








Technical data / Instruction manual

UD-700-X2
Item no. 80026503

Universal dimmer



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1 Notes on documentation

These instructions are intended exclusively for qualified personnel with appropriate knowledge of the assembly, installation, and operation of the ISYGLT system. The operating instructions must be read in full prior to commissioning and retained for future reference.


SEEBACHER accepts no liability for damage or malfunctions resulting from failure to observe these instructions.


1.1 Document retention

These instructions and all other applicable documents are part of the product and must be provided to the device operator. The operator is responsible for storing them in a way that ensures they are accessible when needed.

1.2 Symbols used

It is essential to observe all safety instructions and additional guidance contained in this manual:

 Handling instruction
The hand symbol indicates that an action is required.

 Danger!
Risk of death or serious injury!


 Attention!
General notes, useful information and special features

2 Safety instructions

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

Assembly and installation of the ISYGLT module must only be performed by a qualified electrician. Other activities related to 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, must only be carried out by trained personnel.

Comply with the electrical installation regulations of the country where the device is installed and operated, as well as the applicable national accident prevention regulations. Additionally, observe internal company policies (work, operational, 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 completing assembly, installation, and maintenance work, an electrical safety check must be carried out. Check all protective conductor connections as well as the voltages at all connection plugs and each individual module slot.

2.1 Intended use

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

2.2 Predictable misuse

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

- Explosive area

Operation in explosive areas can cause sparking, which may lead to deflagration, fire, or explosions.

2.3 Safe handling

This module complies with the state of the art and recognized safety standards. Each device is tested for functionality and safety prior to delivery.

Operate this module only when it is in perfect condition and in accordance with the operating instructions, the applicable regulations and directives of the country where the device is installed and operated, as well as all relevant safety and accident prevention regulations.

This product is intended exclusively for control purposes and must:

- only be operated in conjunction with a suitable low-voltage power supply.
- only be connected according to the specified protection class.
- only be securely mounted on a suitable surface (e.g., DIN rail, control cabinet, etc.).
- only be operated on normal or non-flammable surfaces.
- only be used in dry environments—not in damp, dirty, or high-humidity areas.
- not be exposed to strong mechanical stress or heavy contamination. Extreme environmental conditions may impair the product's functionality.

In addition to these general safety instructions, please also observe the specific safety notes provided for each activity in the respective chapters.

2.4 Qualification of personnel

Assembly, commissioning, operation, maintenance, decommissioning, and disposal may only be carried out by personnel with the appropriate professional qualifications. Work on electrical components must only be performed by trained electricians in compliance with applicable regulations and standards.

2.5 Modifications to the product

Unauthorized modifications to the module that are not described in this or the related manuals may lead to malfunctions and are prohibited for safety reasons.

2.6 Use of spare parts and additional equipment

The use of unsuitable spare parts or additional equipment may damage the module. Only use original spare parts and additional equipment from the manufacturer.

2.7 Disclaimer of liability

SEEBACHER accepts no liability or warranty for damages or consequential damages resulting from failure to observe technical regulations, instructions, or recommendations.

SEEBACHER shall not be held liable for any costs or damages incurred by the user or third parties through the use of this device, in particular due to improper use, misuse, connection faults, device malfunctions, or malfunctions of connected devices.

SEEBACHER accepts no liability for printing errors.

3 Warranty

We provide warranty in accordance with statutory regulations. It covers only the intended use of the module and refers to repair or replacement of the module. Please return the module with a description of the fault to our company address listed below.

4 Declaration of conformity

The valid declaration of conformity for the module can be requested free of charge by providing the type and item number as follows:

By phone: +49 8021 50434-0

By e-mail: info@seebacher.de

5 Service address

Seebacher GmbH
Brunnenweg 33
83666 Waakirchen
GERMANY

Phone: +49 8021 50434-0
E-Mail: info@seebacher.de
www.seebacher.de

6 Maintenance / Care / Disposal

The product is maintenance-free. Occasional removal of dust deposits by vacuuming may be necessary. This must only be done when the device is disconnected from the power supply.

Disposal (European Union)

Do not dispose of the product in household waste! Products marked with this symbol



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

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 authorized electrician.

8 Assembly

(Only by qualified electricians!)

Install the product only when the power supply is disconnected!

Switch off the power supply, verify that the device is de-energized, and secure it against being switched on again!

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

Use only suitable equipment (system modules).

Check for any loose parts inside the product. If loose parts are found and their presence is not explicitly described, do not install or commission the product! Use only suitable cables and fastening screws.

Installation location

- The module can be installed in any orientation within an enclosure (control cabinet, distribution box, etc.) specified by a qualified electrician. Ensure compliance with the maximum ambient temperature and, for wireless applications, ensure adequate radio signal reception.

Installation steps

(Read completely before assembly!)

- Install the device in a suitable enclosure.
- Make the electrical connections according to the wiring diagram.
- Configure the DIP switches according to your requirements.
- For LED applications, ensure that the LEDs are connected with correct polarity.
- The module may only be energized after all connections are complete and a visual inspection has been performed by a qualified electrician. Otherwise, there is a risk of damage!

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. Two separate dimmer outputs are available, each of which can be loaded with 700W. By configuration and parallel connection of the outputs the dimmer is loadable with 1x1400W.

