LED ITALY®
ITALIAN QUALITY PRODUCTS

EASY LINE / Frost / LLRGB4

designplan®

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0.26"

0.55"

Vertical bendable LED strip IP68 rated for indoor or outdoor use.
96 LEDs meters (1 m = 3.28'), full RGB. White PVC outercase, frost resin
with protection against UV rays and to the corrosive action of salt.
Manufactured in automated production line. Maximum length
10 meters (1 m = 3.28'), input voltage 24VDC. Available on catalog with
different accessories.

OUTDOOR   IMMERSION   RESIDENTIAL   WORKPLACE   FACADE   HOSPITALITY   INDOOR SHOP   INDUSTRIAL   URBAN USE
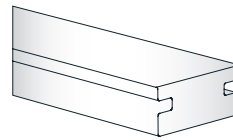
Polyurethane resin UV treatment
PETERS© bi-components polyurethane resin, chemical components with variable mixing and high degree of transparency. Protective component with UV filter and anti-yellowing. Automated processing for controlled stratification.

RESIN COLOR

Frost

All LED strips are developed by LED ITALY and manufactured at their own factories in Italy. The strip is inserted into the outer case and through stratification processing reaches the required IP rating.

Outercase with degree of flexibility and level of shore that guarantees a good resistance to tension and bending.
The outercase has a recovery of the initial shape thanks to the right composition of the PVC, which offers a good elasticity. The outercase are 100% made in Italy products.

PVC OUTER CASE COLOR
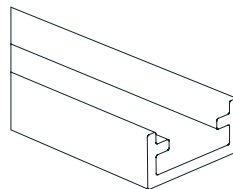
White

Power cable type

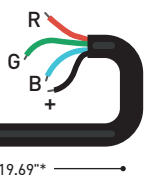| Power cable type	
Code	Description
CA-68-4-1	Water immersion and outdoor R/S FEP power cable. Black. IP68. 0.16x0.02in²+ n. 2 Kevlar wires (maximum tensile stress 3.31 lbs - CEI EN 50565-1 : 2015-02). External Ø2.32".

IP68

R
G
B
+

19.69"*

*Standard cable length 19.69". Longer cable lengths can be ordered, considering extra cable not included in the price.

Determination Max. Cable
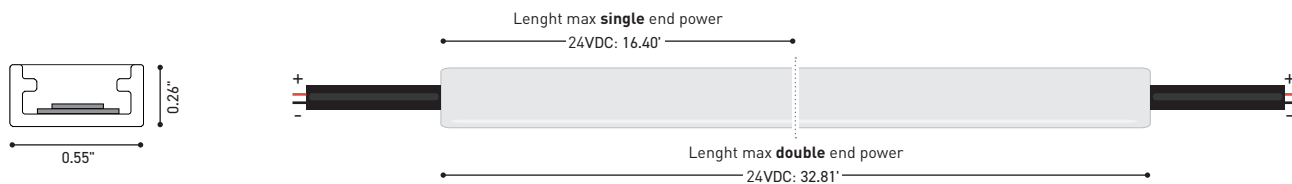Definition of max. cable lenght between PSU/control unit and LED strip

L. Module [ft]	Power [W]	L. Cable max [ft]
24VDC		
3.28'	15	88.58'
6.56'	30	42.65'
9.84'	45	29.53'
13.12'	60	21.33'
16.40'	75	16.40'

Calculation based on a max. voltage drop of 0.85V

TECHNICAL DRAWING

Lenght max **single** end power
24VDC: 16.40'

0.26"

0.55"

Lenght max **double** end power
24VDC: 32.81'

GENERAL FEATURES

Product type	Flexible non-sectional strip
Bending	Only vertical bendable, one axis
IP rating	IP65 - IP68
Working Temperature	-30° / +55°
Lifetime	50,000 h
Outercase	PVC, white
Resin	Polyurethane, frost
Min. bendius Radius	2.36"
Power supply	24V remote (not included)
Warranty	5 years
Max strip length 24VDC	16.40 ft [1] / 32.81 ft [2]

[1] need single end power cable
[2] need double end power cable

ELECTRICAL FEATURES

LED number	96 mt (1 m = 3.28')
LED type	SMD 5050 FULL RGB
Power consumption	15 W/mt (1 m = 3.28')
Voltage	24VDC
CCT: Color Temperature	RGB
CRI: Chroma Rendering Index	CRI80
Optic	120°
Cut internal strip	Every 2.56"
Dimmable	Yes
PCB	Kapton™, high conductivity

Lighting performances

| Code	Color Temperature (K)	Luminous Flux (lm/mt)*
LLRGB4-24.68.F	RGB	370

* The give data are typical values. Due to tolerance of the production process and the electrical components, values for light output and electrical power can vary up to 5%. Binning: 3 MacAdam.
.LDT e .IES files available on the site or on demand.

