

Technical data / Instructions for use

UD-700-X2-DALI-C

Article no. 80026506

Universal dimmer (DALI, Casambi-ready)



The module LIGA.AIR.UD-700-C (available separately; article no. 221.90.501) is required for Casambi operation

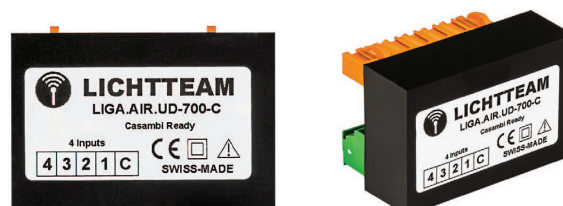


Table of contents

1. About the documentation

- 1.1. Storage of documents
- 1.2. Symbols used

2. Safety information

- 2.1. Intended use
- 2.2. Foreseeable misuse
- 2.3. Safe handling
- 2.4. Personnel qualification
- 2.5. Modifications to the product
- 2.6. Using spare parts and accessories
- 2.7. Liability notice

3. Warranty

4. Declaration of conformity

5. Service address

6. Maintenance/upkeep/disposal

7. Storage

8. Assembly

9. Product description

10. Technical data

- 10.1. Pin assignment

11. Wiring diagram

1. About the documentation

These instructions are intended for trained personnel with experience in the assembly, installation and operation of ISYGLT and ISYnet systems. You must read these instructions before using the product, and keep them accessible in a safe place for future reference. se Lightmanagement AG accepts no liability for damage and faults resulting from failure to follow these instructions.

1.1. Storage of documents

These instructions and all other documents form a part of the product. They must be issued to the device operator, who will ensure they are stored safely so they can be consulted as needed.

1.2. Symbols used

Please observe the following safety notices and other notices in the instructions:



Action instruction

The hand indicates that there is an action you should perform.



Danger!

Immediate danger to life and limb!



Caution!

General notices, useful information and special instructions

2. Safety information



Please take note of the following general safety information when installing and operating the device:

The ISYnet module may only be assembled and installed by a qualified electrician. Other activities relating to the ISYnet module, such as assembly and maintenance of system components with tested standard connectors, operation and configuration of the ISYnet module may only be carried out by trained personnel.

Please follow the electrical installation regulations that apply in the country where the device is installed and operated, as well as the national accident prevention regulations. Please also observe any internal regulations (process specifications, operating regulations, safety regulations).



The ISYnet module system must be de-energised and secured against reactivation before any work is done on it. An electrical test must be performed after completing assembly, installation and maintenance work. All protective conductor connections must be checked, along with the voltage at all connector plugs and at every individual module slot.

2.1. Intended use

The module is designed exclusively for use as a controller in conjunction with ISYGLT or ISYnet system components. Any use other than this is deemed to be contrary to intended use. The limit values specified in the technical data must not be exceeded under any circumstances. This applies in particular to the permitted ambient temperature range and the permitted IP protection. If using with a higher IP protection requirement, the ISYnet module must be installed in a housing or cabinet with a higher IP rating.

2.2. Foreseeable misuse

The module must not be used in the following cases in particular:

- Potentially explosive environments

If operated in a potentially explosive environment, sparks can cause deflagration, fire or explosion.

2.3. Safe handling

This module corresponds to the state of the art and the recognised safety rules and regulations. The functional capability and safety of each device is checked before delivery.

This module must only be operated if it is in fault-free working order. The operating instructions, the applicable laws and regulations of the country in which the device is installed and operated, and the applicable safety provisions and accident prevention regulations must be followed at all times.

The module is designed for distributor installation (REG) on a 35 mm DIN rail pursuant to EN 60715 in a suitable housing that is compliant with the applicable standard. Extreme ambient conditions impair the functionality of the product.

- Protect the module from jolts and impacts
- Only use the module indoors
- Protect the module from moisture

In addition to these safety instructions, please also follow the specific safety notices provided for the individual activities in the individual sections below.

2.4. Personnel qualification

Installation, commissioning, operation, maintenance, decommissioning and disposal may only be carried out by qualified specialist personnel. Work on electrical components may only be carried out by a trained electrician in accordance with the applicable regulations and guidelines. Other activities relating to the ISYnet module, such as assembly and maintenance of system components with tested standard connectors, operation and configuration of the ISYnet module may only be carried out by trained personnel.

2.5. Modifications to the product

Making independent modifications to the ISYnet module that are not described in these instructions or the other applicable documents can lead to malfunction and is prohibited for safety reasons.

2.6. Using spare parts and accessories

The module may be damaged if unsuitable spare parts and accessories are used. Only use original spare parts and accessories from the manufacturer.

2.7. Liability notice

se Lightmanagement AG accepts no liability or warranty for damage and consequential damage resulting from failure to observe the technical specifications, instructions and recommendations. se Lightmanagement AG shall not be liable for any costs or damages incurred by the user or third parties as a result of the use of this device, in particular improper use of the device, misuse or malfunction of the connection, malfunction of the device or the connected devices.

se Lightmanagement AG accepts no liability for printing errors.

3. Warranty



We provide a warranty within the scope of the statutory provisions. This is limited to proper use of the module and refers to repair or replacement of the ISYnet module. Please send the device along with a description of the fault to the company address listed below.

