

Packaged LED-Lighting-Unit / LED-Module LP64-G-X-X-X



Product example:
LP64-G1-WW (Front
side view)



Product example:
LP64-G-RGB
(Backside view)

Features

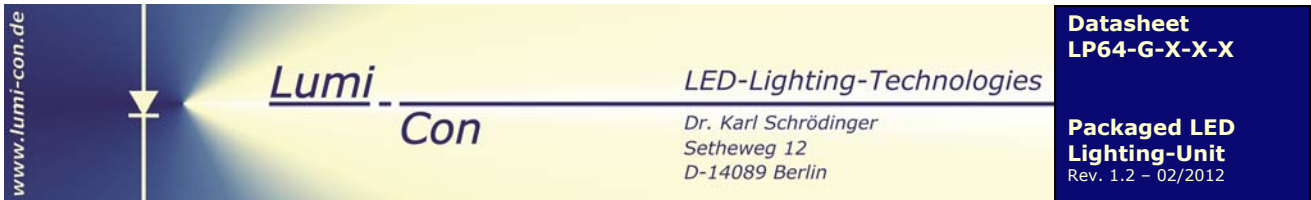
- Plane Lighting Module/Unit with 64 white or RGB LEDs
- Version 1: satin stainless steel, black polished plastic, satin acrylic glass
- Version 2: plastic isolated package, satin acrylic glass cover
- Luminous Flux for neutral or warm white approx. 1000lm (equal to 100W bulb)
- High CRI value of 80 for warm white unit
- Dimensions 160x160x11mm (V1) or 150x150x29mm (V2)
- LED grid 18.75mm (150/8mm)
- Modules are easy to operate with Lumi-Con SC2- or TD2-Dimmer direct from mains voltage
- Low power consumption of 10 – 20W (depends on type)
- Board-Version, Package Version see data sheet LP64-G-

Applications

- Deco-Lighting
- Advertising
- Indoor ceiling and wall lighting
- Bath room lighting (unit has ceramic tile dimensions)
- Furniture lighting
- Show case lighting

Attention!

When connecting to Lumi-Con Dimmer please read carefully the dimmer instruction. Set up should be done by skilled personnel only! Please read instruction carefully.



1. Description

The Lighting Unit incorporates an LP64 module built in a extremely compact package.

1.1. Package Version 1

The package convinces of a satin stainless steel backside, a polished black frame and a satin acrylic glass cover. The very flat unit (160x160x11mm) incorporated 64 white or colour LEDs mounted in a grid of 18.75mm. Mounting of the unit can be done using the hole at the backside (\varnothing 3mm at a distance of 14mm and a center hole for cable feed through). The suitable Lumi-Con dimmer must be mounted externally.

The Modules correspond to the safety class II (fully isolated). The stainless tell back side can be used as touch pad for dimmer control.

1.2. Package Version 2

The package version 2 consist of a ivory coloured plastic package and a satin acrylic glass cover. The dimensions are 160x160x29mm. It incorporates 64 white or colour LEDs mounted in a grid of 18.75mm. Mounting of the unit can be done using the holes at the corner (\varnothing 3mm, at 144x144mm). The modules can be mounted side by side without hurting the LED grid. Thus bigger area luminaries can be designed with individual adjustment of light. The Modules can be delivered with integrated Dimmer.

The Modules correspond to the safety class II (fully isolated).

1.3. LED-Module Neutral White / Warm White

The LED-Module contains 64 neutral or warm white medium power LEDs emitting a typical luminous flux of 968 respective 1122 Lumen. The modules are built for operating with Lumi-Con SC2-M-Dimmers at a current of 100mA (overall LED voltage drop is 230V DC).

1.4. LED-Module RGB (red/green/blue)

The LED-Module contains 64 RGB LEDs (3 x 64, 3 strings red, green, blue). The module are built for operating with Lumi-Con TD2-Dimmers at a current of 20mA per string (overall LED voltage drop is 230V DC).

1.5. LED-Lighting-Unit Neutral White / Warm White with SC2-Dimmer-Module (G2 only)

The LED-Unit includes the above described LED module (1.1) and a suitable SC2-Dimmer module. Thus these units can be directly connected to mains voltage. Controlling of the lighting unit can be done via touch pad as well as via serial control interface. Please check Dimmer datasheets for appropriate information.

