Technical Data / Instruction Manual

UD-700-X2

Article no. 80026503

Universal Dimmer

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Directory of Content

1. Notes on documentation

These instructions are intended for qualified personnel who are familiar with the assembly, installation and operation of the ISYGLT system. It is essential that you read these operating instructions through before commissioning and keep them accessible for further use.
SEEBACHER cannot accept any liability for damage or malfunctions resulting from failure to observe these instructions.

1.1. Retention of documents

These instructions and all other applicable documents are part of the product. They must be handed over to the device operator. The operator will store the documents so that they can be made available if necessary.

1.2. Symbols used

Observe the following safety and other instructions in the manual:

 Handling instruction
The hand indicates that you should carry out an act.

 Danger!
Immediate danger to life!

 Attention!
General notes, useful information and special features

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2. Safety instructions

Observe the following general safety instructions when installing and commissioning the device:

Assembly and installation of the ISYGLT module may only be carried out by a qualified electrician. Other activities in connection with the ISYGLT module, such as assembly and installation of system components with tested standard plug connections, as well as operation and configuration of the ISYGLT module may only be carried out by trained staff.

Observe the electrical installation regulations of the country in which the device is installed and operated as well as its national accident prevention regulations. In addition, observe internal company regulations (work, operating and safety regulations).

Before working on the ISYGLT module system, it must be disconnected from the power supply and secured against being switched on again. After completion of the assembly, installation and maintenance work, an electrical check must be carried out! Check all protective conductor connections and the voltages at all connection plugs as well as at each individual module slot.

2.1. Intended usage

The module is exclusively suitable for regulation (control) in connection with ISYGLT system components. Any other use is not intended. The limit values stated in the technical data must not be exceeded under any circumstances. This applies in particular to the permissible ambient temperature range and the permissible IP protection type. For applications with a higher required IP protection type, the ISYGLT module must be installed in a housing or a cabinet with a higher IP protection type.

2.2. Predictable mishandling

The module must not be used in the following cases in particular:
• explosive area
When operating in explosive areas, sparking can lead to deflagration, fire or explosions.

2.3. Safe handling

This module corresponds to the state of the art and the recognised safety regulations. Each device is tested for function and safety before delivery.

Only operate this module in perfect condition in accordance with the operating instructions, the applicable regulations and directives of the country in which the device is installed and operated, and the applicable safety and accident prevention regulations.

The module is designed for cabinet installation on a 35mm DIN rail according to EN 60715 in corresponding standard housings. Extreme environmental conditions impair the function of the product.
• Protect module from shocks
• Use module indoors only
• Protect module from humidity

In addition to these safety instructions, you must also observe the special safety instructions listed in the individual chapters for the individual acts.

2.4. Qualification of staff

Assembly, commissioning, operation, maintenance, decommissioning and disposal may only be carried out by qualified staff. Work on electrical parts may only be carried out by a trained electrician in accordance with the applicable regulations and directives. Other activities in connection with the ISYGLT module, such as assembly and installation of system components with tested standard plug connections, as well as operation and configuration of the ISYGLT module may only be carried out by trained staff.

2.5. Changes to the product

Unauthorized modifications to the ISYGLT module which are not described in this or the other applicable instructions can lead to malfunctions and are prohibited for safety reasons.

2.6. Use of spare parts and additional equipment

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

2.7. Liability notes

SEEBACHER accepts no liability or warranty whatsoever for damage and consequential damage caused by non-compliance with the technical regulations, instructions and recommendations. SEEBACHER shall not be liable for any costs or damage incurred by the user or third parties as a result of the use of this equipment, in particular improper use of the equipment, misuse or malfunction of the connection, malfunction of the equipment or connected devices.

SEEBACHER accepts no liability for printing errors.

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3. Warranty

We provide warranty within the framework of the statutory provisions. These are limited to the intended use of the module and refer to the repair or replacement of the ISYGLT module. Please send the device with an attached error description to our company address given below.

4. Declaration of Conformity

The valid declaration of conformity for the module can be requested from us free of charge by stating type and article no. as follows:
By phone: +49(0)8041/77776
By fax: +49(0)8041/77772
By mail: info@seebacher.de

5. Service address

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6. Maintenance / Care / Disposal

The product is maintenance-free. It is sufficient from time to time to remove any dust deposits. This may only be done in a power-free state.

Disposal (European Union)
Do not dispose of product in household waste! Products with this symbol

must be disposed of according to the EU directive WEEE 2012/19/EU on waste electrical and electronic equipment at the local collection points for waste electrical and electronic equipment!

7. Storage

The product must be stored in a dry place, protected from dirt and mechanical stress. After damp or dirty storage, the product may only be operated after a condition check by an authorised electrician.

8. Assembly

(Only by certified electrician!)
Mount the product only when it is in a power-free state!
Switch off the power supply, check that there is no voltage, secure against being switched on again!
The device may only be operated at voltages according to the technical data and loaded with the currents defined therein. Only use suitable equipment (system modules).

Check that there are no loose parts in the product. If this is the case and the presence of such parts is not explicitly described, do not install or commission the product.
Only use suitable cables and fixing screws.

Assembly site
- The product can be installed in any position in a casing to be determined by the electrician (distribution box, switch cabinet). Observe maximum ambient temperature!

Assembly steps
(Read completely before assembly!)
- Mount the device in a suitable casing.
- Make the electrical connections according to the wiring diagram.
- Configure the DIP switches according to your requirements.
- Only after a complete connection and a visual test by a qualified electrician, the system may be put under voltage.

