

UD/UDS 2254 NE/PE · UD/UDS 3204 NE/PE



Illustration shows UD 2254 and DV 4420

DC PWM Dimmer

24, 36, 48, 72, 96, 110 VDC

Minimum brightness adjustable

Faceplate mounting

Version with switch available

UD/UDS 2254 NE/PE · UD/UDS 3204 NE/PE

Description

The dimmers from the UD/UDS series are digital PWM dimmers for faceplate mounting. The dimmers are suitable for operation both with filament lamps and with LED with series resistor. A dimmer consists of a dimmer module with locking connector and a facing element. The pulse width of the square wave voltage at the output of the dimmer is adjusted by the integrated potentiometer. The frequency of the square-wave oscillation is approx. 125 Hz and cannot be perceived by the naked eye. The eye perceives the brightness which is proportional to the pulse width of the oscillation.

In the UD modules the minimum adjustable brightness is fixed with the lateral trimmer. The brightness of the connected lamps is adjusted from the fixed minimum to full brightness by the potentiometer.

In the UDS modules (with switch) the lateral trimmer fixes the maximum adjustable brightness. The potentiometer regulates from off to the fixed maximum brightness.

Dimmers modules for nominal voltages 24 - 48 VDC and 72 - 110 VDC are available, both in a negative and in a positive version. Use the NE type for loads with a common minus, and the PE type for loads with a common plus.

By means of a selection of facing elements, different design variants are available for installation. All facing elements feature the protection class IP65.

Technical Specification	sign	UD/UDS 2254 NE UD/UDS 2254 PE			UD/UDS 3204 NE UD/UDS 3204 PE		
		min.	typ.	max.	min.	typ.	max.
Operating Voltage*	U_b	16V		68V	48V		150V
Nominal Voltage +25% / -30%	U_n	24V		48V	72V		110V
Output Current*	I_A			2,5A			2A
Current Consumption at U_{bmax}	I_b		4mA			5,5mA	
Cut-off Current			13A			13A	
Switching Frequency	f	118Hz	125Hz	132Hz	118Hz	125Hz	132Hz
Adjustable Range UD	D	0-50%		100%	0-50%		100%
Adjustable Range UDS	D	off		0-100%	off		0-100%
Ambient Temperature Operation*	T_A	-25°C		+50°C	-25°C		+50°C
Ambient Temperature Storage	T_S	-25°C		+70°C	-25°C		+70°C
Rel. Humidity non-condensing	rF	10%		95%	10%		95%

* Operation outside the limit values, even if only briefly, can lead to malfunction or to damage to the device

Safety and Operating Notes

Next to the plug connector there is an evaluation LED.

In the case of overload this LED flashes at approx. 3 Hz. In the case of over-temperature this LED flashes at approx. 2 Hz.

In both cases the load is disconnected until the operating conditions are satisfied again.

The load output is not electrically isolated from the input. The potentiometer axle must not be overturned.

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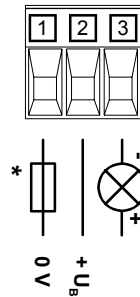
Pin Assignment

The dimmers get connected by a three pin plug with screw terminals.

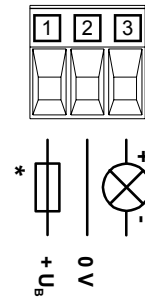
Conductor Cross Section
 solid max. 2,5 mm²
 fine strands max. 2,5mm²

Fuse
 The dimmers must be fused with a 2,5A slow-blow fuse.

Negative Dimmer UD/UDS xxxx.NE



Positive Dimmer UD/UDS xxxx.PE



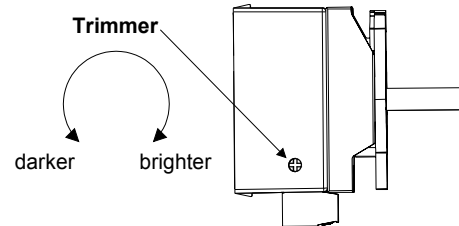
Mechanical Specification

Mounting: Locking connector / Mounting hole

Protection: class IP 65 front by using DV facing elements

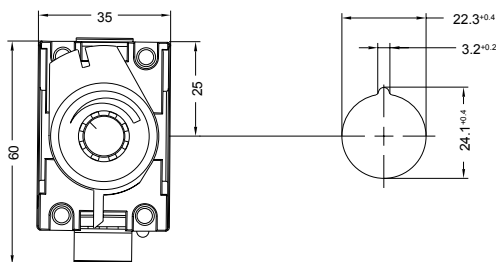
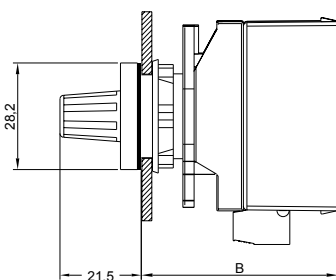
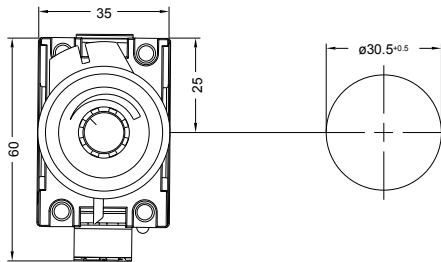
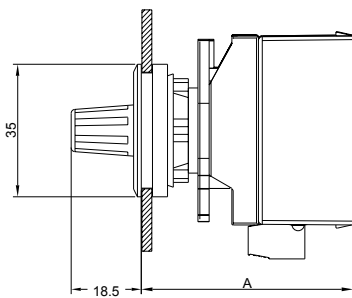
Wight:

UD 2254/3204	0,065 Kg
UDS 2254/3204	0,070 Kg
DV 442x	0,016 Kg
DV 443x	0,022 Kg



Mounting Depth

	DV 443x	DV 442x
UD 2254/3204	A = 56 mm	B = 53 mm
UDS 2254/3204	A = 62 mm	B = 59 mm



For the mounting of the dimmer, a facing element of the DV series is required.

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Ordering Information

Module	Type	Nominal Voltage
UD 2254 NE	negative	24 up 48 VDC
UD 2254 PE	positive	24 up 48 VDC
UD 3204 NE	negative	72 up 110 VDC
UD 3204 PE	positive	72 up 110 VDC
UDS 2254 NE	negative with switch	24 up 48 VDC
UDS 2254 PE	positive with switch	24 up 48 VDC
UDS 3204 NE	negative with switch	72 up 110 VDC
UDS 3204 PE	positive with switch	72 up 110 VDC

Facing Elements	Design	Dimension
DV-4420	plastic black	Ø28mm
DV-4422	plastic silver	Ø28mm
DV-4426	plastic grey	Ø28mm
DV-4430	aluminium black	Ø35mm
DV-4431	aluminium silver	Ø35mm

Equipment	
DV-4400	mounting tool for facing elements

Standards and Guidelines

These products conforms with the following standards and guidelines:
Railway standard, electromagnetic compatibility

EN50121-3-2:2016