Each channel can be parameterised separately for the corresponding load type (leading edge/trailing edge mode). The dimmer automatically checks the connected load by carrying out a short test after first applying the operating voltage to check whether the connected load can be operated with the desired setting.

The dimmer operates with an internal dimming resolution of 16 bits and thus meets the highest demands. The factory-set properties such as dimming curves, minimum and maximum limits can be changed and optimised by the user himself.

Control types of the dimmer:

- ISYGLT BUS protocol
- DMX512 8Bit and 16Bit
- Stand-alone: 0-10V, 1-10V, push-button (single-button dimmer)
- Internal potentiometers
- To the BUS protocols ISYGLT or DMX512, the internal potentiometers and voltage inputs can be parameterised as priority, merge operation or for the BUS failure

For ISYGLT users, the functions can be parameterised as usual in the ProgramDesigner. A free software tool is available for standalone and DMX users. This allows the dimmer to be optimised per parameter via USB or RS-485 data connection and internal data such as temperatures, voltages, peak currents and power to be displayed.

An oscilloscope function is also integrated as a new feature. For the first time, the user now has an aid for displaying the current load - without dangerous measurements on the mains voltage!

An inspection of unknown light sources - e.g. new retrofit lamps - is therefore possible without 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

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

Status indicators in ISYGLT operation

Description	State	Color	Meaning
Power LED red	Off		No operating voltage
	On	●	Operating voltage, no error
	Blinking	●	Too high mains voltage (>400Vs)
	Blinking 3x	●	No valid parameters available
BUS LED yellow	Off		No BUS signal detected
	On	●	BUS signal and own module address detected
	Blinking	●	Interference-free data transmission via the BUS line
D1 & D2 LED green	Off		Output "OFF", no error
	On	●	Output "ON", no error
	Steady blinking	●	Overtemperature
	Blinking 1x	●	Overload
	Blinking 2x	●	Overvoltage
	Blinking 3x	●	Failure of communication with the dimmer processor

Status indicators in stand-alone and DMX operation

Description	State	Color	Meaning
Power LED red	Off		No operating voltage
	On	●	Operating voltage, no error
	Blinking 1Hz	●	Too high mains voltage (>400Vs)
	Blinking once briefly, then pause 1.5s	●	Self-test error
	Blinking twice briefly, then pause 1.5s	●	After selecting ISYGLT (DIP switch), no valid ISYGLT version is detected
	Blinking three times briefly, then pause 1.5s	●	No valid parameters are present
BUS LED yellow	Off		No BUS signal detected
	On	●	BUS is active, but the communication processor is not receiving data DMX: Data for the set address is not being transmitted (telegram too short) or the data format is incorrect RS-485 test: Set address or data format is incorrect
	Blinking 1Hz	●	Communication processor is receiving data
D1 & D2 LED green	Off		Output "OFF", no error
	On	●	Output "ON", no error
	Blinking 1Hz	●	Warning/shutdown at excessively high temperatures: Communication processor: 65°C / 75°C MOSFET package: 95°C / 105°C
	Blinking once briefly, then pause 1.5s	●	Overload message: 1. when the maximum permissible peak current is exceeded (>15A) 2. when the limits for power dissipation (>8W/channel) or peak current (>10A) are reached
	Blinking twice briefly, then pause 1.5s	●	Message after Shutdown due to voltage spikes >450V
	Blinking three times briefly, then pause 1.5s	●	Communication failure with the dimmer processor

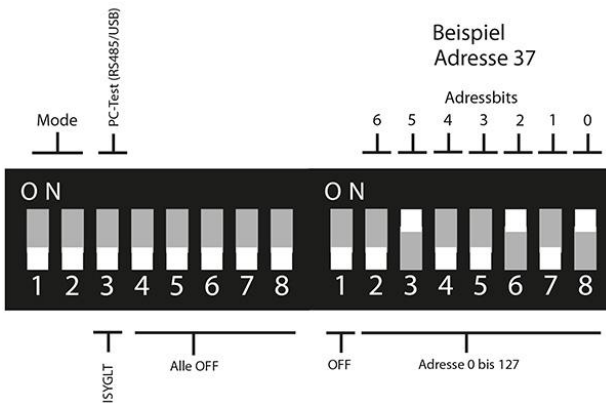
Connections

- 1 power input 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 for emergency or stand-alone operation
- 1 connector for the subnet (BUS A and B, RS-485)

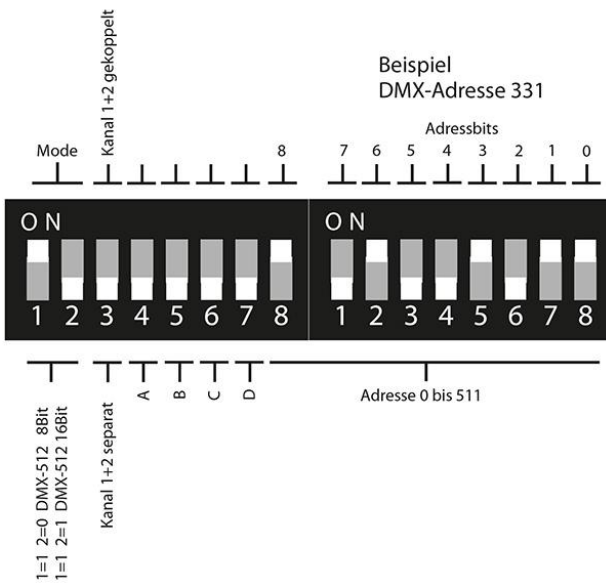
Housing

- Black housing, snap-on mounting on 35 mm DIN rail, 6 modules wide (6 HP)

