

## Features

- It can measure power and internal temperature
- Can convert 0 - 10V dimming signal or digital dimming commands into DALI broadcast command.
- 2 CHs 0-10V dimming signals or digital dimming commands are buffered output
- 0-10V output interfaces are designed to sink or source current up to 25mA
- Digital command or 0-10V signal dimming method can be selected through ESI
- DALI 2-wire sensor (highest priority) and ESI sensor supported
- The date can be read by ESI or DALI port
- DiiA/Zhaga connectivity extensions DT49, DT50, DT51, DT52
- Selection of the desired device type via operating mode
  - 0x00: IEC 62386-102 standard mode
  - 0x80: manufacturer specific mode, DT6, DT8 Tc, DT17 supported (default)
- Translate DALI dimming commands to 2 CHs analog 0-10V output (ChA: Intensity, ChB: CCT)
- AC load relay switch off function when dimming off can be set through DALI
- AC load relay will switch off AC output when dimming level is set to 0
- Zero-crossing switching function for AC load relay
- DC signal relay will short-circuit DALI interface and physically disconnect 0-10V output interfaces in case of power loss
- Built-in DALI PSU, 15V , 55mA (programmable to 200mA)
- Built-in ESI PSU, 15V, 50mA
- AC output: 8A Max., 1385VA Max.
- Over current protection when load connects to Switched, and the failure information is recorded in NVM
- IP24 protection rating
- For luminaries of protection class II
- DALI / 0-10V and ESI interfaces are both compliant with SELV
- Communication protocol compatible with Enlighted Sensor Interface [ESI] Definition Rev 4.8

### AC Load Relay Specification

- One (1) SPST Continuous Duty Coil
- 1 Million Cycles Minimum Mechanical Lifetime
- Operate Time: 15mS
- Maximum Switching Load Voltage: 347Vac
- Maximum Switching Load Current: 8A



## Benefits

- One SKU supports multiple fixture types
- Current states available to a variety of popular LED engines
- Can be used for a variety of lighting fixture and troffers
- ESI interface and DALI bus PSU output for powering sensor, wireless device etc.

### DC Signal Relay Specification

- One (1) DPDT Continuous Duty Coil
- 1 Million Cycles Minimum Mechanical Lifetime
- Operate Time: 3mS
- Maximum Switching Load Voltage: 30Vdc
- Maximum Switching Load Current: 1A

# DALI CU Series

## Electrical Specification

All parameters not specially mentioned are typical and measured at 230Vac, rated current input and 25°C of ambient temperature.

### Ordering Information

Model Number	DALICU04-EN-3
Full Product Name	DALI Controlgear

### Input Information

Line Voltage	100 ~ 347Vac
Line Current	0.1A Max. (AC output power is not included)
Line Frequency	50 / 60Hz
Min. Operational Mains Voltage	90Vac
Max. Operational Mains Voltage	370Vac
Inrush Current	Cold Start $\leq 70A$ (twidth = 50us measured at 10% Ipeak) @ 347Vac, Per NEMA 410

### Output Information

Analog 0-10V Interface Max. Current	Sourcing / Sinking $\leq 25mA$
DALI Output Voltage Range	14Vdc to 18.5Vdc
DALI Open Circuit Voltage	18.5Vdc Max.
DALI Max. Output Voltage	18.5Vdc
DALI Typ. Output Voltage	15Vdc
DALI Min. Output Voltage	14Vdc
DALI Guaranteed Output Current	55mA (programmable to 200mA)
DALI Max. Output Current	62mA (210mA)
DALI Max. Output Power	1.0W (3.0W)
ESI AUX VCC	Rated 15Vdc (deviation 13Vdc to 17Vdc) @ 50mA
Protections	Short circuit protection of DA+ / DA-
AC Output Current	8A/120Vac, 6A/230Vac, 5A/277Vac, 4A/347Vac
AC Output OCP	8.5A lasts more than 20s when load connects to Switched, Latch Mode, Recover after Power Cycle
AC Output Inrush Current	180A, 10ms (max.)

