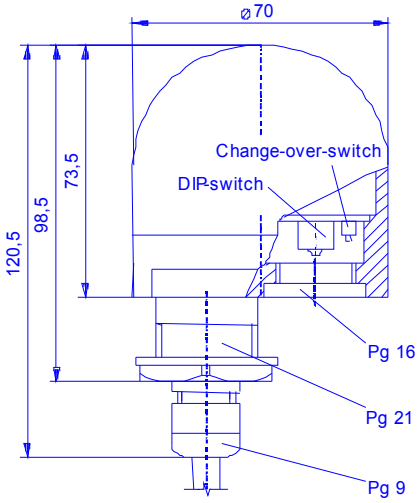
Range of Application

The direction-independent brightness transmitter is adapted to the sensitivity of the human eye, and serves for the acquisition of the brightness. The measuring values are delivered as analogue signals. There are two outputs available. Output 1 serves for different measuring ranges. Output 2 is used as fixed measuring range, particularly for the twilight range.
Both output signals of the brightness transmitter can be delivered as proportional voltages or currents, and can be used, for example, as input signal for the regulation of shading devices, heating and irrigation plants in automatically controlled green houses or as twilight sensor.

Construction and Mode of Operation

Through the sensor, and a connected electronic system the falling daylight is converted into a proportional output size. This output size can be a current of 0/4...20 mA or a voltage of 0...10 V (selectable through DIP-switch) according to the conditioned method of operation. Thanks to its special construction the sensor achieves an almost direction-independent sensibility in the elevation angle (height) of 0° up to 90 °, and in the azimuth of 0° up to 360 °.

Dimensioned sketch



Model

Order - No.	Meas. Range (Lux) (Output 1)	Meas. Range (Lux) (Output 2)	Electrical Output	Supply Voltage	Cable Length
461201	0...150 000 *	0...1000 Lux	0...20 mA	15...36 V DC	
	0...100 000		4...20mA *	or	
	0.....50 000		0…10V(max. 5 mA)	15...24V AC	5 m
	0.....10 000				