1.6. LED-Lighting-Unit RGB with SC2-Dimmer-Module (G2 only)

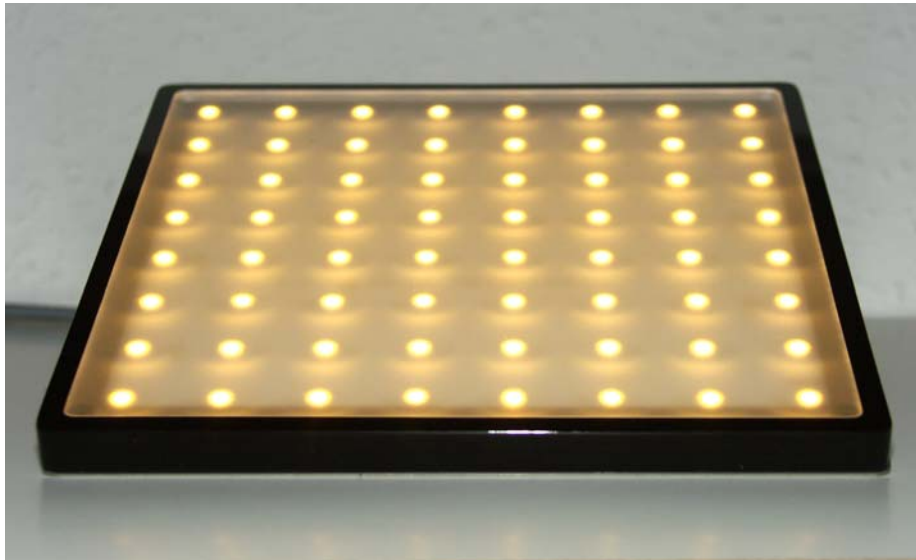
The Led-Unit includes the above described LED module (1.2) and a suitable TD2-Dimmer module. Thus these units can be directly connected to mains voltage. Controlling of the lighting unit can be done via touch pad as well as via serial control interface. Please check Dimmer datasheets for appropriate information.

1.7. Dimmer-Versions

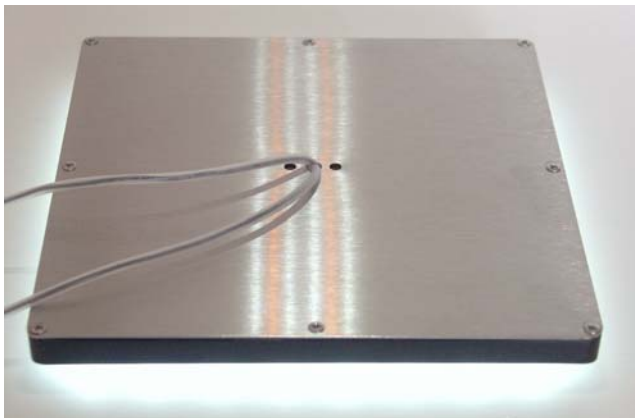
Principally usage of all Dimmer sub-versions can be used (respectively SC2-M or TD2). Please check Dimmer datasheets for appropriate information or contact us.

1.8. Cable Rope Unit

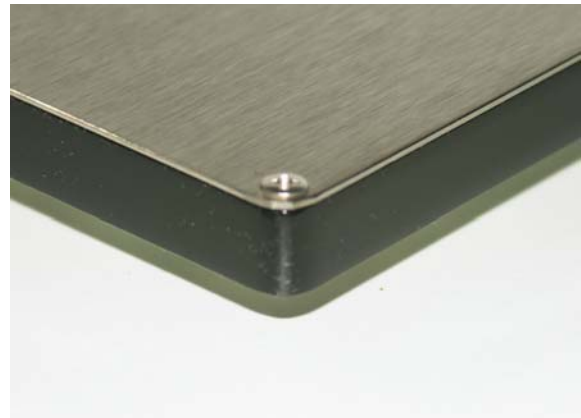
A cable rope unit can be delivered for G1 Version. The Unit is finally mounted with a 2mm cable rope as well as electrical cabling.



