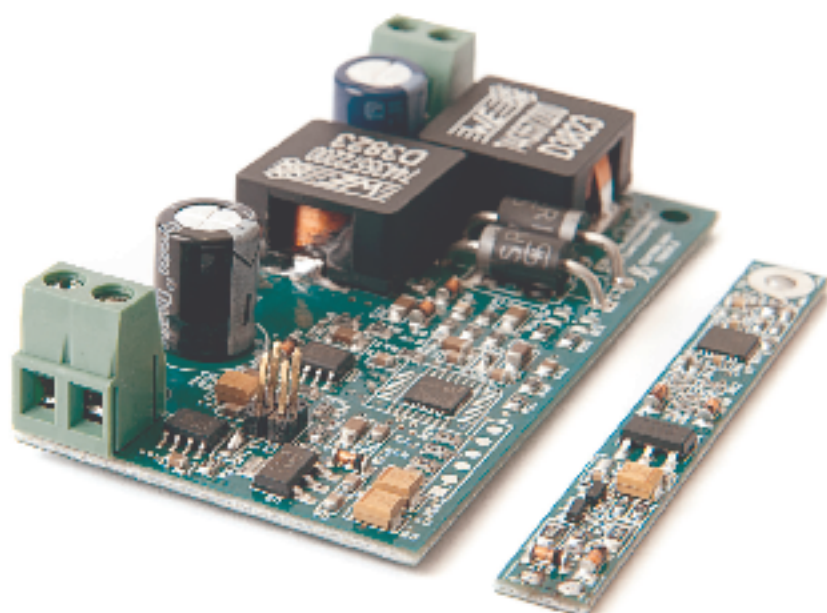


SYSTEMA

Control System



MADE IN ITALY

HANGAR
www.hangar-lab.com

INDEX

Introduction to Systema	3
Sensors compatible with Systema	4
Systema within illuminating engineering	5
A versatile technology	6
Components	8
Stand-alone sensor configuration	9
Control unit configuration	10
Electrical and technical properties	11
Prototypes developed by Hangar Srl	12

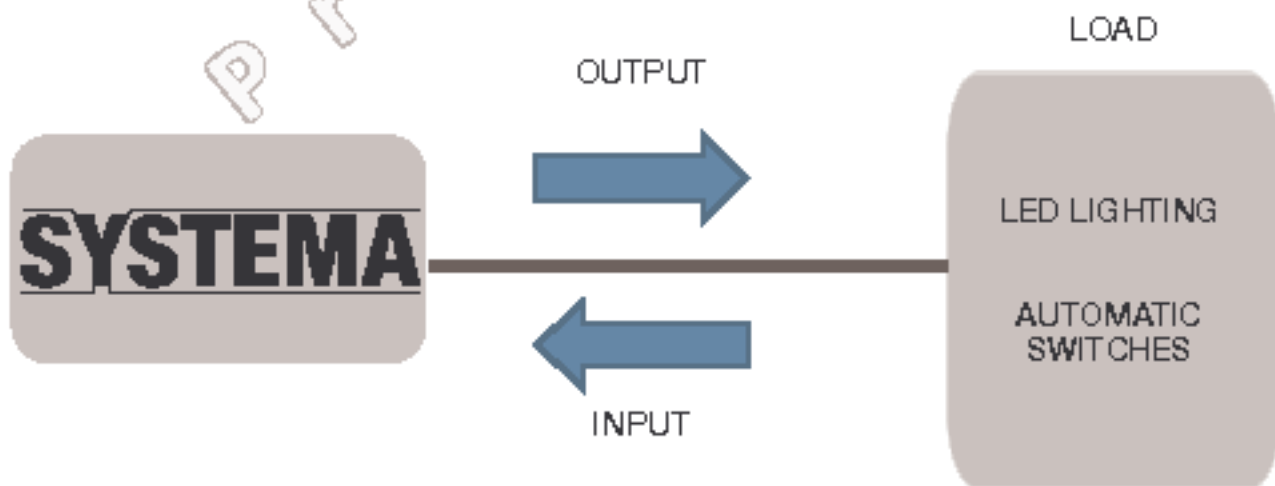
SYSTEMA

Systema is a hardware circuit which can elaborate input signals from a wide range of sensors (e.g. capacitive, infrared) in order to control the output of several devices such as lamps and automatic switches.