90°

60°

100
150
200
250

cd/klm

0°   30°

C0/C180 ——— C90/270 – – –
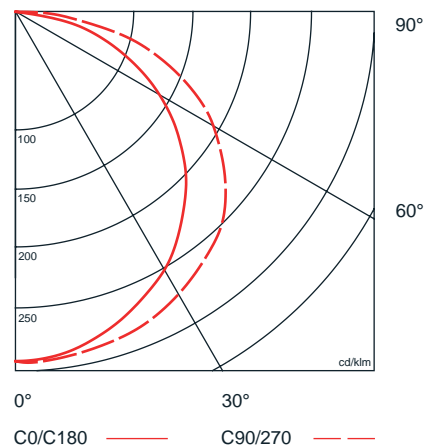
Product codes, related versions

Linea Luce	Voltage	IP	Family
LLRGB4	**24** -24VDC	**68** - IP68	**F** - Frost

Pay attention to the difference between internal cut strip and final lenght!

0.59"*

Power supply area
with possible reduced light
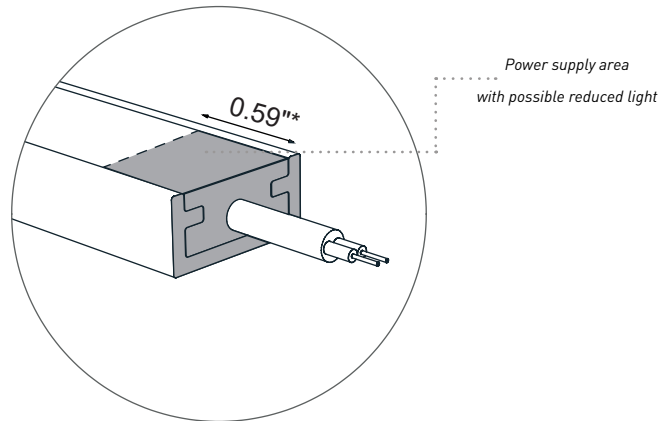
X. End feed

Connection accessories

THB.391.R5A

Type and Number of poles:	Mini In-line circular joint connector IP68 5PIN
Corrente e Tensione max.:	17.5A - 450V AC/DC
Min/max wire diameter:	0.28" - 0.47"
Min/max wire cross-section:	0.01" / 0.06"²
External dimensions:	Ø0.91" x 3.50"

THB.387.A4A.L.R

Micro plug and socket connector IP68 4PIN
17.5A - 450V AC/DC
0.24" - 0.53"
0.02" / 0.16"²
Ø0.91" x 4.45"

THB.402.D4A.R

Connector type "T" IP68 4PIN
32A - 450V AC/DC
0.24" - 0.53"
0.06" / 0.16"²
Ø1.26" x 3.58" x 4.76"

THB.399.D4E

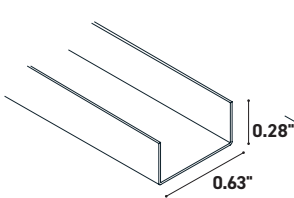|	
Tipologia e Numero di poli	Connector type "Y" IP68 4PIN
Corrente e Tensione max.:	32A - 450V AC/DC
Diametro del cavo min/max:	0.43" - 0.65"
Sezione del cavo min/max:	0.06" / 0.16"²
Dimensioni esterne:	Ø1.26" x 2.48" x 7.09"

THB.392.A4A

Connector type "H" IP68 4PIN
17.5A - 450V AC/DC
0.28" - 0.47"
0.02" / 0.06"²
1.10" x 2.10" x 83.23"

THB.209.A4A

Junction box type "H" IP68 4PIN
24A - 450V AC/DC
0.28" - 0.55"
0.02" / 0.16"²
4.25" x 2.56" x 1.10"

Mounting accessories

0.28"
0.63"

0.41"
0.93"

0.41"
20
0.93"