9. Product description

The universal dimmer is suitable for the reliable operation of high-voltage lamps, magnetic transformers, electronic transformers, ESL and LED retrofit lamps. There are 2 separate dimmer outputs available, each of which can be loaded with 700W. By configuration and parallel connection of the outputs the dimmer can be loaded with 1x1400W. Each channel can be parameterized separately to the corresponding load type (leading edge or trailing edge mode). The dimmer automatically checks the connected load by carrying out a short test after the operating voltage has been applied for the first time to see whether the connected load can be operated with the desired setting. The dimmer works with an internal dimming resolution of 16 bit and thus meets the highest demands. It also suppresses ripple control signals and mains interference. The properties already predefined in the factory, such as dimming curves, minimum and maximum limits, can still be changed and optimized by the user himself. ISYGLT users can parameterize the functions as usual in the ProgramDesigner. A free software tool is available for stand-alone or DMX users. With this tool, the dimmer can be optimized per parameter via USB or RS-485 data connection and internal data such as temperatures, voltages, peak currents and power can be displayed. In addition, an oscilloscope function is also integrated as a new feature. This is the first time that the user has a tool for displaying the current load - and this without dangerous measurements on the mains voltage! A check of unknown illuminants - such as new retrofit lamps - is thus possible without any additional measuring equipment. All you need is the connected UD-700-X2 dimmer, a USB cable (USB Type A to Micro B m/m) and our free software.

Inputs / Outputs

- 2 dimmer outputs 700W
- 2 control inputs 0-10V or 1-10V for „emergency operation“ or „stand-alone operation“

Connections

- 1 voltage connection 230V, 45-65Hz
- 2 outputs 0-230V, max. 700W/VA each or 1x1400W/VA (both channels coupled)
- 2 control inputs 0-10V or 1-10V für „emergency operation“ or „stand-alone operation“
- 1 connection for the subnet (BUS A and B, RS-485)

Design

- plastic housing black, can be snapped onto 35mm DIN rail, 6 HP

Function displays in ISYGLT operating mode

		LED state	Meaning
🔴	1 x LED (red)	OFF	No operating voltage
		ON	Operating voltage, no error
		steady blinking	Too high mains voltage (>400Vs)
		3x blinking	No valid ISYGLT parameters available
🟡	1 x LED (yellow) Operating voltage / BUS	OFF	No BUS signal detected
		ON	BUS signal detected, own address is not detected
		steady blinking	BUS signal and own module address detected
🟢	2 x LED (green)	OFF	Output „OFF“, no error
		ON	Output „ON“, no error
		steady blinking	Overtemperature
		1x blinking	Overload
		2x blinking	Overvoltage
		3x blinking	Failure of communication with dimmer processor

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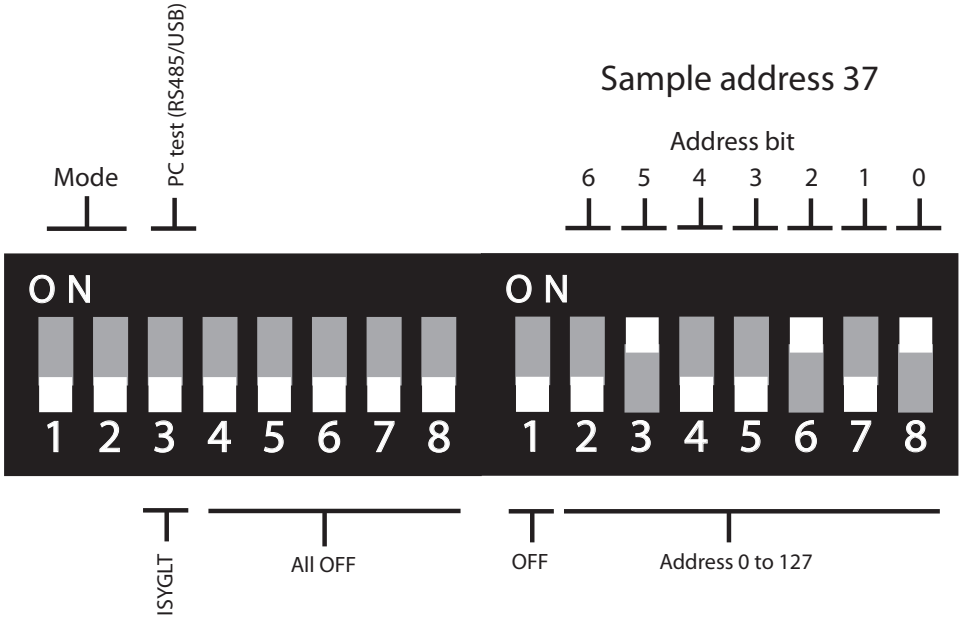
Function displays in stand-alone and DMX operating mode

		LED state	Meaning
●	1 x LED (red)	OFF	No operating voltage
		ON	Operating voltage, no error
		1Hz blinking	Too high mains voltage (>400Vs)
		1x blinking + break 1.5s	Error in self-test
		2x blinking + break 1.5s	After the ISYGLT dialing (DIP switches) no valid ISYGLT version is recognized
		3x blinking + break 1.5s	No valid parameters available
●	1 x LED (yellow) Operating voltage / BUS	OFF	No BUS signal detected
		ON	BUS is active, but communication processor is not receiving data DMX: Data for the set address are not transmitted (telegram too short) or data format is wrong RS-485 test: set address or data format is wrong
		1Hz blinking	Communication processor receives data
●	2 x LED (green)	OFF	Output „OFF“, no error
		ON	Output „ON“, no error
		1Hz blinking	Warning/switch-off at too high temperatures: Communication processor: 65°C / 75°C MOSFET housing: 95°C / 105°C
		1x blinking + break 1.5s	Signal at overload: 1. if the max. permissible peak current (>15A) is exceeded 2. if the limit values for power loss (>8W/channel) or peak current (>10A) are reached
		2x blinking + break 1.5s	Signal after switch-off at voltage peaks >450V
		3x blinking + break 1.5s	Failure of communication with dimmer processor