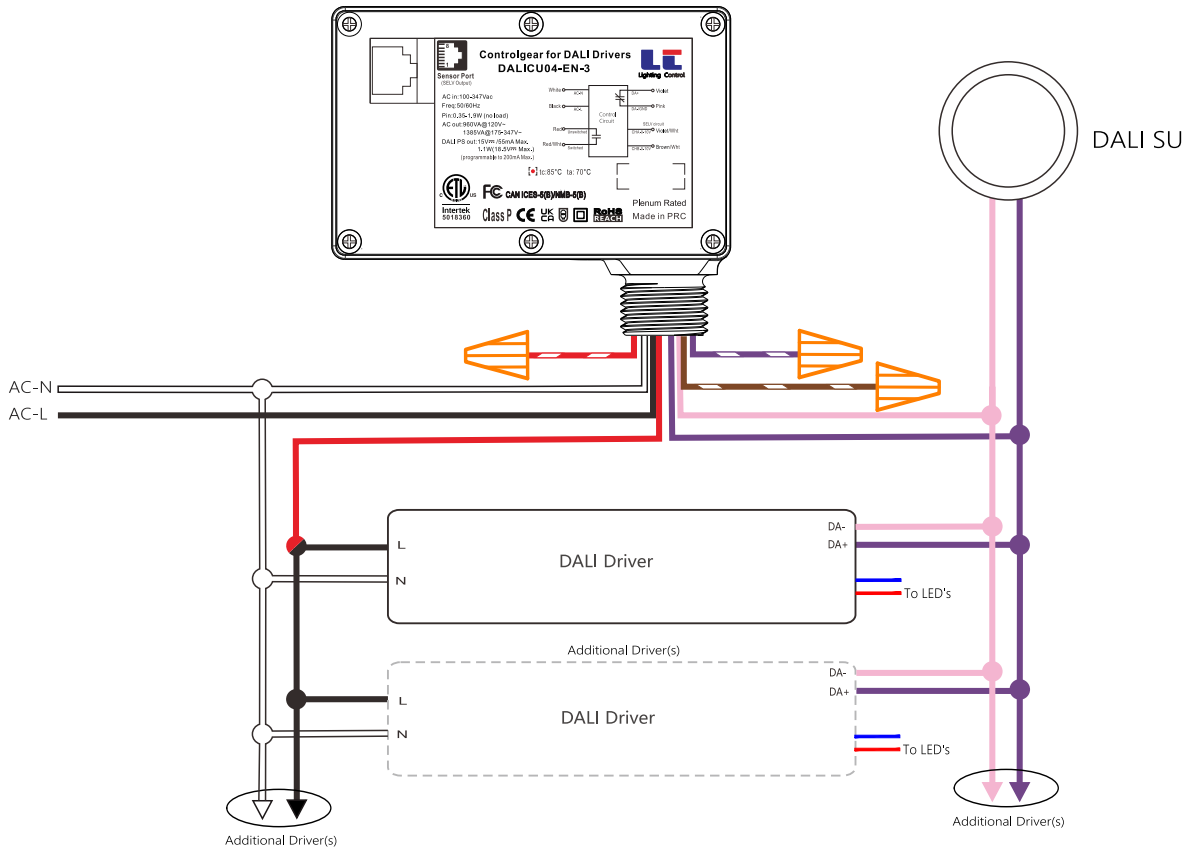
### Environment & Approbation

Protection Rating	IP24
Ambient Temp Range	-20°C to +70°C
Max. Case Temperature[Tcase]	80°C for Maintaining Specified Life Expectancy & 85°C for CE Safety Features
Operating Condition	Damp and dry. For Indoor Use Only. Plenum Rated
Safety Standards	EN61347-1, EN61347-2-11
EMC Emission	Compliance to EN55015, EN61000-3-2, EN61000-3-3
EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11, EN61547, surge immunity Line-Line 1KV
Isolation	Refer to table
Audible Noise	<24dB Class A