0.44"
0.39"
0.61"

0.28"
0.63"

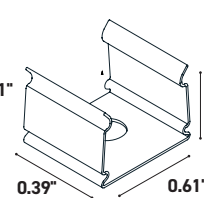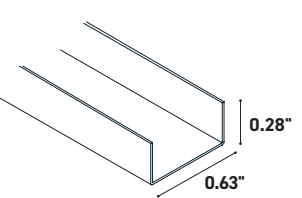|	**PRO-AL-14x6.5-AL**	**OUT-S-14x6.5.W**	**CLIP-S-14x6.5.W**	**CLIP-AC-14x6.5-AC**	**PRO-AC-14x6.5-AC**
Type:	Rigid outercase	Flexible outercase	Clip	Clip	Steel AISI 364
Material:	Aluminum	Sylicone	Sylicone	Harmonic steel AISI 304	Steel
Finishing:	Aluminum	White	White	Steel	8.20'
Lenght:	9.84'	32.81'	0.79"	0.39"	Suitable in outdoor use with particularly
Description:	Suitable for both indoor and outdoor use, it can be cut on site and adapted to the installation required. The profile must be drilled, flared and screwed to the wall with countersunk screw	Particularly suitable for uneven surfaces. It can be cut on site and adapted to the installation required. It must be drilled and screwed with a countersunk screw or glued with high-grip sylicones.	Particularly suitable for uneven surfaces. It is suitable both outdoor and indoor installations..Che clip must be screwed to the installation surface with a countersunk screw.	suitable in outdoor use with particularly aggressive areas such as marine areas, swimming pools or in the presence of high humidity, which guarantees a high resistance to the aggression of rust.	aggressive areas. The profile must be drilled, flared and screwed to the wall with countersunk screw. The strip must be inserted inside with glue, but can be removed in the event of breakage.
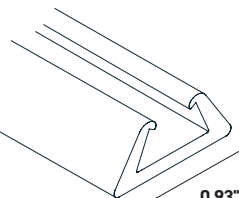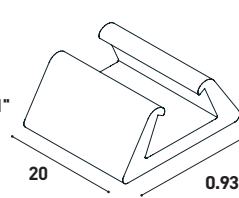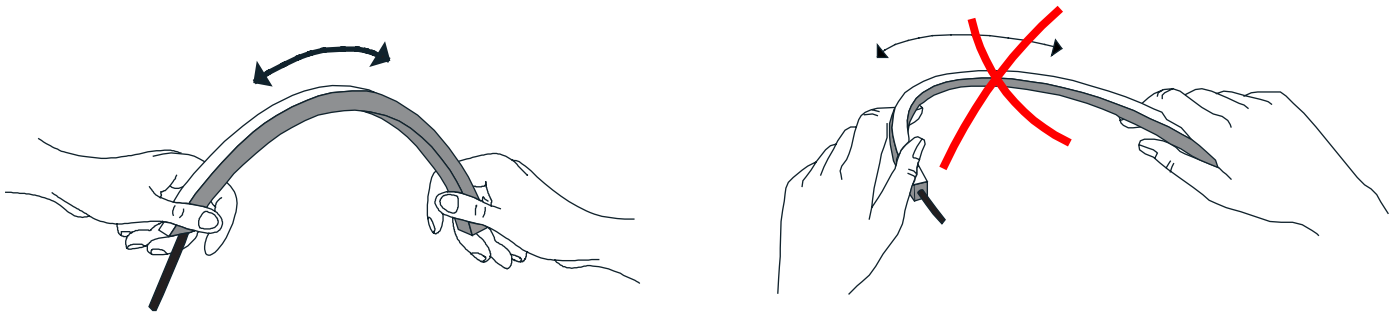
Note. *The strip is vertical bendable. Curve the profile only in the indicated axis. In case of non-observance of the given indication, the electrical functionality of the product will be compromised, with consequent luminous interruption of the LED strip. Do not twist it.*

R min
2.36"

Note. *Do not bend the profile with radius less than 6cm. In case of curvature less than the indicated value, the electrical functionality of the product will be compromised, with consequent luminous interruption of the LED strip.*

Certifications

100% MADE IN ITALY

EASY LINE / Frost / LLRGB4 is entirely manufactured in Italy, factory is located in Carmagnola (TO) Italy. Both PCB manufacture, LEDS soldering, resin processing are made with automated lines under our internal specifications. The product is compliant to EUR1 rules.
LED ITALY is applicant to ISO 9001-2015 (certificate n° IT305456 - 1).
LED ITALY is applicant to 100% Made in Italy (certificate n° IT01.IT/1917.098.V).