DIP switches
ISYGLT BUS operating mode



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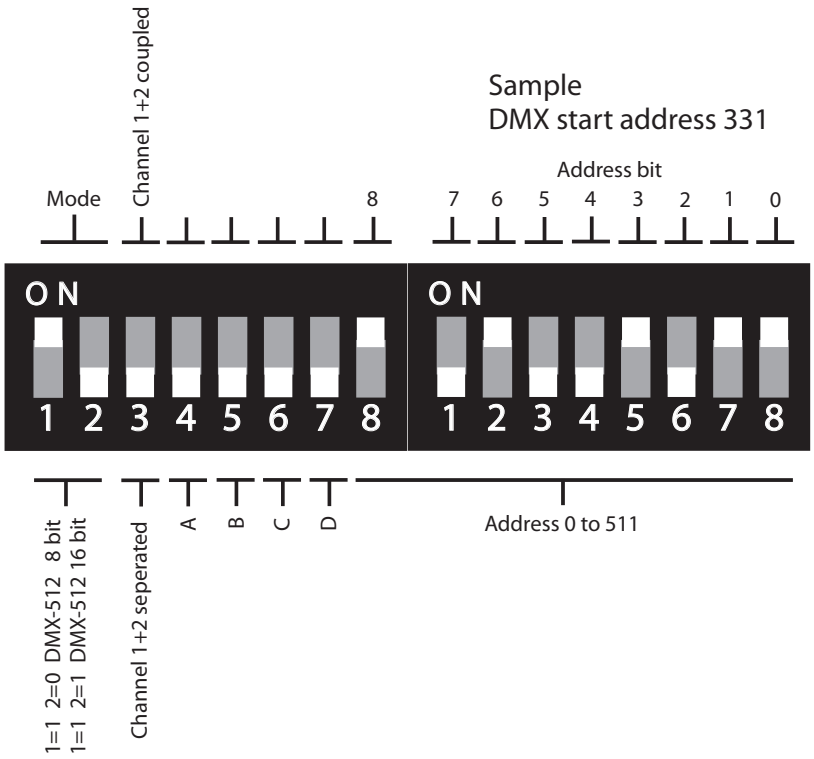
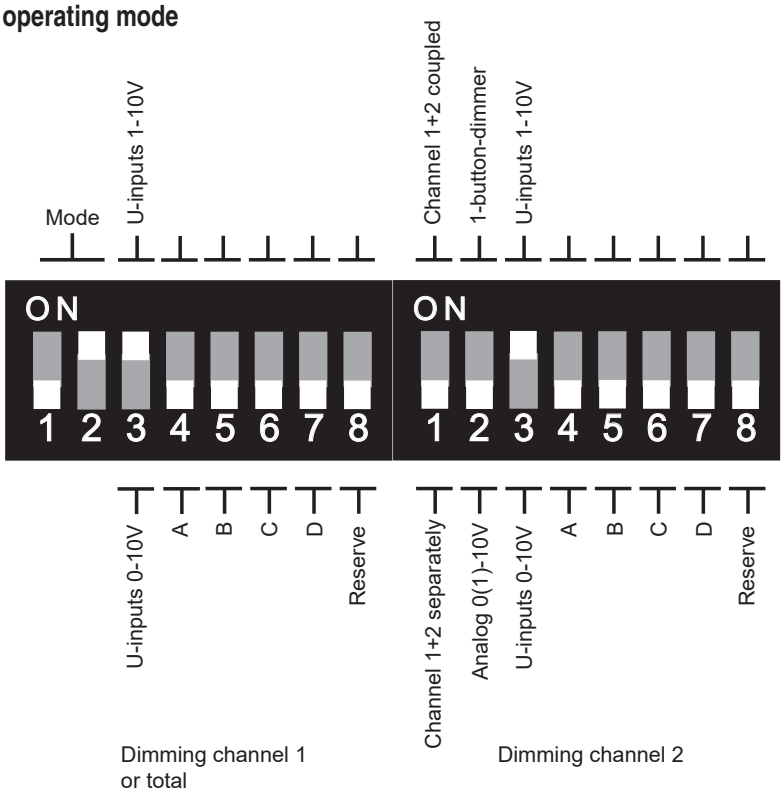
DIP switches
DMX-512 operating mode



DIP switches
stand-alone operating mode



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Operating mode setting for DMX-512 and stand-alone operation with DIP switches A to D

DIP A	DIP B	Operating mode
OFF	OFF	Automatic operating mode switching, the start value is predefined with the PC program on the „General“ tab
ON	OFF	Trailing edge
OFF	ON	Leading edge
ON	ON	NonDim

DIP C	DIP D	Setting dimming characteristics such as min-max values, curves, etc. (see PC program for UD-700-X2)
OFF	OFF	Parameters of the 1st column („General“ in the PC program UD-700-X2)
ON	OFF	Parameters of the 2nd column („General“ in the PC program UD-700-X2)
OFF	ON	Parameters of the 3rd column („General“ in the PC program UD-700-X2)
ON	ON	Parameters of the 4th column (with preheating setting for ESL) („General“ in PC program UD-700-X2)