4. Declaration of conformity

You can request a free copy of the declaration of conformity for your module by contacting us via one of the following channels, stating the type and article number of the device:

Phone: +41 56 418 76 11

Email: info@se-ag.ch

5. Service address

se Lightmanagement AG
Güterstrasse 11
CH - 8957 Spreitenbach
Switzerland

Telefon: +41 56 418 76 11

www.se-ag.ch
info@se-ag.ch

6. Maintenance/upkeep/disposal

The product is maintenance-free. Any dust that accumulates should be removed from time to time. This may only be done while the device is de-energised.

Disposal (European Union)

Do not dispose of the product with domestic waste. Products bearing this symbol



must be disposed of in accordance with the EU Directive WEEE 2012/19/EU on waste electrical and electronic equipment via the local collection points for waste electrical equipment.

7. Storage

The product must be stored in a dry place, protected from dirt and mechanical stresses. If the product has been stored in a damp or dirty place, it must not be operated until a qualified electrician has inspected its condition.

8. Assembly

(By qualified electricians only!)

The product must be in the de-energised state for installation.

Switch off the power supply, make sure that the voltage is zero, and safeguard against reactivation.

The device may only be operated at the voltages specified in the technical data and may only be loaded with the currents defined therein. Use only suitable accessories.

Check whether the product contains loose parts. If so, and if the presence of such parts is not explicitly described, the product must not be installed or activated.

Use only suitable cables and fastening screws.

Assembly location

- The product can be installed in any position in a suitable housing (distributor, switch cabinet) as defined by a qualified electrician. Observe the maximum ambient temperature.

Assembly instructions

(Read in full before assembling)

- Install the device in a suitable housing.
- Establish the electrical connections in accordance with the example wiring diagram.
- Configure the DIP switch according to your requirements.
- The system must not be energised until it has been fully connected and visually inspected by the qualified electrician.

9. Product description

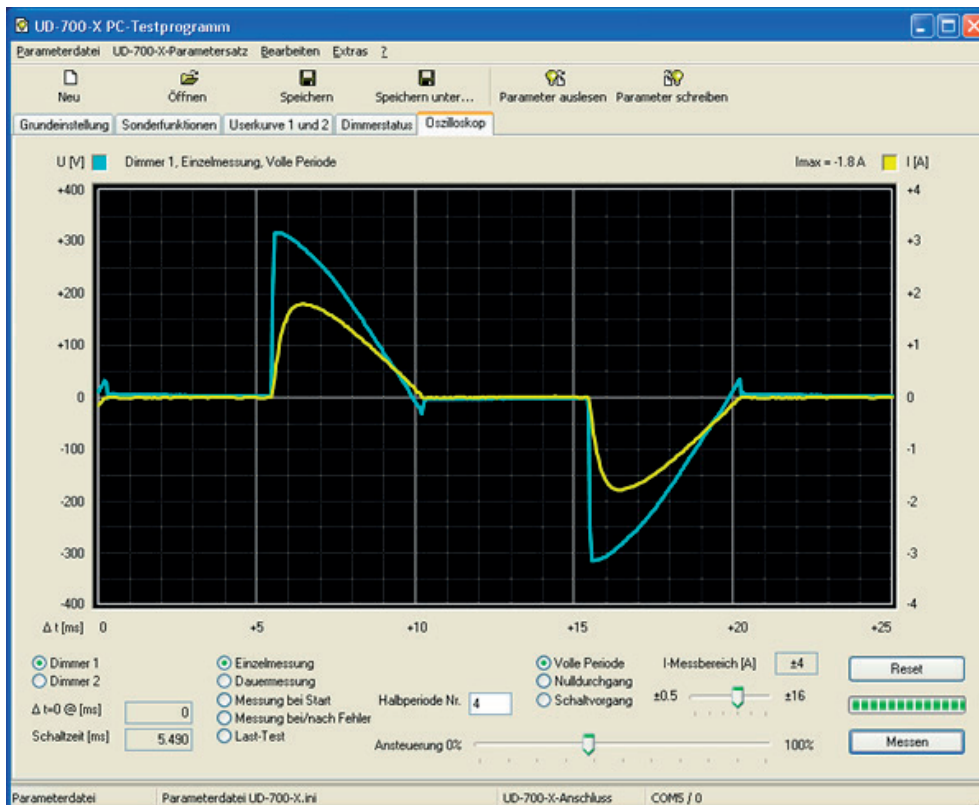
The universal dimmer is suitable for the reliable operation of high-voltage lamps, magnetic transformers, electronic transformers, ESL and retrofit LED lamps. Two separate dimmer outputs are available, each of which can be loaded with 700 W. If the outputs are wired in parallel and configured accordingly, the dimmer can be loaded with 1 x 1400 W. Each channel can be configured separately to the load type in question (phase cut-on or phase cut-off mode). The dimmer independently checks the connected load the first time the operating voltage is applied by performing a quick test to determine whether the connected load can be operated with the desired settings. The dimmer operates with an internal dimming resolution of 16 bits and therefore meets the very highest demands. It also suppresses ripple control signals and mains interference. The default factory settings such as dimming curves, minimum and maximum limits can be changed and optimised by the user. For ISYGLT users, functions can be configured in the program designer as usual. For DALI or standalone use, a free

software tool is available. With this software, the parameters can be optimised and internal data such as temperature, voltage, peak current and output can be displayed via a USB or RS-485 data connection with the dimmer. A new feature is the integrated oscilloscope function. This provides the user with a tool for displaying the current load without needing to take dangerous measurements at the mains voltage. Thanks to this feature, unknown lamps such as new retrofit lamps can be checked without the need for additional measuring equipment. All you need is the connected UD-700-X2-DALI dimmer, a USB cable (USB type A to micro B m/m) and our free software.

