eidolon INNOVATIONS

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Product Overview

LED Driver & Luminaire

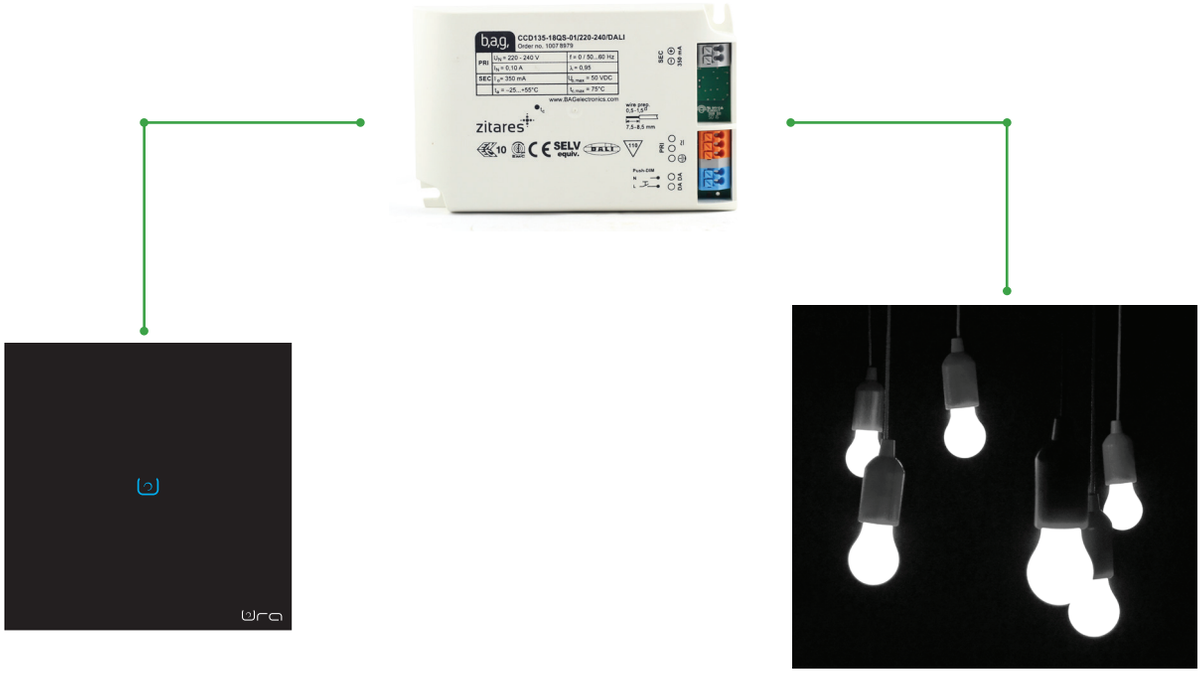
A brief into it's Applications & Parameters

www.eidoloninnovations.co.in

URA Smart

URA Smart is the automation range of LED Lighting by Eidolon Innovations (P) Limited, and when we say automation, we mean to improve your experience from ‘Just lighting up the room’ to ‘Controlling the ambience of the room’.

Market being filled with similar type of products addressing equivalent customer needs, we made sure to offer our customers an upgradation of lighting in terms of uniqueness. And with our strategic partnership with BAG Electronics, we bring exclusivity, quality, and economics to the range.



*URA is the flagship brand of Eidolon Innovations Private Limited. The portfolio includes a plethora of LED Fixtures and luminaires also catering as an OEM and custom LED Fixtures for various applications.

> “For the buddies exploring the deep oceans and trenches of the orb. For those traversing the murky dens and forest dense. For the soldiers at the frontiers, we recite the story of their valour. For those hitchhikers and mountaineers and the cities envisioned to be forged as Smarter. Let all those ardent ramblers and valiant warriors be endowed with an allure of URA”

Smart Lighting

A lighting technology designed for efficient use of energy. It includes high efficiency fixtures and automated controls that make adjustments based on conditions such as occupancy or daylight availability.