10. Technical Data

Type designation	UD-700-X2
Article no.	80026503
Mains supply	230V / 45 to 65 Hz
Mains fuse	1 x 230V automatic or GL fuse 10A
Output	2 x 230V short-circuit proof, 10W-700W per channel
Power loss	<0.5...6W (Stand-by...full load) per channel - total 12W at 2x700W load Please ensure that the switch cabinet or housing is sufficiently ventilated!
1 (0)-10V	Sink current at 1-10V = 0.54mA Source current at hardware option 0-10V = 0.14mA at 71kOhm
Isolation voltage	3500V (ISYGLT BUS / mains)
Short-circuit protection	electronic overload protection by current measurement short-circuit cut-off within 10 milliseconds
Subnet (RS-485)	max. 5.6V limitation by Z-diodes
Dimensions	WxHxD 106x90x59mm REG (6 HP)
Weight	300g
Connection	screw terminals 1.5mm² pluggable
Operating temperature	-10°C to +45°C -> at +50°C max. 60% connectable power -> at +55°C max. 50% connectable power -> +60°C max. 30% connectable power
Storage temperature	-25°C to +70°C
Humidity	0-85% r.h. non-condensing
Protection type	IP30
Protection class	I
CE mark	yes

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10.1. Pin assignment

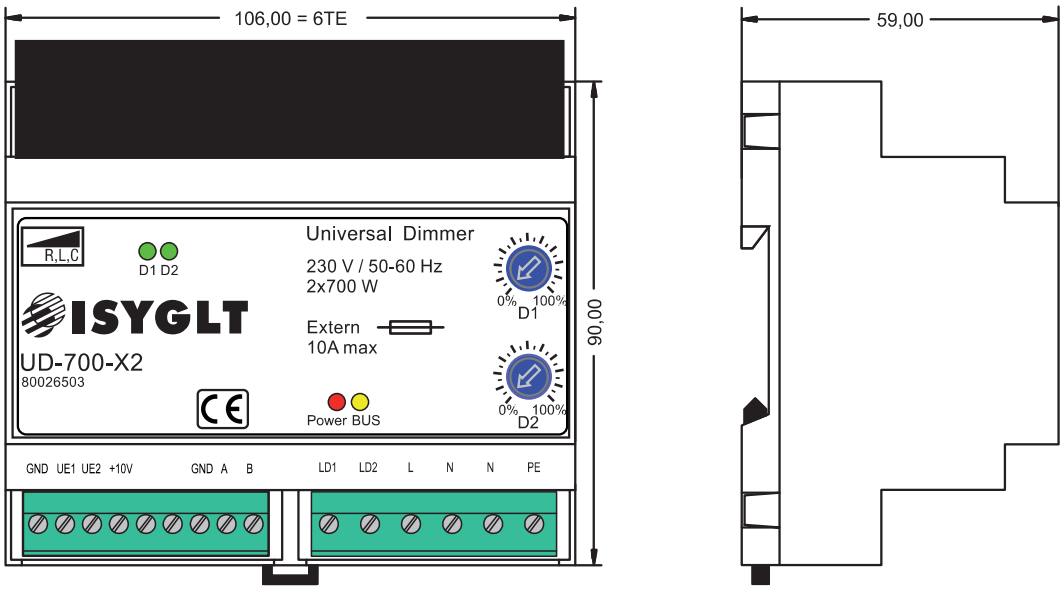
9-pole plug (left)

Terminal	Internal connections	Meaning
GND	●	Reference potential (Ground) for the voltage inputs (0-10V) and BUS RS-485
UE1	|	Control voltage input for the dimmer output LD1 (emergency function)
UE2	|	Control voltage input for dimmer output LD2 (emergency function)
+10V	|	Power supply for external potentiometer(s)
	|	Reserve
	|	Reserve
GND	●	Reference potential (Ground) for the voltage inputs (0-10V) and BUS RS-485
A		ISYGLT subnet BUS RS-485
B		ISYGLT subnet BUS RS-485

6-pole plug (right)

Terminal	Internal connections	Meaning
LD1		Dimmer 1 load output 0...230V max. 700W/VA leading edge / trailing edge
LD2		Dimmer 2 load output 0...230V max. 700W/VA leading edge / trailing edge
L		Mains voltage 230V (45Hz-65Hz)
N	●	Neutral conductor
N	●	Neutral conductor
PE		Protective conductor

View



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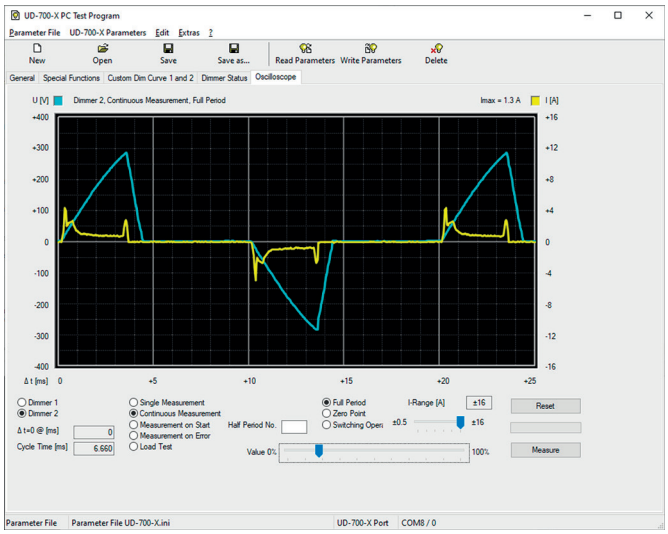
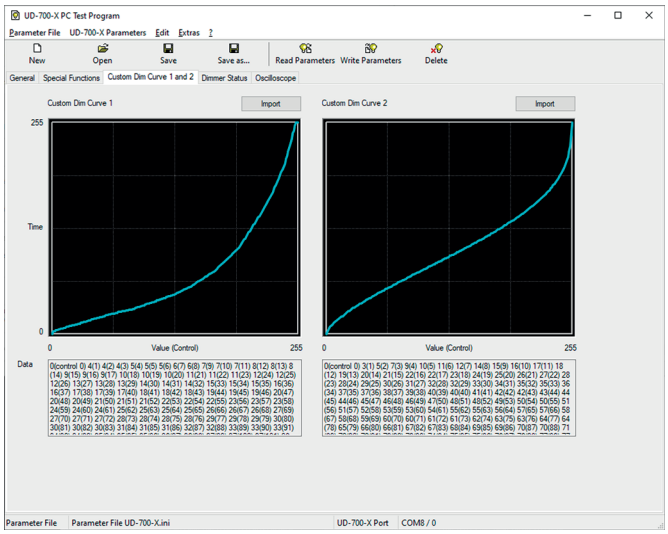
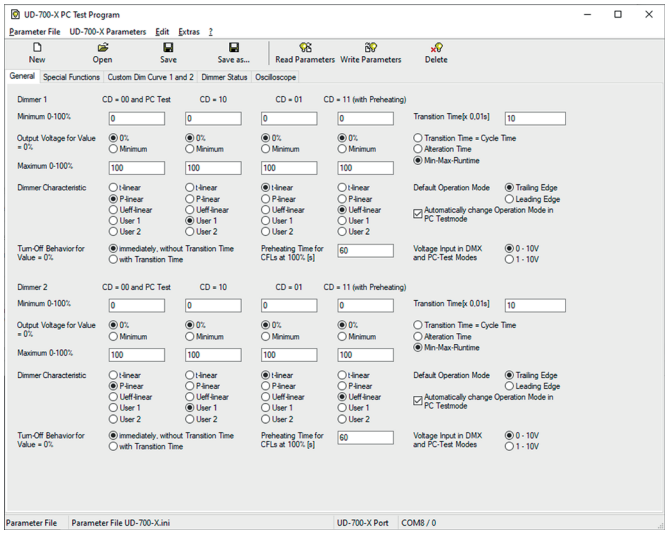
Sample views of PC program