Dimmer control types:

- DALI
- Standalone: 0–10 V, 1–10 V, button (one-button dimmer)

UD-700-X PC test program – oscilloscope function



Inputs/outputs

- Dimmer outputs 700 W
- 2 control inputs 0–10 V or 1–10 V for 'emergency operation' or 'standalone operation'




Connection

- 1 voltage connection 230 V, 45–65 Hz
- 2 outputs 0–230 V, max. 700 W/VA each or 1 x 1400 W/VA (both channels coupled)
- 2 control inputs 0–10 V or 1–10 V for 'emergency operation' or 'standalone operation'
- 1 connection for DALI (D+ and D-)

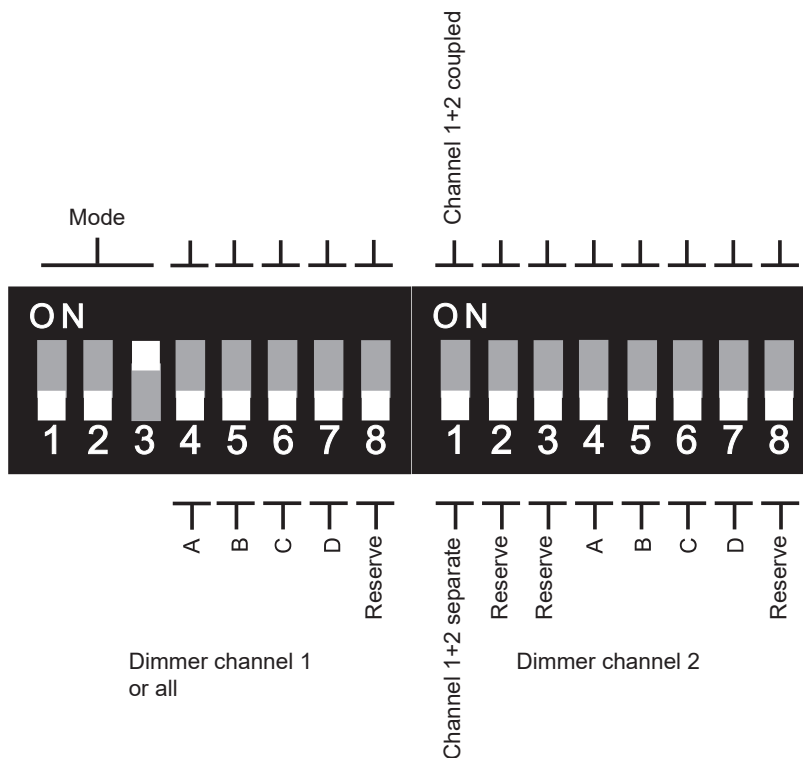
Design

- Black plastic housing, can be snapped onto 35 mm DIN rail 6 SU

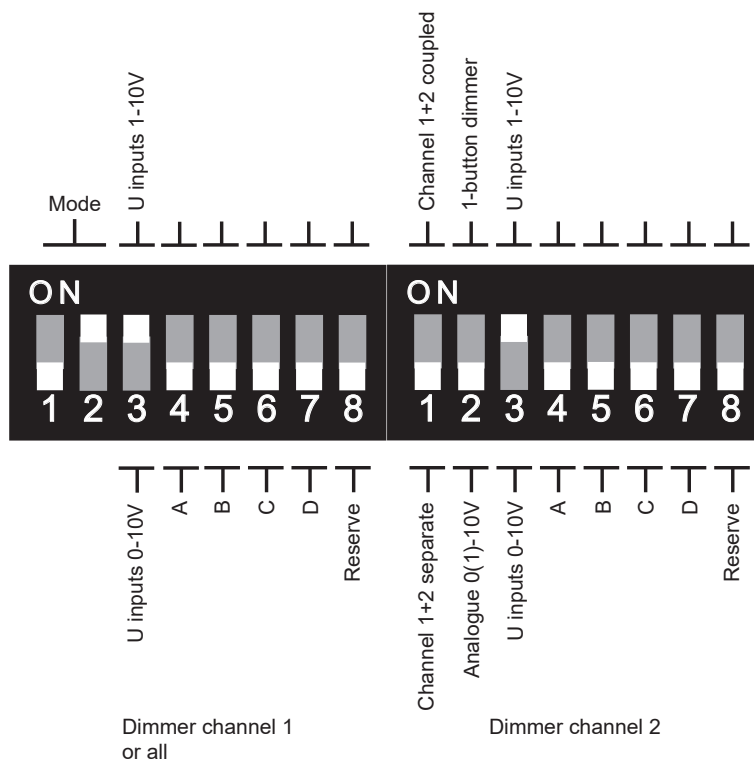
Function displays

		LED status	Meaning
	1 x LED (red)	OFF	No operating voltage
		ON	Operating voltage, no errors
		Flashing	Mains voltage too high (>400 Vs)
		3 x flashing + 1.5 s pause	No valid parameters found
	1 x LED (yellow)	OFF	No DALI signal
		ON	DALI signal detected
	2 x LED (green)	OFF	Output OFF, no errors
		ON	Output ON, no errors
		Flashing at 1 Hz	Warning/shut-off at excessive temperatures: Communication processor: 65°C / 75°C MOSFET housing: 95°C / 105°C
		1 x flashing + 1.5 s pause	Overload notification: 1. When max. permitted peak current (>15 A) is exceeded 2. When limit values for power loss (>8 W/channel) or peak current (>10 A) are reached
		2 x flashing + 1.5 s pause	Notification after shut-off at voltage peaks >450 V
3 x flashing + 1.5 s pause	Communication with dimmer processor lost		

DIP switch
DALI operation



DIP switch
Casambi operation



Settings key (excluding Casambi)

Function	Operating mode
U input 1–10 V	Control via digital potentiometer from switch manufacturer, or 1–10 V dimmer coupler. (Behaves like electronic ballast for fluorescent lamps - the dimmer supplies the 10 V for the 1–10 V dimming.)
U input 0–10 V	Controlled externally, e.g. via PLC with 0–10 V (0–10 V voltage is supplied by the PLC)
A/B/C/D	See table below
Res.	Not used in this operating mode
Channels 1+2 coupled	The dimmer operates with a single channel, output 1 x 1400 W Bridge required between outputs LD1 and LD2