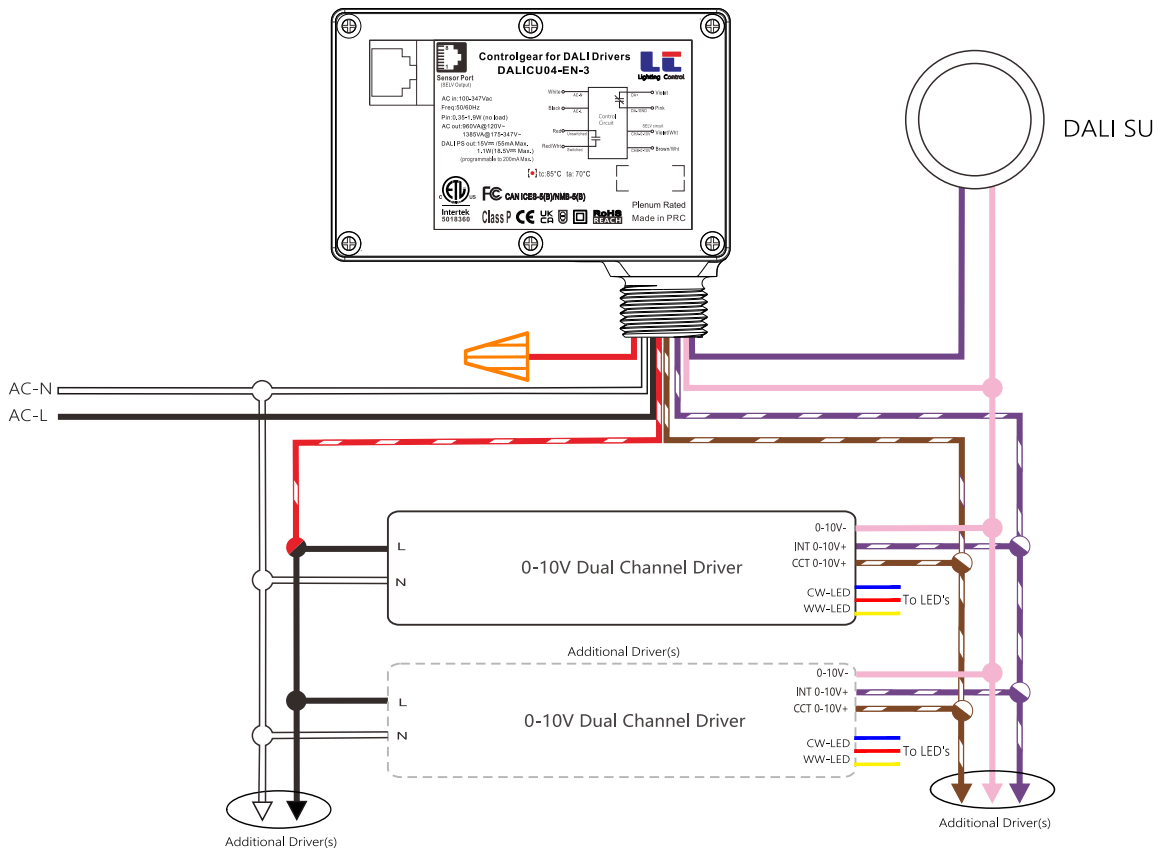
## Isolation

Isolation	AC Input	DALI	0-10V output	ESI port	AC output
AC Input	Not applicable	2U+1KV	2U+1KV	2U+1KV	Not Isolation
DALI	2U+1KV	Not applicable	Not Isolation	2U+1KV	2U+1KV
0-10V output	2U+1KV	Not Isolation	Not applicable	2U+1KV	2U+1KV
ESI port	2U+1KV	2U+1KV	2U+1KV	Not applicable	2U+1KV
AC output	Not Isolation	2U+1KV	2U+1KV	2U+1KV	Not applicable