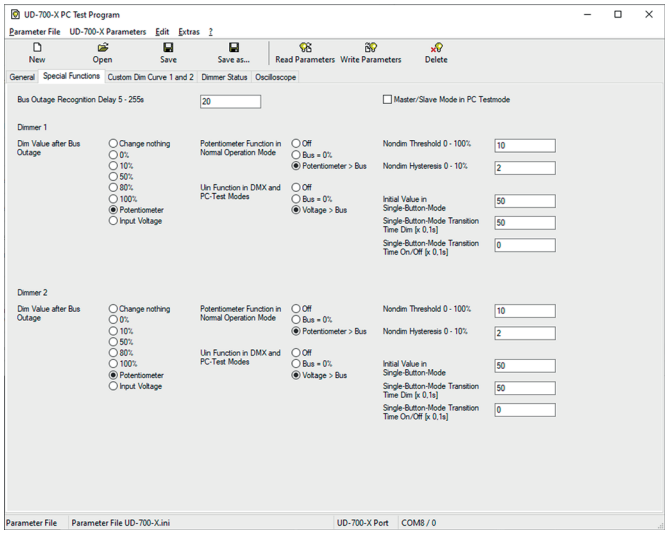
Oscillogram of retrofit LEDs in trailing edge mode



Custom dim curves



Tab „General“



Tab „Special functions“

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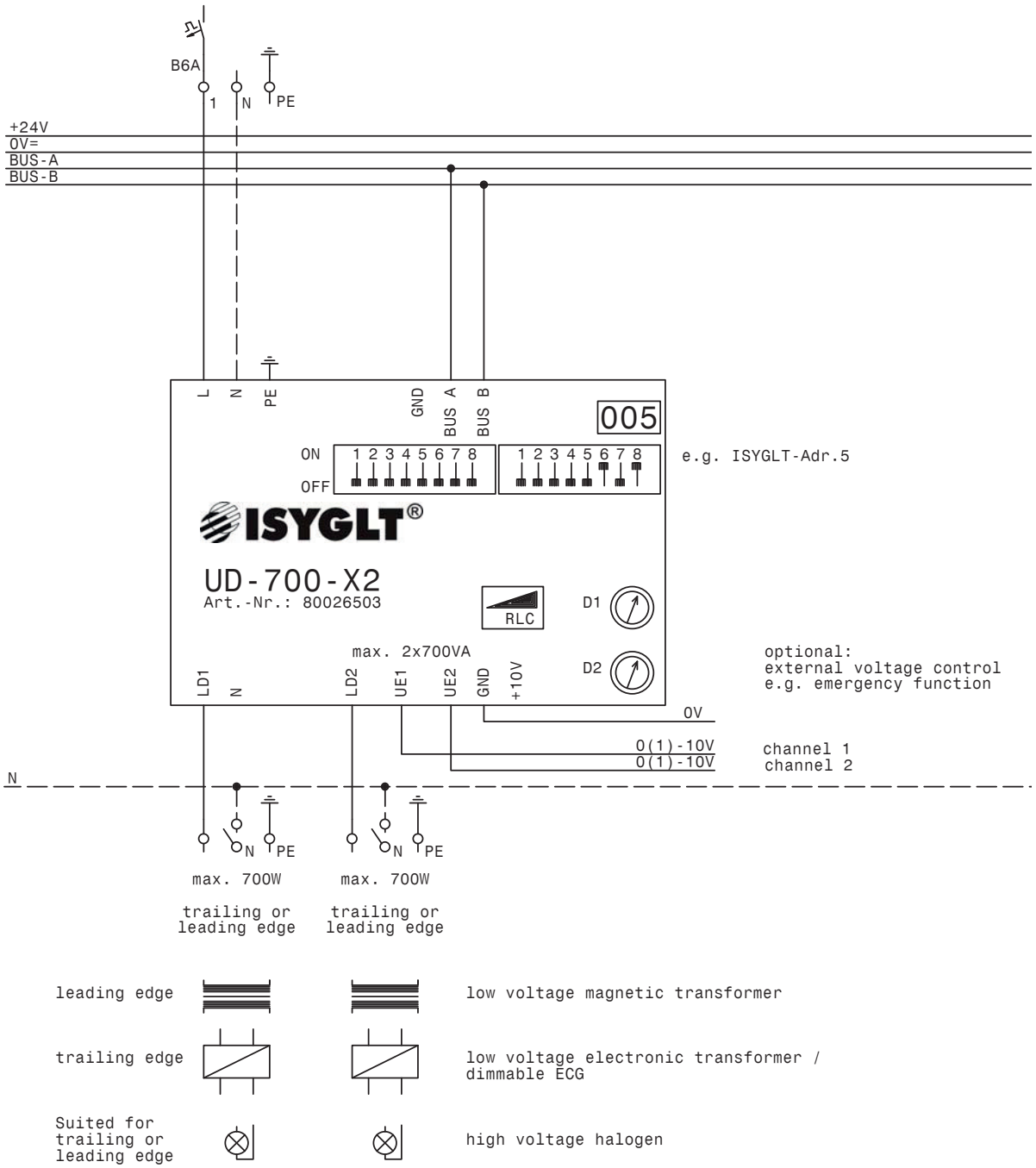
11. Wiring diagram