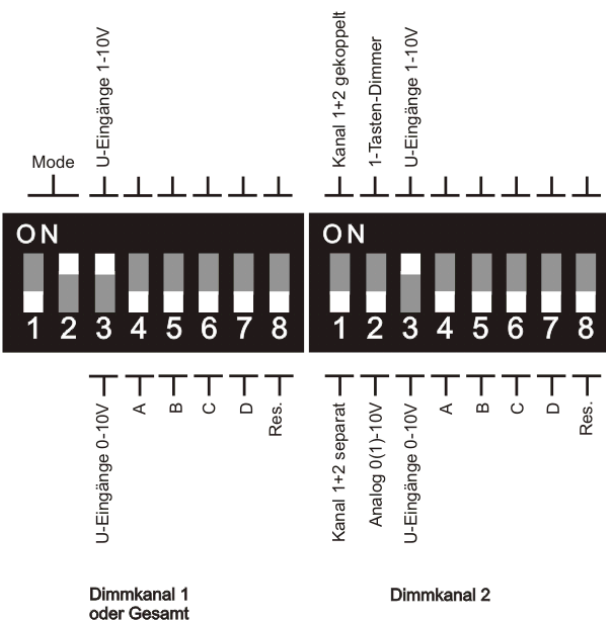
DIP switch in ISYGLT operation



DIP switch in DMX operation



DIP switch in stand-alone operation



DIP switch - Settings

Function	Operating mode
U input 1-10V	Control via digital potentiometer from switch manufacturer, or 1-10V dimmer coupler (behaves like an ECG from fluorescent lamps - the 10V for the 1-10V dimming is supplied by the dimmer)
U input 0-10V	Control via external control e.g. PLC with 0-10V (0-10V voltage is supplied from the PLC)
A/B/C/D	See chart below
Res.	Not assigned in this operating mode
Channel 1+2 coupled	The dimmer works with 1 channel, power 1x1400W Connector between outputs LD1 and LD2 required
Channel 1+2 separate	The dimmer works with 2 channel, power 2x700W The LD1 and LD2 outputs must not be connected
Single-button dimmer	Control via standard buttons on terminals UE1 and UE2 against GND Press briefly = on/off, press longer = dim
Analog 0(1)-10V	Analog control - in this position the DIP switches 3 are enabled for the selection 0-10V or 1-10V

DIP switch - Operating mode setting for DMX512 and stand-alone operation

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 the UD-700-X2)
OFF	OFF	Parameters of the 1st column, curve P-linear ("General" in the PC program)
ON	OFF	Parameters of the 2nd column, curve DALI ("General" in the PC program)
OFF	ON	Parameters of the 3rd column, curve t-linear ("General" in the PC program)
ON	ON	Parameters of the 4th column (with preheating setting for ESL) ("General" in PC program UD-700-X2)

Parameterisation

In the ISYGLT ProgramDesigner there are various parameterisation possibilities:

- Parallel connection of two outputs, each 700W/VA, to achieve a total of 1400W/VA
- Phase control (phase-cut or phase-absorption)
- Adjustment of dimming curves
- Feedback on dimmer status (diagnostic messages)
- Definition of emergency mode in case of bus failure

For the DMX-512 and Standalone modes, detailed descriptions of the available options can be found on our website.

When the dimmer is operated within an ISYGLT system with a master module, additional optimization through parameterization is possible in the ProgramDesigner. The debugger function in the ProgramDesigner allows you to easily monitor the current behavior of the dimmer and manually simulate dimming values