Channels 1+2 separate	The dimmer operates with two channels, output 2 x 700 W Outputs LD1 and LD2 must not be bridged
1-button dimmer	Controlled via standard buttons on terminals UE1 and UE2 to GND Quick press = on/off; long press = dim
Analogue 0(1)–10 V	Analogue control In this setting, the DIP switches 3 are enabled for selecting 0–10 V or 1–10 V.

Setting the operating mode with DIP switches A to D

DIP A	DIP B	Operating mode
OFF	OFF	Operating mode changes automatically; the starting value is pre-defined with the PC program in the 'Basic settings' tab
ON	OFF	Phase cut-off phase section
OFF	ON	Phase cut-on phase section
ON	ON	NonDim

DIP C	DIP D	Configuration of dimming characteristics such as min/max values, curves etc. (see PC program for the UD-700-X2)
OFF	OFF	Parameters of column 1 ('Basic settings' in the PC program)
ON	OFF	Parameters of column 2 ('Basic settings' in the PC program)
OFF	ON	Parameters of column 3 ('Basic settings' in the PC program)
ON	ON	Parameters of column 4 (with pre-heat setting for ESL; 'Basic settings' in the PC program)

10. Technical data

Model	UD-700-X2-DALI-C
Article no.	80026506
Mains power supply	230 V / 45 to 65 Hz
Fuse	1 x 230 V automatic or GL fuse 10 A
Output	2 x 230 V short-circuit-proof, 10 W–700 W per channel
Power loss	<0.5...6 W (standby...full load) per channel – total 12 W at 2 x 700 W load Please ensure that the switch cabinet or housing is sufficiently ventilated.
1 (0)–10 V	Sink current at 1–10 V = 0.54 mA; Source current for hardware option '0–10 V' = 0.14 mA at 71 kOhm
Isolation voltage	3500 V (DALI-BUS/mains)
Short-circuit protection	Electronic overload protection via current measurement, short-circuit cut-off within 10 milliseconds
Dimensions	WxHxD 106x90x59 mm REG (6 SU)
Weight	300 g
Connection	Screw terminals 1.5 mm ² , plug-in
Operating temperature	-10°C to +45°C -> at +50°C max. 60% connectible output -> at +55°C max. 50% connectible output -> at +60°C max. 30% connectible output
Storage temperature	-25°C to +70°C
Relative humidity	0–85% RH, non-condensing
Protection rating	IP30
Protection class	I
CE mark	yes