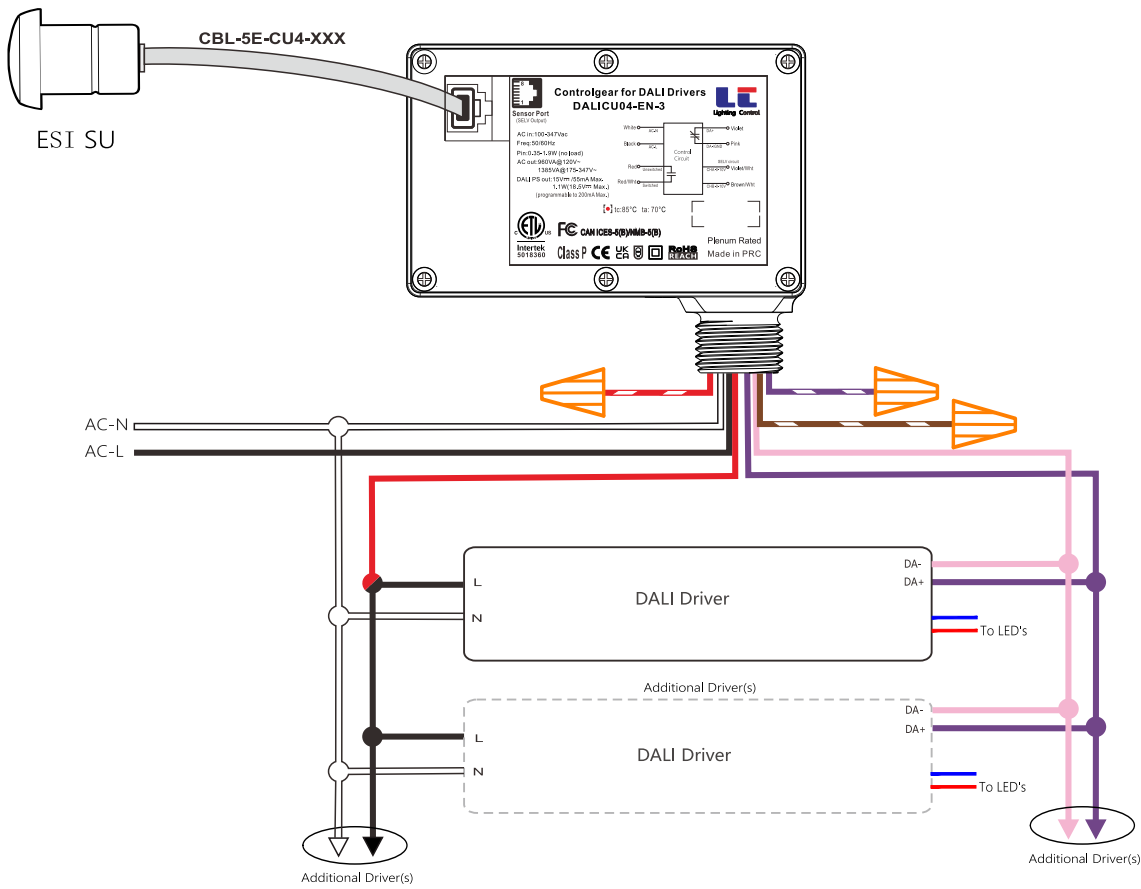
## DALI sensor to DALI driver wiring diagram