10 Technical specifications

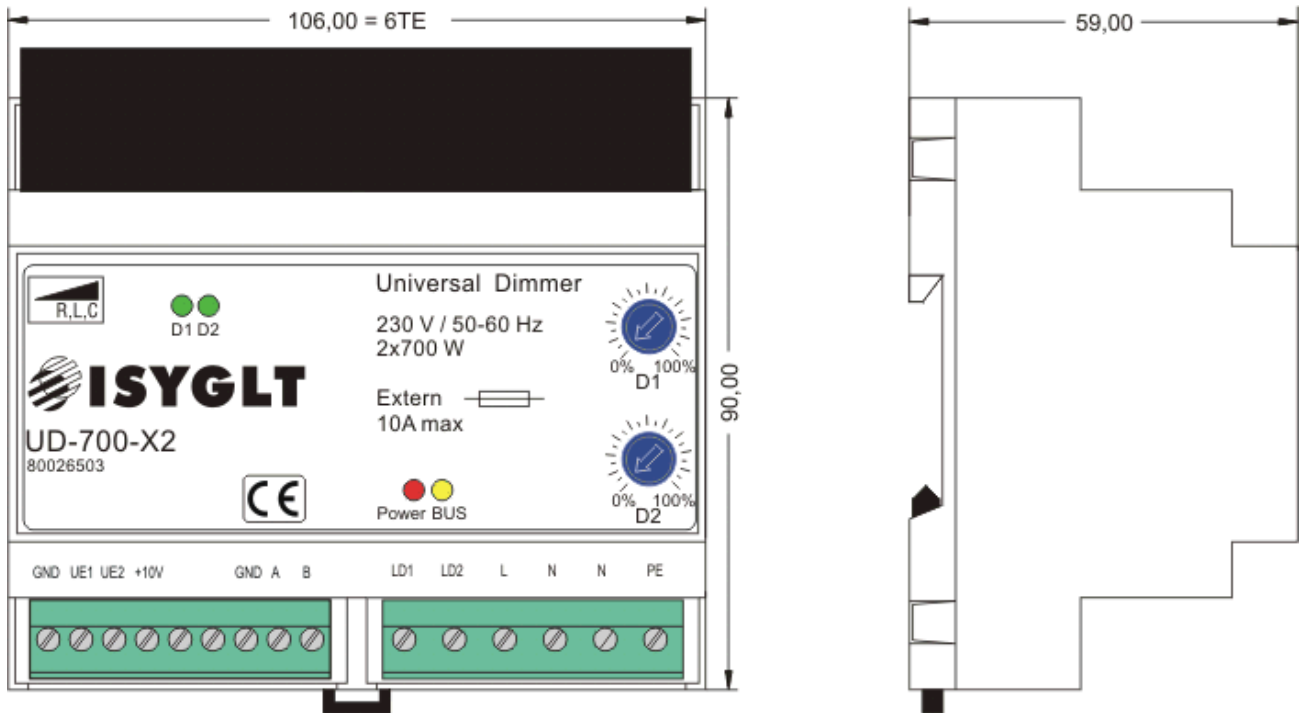
Type	UD-700-X2
Item number	80026503
Mains supply	230V / 45 to 65 Hz
Mains fuse	1 x 230V automatic or GL fuse 10A
Output	2 x 230V short-circuit proof, 10W - 700W/VA per channel or 1x 1400W/VA coupled
Power loss	<0.5 ... 6W (Stand-by ... full load) per channel - total 12W at 2x700W load
1 (0)-10V	Sink current at 1-10V = 0.54mA or source current at hardware option "0-10V" = 0.14mA at 71kOhm
Insulation 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
Connection	Screw terminals 1.5mm ² pluggable
Operating temperature	-10...+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...+70 °C
Humidity	0...85 % r.h. non-condensing
Protection class	IP 30