10.1. Pin assignment

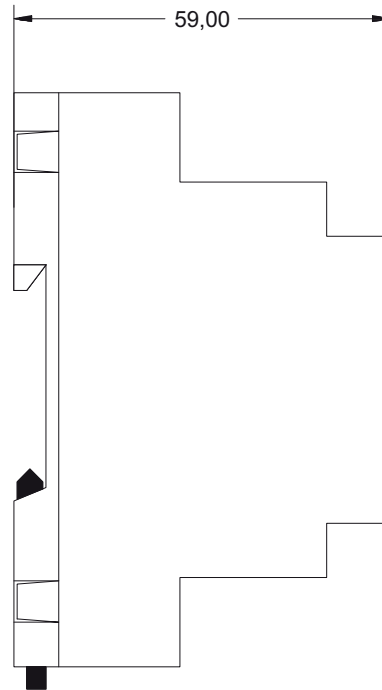
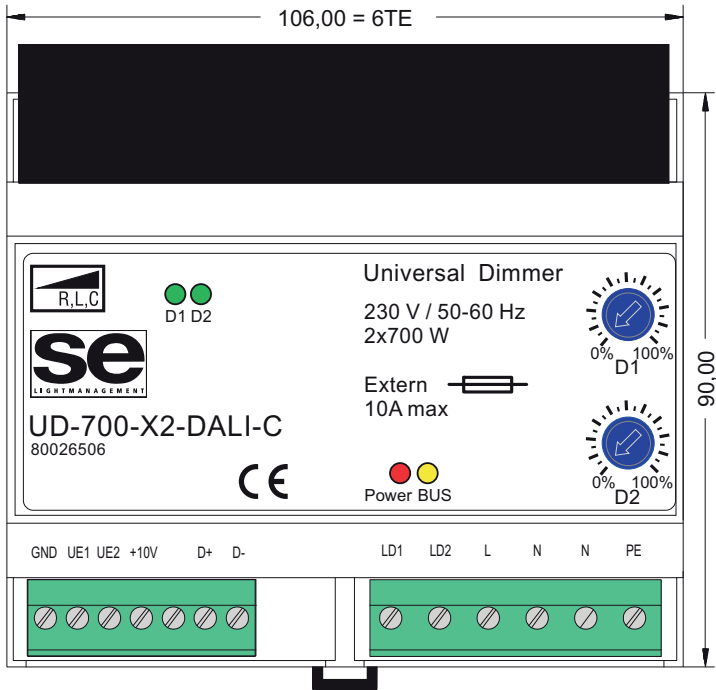
Left connector

D+	DALI
D-	DALI

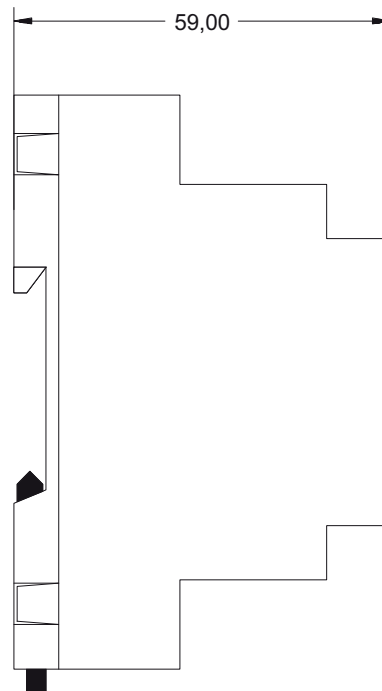
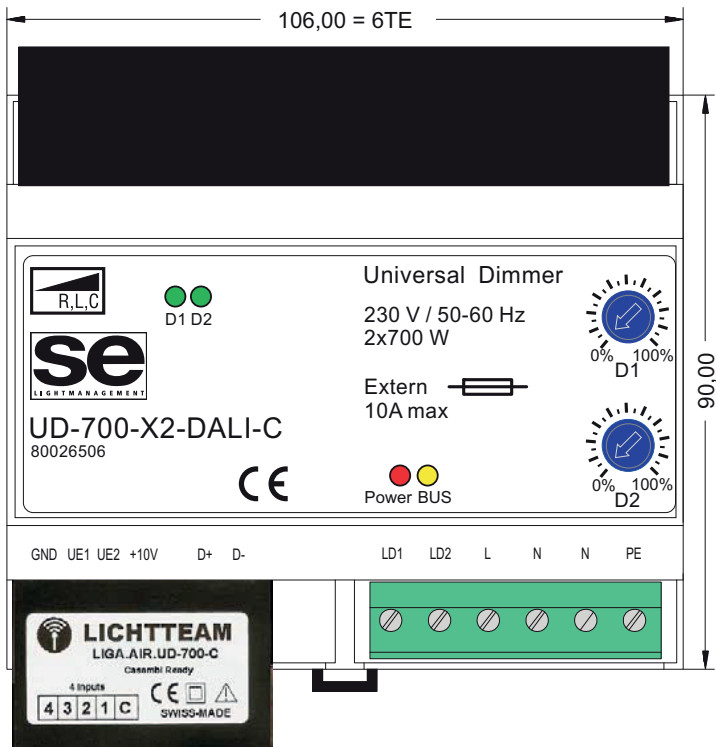
Right connector

LD1	Dimmer 1 load output 0–230 V max. 700 W/VA cut-on/cut-off
LD2	Dimmer 2 load output 0–230 V max. 700 W/VA cut-on/cut-off
L	Mains voltage 230 V (45–65 Hz)
N	Neutral conductor
N	Neutral conductor
PE	Protective earth