Sample: controlled by ISYGLT 2x700W



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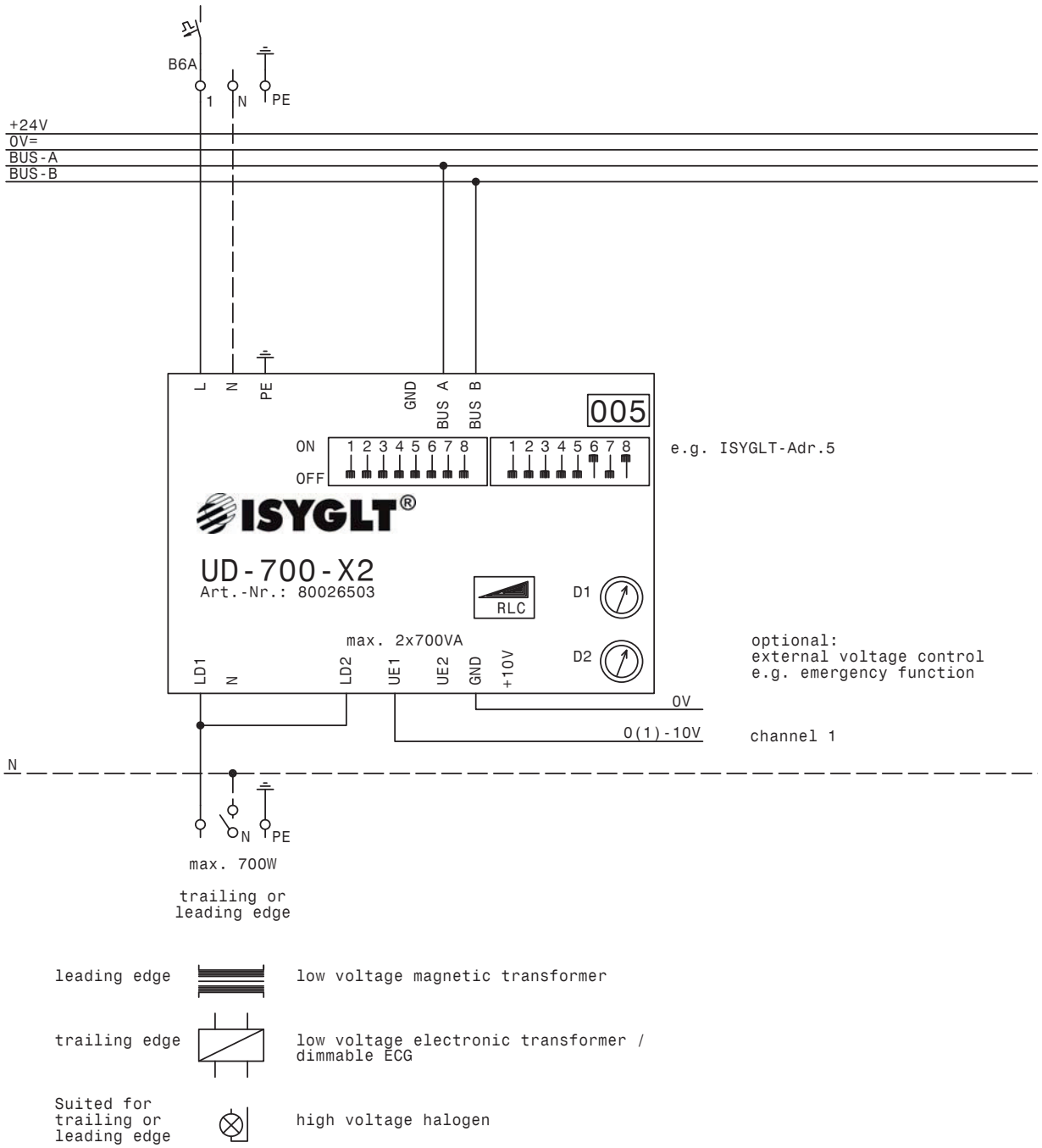
Sample: controlled by ISYGLT 1x140OW