WARRANTY

EASY LINE / Frost / LLRGB4 is guaranteed for 5 years from the purchasing data. The guarantee covers against all the manufacturing defects. The guarantee is valid only when the product is used under its specifications and without any pilfering, breaking, alterations, modifications and uses according to wrong technical directions or set up in inadequate mechanical parts. LED ITALY has the right to verify technically the product to validate the guarantee.

EUROPEAN COMMUNITY DIRECTIVES

LED ITALY products comply with the following International standards:
- LED modules for general lighting - Safety specifications: IEC EN 62031:2008+A1:2013+A2:2015;
- Low voltage directive: 2006/95 / CEE EMC- EN5008-1-1.2004 / 108 / CE, EC 61140, EN 62471, ERP 98 / 1EC, 92 / 75EEC EN55022,
EN5008 -2 Directive EMC: 93/68 / CEE 89/336 CEE.
- Annex 2006/95 / CE / 2004/108 / CE: EN 60598-1, EN 60598-2-1 EN 61347-2-12, EN61347-2-13, EN62031, EN632384, EN 55015,
EN 61000-3-2 , EN 61000-3-3 EN 61547.
- IP68 Test: IEC 60598-1:2014+A1:2017

Note: All strips are low voltage operating on 12-24VDC. Without direct connection to the mains supply, products are therefore inherently Ae as they operate from less than 75VDC as specified in the Low Voltage Directive 72/23/EEC.

ENERGY EFFICENCY CLASS

The product belongs to G class refer to Energy Efficiency Class, referred to Regulation (EU) 2019/2015.
EASY LINE / Frost / LLRGB4 it is an energy-saving product and can be used for specific installations.

The materials used on LED ITALY products have been subjected to the following tests:

| Type of resins: | Transparent (VT 3402 KK NV) | | Type of support: PVC |
| | Opal (VT 3402 KK) | | |

DESCRIPTION	NORM	ESECUTION	RESULT
Gloss at 60°	UNI EN ISO 2813	Gloss value at 60°	**Compliant**
Neutral salt spray	ISO 7253	Exposition 1500 h, purity degree of salt 99.5% NaCl in solution with demineralized water; Electric conducibility < 20 µS/cm, concentration of test solution 50 ± 5 g/l	Checked cracking, blistering or water absorption. **Compliant**
Humidity chamber	UNI EN ISO 6270	Exposition 1500 h, at 50°C RH>95% in constant saturated atmosphere	No cracks, blistering, softening of the resin layer, no gloss variation or water adsorption. **Compliant**
Resistance against immersion of the following fluids:			
Swimming pool	N.A.	5 ppm sodium hypochlorite, derived from the hydrolysis of the pool disinfectant (sodium dichloroisocyanurate 56%) approx. pH 7 (obtained with sodium bisulphate hydrolysed in sulfuric acid)	No softening, color change or deformation of the resin film. **Compliant**
Water	ISO 2812 - *part 1 method 1*	Exposition 250 h at 25°C	Resin layer unaffected, no changement or softening. **Compliant**
Hydrochloric Acid	ISO 2812 - *part 1 method 2*	Exposition 240 h - sol. 8.5% at 20°C	Resin layer unaffected, no absorption, changement or softening. **Compliant**
Sodium hydroxide	ISO 2812 - *part 1 method 2*	Exposition 240 h - sol. 20% at 20°C	Resin layer unaffected, no absorption, changement or softening. **Compliant**
Isopropyl alcohol	ISO 2812	Exposition 48 h at 20°C	Film slightly modified, no softening, mass alteration (-5-6%)
Stone chipping	ASTM D 3170	Resistance to stone and gravel chipping. ASTM D 3170: ≤7B	**Compliant**
QUV test	ISO 16474	Exposition 1000h ΔE check	**Compliant**
Heat Resistance	MS CG-12	Exposition 500 h at 80°C	Resin layer unaffected, no deformation, color changement or softening. **Compliant**
Resistance to high temperatures	GM 6073	Exposition 1 h at 93°C	Resin layer unaffected no deformation, color changament or softening. **Compliant**

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