LP64-G1-WW front side



LP64-G1-W, backside view



LP64-G1, detailed backside view

1.9. Overview of the Versions

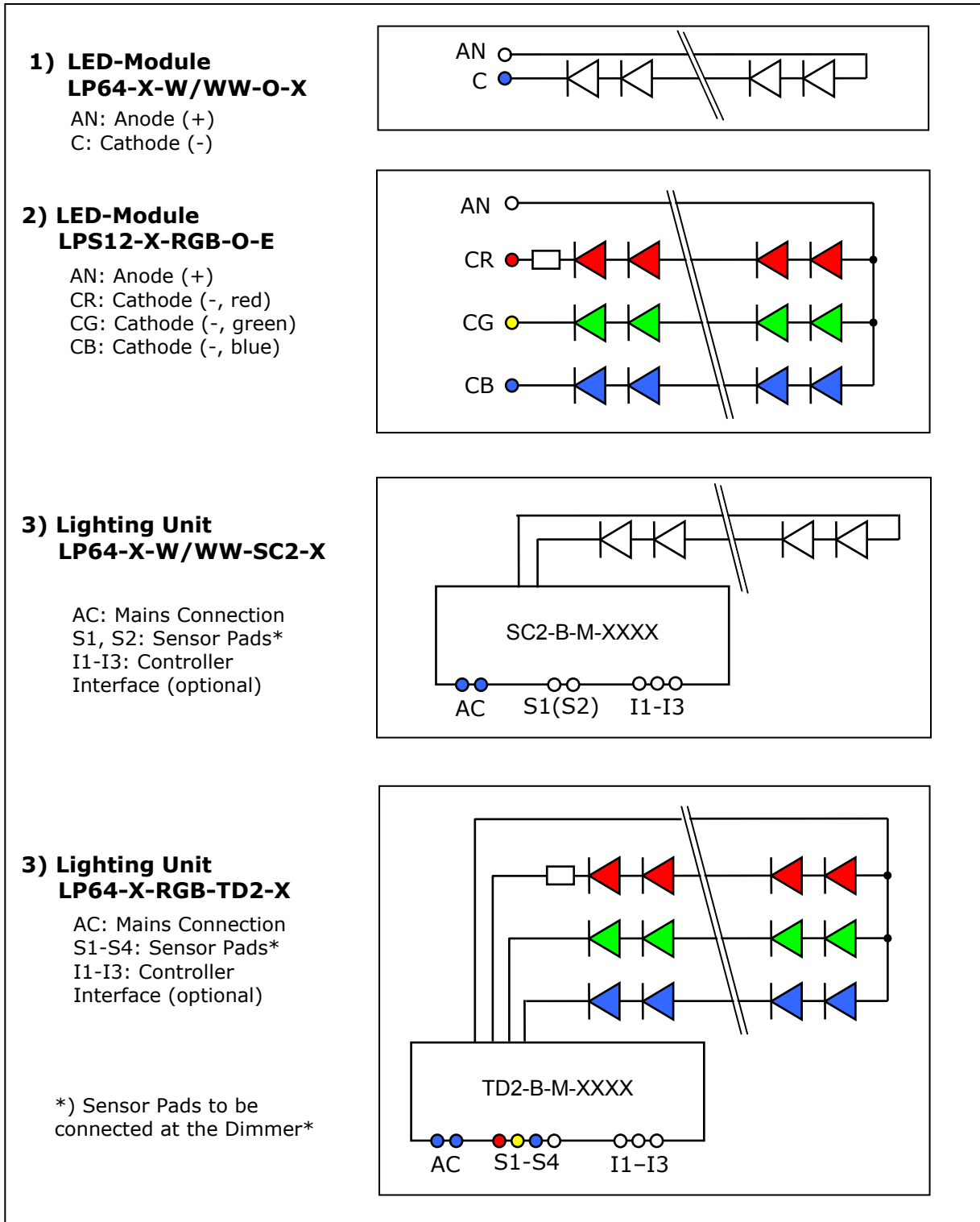


Fig. 1 Block diagram of LP64-Lighting-Modules/-Units

2. Operating Characteristics *

Common Data for all Modules/Units			Min	Typ	Max	Note/Cond.*
Operating Ambient Temperature	T _{AMB}	°C	0		40	1
Operating Ambient Humidity	RH	%			90	1
LP64-X-W-O-X LED-Module Neutral White						
Power consumption, no forced cooling	P _W	W		22		100mA, 25°C
Maximum current	I _{MAX}	mA			120	
Overall LED forward voltage	V _F	V	172	220	250	100mA, 25°C
Optical efficiency	η _W	Lm/W		43		100mA, 25°C
Luminous flux	P _{OPT-W}	Lm		1122		100mA, 25°C
Chromatic coordinate acc. CIE 1931	x/y			0.34/0.34		100mA, 25°C
Viewing angle, 50% drop	2φ	°		120		
LP64-X-WW-O-X LED-Module Warm White						
Power consumption, no forced cooling	P _W	W		22		100mA, 25°C
Maximum current	I _{MAX}	mA			120	
Overall LED forward voltage	V _F	V	172	220	250	100mA, 25°C
Optical efficiency	η _W	Lm/W		51		100mA, 25°C
Luminous flux	P _{OPT-W}	Lm		968		100mA, 25°C
Chromatic coordinate acc. CIE 1931	x/y			0.42/0.40		100mA, 25°C
Viewing angle, 50% drop	2φ	°		120		
LP64-X-W-SC2-X LED-Lighting-Unit Neutral White						
Power consumption, no forced cooling	P _W	W		24		2
Power consumption, no forced cooling	P _W	W		4		3
Luminous flux	P _{OPT-W}	Lm		1122		100mA, 25°C
Chromatic coordinate acc. CIE 1931	x/y			0.34/0.34		100mA, 25°C