Systema can find several different applications from domotics to manufacturing industry.

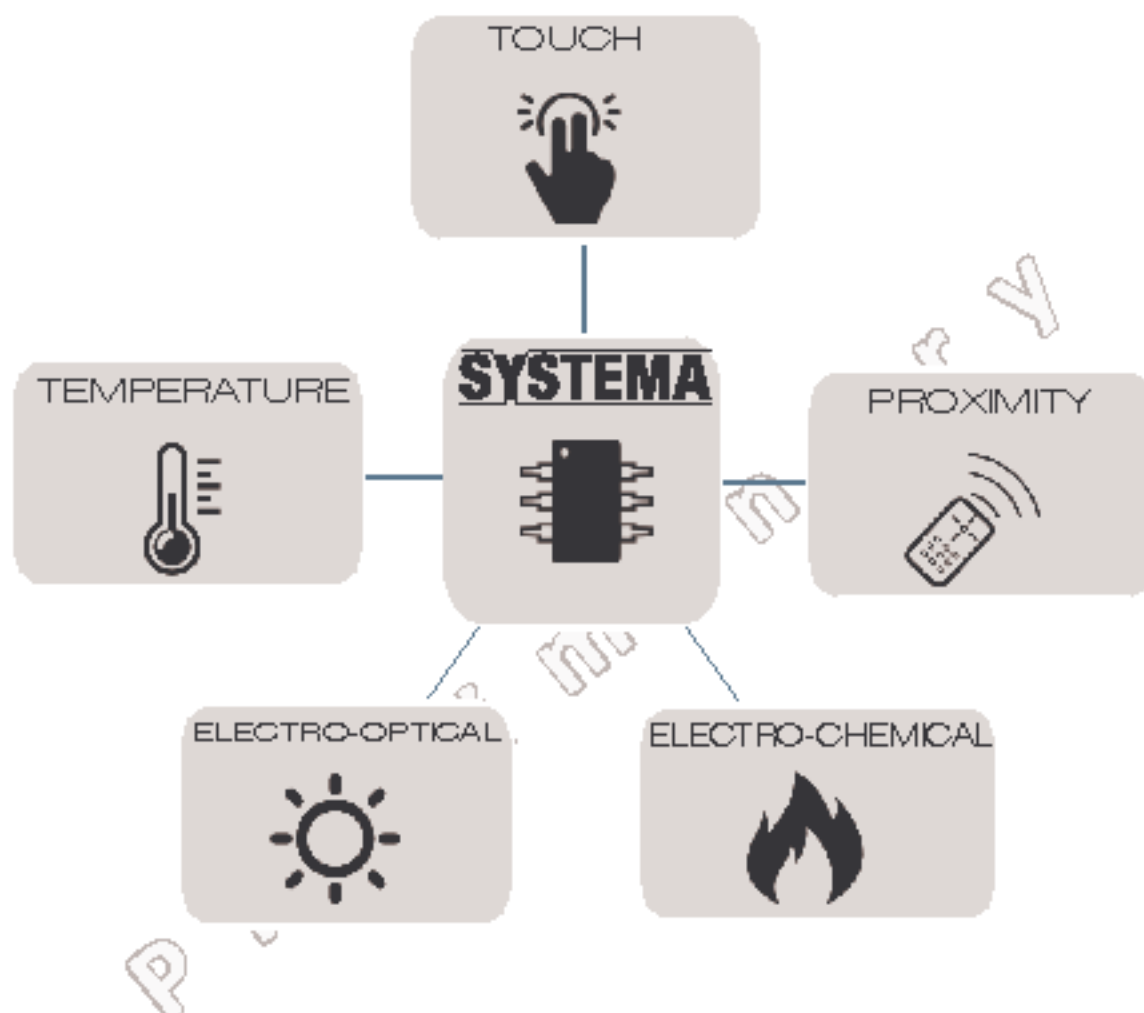
THE INNOVATION WITHIN SYSTEMA

Systema is a top notch and innovative solution to reduce the wiring of the electrical system since both input and output signals run on the same power supply bus of the device to be controlled. This versatile technology can be implemented for the developing of highly customised products.