Design	REG plastic housing, black, snap-on to 35mm DIN rail, 6HP
Dimensions	WxHxD 106x90x59mm
Weight	300 g
Brand	ISYGLT
Compliance	CE

10.1 Pin assignment

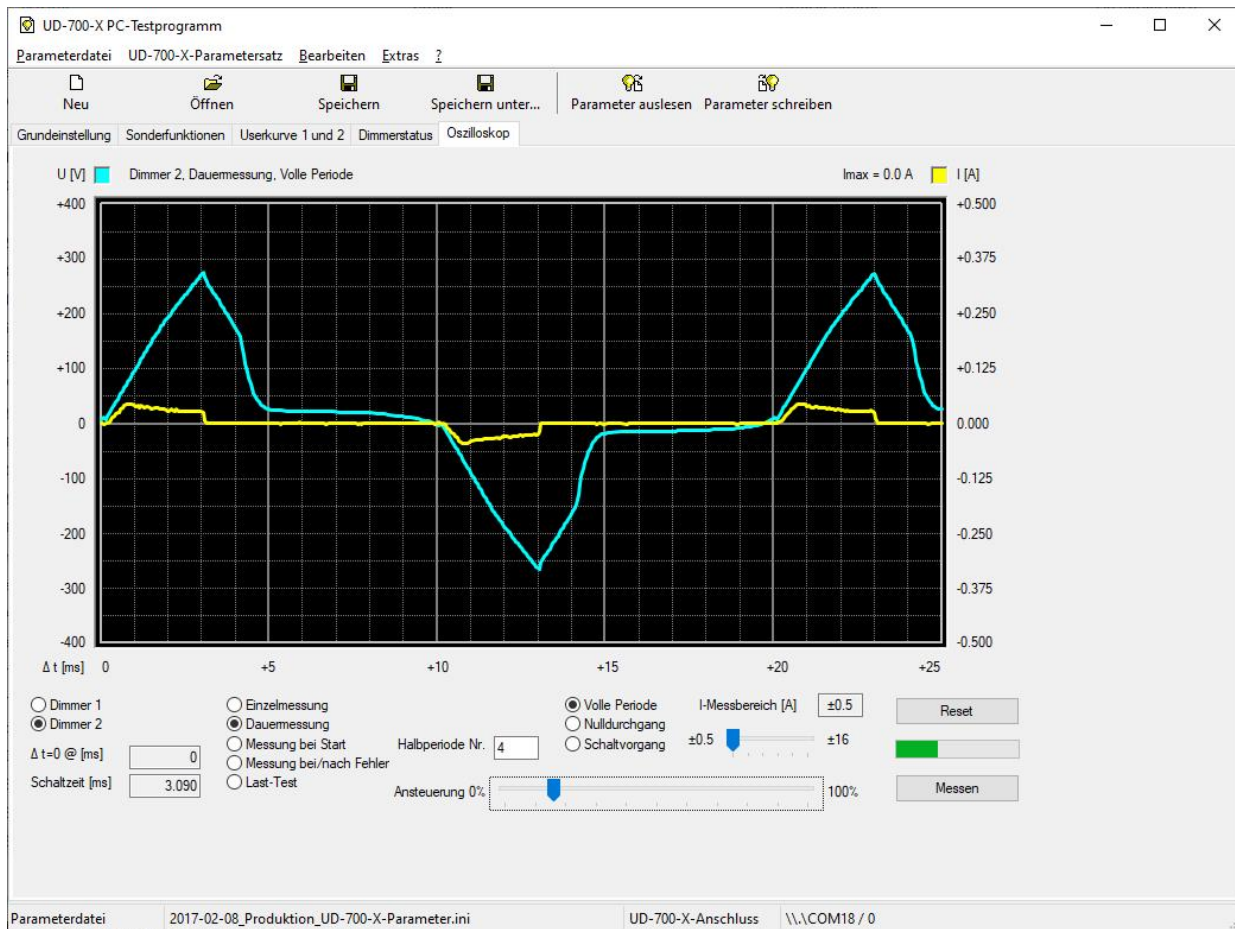
Terminal	9-pin connector at the bottom left
GND	Reference potential (Ground) for the voltage inputs (0-10V) and BUS RS485 (internally bridged with the seventh terminal)
UE1	Control voltage input for the dimmer output LD1 (emergency function)
UE2	Control voltage input for dimmer output LD2 (emergency function)
+10V	Power supply for external potentiometer(s)
	Reserve
	Reserve
GND	Reference potential (Ground) for the voltage inputs (0-10V) and BUS RS485 (internally bridged with the first terminal)
A	Subnet (BUS A, RS-485)
B	Subnet (BUS B, RS-485)