KEY POINTS OF Smart Lighting

- Energy Efficient
- Innovative
- Flexible Control (Using PC , Smart Switches etc.)
- Lighting can be synced with rest of the automation system (i.e. Smart Locks, Alarm System etc.)
- Secure

Why Dimming ?

Industries , Showrooms , Hotels , Hospitals , Warehouses are just few examples of places where you require uninterrupted light, but not always with full intensity of the light. This is where the smart solutions come into play, helping you save and control the environment around you.

*Suppose, the light which is not in use reduces its intensity to 30% of its actual intensity, it directly helps you save 70% of the electricity consumed by the light source.

*Dimmable Drivers, the ones for the above purpose, has the capacity to reduce the light intensity event to 99% of its actual intensity .

And, what if, all this can be done automatically?

The fact that “Less is the current flowing through your circuit, longer is the life of your appliance”, simply cannot be ignored. So, what if, in addition to saving 70% of electricity consumption you also get the longer durability of your luminaire.

LED DRIVERS

1. Non Dimmable Driver : General Purpose Drivers

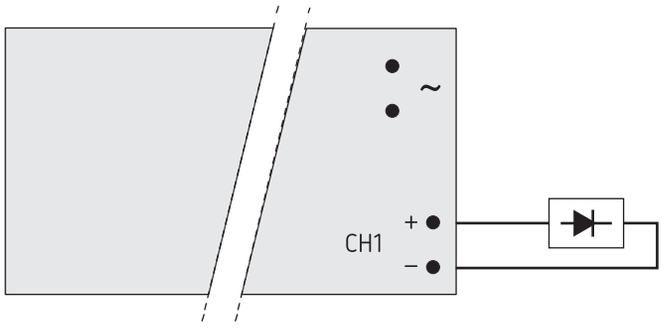
Technical DATA:

Model	Order no.	Output currents	Output power
PCS170-28QS-01/220-240/3kV	**10133614**	1 x 700 mA	Max.28 W
PCS180-32QS-01/220-240/3kV	**10133615**	1 x 800 mA	Max.32 W
PCS190-36QS-01/220-240/3kV	**10133616**	1 x 900 mA	Max.36 W
PCS1100-40QS-01/220-240/3kV	**10133617**	1 x 1000 mA	Max.40 W
PCS170-35QS-01/220-240/3kV	**10141198**	1 x 700 mA	Max. 35W
PCS160-30QS-01/220-240/3kV	**10141199**	1 x 600 mA	Max. 30W
PCS150-25QS-01/220-240/3kV	**10141200**	1 x 500 mA	Max. 25W
PCS140-20QS-01/220-240/3kV	**10141201**	1 x 400 mA	Max. 20W
PCS130-15QS-01/220-240/3kV	**10141202**	1 x 300 mA	Max. 15W

Model	Input current [1] A	Input power [1] W	Power factor [1] %	ECG efficiency [1] %	Output currents mA	Output voltage VDC	Total output power W
PCS170-28QS-01/220-240/3kV	0.14	32.5	> 0.95	> 85%	1 x 700	20 ... 40	max. 28
PCS180-32QS-01/220-240/3kV	0.16	36	> 0.95	> 85%	1 x 800	20 ... 40	max. 32
PCS190-36QS-01/220-240/3kV	0.18	40.5	> 0.95	> 85%	1 x 900	20 ... 40	max. 36
PCS1100-40QS-01/220-240/3kV	0.21	45.5	> 0.95	> 85%	1 x 1000	20 ... 40	max. 40
PCS170-35QS-01/220-240/3kV	0,18	39,0	> 0.95	> 85%	1 x 700	25 ... 50	max. 35
PCS160-30QS-01/220-240/3kV	0,15	33,0	> 0.95	> 85%	1 x 600	25 ... 50	max. 30
PCS150-25QS-01/220-240/3kV	0,13	29,5	> 0.95	> 85%	1 x 500	25 ... 50	max. 25
PCS140-20QS-01/220-240/3kV	0,11	23,0	> 0.95	> 85%	1 x 400	25 ... 50	max. 20
PCS130-15QS-01/220-240/3kV	0,08	17,5	> 0.95	> 85%	1 x 300	25 ... 50	max. 15