SENSORS COMPATIBLE WITH SYSTEMA

Systema can function with a wide range of sensors such as:



Touch: takes human body capacitance as input.

Proximity : an infrared sensor detects the presence of nearby objects without physical contact.

Electrochemical : detects target gas concentration in the environment.

Electro - optical: detects light or change in light in the environment.

Temperature: detects temperature variations in the environment.

Pressure, radioactivity sensors, etc.

SYSTEMA WITHIN ILLUMINATING ENGINEERING

Systema can be employed as a light control system that turns every object into a switch. When applied to lamps, we can switch on/off and dim lights in the environment by touching any object in the room connected to Systema or by moving our arms and body whenever a proximity sensor is being employed. Systema is perfect for refurbishing interior design and furniture and to design innovative lighting systems.



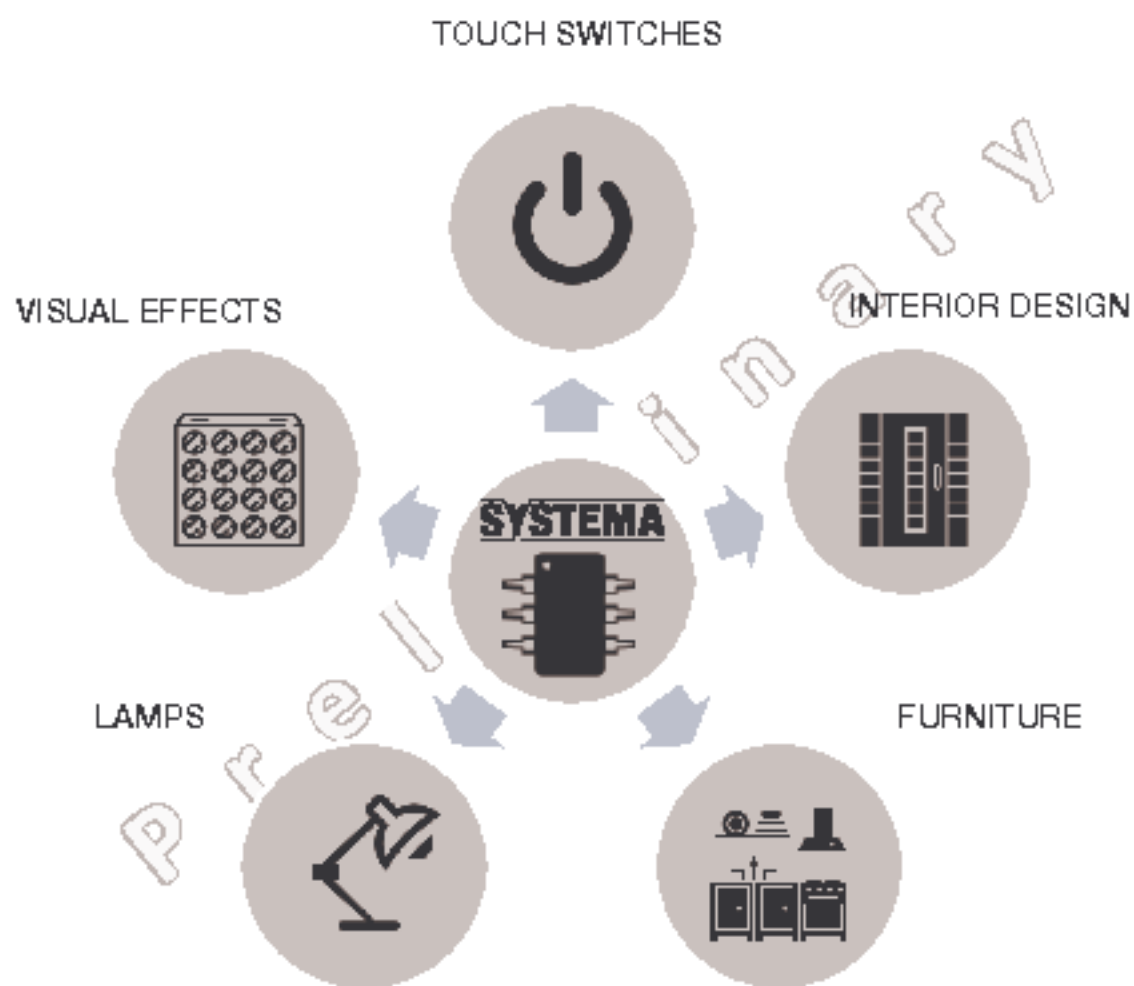
GIANO

The switch is the lamp itself

Giano is an elegant lamp that shows a potential application of a part of Systema.

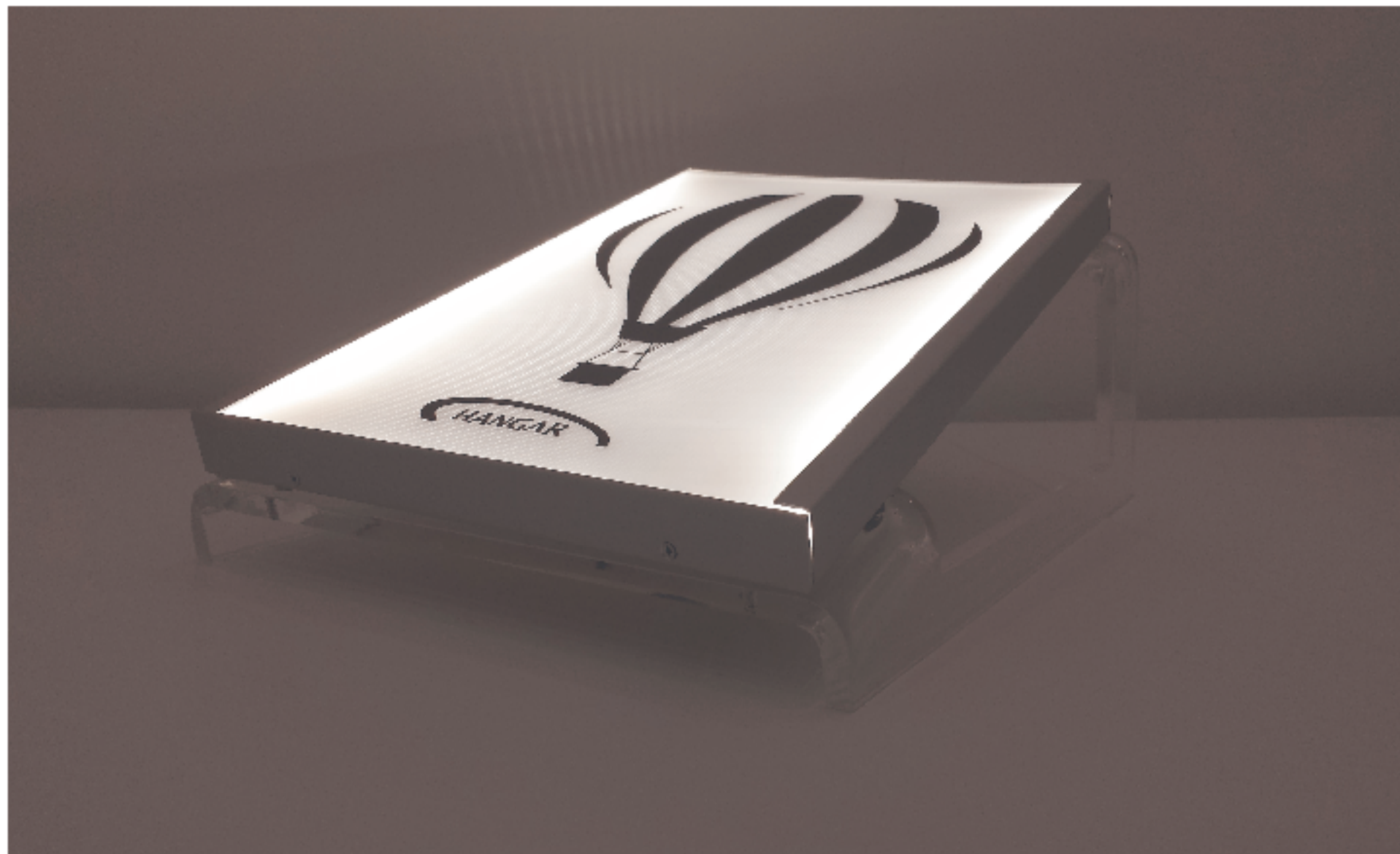
Light can be switched on/off by touching the metal structure of the lamp.