Klemme	6-pin connector at the bottom right
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	Main voltage 230V (45Hz-65Hz)
N	Neutral conductor
N	Neutral conductor
PE	Protective conductor

11 View



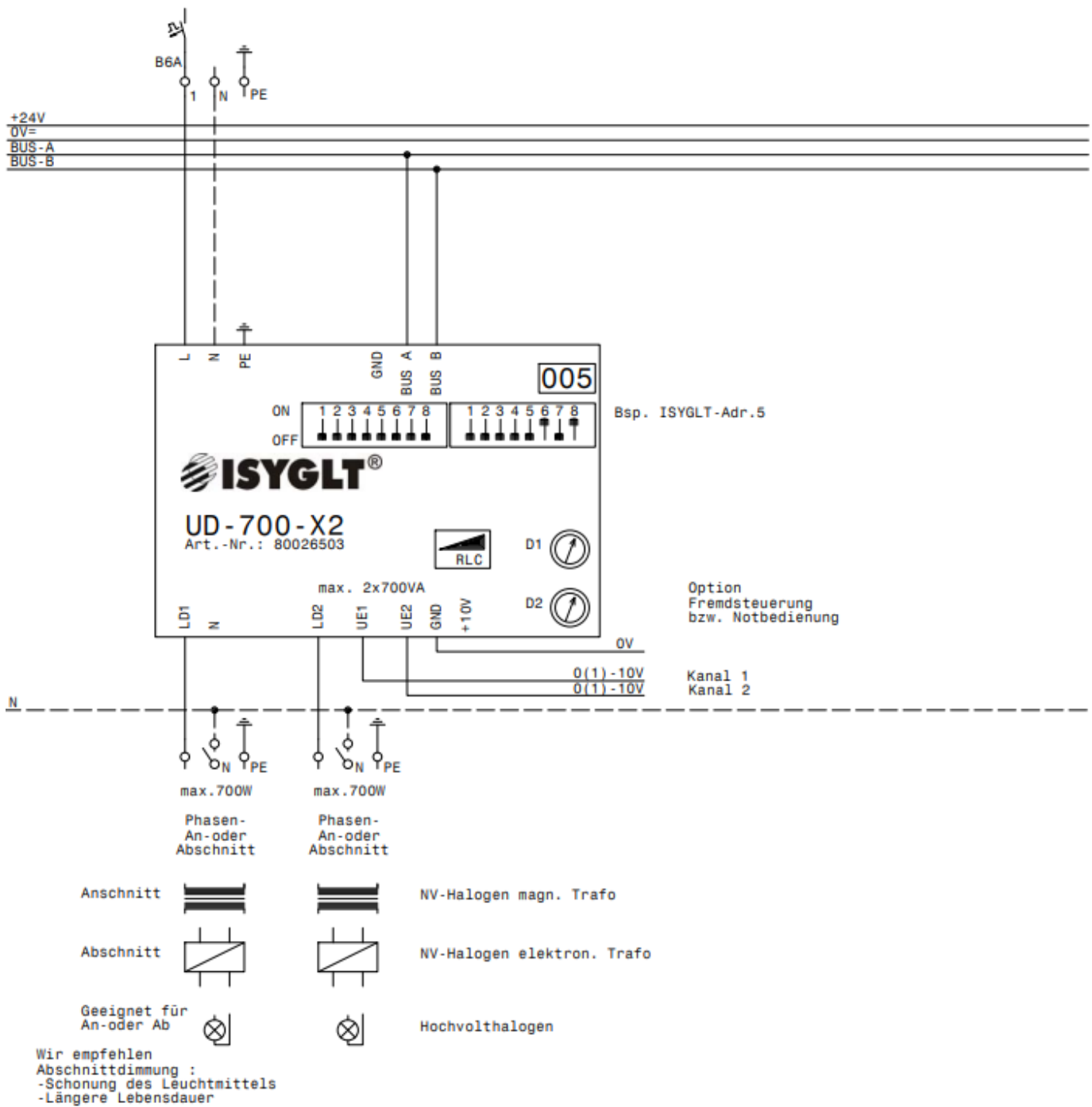
Picture 1: UD-700-X2



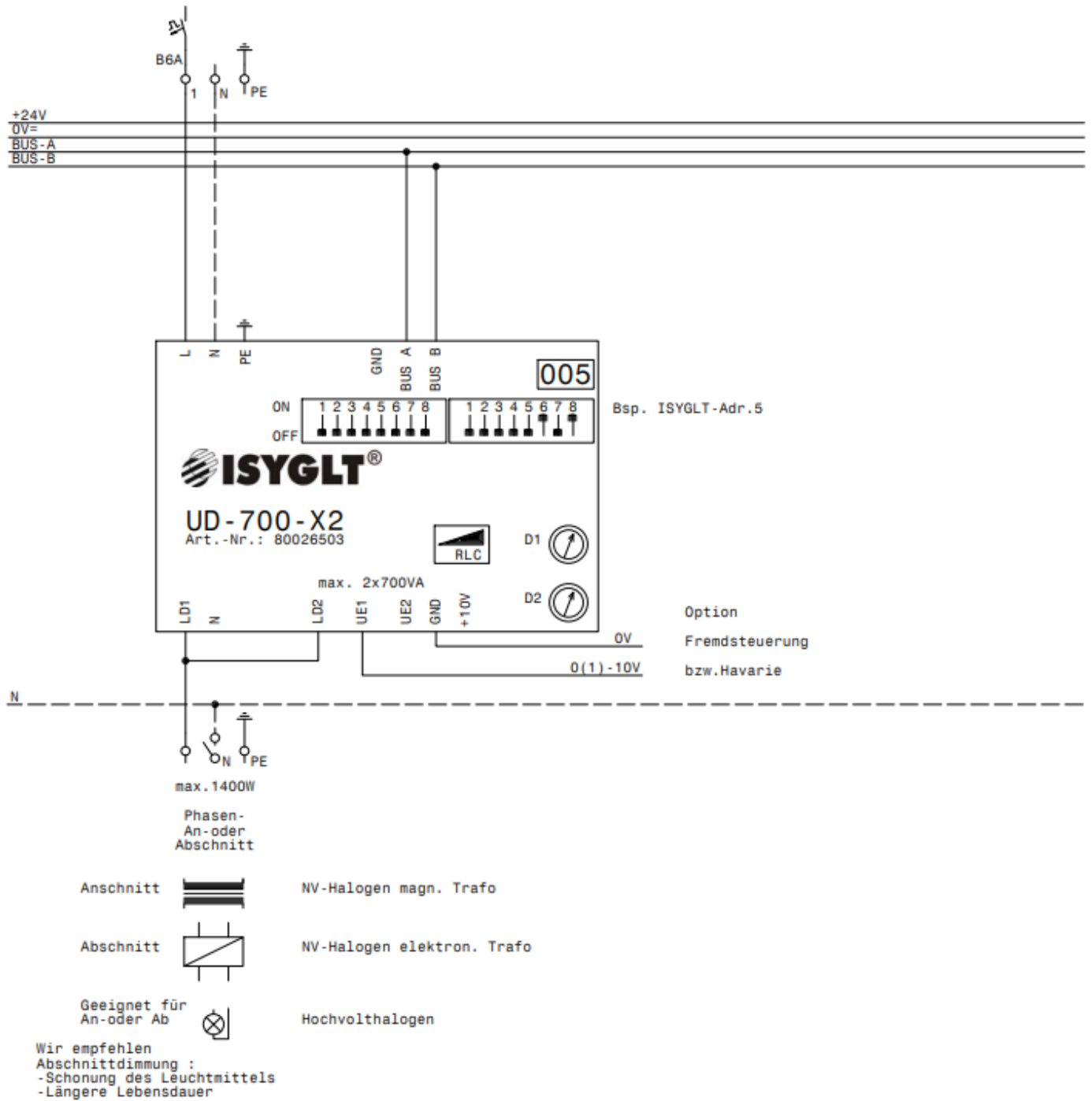
Picture 1: UD-700-X2 – Oscilloscope function

