



Data sheet

Brightness Transmitter

– Made for Sabik by Thies Clima¹ –

- **Maintenance-free sensor technology for recording brightness**
- **Connection to the NAI bus via an external bus coupler**
- **Power supply and communication via standard NAI bus interface**
- **Suitable for series connection of multiple NAI components**

The brightness transmitter made by Thies Clima measures the ambient brightness. If the brightness falls below 150 Lux, the marking of the offshore wind farm for vessel traffic is switched on via the central SCADA system. As soon as the measured value exceeds 150 Lux, it is switched off again.

The direction-independent brightness transmitter is adapted to the sensitivity of the human eye, and serves to measure the brightness. The measured values are output as analogue signals. Two outputs are available. Output 1 offers various measuring ranges. Output 2 is designed to have a fixed measuring range, particularly for the twilight range.

Mode of Operation:

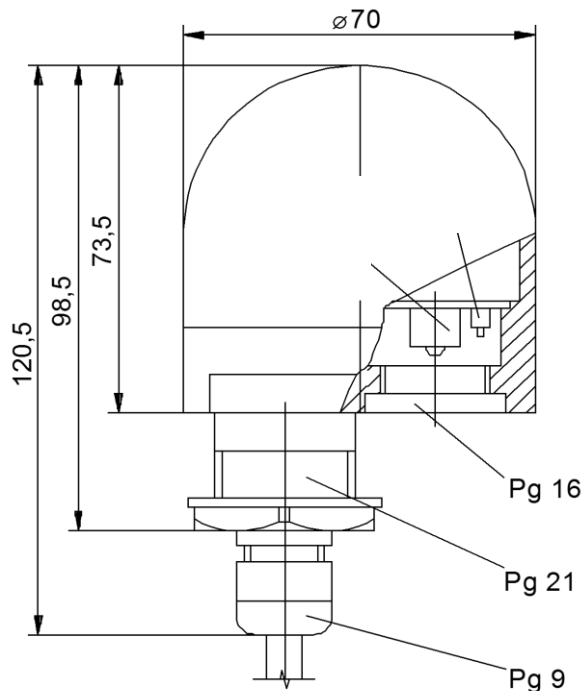
By means of the sensor and the connected electronic system, the received daylight is converted to a proportional output. This output can be a current of 0/4...20 mA or a voltage of 0...10 V (selectable by means of a DIP-switch) depending on the programmed method of operation. Thanks to its special construction, the sensor achieves an almost direction-independent sensitivity within the elevation angle (height) of 0° up to 90° and within the azimuth of 0° to 360°.

The brightness transmitter is connected to the NAI bus by means of an external BUS coupler. This allows it to be supplied with electric power via the NAI bus and the measured values to be transmitted to the central NAI Controller so that they become available to the central SCADA system.

¹ ADOLF THIES GmbH & Co. KG, Göttingen, Germany
Brightness transmitter 7.1414.51.550

Technical Data

Dimensions, weight



Dimensions (diameter x height)	70 mm x 120.5 mm
Weight (without cable)	150 g

Measuring range

Measuring ranges, output 1*	0...750 Lux 0...500 Lux 0...250 Lux 0...50 Lux
Measuring ranges, output 2	0...5 Lux

*The measuring range is programmed by means of DIP switches. The settings are described in the operating instructions of the manufacturer Thies Clima.

Optical specifications

Spectral range	350...820 nm
Measuring angle (elevation)	0...90°
Measuring angle (azimuth)	0...360°

Electrical specifications

Operating voltage	15...36 V DC
Power consumption	≤ 3 W
MTBF	150,000 h

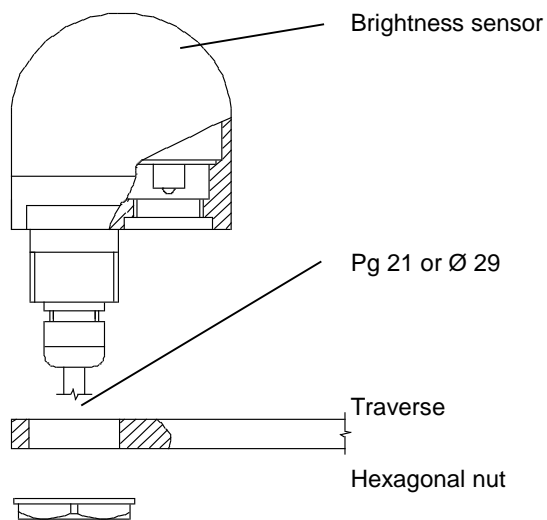
Reliability

MTBF (electronics)	150.000 h
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Environmental conditions

Environmental temperature	-30 to + 70 °C
Degree of protection (acc. to IEC 60529)	IP66
Protection class	Class III

Assembly



The unit can be fitted e.g. to a mast tube, beam with a Pg 21 threaded hole or onto the bracket available from Thies Clima*. The cable (type: LiYCY) is threaded through the hole and the brightness transmitter is connected to it by means of a hexagonal nut (SW 36). The installation is vertical.

* Precise installation instructions are included in the operating instructions from the manufacturer Thies Clima.

Installation information:

During installation it has to be observed that this sensor also records light falling on it from the side and adds this to the sunlight received directly.

If the brightness transmitter is mounted horizontally in front of a strongly reflecting vertical wall, the measured values are considerably higher than they would be out in the open or in front of a barely reflecting surface.

Note: The output voltage of this brightness sensor can be compared only with brightness transmitters showing no cosine effect within the elevation angle of 0° to 90° and also measuring direction-independently in the azimuth from 0° to 360°.

Material