leading edge — low voltage magnetic transformer

trailing edge — low voltage electronic transformer / dimmable ECG

Suited for trailing or leading edge — high voltage halogen

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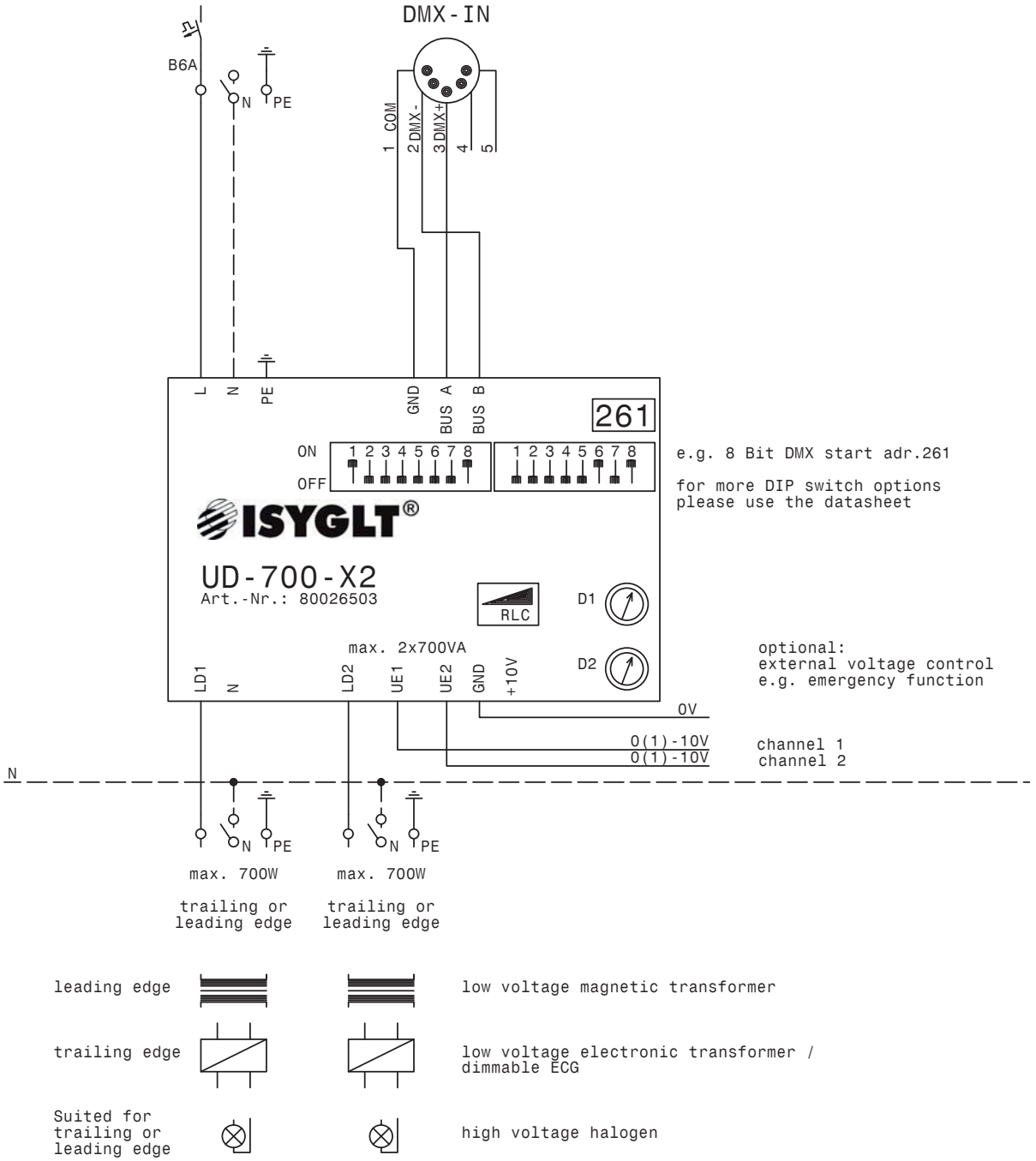
Sample: controlled by DMX512 8-/16-Bit



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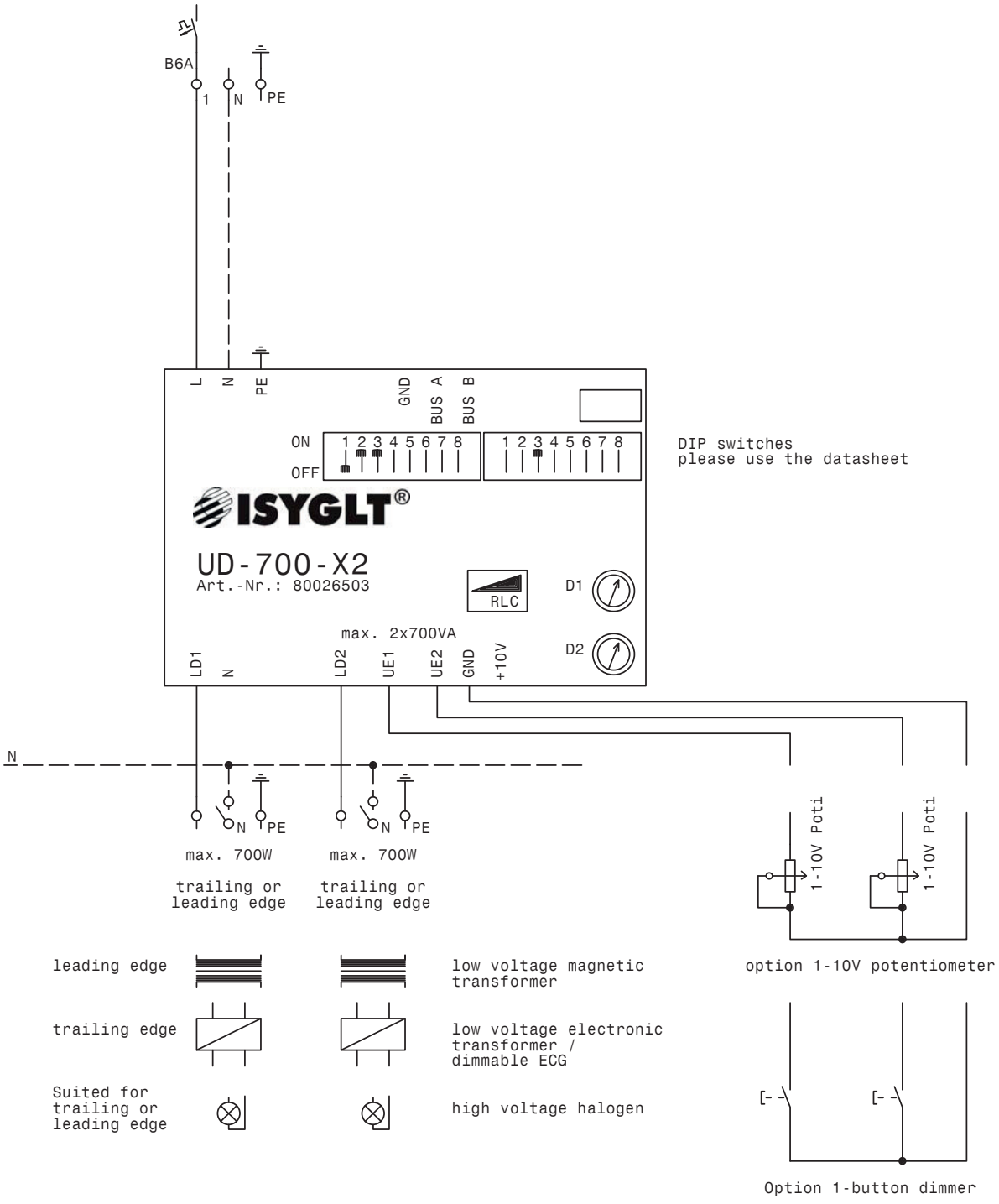
Sample: 1-10V and 1-button dimming