12 Wiring diagram

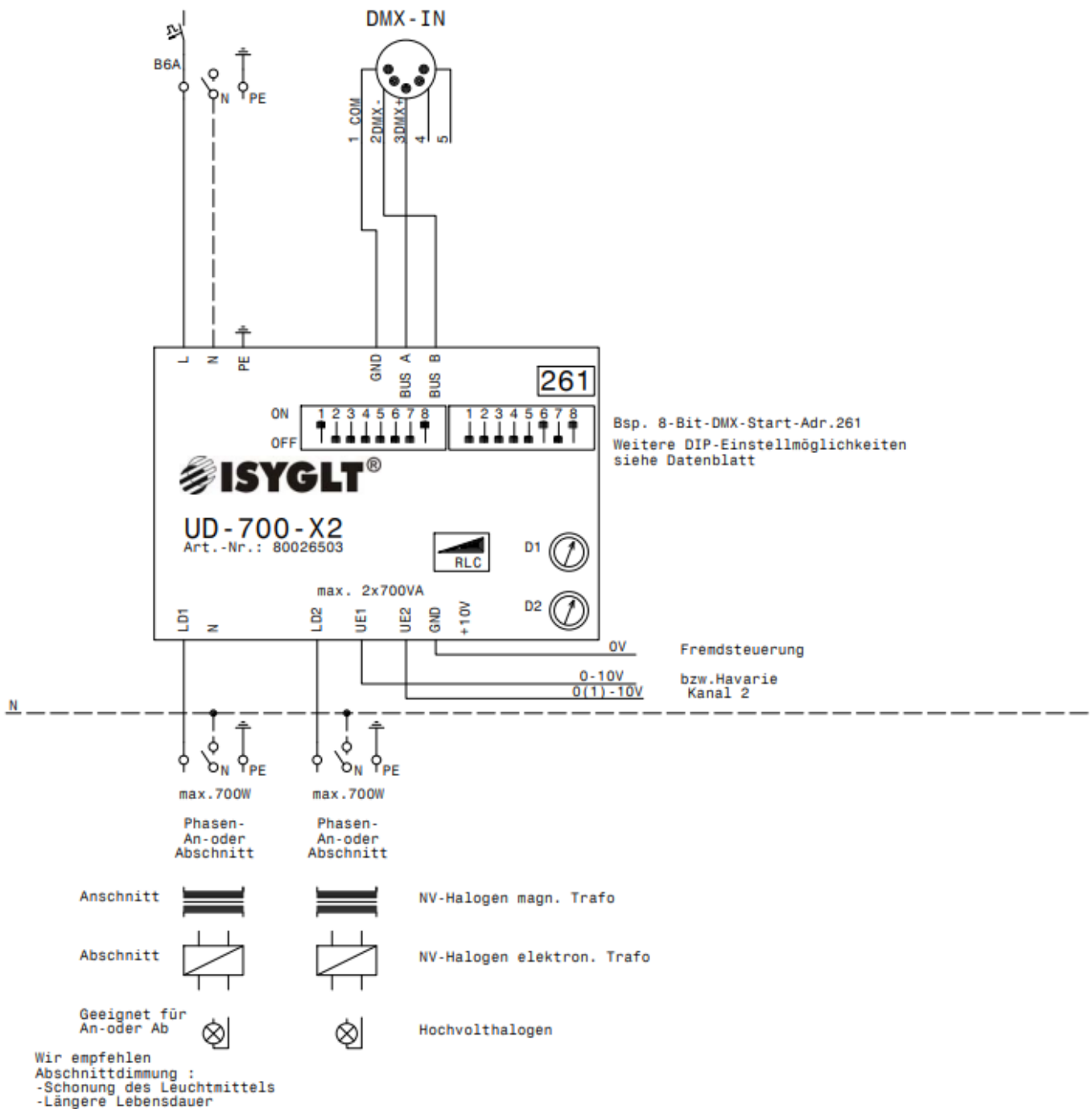
ISYGLT 2x700W



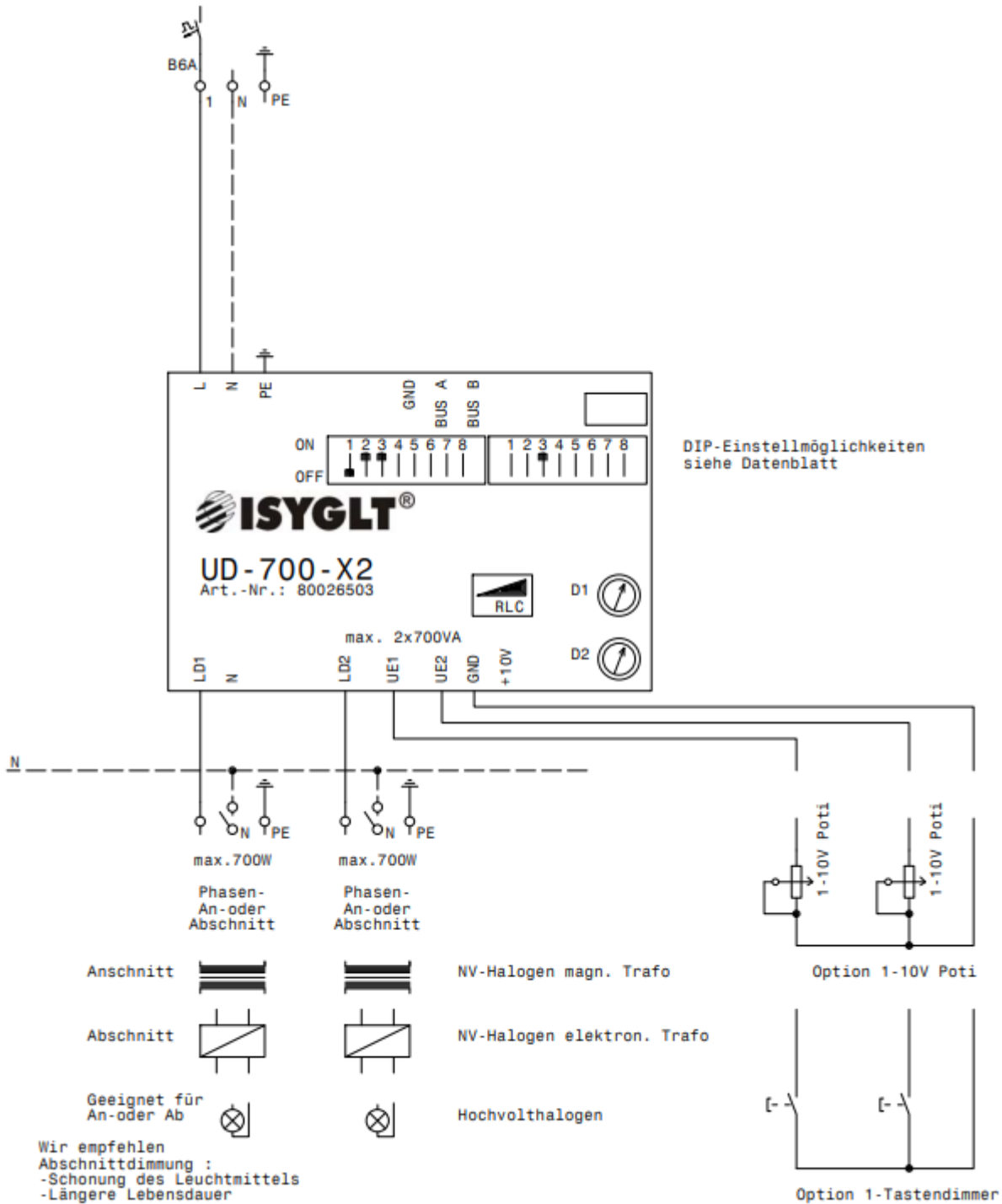
ISYGLT 1x1400W