SYSTEMA A VERSATILE TECHNOLOGY FOR ILLUMINATING ENGINEERING



SYSTEMA AND PLASTIC MATERIALS

Printing on PETG



COMPONENTS

SENSOR FOR POWER SUPPLY



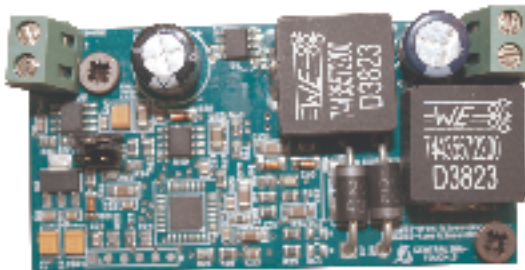
This capacitive sensor can be applied to both insulating and conducting materials. It must be used when a power supply is employed.

SENSOR FOR BATTERY USE



This capacitive sensor can be applied to both insulating and conducting materials. It must be used when a battery is employed.

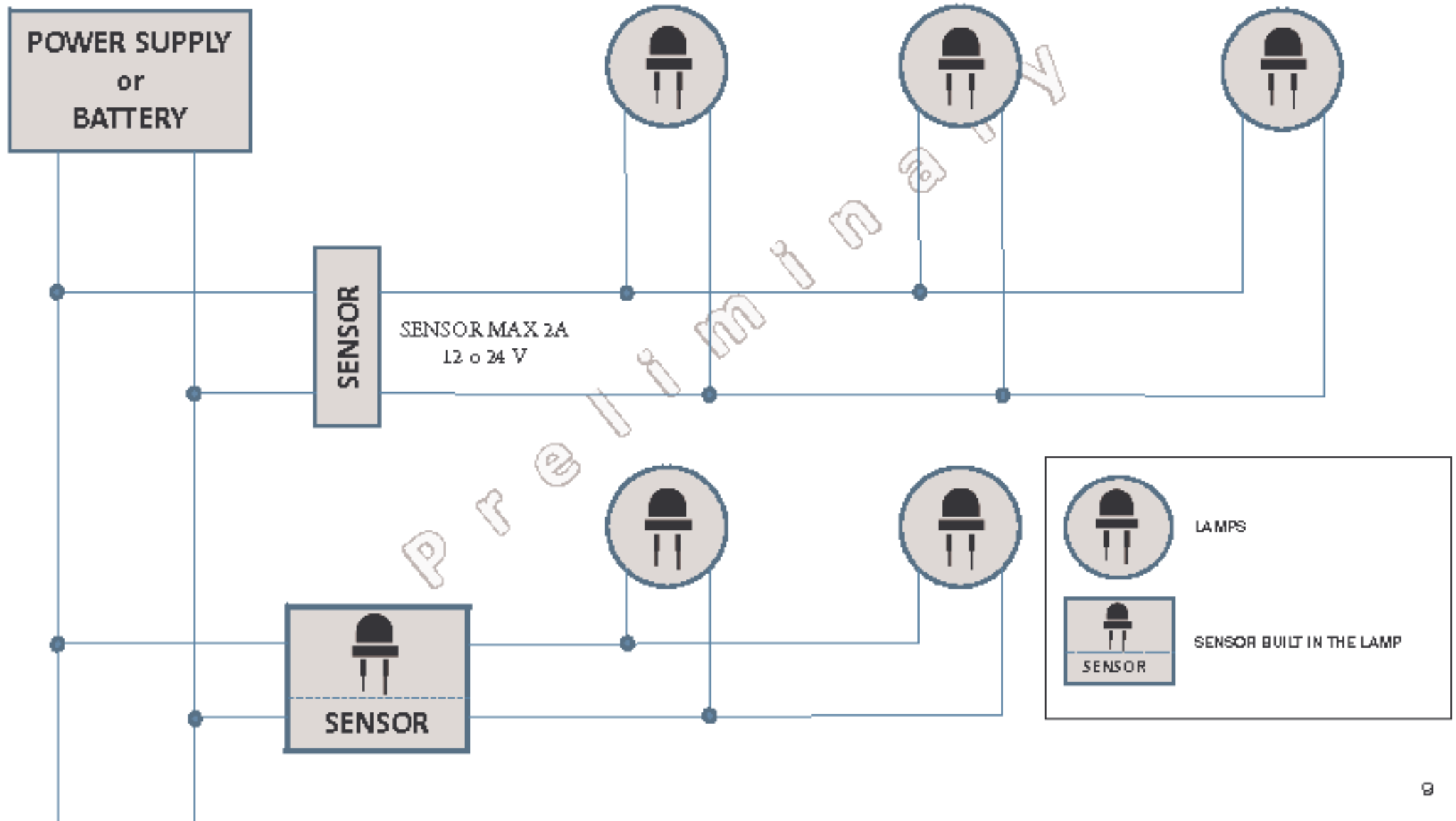
CONTROL UNIT



The control unit receives inputs from a multitude of sensors and controls the output devices. It can work with both battery and power supply.