Overview in DALI operation

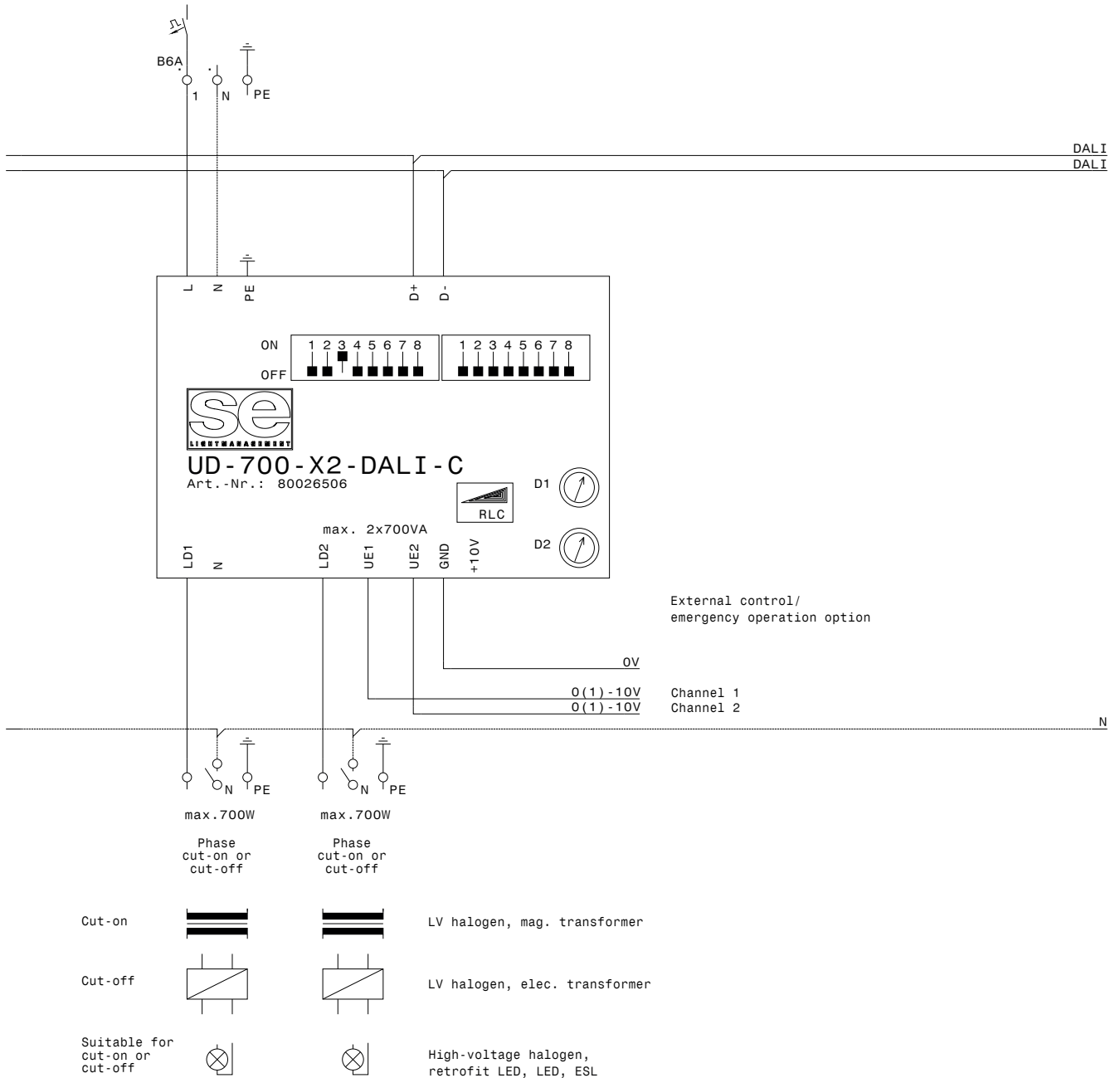


Overview in Casambi operation



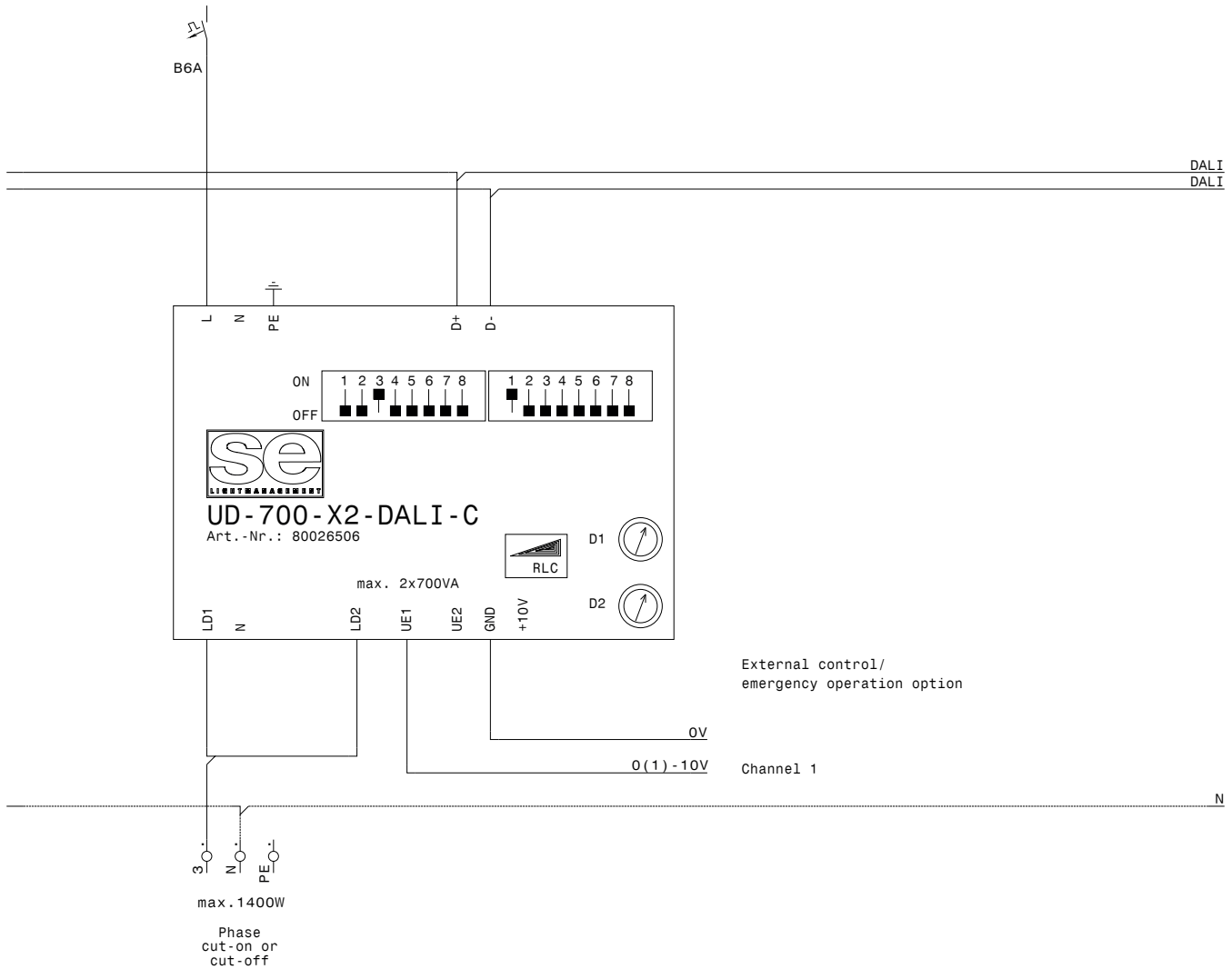
11. Wiring diagram

Example: DALI 2x700W control



We recommend cut-off dimming:
- Protects the lamp
- Longer service life

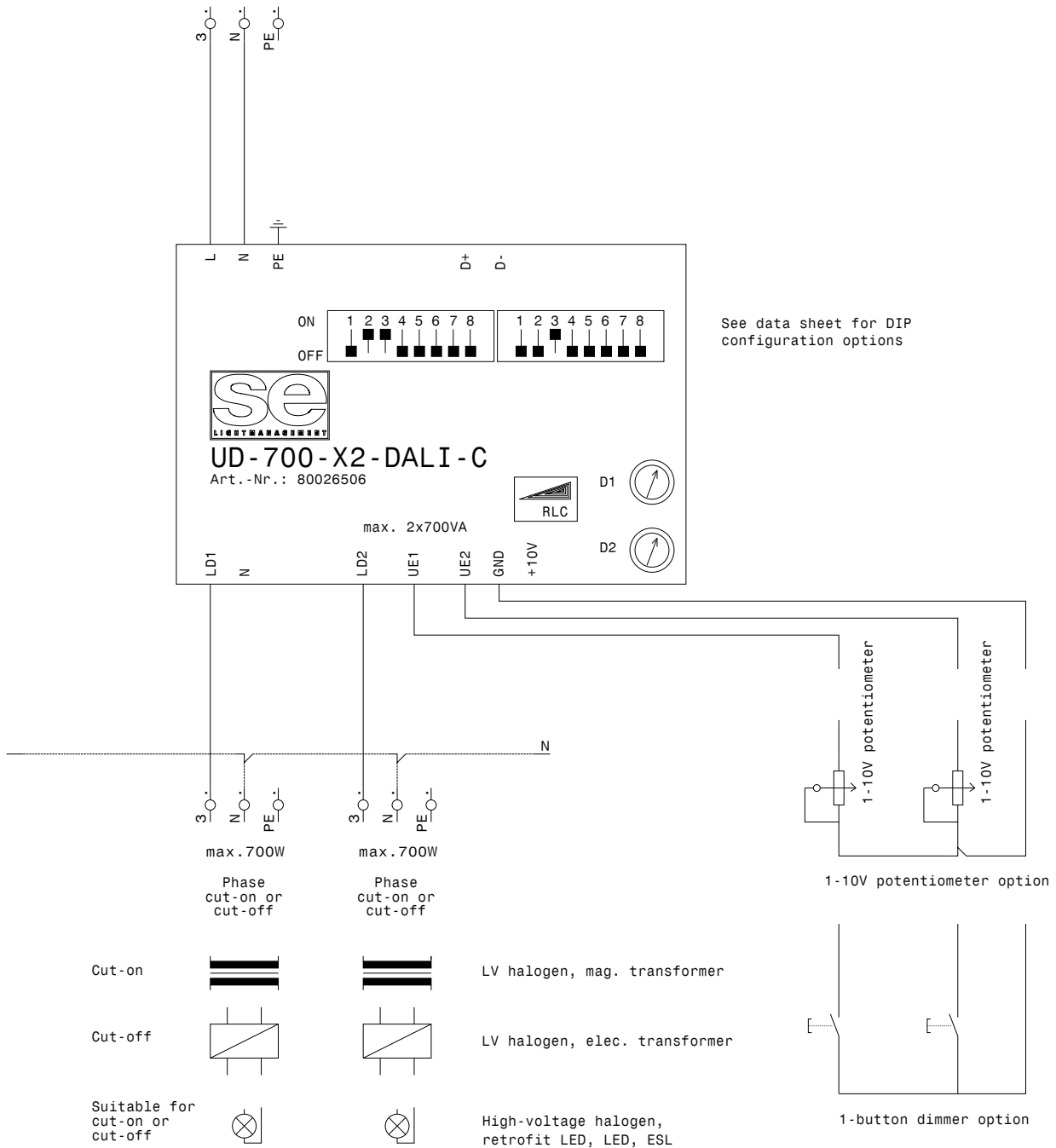