Viewing angle, 50% drop	2φ	°		120		
LP64-X-WW-SC2-X LED-Lighting-Unit Warm White						
Power consumption, no forced cooling	P _W	W		24		2
Power consumption, no forced cooling	P _W	W		4		3
Luminous flux	P _{OPT-W}	Lm		968		100mA, 25°C
Chromatic coordinate acc. CIE 1931	x/y			0.42/0.40		100mA, 25°C
Viewing angle, 50% drop	2φ	°		120		
LP64-X-RGB-O-X LED-Module Red-Green-Blue						
Power consumption, no forced cooling	P _W	W		13		4
Maximum current per string	I _{MAX}	mA			20	
Overall LED forward voltage	V _F	V	172	220	250	4,
Luminous flux	P _{OPT-W}	lm		450		4, Mittelwert
Viewing angle, 50% drop	2φ	°		120		
LP64-X-RGB-TD2-X LED-Lighting-Unit Red-Green-Blue						
Power consumption, no forced cooling	P _W	W		15		5
Power consumption, no forced cooling	P _W	W		3		6
Luminous flux	P _{OPT-W}	lm		450		4, Mittelwert
Viewing angle, 50% drop	2φ	°		120		

*) All current and voltage values are rms values, ambient temperature: T_{AMB}

¹ Non condensing, operation only in dry ambient

² 230V, 25°C, all LEDs 100% on, including a wattless power of 2.3W (decoupling capacitor)

³ 230V, 25°C, all LEDs 100% off, including a wattless power of 2.3W (decoupling capacitor)

⁴ 230V, 25°C, 3 x 20mA, 43/36/11 lm/W (red/green/blue), el. Power including resistor

⁵ 230V, 25°C, all LEDs 100% on, including a wattless power of 0.75W (decoupling capacitor)

⁶ 230V, 25°C, LEDs 100% off, including a wattless power of 0.75W (decoupling capacitor)

