string mp P10 amber	1x20 mtr	55	55	3.5	2	766102 00
Affinium LED string mp P10 blue	1x20 mtr	55	55	3.5	2	766089 00
Affinium LED string mp W6300 P10 cool white	1x20 mtr	55	55	3.5	2	764481 00
Affinium LED string mp W3000 P10 warm white	1x20 mtr	55	55	3.5	2	766041 00
Affinium LED string mp W8000 P10 bluish white	1x20 mtr	55	55	3.5	2	766065 00

Note: *bluish white available per special order*

Accessories	Packaging	Dimensions (cm)			Weight	EOC
	Qty	L	W	H	(kg)	8711559
LS Mounting Clip	200 pcs	10	10	10	0.3	763910 30
LS Extension Cable 4W	50 mtr	18	18	1.5	0.75	763934 00
LS Connector Xtend+LS Applicator Tool[1]	10 pcs/1 pc	7.7	4.8	4.2	0.05	763972 30
LS Connector End Cap	10 pcs	7.7	4.8	4.2	0.05	763996 30
LS Mounting Tape 210 pads[2]	1 reel of 210 pads	11	11	2.5	0.085	764016 00
LS Mounting Tape 1680 pads[2]	1 reel of 1680 pads	25	25	2.5	0.68	764030 00
LS Connector Tool[3]	1 pc	29	25	10	0.9	763958 00

[1] In each box of LS Connector Xtend an applicator is included to connect the strings and driver.

[2] The use of self adhesive tapes together with the LED string has been tested for stainless steel, aluminium and PMMA. If other materials or coatings are used, please ensure that these are compatible with the adhesive tape. If there is any doubt, use the dedicated mounting clips instead.

[3] This tool can be ordered when many strings have to be connected (for small quantities you can use the LS Applicator Tool).

LED Power Driver (IP66)	Box packing	EOC 8711500
100-240V 20W-24V	10	911940 30
100-240V 60W-24V	10	911469 30
100-240V 100W-24V	10	911964 30

LED Power Drivers are advised for indoor and outdoor use (IP66)
In the USA Xitanium outdoor LED drivers can be applied.
Your distributor or local Philips Advance office can provide more detailed information.

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www.philips.com/signage
www.asimpleswitch.com