[1] All specifications with 230 VAC nominal operation and 100 % load

Wiring Diagram

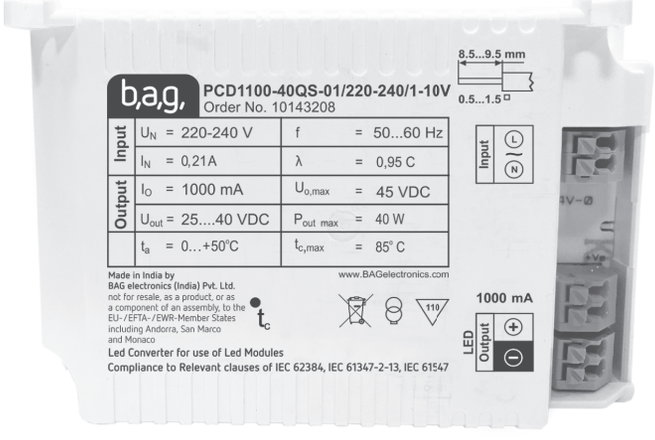


Applications

Office , Showrooms , Residential areas, and other plethora.

2. Analog Driver :

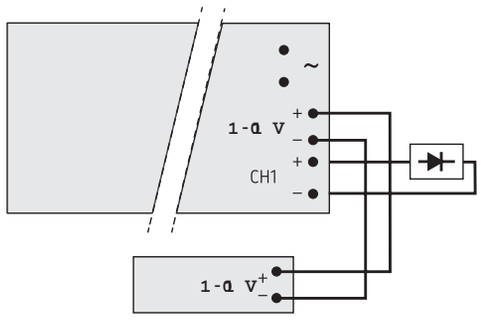
- Analog Drivers are capable of providing dimming control in a range of 10% - 100%.
- Dimming uses Standard Power supply (1-10 volt) for Linear and smooth dimming (cost of Power Supply)
- Low cost POT regulator can also be used as a dimmer (47kohm) but the dimming will be less accurate .
- The analog Driver can also be used as a semi automatic type of dimmer . The only thing you need to have is a programmable Power Supply.
- In the 1-10 volt dimming , the terminals takes DC power, so care must be taken while wiring up the system.



Technical DATA :

Mains voltage supply	
Rated voltage range	220 - 240 [V]
Rated frequency	50….60 [Hz]
Max. admissible input voltage range (AC)	180 - 264 V
Total harmoinc distortion (THD)	< 20%
Output data	
Constant current	
Output current tolerance	+/- 10 %
Max. ripple output current (With LED load)	+/- 30 %
Galvanic Separation to Mains Input - Output side	Basic Insultion(1.5KV)
Galvanic Separation to Mains Input - Dimming Interface terminal	Basic Insultion(1.5KV)
Max. starting time	< 1s
Interfaces and dimming operation	
Dimming Interfaces	1-10V
Control current for 1-10V Version	2mA Max.
Over voltage Protection of Interface	upto 20VDC
Dimming Range	15…100%
Dimming Technology	Amplitude Dimming
Starting time	
Time to 100% luminous flux	< 1 sec
Power factor	
230 V (at full load)	> 0.95
Efficiency (Typ.)	
Full load	> 85%
Protection functions	
Output side Short circuit operation	Yes
Open circuit operation	Yes,Output Voltgae Max. 60 VDC
Overload Operation	Yes, limitation of output voltage & reduction of output current
Connection Terminals	**For solid or stranded wire**
Type	Push terminal
Wire cross section	0.5 mm^2 – 1.5 mm^2
Wire stripping length	8.5 mm – 9.5 mm
Wire lengths	
Max. wire length to LED module	< 2 m
Thermal protected device	
Max.surface temperature acc. EN 61347-2-13/C5C	+110° C
Degree of protection	
Degree of protection	IP 20
Surge Level	3kV