3. Dimensions

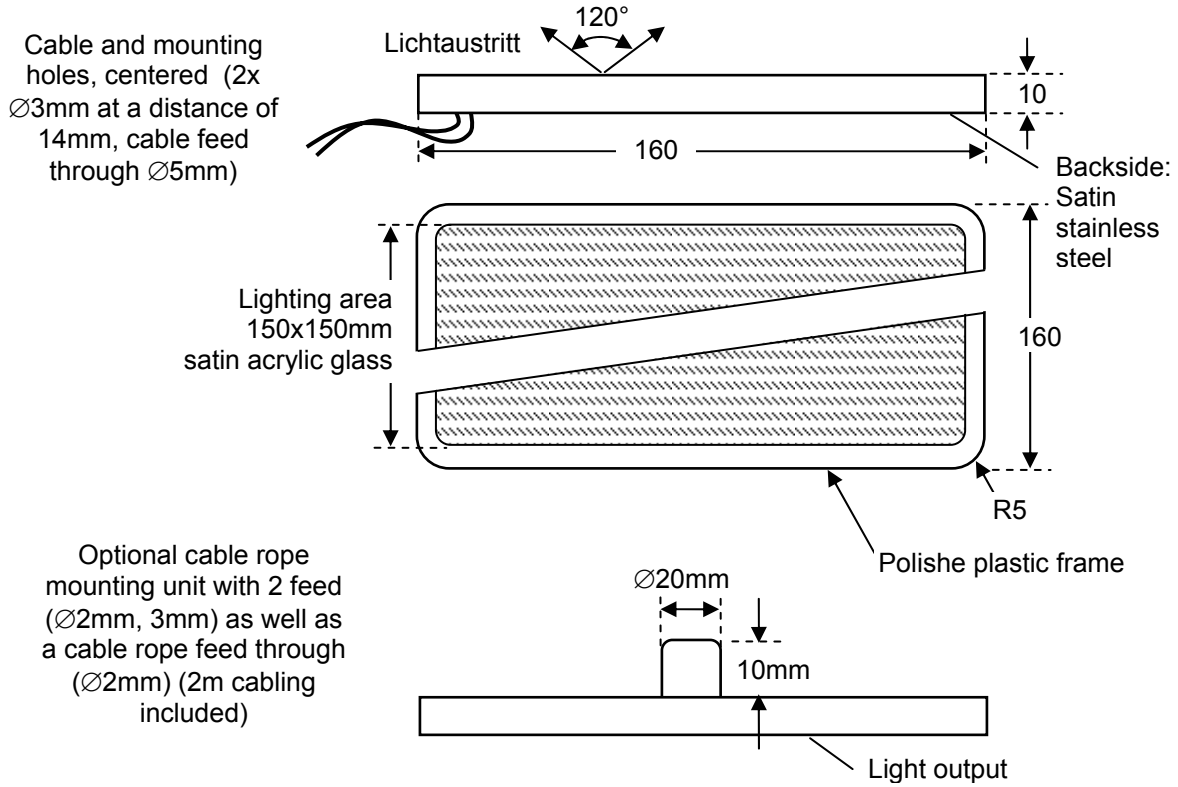


Fig. 2: Dimension of the LED Module LP64-G1

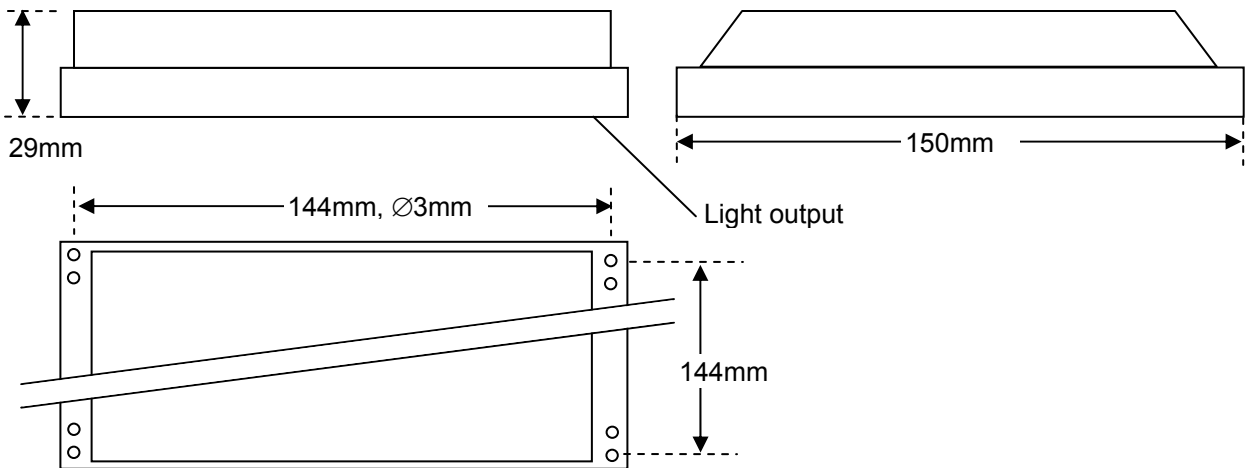



Fig. 3: Dimension of the LED-Module LP64-G2



Lumi-Con

LED-Lighting-Technologies

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Setheweg 12
D-14089 Berlin

Datasheet
LP64-G-X-X-X

Packaged LED
Lighting-Unit
Rev. 1.2 – 02/2012

4. Pin-Assigment

Type ¹	Unit Supply		Serial Unit Interface ²			LED-Module Interface			
	AC	AC	I1	I2	I3	Common Anode	separate cathodes		
						CR	CB	CG	
LP64-G1-W/WW-O-X	--	--	--	--	--	AN	-rot	-blau	-grün
LP64-G1-RGB-O-X	--	--	--	--	--	AN	-rot	-blau	-grün
LP64-G2-W/WW-O-X	--	--	--	--	--	AN	-rot	-blau	-grün
LP64-G2-RGB-O-X	--	--	--	--	--	AN	-rot	-blau	-grün
LP64-X-W/WW-SC2-X ³	230V \approx		GND	CLK	DATA	--	--	--	--
LP64-X-RGB-TD2-X ⁴	230V \approx		GND	CLK	DATA	--	--	--	--

- 1) W= neutral white, WW= warm white, RGB= red-green-blue
- 2) SPI or UART (under development)
- 3) including SP2-230-M-Dimmer, touch sensor terminal at the dimmer
- 4) including TD2-230-Dimmer, touch sensor terminal at the dimmer

5. Product Numbers

LP64-GX-X-X-X

- ↑ Number for Sub-Version or cabwel rope unit (s)
- ↑ With (O) or without integrated Lumi-Con Dimmer (SC2-M, TD2)
- ↑ Light colour: W (neutral white), WW (warm white), RGB (red-green-blue)
- ↑ Package version (G1, G2)



LP64-G2-RGB, detail

6. Installation and Precautions



Lumi-Con Mid- and Low-Power-Modules LP64 requires a power adapter generating the necessary currents from mains voltage. Lumi-Con offers suitable DIMMER modules. If you operate the stripes with power adapters from other suppliers please read their instruction notes.

Operate the LED-Module and Units only in dry ambient only (operating class IP20).



Don't touch any part of the open module or unit. Switch off immediately the mains supply in case of problems. Don't try to repair it by yourself.