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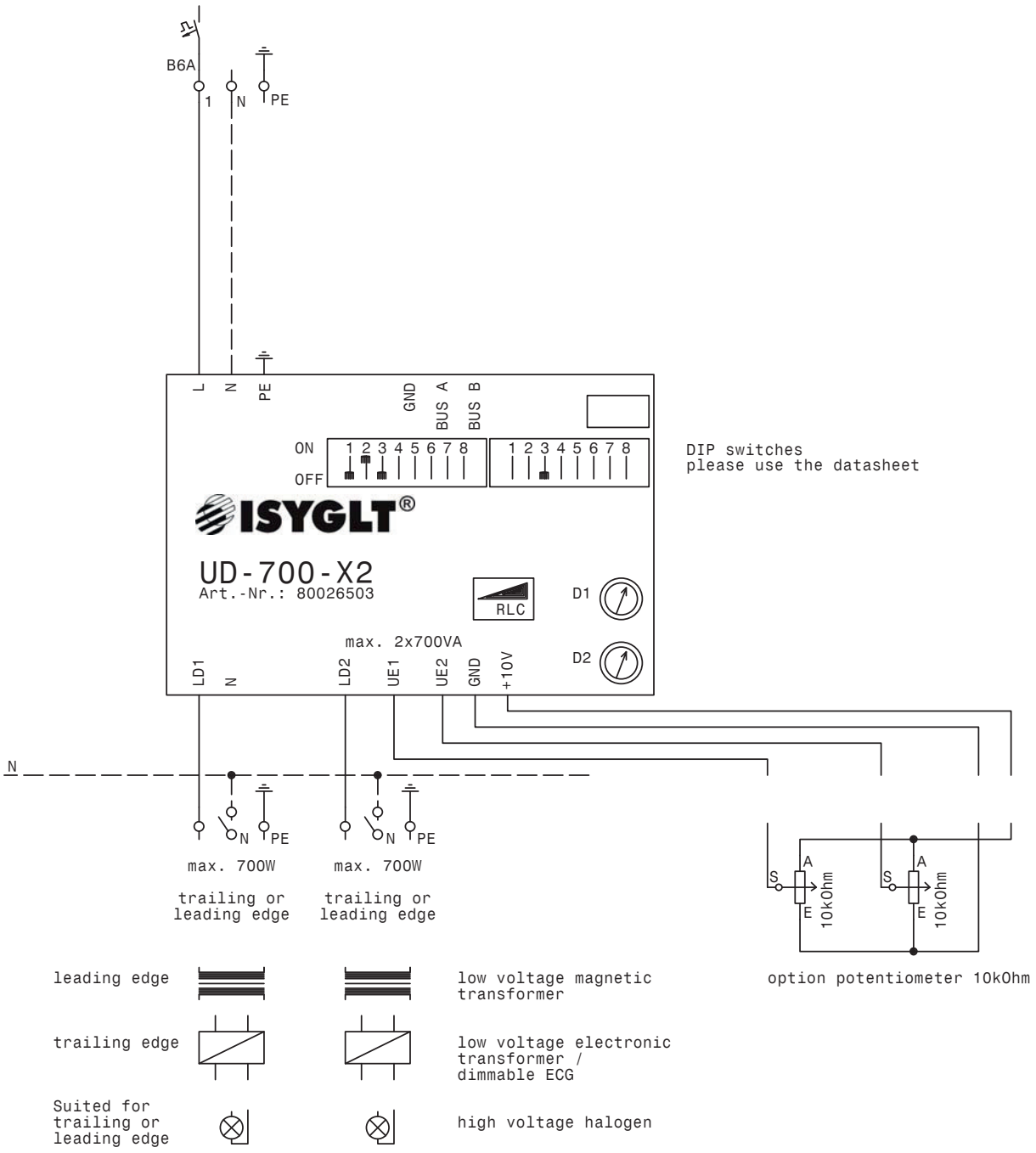
Sample: Potentiometer 10kOhm



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