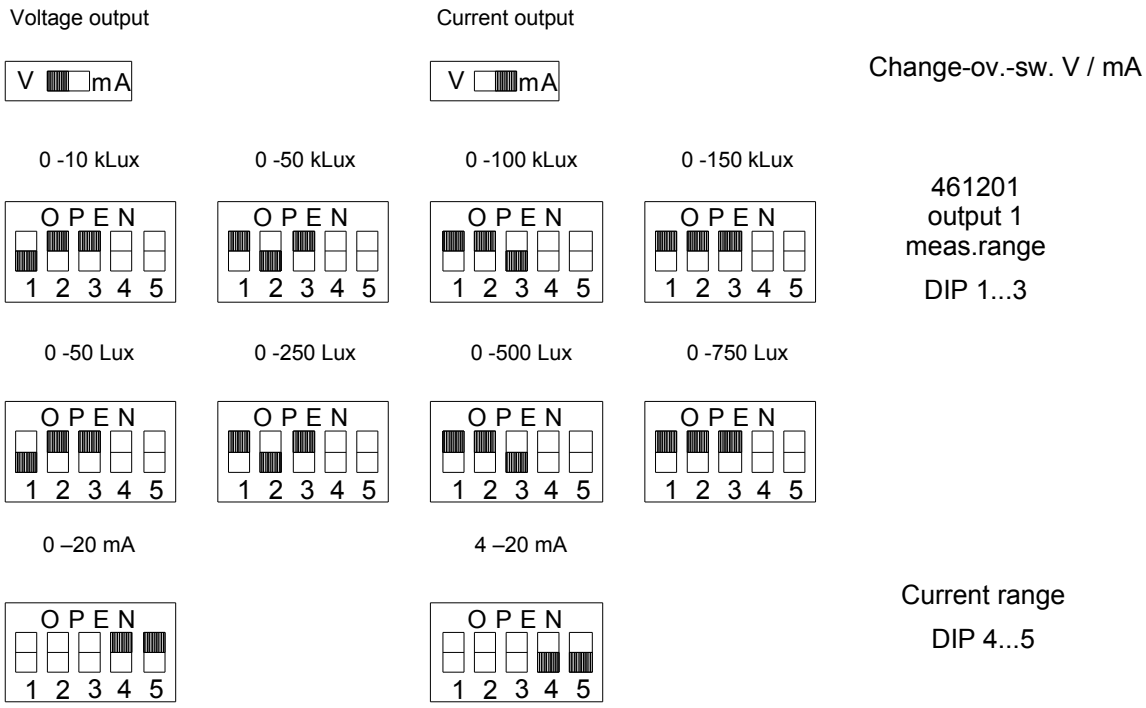
* = Factory setting

Technical Data

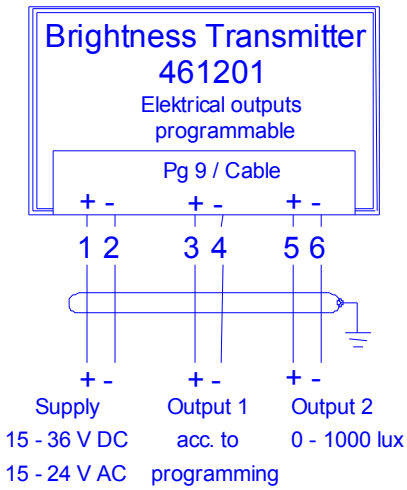
Measuring Range	See Model
Sensor type	BPW 21
Accuracy	± 3% acc. Meas. range
Spectral range	350...820 nm
Angel of acquisition l (Elevation)	0...90°
Angel of acquisition (Azimuth)	0...360°
Electr. output	See model
Operating voltage	See model
Load for current output	350 Ω
Operating current	max. 50 mA
Ambient temperature	- 30...+ 70° C
Protection	IP 65
Weight	150g (w/o cable)
Cable type	LIYCY 6 x 0,25 mm²

Programming of Measuring Ranges and electrical outputs

After removing of the locking screw Pg 16 (bottom part) the DIP-switch and the change-over-switch are visible.

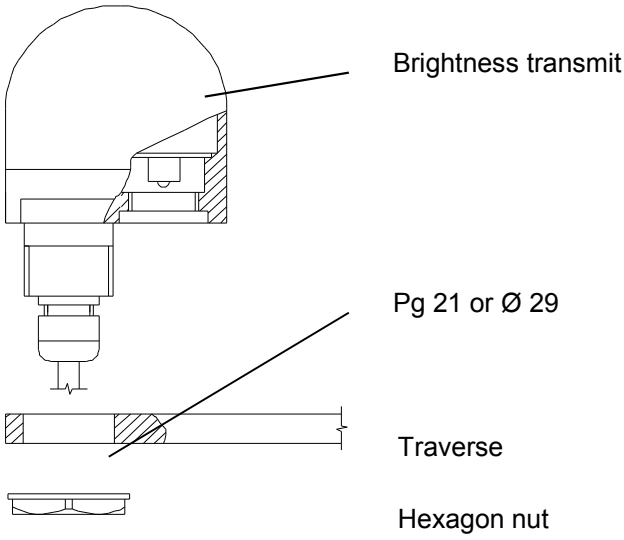


Connecting Diagram



Mounting

The sensor is mounted for example on a mast tube, hanger with a threaded tube Pb 21 or on the **traverse – compact order-no. 4.3171.30.000** with a borehole of ∅ 29 mm. Run the cable (type LiYCY) through the borehole, and fasten the brightness transmitter by means of a hexagon nut (SW 36). Mounting is carried out in vertical position.



Mounting instructions

When mounting the instrument, please take into consideration that this sensor valuates also laterally falling light, and accumulates it to the directly falling sun light. If the brightness transmitter is mounted horizontally in front of a strongly reflecting vertical wall, the measuring values are considerably higher than they would be in the free field, or in front of a hardly reflecting surface.
Attention: The output voltage of this brightness sensor can be compared only with brightness measuring transmitters showing no cosine action in the elevation angle of 0° up to 90 °, and measuring independently from direction also in the azimuth of 0° up to 360°.

Maintenance

Clean the light dome at regular intervals – depending on the extent of soiling – with a soft cloth and pure water (no additives).

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