Wiring Diagram

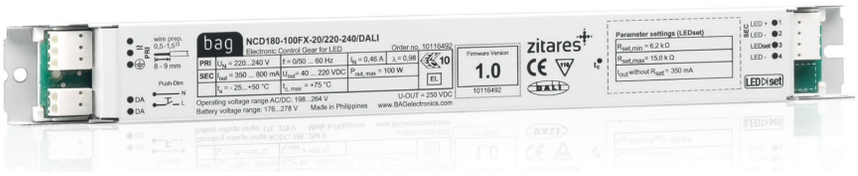


Applications

Office Lightings, Hypermarkets , Showrooms , Residential , Classrooms , Ceiling lights , Lab and other plethora.

3. DALI Driver

DALI: Digital Addressable Lighting Interface
There are basically 2 type of DALI Drivers .
DALI6 : Used for homogeneous Lighting control (Available)
DALI8 : Used for RGB lighting control (NA)



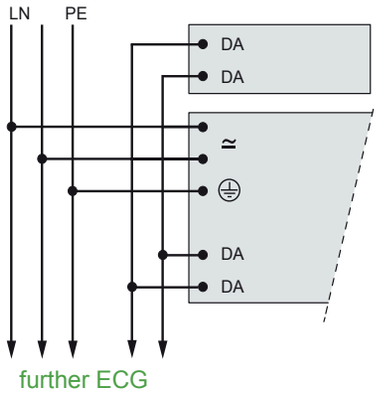
Technical DATA:

Mains voltage supply	
Rated voltage range	220 ... 240 V
Max. permanent voltage range (continuous)	198 ... 264 V
Rated frequency	0 / 50 ... 60 Hz
Battery operation	
Voltage range for continuous operation	198 ... 278 VDC
Lowest limiting value for temporary operation	176 VDC / 0.5 h
Mains overvoltage	
Overvoltage protection	350 VAC / 2 h
Automatic switch-off of the LEDs at	appr. 320 VAC
Protection against voltage peaks	
Voltage peaks L - N	1 kV
Voltage peaks L/N -PE	2 kV
Starting time	
Time to 100% luminous flux	< 0.5 s
Total harmonic distortion (THD)	
At 100% load to ECG-output	< 10 %
Output data	
Tolerance of output current	+/- 5 %
Max. ripple of output current	+/- 10 % (< +/- 1 % for 100Hz)
Max. output voltage (U-OUT) under abnormal operation funktion	NCD140: 270 V NCD180: 250 V
Max. wire length to LED module	2 m
Galvanic separation to mains input	no
Protection functions output side	
Overload operation	yes; limitation of output voltage and reduction of output current
Short-circuit operation	yes; limiting the output current
Open-circuit operation	yes; ECG switch-off, restart after mains interruption
Dimming operation and interface	
Overvoltage protection of interface	264 VAC
Galvanic separation to output side	no
Stand-by power losses	≤ 0.3 W
Dimming range for luminous flux	1 ... 100 %
Dimming technology	Mixed Mode
Max. number of ECG for Push-Dim control	25
LEDset interface	
Galvanic separation for mains voltage	no
Voltage range	5 V +/- 5%
Range of resistance detection NCD140-70FX	12.5 ... 43 kΩ
Range of resistance detection NCD180-100FX	6.2 ... 15 kΩ
Connection terminals	
Type	Plug-in terminal with release hole[1)]
Wire cross section	0.5 mm² - 1.5 mm²
Wire stripping length	8 mm - 9 mm
Thermal protected device	
Max. surface temperature acc. to EN 61347-1/C5e	+ 110° C
Degree of protection	
Degree of protection of ECG housing	IP 20