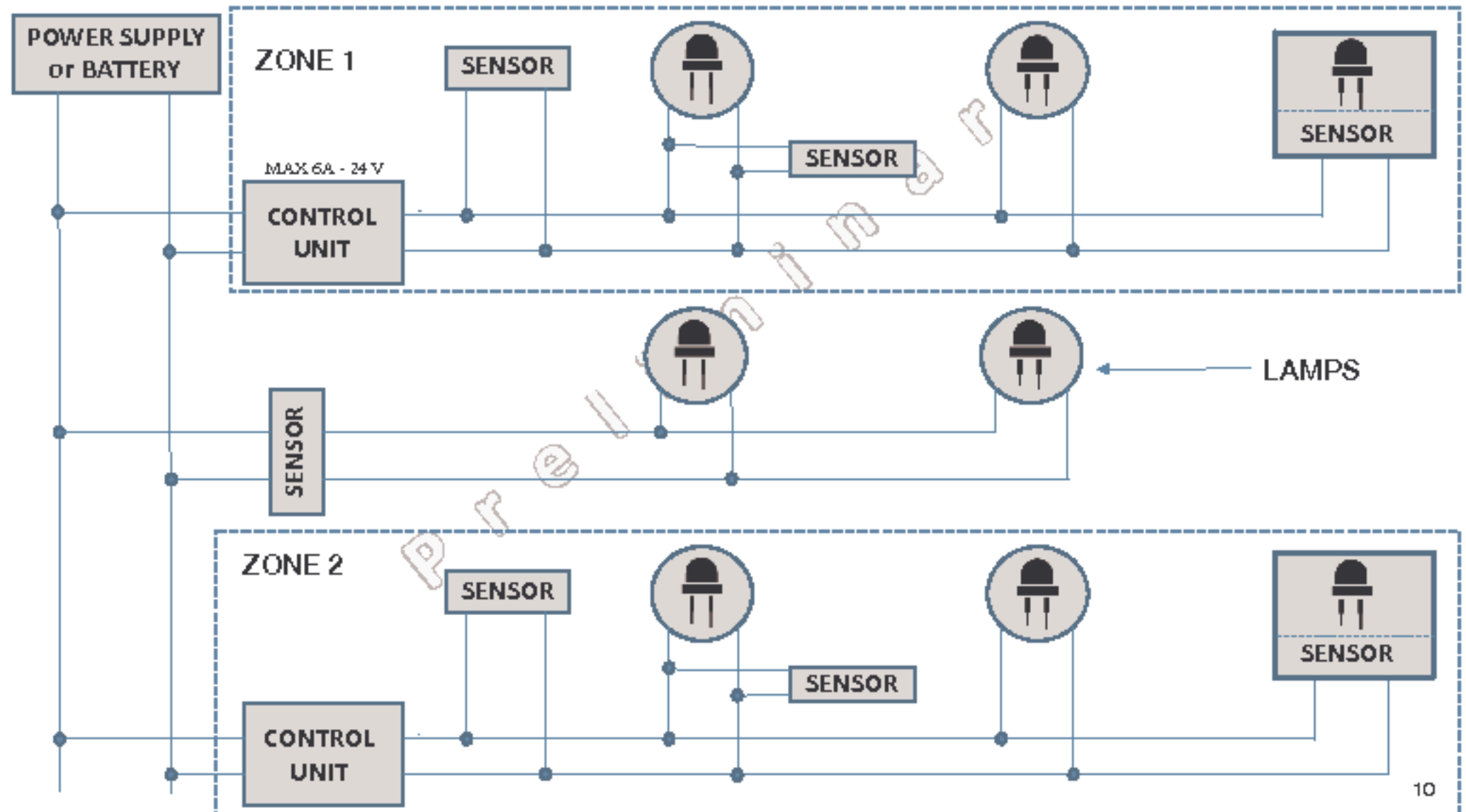
STAND-ALONE SENSOR CONFIGURATION

The stand-alone sensor configuration is employed without the control unit and allows the control of one or more devices (e.g. lamps) from a single control point (one sensor).



CONTROL UNIT CONFIGURATION

The control unit configuration is used to control one or more devices (e.g. lamps) from different control points (more sensors). In the example below, light in box 1 and 2 can be turned on/off by touching the sensors or the third lamp (sensor built in the lamp).



ELECTRICAL PROPERTIES

		Control Unit	Sensor
Supply voltage		12 V or 24V	12V or 24V
Input current		Max. 2A-6A	8mA
Absorbed power at 0% output	12V	0.6W	40mW
	24V	1.2W	
Output voltage		12V or 24V with a load (5V without)	12V or 24V
Output current		Max. 2A-6A	Max 2A
Nominal power	12V	24-72W	24-48W
	24V	48-144W	

TECHNICAL PROPERTIES

		Control Unit	Sensor
Mechanical dimensions		40.5x79.5x16.5 mm	9x70x3.5
Storage temperature		-40 °C to + 85 °C	
Working temperature		-20 °C to + 40 °C	
Protection grade		IP10	

PROTOTYPES DEVELOPED BY HANGAR SRL

ARGYROS



Argyros is an elegant solution for interior design. This version has been created by laser cutting an aluminum plate. The sensor is the aluminum plate itself and the light can be switched on/off by simply stroking the surface. Light can also be dimmed by holding a hand on the panels till the desired intensity is reached.

immensity

LEYKOS



Leykos is another creative solution for interior design where light meets wood. The wooden panels light can be triggered by stroking the surface. Light can be dimmed by holding a hand on the panels.



Thank you!