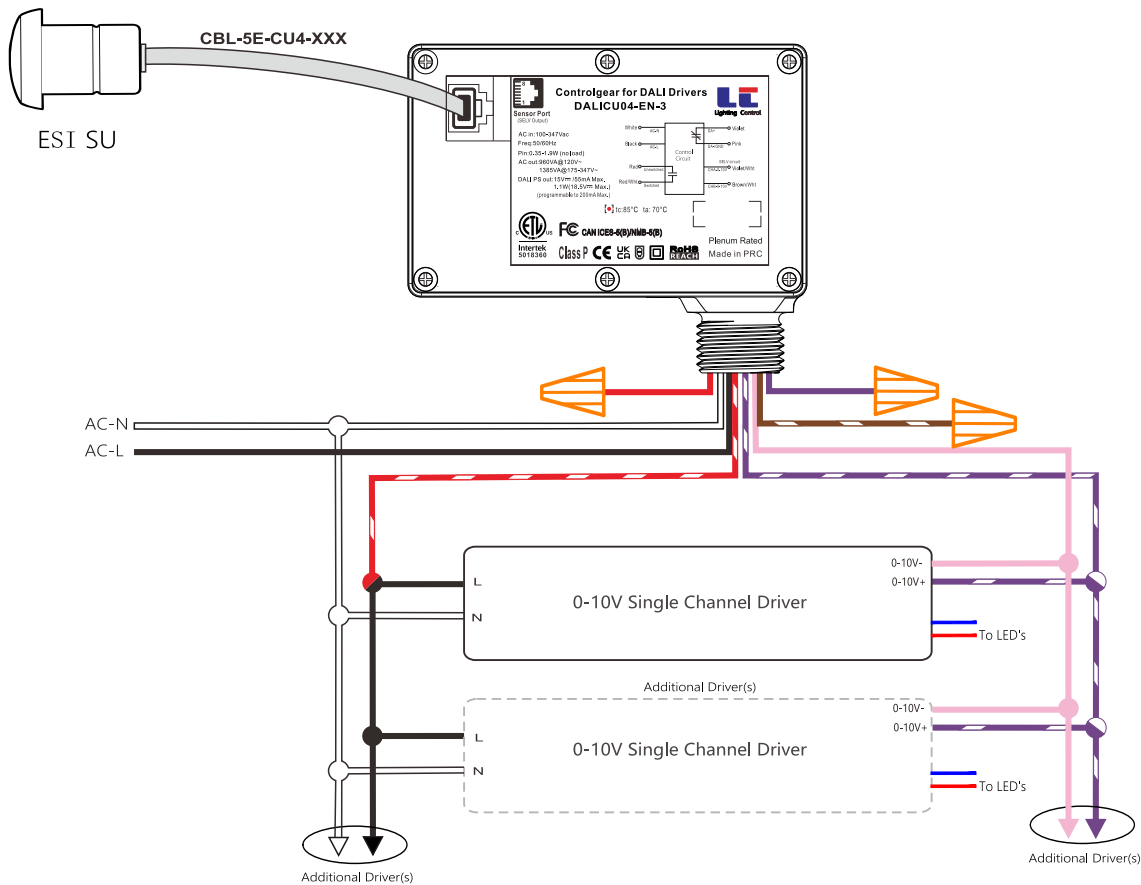
## DALI sensor to 0-10V driver wiring diagram