Example: DALI 1x1400W control



- | | | |
|--------------------------------|--|--|
| Cut-on | | LV halogen, mag. transformer |
| Cut-off | | LV halogen, elec. transformer |
| Suitable for cut-on or cut-off | | High-voltage halogen, retrofit LED, LED, ESL |

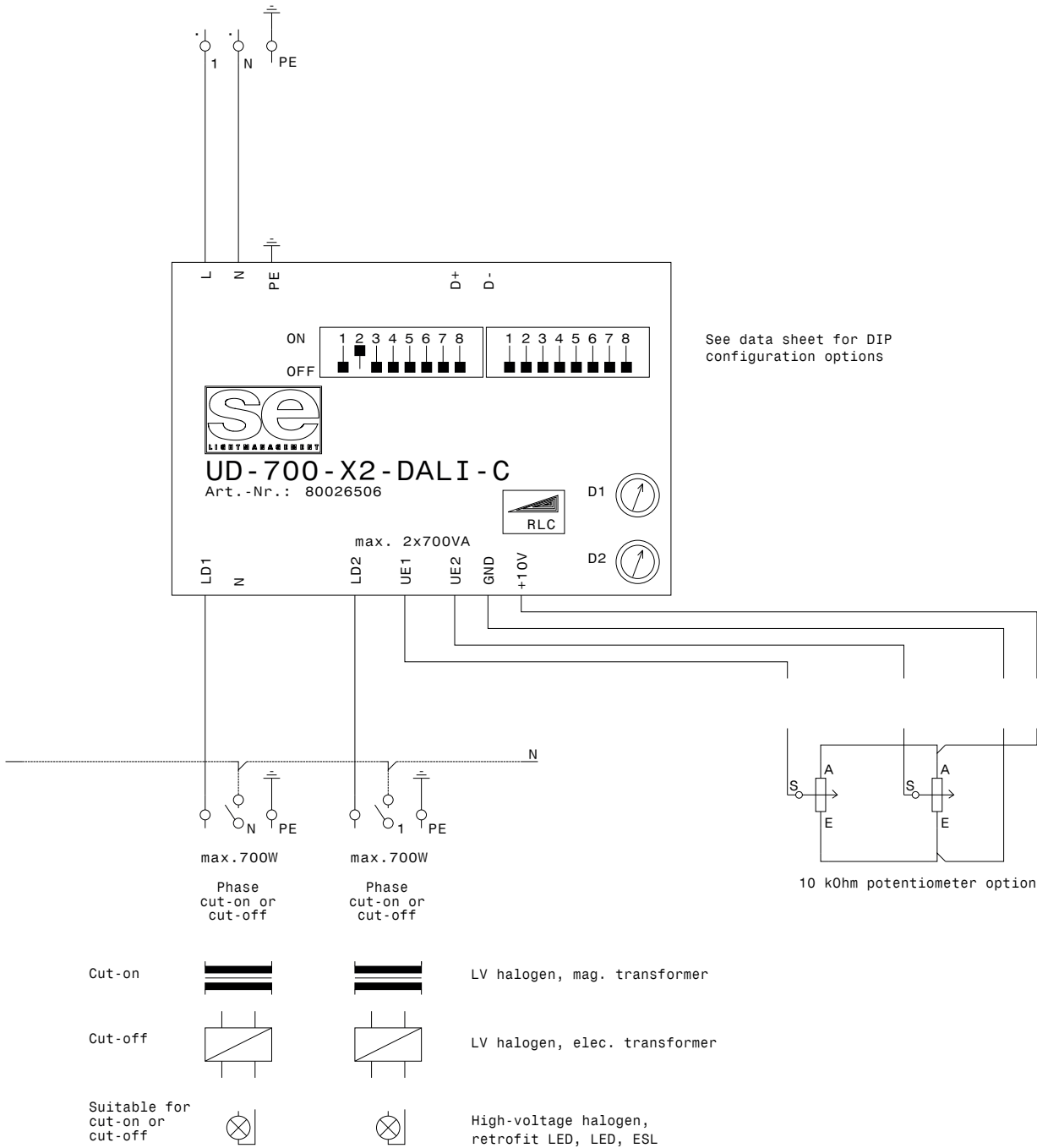
We recommend cut-off dimming:
 - Protects the lamp
 - Longer service life

Example: 1-10V and 1-button dimmer control



We recommend cut-off dimming:
 - Protects the lamp
 - Longer service life

Example: Potentiometer 10 kOhm control



We recommend cut-off dimming:
 - Protects the lamp
 - Longer service life

Example: Casambi control