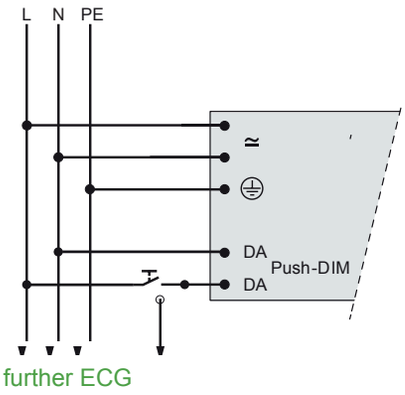
[1)] Terminals and ECG construction are designed for an automatic wiring with robots

Wiring diagrams ECG

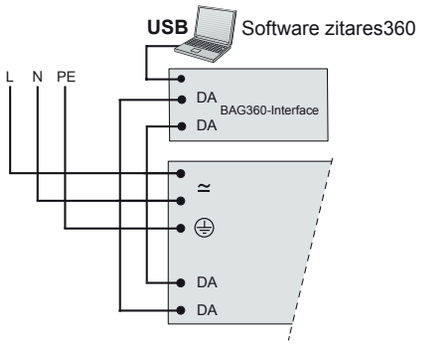
A Connection of ECG input side for DALI control



B Connection of ECG input side for control via push-button

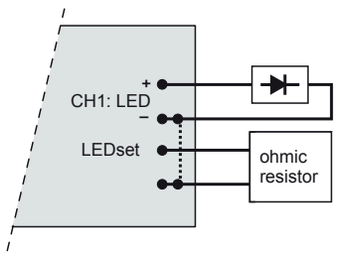


C Connection ECG-Programming Box for programming



Wiring diagrams ECG output

1 Connection of ECG output side



Applications

Home Automation, Smart Street Light Control, Park, Industrial lighting, Conference Hall and, Office lighting and other plethora.

Features of DALI

- DA input terminals are non polar (Senders & Receiver wire)
- Terminals are just like USB port or RS-232 cable .
- DALI Controller can Communicate with 32/64 device simultaneously .
- All the device can be controlled individually .
- DALI controllers (PLCs) can be provided by Controller Manufacturer (Zalux).
- User can control the Lighting system by itself .
- Load shedding can be done according to the timing and uses (Smart System)

DALI Drivers can be dimmed by using :

- DALI controllers (for fully automated systems)
- Push-dim (Bell push) : In bell push, a normal push button is used for dimming.
- Single tapping (on/off) the light and if you hold the push button for a while , the light can be dim down and up.

Basic difference Between Analog dim and DALI driver (push-dim)

- DALI controlled drivers are recommended for the projects where more number of lighting is required where a single controller is capable of controlling 32/64 number of lights simultaneously.
- If Analog Dimmers are used in bulk projects, then large number of power supply and dimmers will be required (Eg. for 60 lights, 60 drivers along with 60 dimmers will be required which will be economical).
- Analog Dim is economical for smaller areas and dimming is done individually using individual power supply. Whereas, DALI gives you an option of dimming individually as well as dimming multiple lights with a single controller..
- DALI dimming has more accuracy and is more convinient to use as compared to Analog Dimming.

About Eidolon Innovations

Eidolon Innovations Private Limited is established as a startup by young enthusiastic minds focused on providing solutions to the key problems of the 21st century revolving around Green Energy and Security. Eidolon Innovations has a comprehensive product portfolio with an overarching expertise in LED lights, fixture and smart integrated lighting solutions.

The methodical R&D and in-house designing of LED Light Fixtures for various applications from Industries to Military, from High Altitude to Deep Oceanic Expeditions and moreover smart modules for Smart Lighting Genre are what makes this humble lights more efficient and flexible, adding this with top quality LEDs from the world's leading LED manufacturers.

About BAG

BAG is a globally leading company for lighting electronics with product portfolio mainly focused on components for LED lighting.

BAG is world's leading manuifcturer of LED Driver and Modules.

BAG is founded in Switzerland in 1909, currently Headquarters in Arnsberg, Germany with development locations in Germany and India.

Eidolon Innovations is thankful to Bag Electronics India for their valued support and encourangement for the making of this document and for the time to come.

Bibhu Bahalia
Director / CEO

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