The **Lumi-Con Mid- and Low-Power-Lighting Units LP64** are already equipped with a Dimmer module. The units are therefore directly connected to mains voltage.

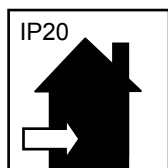
Before you connect to mains voltage (initially) please make sure that all necessary connections are correct. Assure that you have **protection against contact** for all wires including the circuit, mains voltage wires and wires to the LED module thus no occasional contact can happen (exception: Sensor inputs S1, S2). The module must not be operated in wet ambient or outside, except explicitly specified.

The whole circuit including the LED module LP64 and wires may show up to 350V peak voltage referred to ground. **Please do not touch the circuit and the connected components including the LEDs** if the circuit is powered up. In case of failure please switch off or separate from mains voltage immediately. Do not try to repair the module even it seems simple; this includes also broken fuses.

Please read carefully also the DIMMER instruction notes.



Lumi-Con modules fulfil the *EC Low Voltage Directive 2006/95/EC* (former 73/23/EEC), the *EC EMC Directive 2004/108/EC* as well as the RoHS compliancy (*EC Directive 2002/95/EC*). In addition they are compliant to *EuP Directive 2005/32/EG: Eco-Design of Energy Using Products*.



Attention please!

The information herein is given to describe certain components and shall not be considered as warranted characteristics. Terms of delivery and rights to technical change reserved.

We hereby disclaim any and all warranties, including but not limited to warranties of non-infringement, regarding circuits, descriptions and charts stated herein.

Lumi-Con components may only be used in life-support devices or systems with the expressed written approval of Lumi-Con.