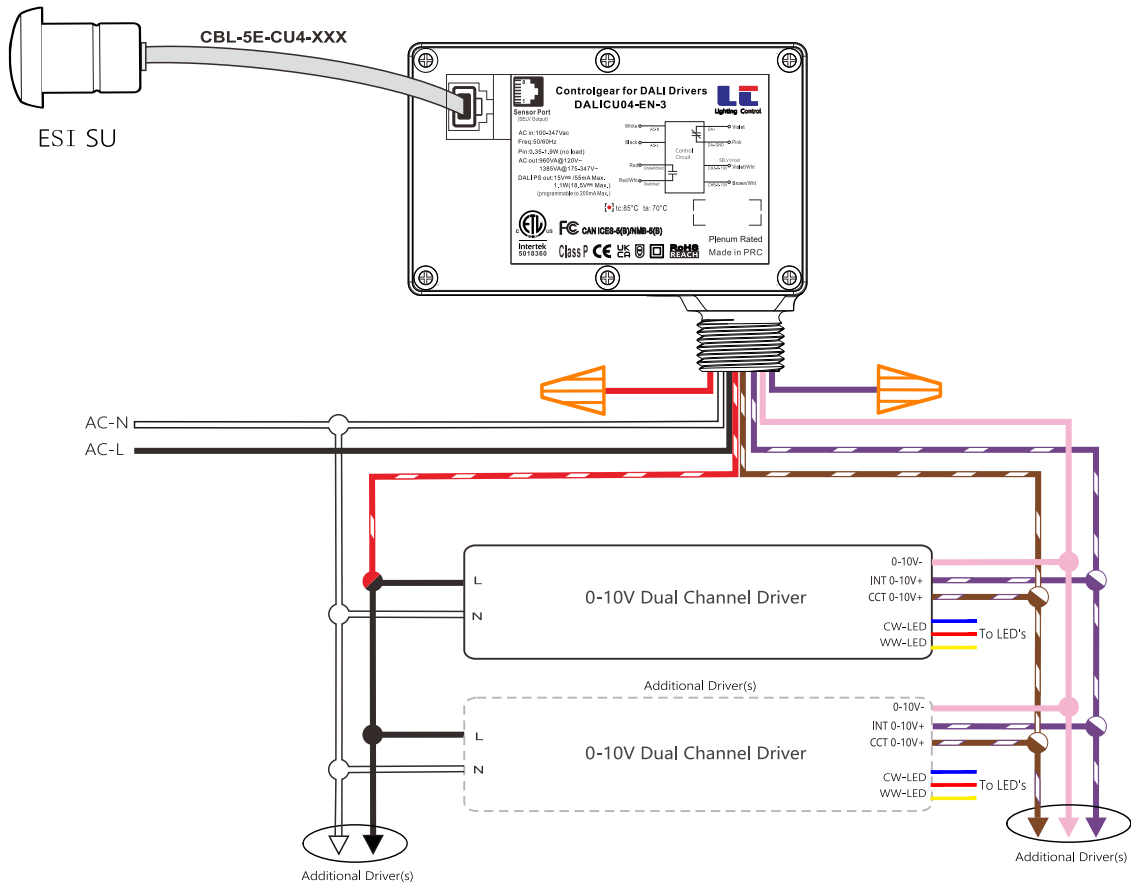
## ESI sensor to DALI driver wiring diagram



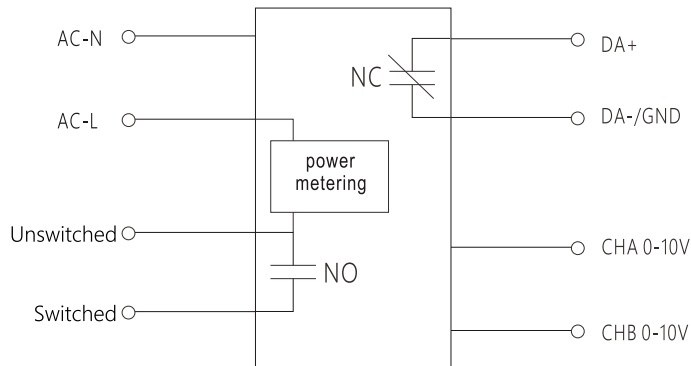
## ESI sensor to 0-10V driver Wiring Diagram



## ESI sensor to 0-10V driver wiring diagram



## Circuiting



Note: The power output from Unswitched and Switched are both metering.

# DALI CU Series

## Functional Description

DALI CU is developed according to IEC 62386-101, 102, 207, 209, 218, part 250-253. DALI CU is a power supply, rated at 15Vdc and providing 55mA (200mA) current.