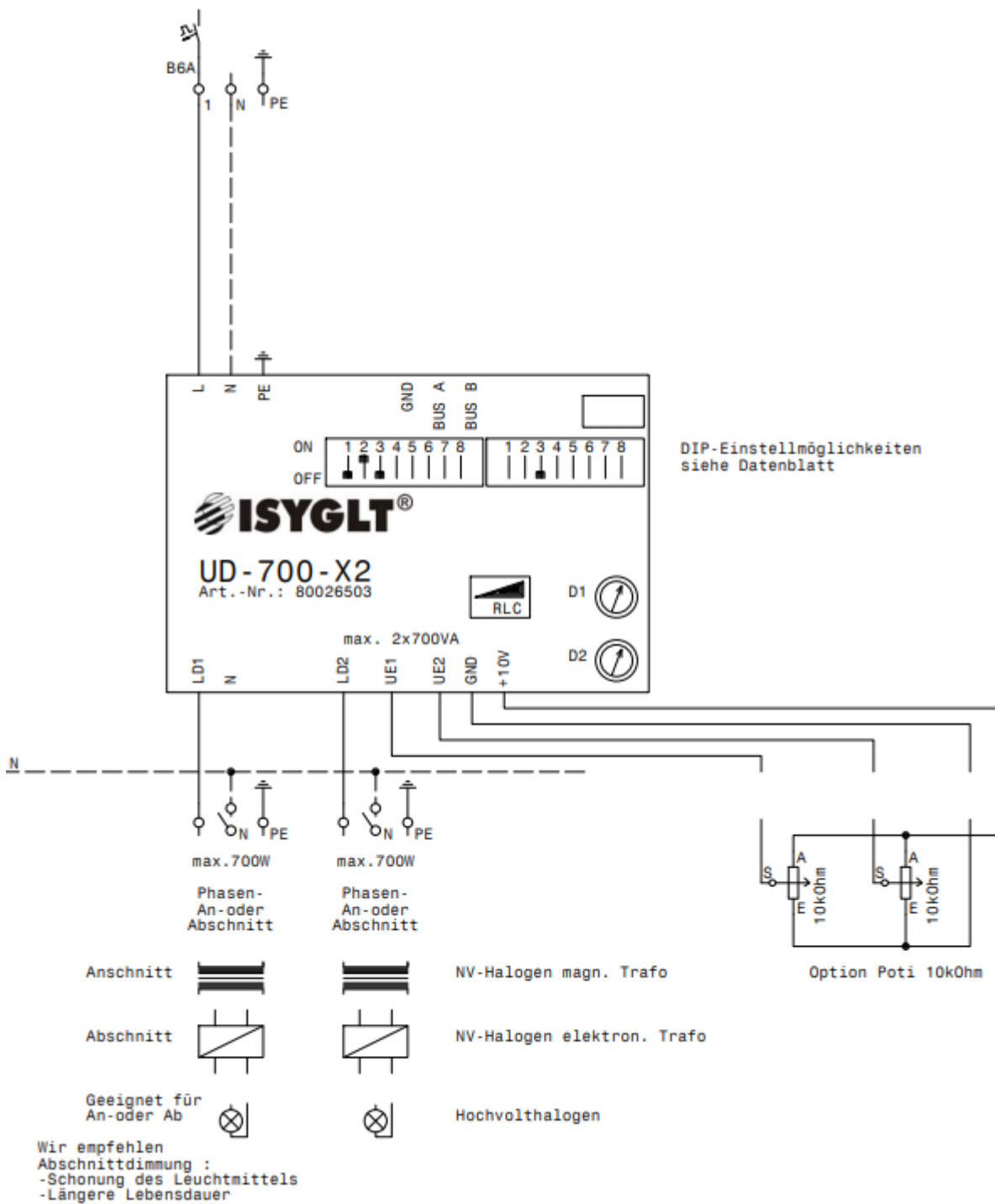
DMX-512 8/16 Bit



-10V and 1-button dimmer



Potentiometer 10kOhm



Subject to printing errors and technical changes.