- With the provided 55mA current up to 25 DALI loads can be connected.
- With the programmable 200mA current up to 100 DALI loads can be connected.

- Standard DALI loads are specified to consume max. 2 mA
- Control devices may consume more than 2 mA. If such devices are connected to the DALI CU, the amount of possible connected devices will be reduced.
- This has to be considered during the application design.

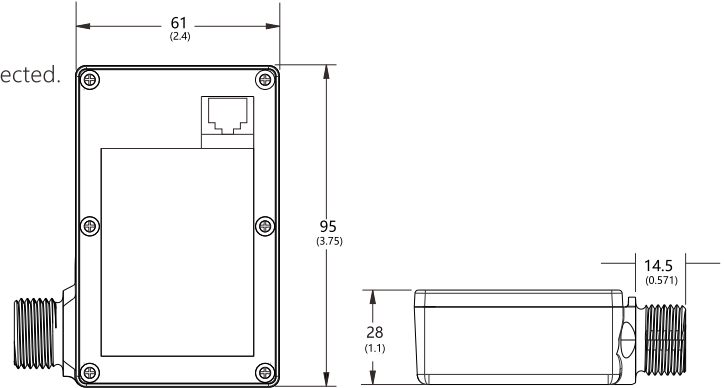
## Installation Tips

- Individual DALI circuits must not exceed 55mA (200mA).
- The DALI signal wires must not drop more than 2V.
- Install in accordance with National and Local Electrical Codes.

Max. output cable length for DALI

Material	Cross- section	Max. output cable length	
		25 °C	75 °C
Copper	0.20 mm <sup>2</sup>	43 m	35 m
	0.50 mm <sup>2</sup>	110 m	90 m
	0.75 mm <sup>2</sup>	165 m	136 m
	1.00 mm <sup>2</sup>	220 m	183 m
	1.50 mm <sup>2</sup>	290 m	273 m
Aluminium	0.20 mm <sup>2</sup>	23 m	19 m
	0.50 mm <sup>2</sup>	62 m	52 m
	0.75 mm <sup>2</sup>	100 m	84m
	1.00 mm <sup>2</sup>	132 m	111 m
	1.50 mm <sup>2</sup>	200 m	167 m

## Dimensions & Weight



	inch	mm
Case Length	3.75"	95
Case Width	2.4"	61
Case Height	1.1"	28
Weight	0.55lb/0.25Kg	

## Wire Definition

Color	Cable	Length	Connector definition	Color	Cable	Length	Connector definition
White	18AWG	12"/304mm	AC Input Neutral	Violet	18AWG	12"/304mm	DA+
Black	18AWG	12"/304mm	AC Input Line	Pink	18AWG	12"/304mm	DA- / GND
Red	18AWG	12"/304mm	AC-L out1 (Unswitched)	Violet/Wht	18AWG	12"/304mm	CHA 0-10V+
Red/Wht	18AWG	12"/304mm	AC-L out2 (Switched)	Brown/Wht	18AWG	12"/304mm	CHB 0-10V+

Note: The power output from Unswitched and Switched are both metering.

## Label

**Controlgear for DALI Drivers**

**DALICU04-EN-3**

**Sensor Port**  
(SELV Output)

AC in: 100-347Vac  
Freq: 50/60Hz  
Pin: 0.35-1.9W (no load)  
AC out: 960VA @ 120V~  
1385VA @ 175-347V~  
DALI PS out: 15VDC / 55mA Max.  
1.1W (18.5VDC Max.)  
(programmable to 200mA Max.)

White - AC-N  
Black - AC-L  
Red - Unswitched  
Red/Wht - Switched

Control Circuit

DA+ - Violet  
DA- / GND - Pink  
SELV circuit  
CHA 0-10V - Violet/Wht  
CHB 0-10V - Brown/Wht

tc: 85°C ta: 70°C

CAN ICES-5(B)/NMB-5(B)

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