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LUNA 131 DDC
Combined Sensor

1. Use

The combined sensor ***LUNA 131 DDC*** is suitable for the measurement of brightness and temperature. The measurement output in each case is an analogue voltage of 0-10 V dc.

2. Safety

The connection and installation of electrical equipment should only be carried out by a qualified electrician. National safety regulations should be observed. Modifications to the product will result in cancellation of of the guarantee.

3. Selection of the installation location

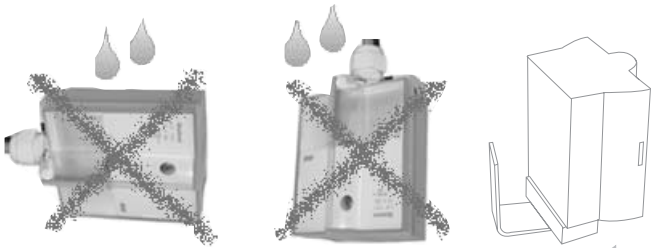
When selecting the installation location, please note

- that the any dirt on the sensor window impairs the mesurement of the brightness.
- that exposure to direct sunlight can affect temperature measurement.

4. Installation and cover maintenance

Attach the combined sensor in vertical position only with the cable gland at the bottom!

Consequence of failure to observe this is that moisture and/or dirt can penetrate into the housing!



1. Connect the 24 V dc supply and the LED will light up.
2. Select the relevant brightness range (1,2 or 3).
3. Carefully place the cover on the installed device and screw it down.

Care of the cover

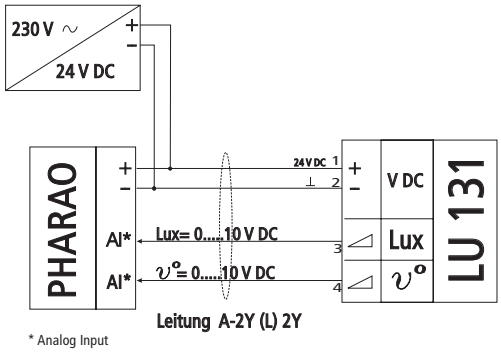
Occasionally clean the cover so that the values of brightness measurement are not altered by deposits of dirt. Use a moist cloth for cleaning.

Accuracy of measurement

The resistance of the negative supply line combined with the supply current has an effect on the accuracy of measurement.

e.g.: negative supply conductor of length 500 M, dia 0,8 mm with a pair supply current of 15 mA gives a voltage drop of 260 mV. This translates to an error of +2,5 °C on the temperature range or +1,25 kLux on the 50 kLux range.

5. Connection diagram for PHARAO with combined sensor LUNA 131 DDC



* Analog Input

This example is only for PHARAO with dc analogue input,
for example PHARAO 11, 12, 21, 22

6. Technical data

Measuring range (brightness) Brightness switchable between	Range 1 0-200 Lux Range 2 0-10000 Lux Range 3 0-50000 Lux
Brightness sensor	Photodiode with daylight filter
Measuring accuracy of brightness sensor	adjusted to within 15 % at the factory
Measuring range for temp.	– 30°C to 70° C
Measuring accuracy of temperature sensor	± 3°C over the whole measuring range after 1 hour with a stabilised 24 V dc power supply and with a minimum input resistance of 10 K for the monitoring equipment
Housing	IP 54 (in vertical position with cable entry at bottom)
Measurement outputs	0-10 V dc (overall min. -2,25 V to max. 12,25 V)
Cable input	max. 1,5 mm^2
Temperature measurement time constant	7 min
Recommended supply Supply limits	24 V dc / < 25 mA, 16-40 V dc
Cable run to monitoring equipment	for negligible effect on accuracy 50 m with 0,8 mm dia. conductors max. recommended 500 m (same dia.)
Suitable cable	British Telecom spec. CW108 2 pair (conductor dia. 0,5 mm)
Conforms to standards	CE EN 60669-2-1 bzw. EN 60669-1

Measuring range	***brightness***		***temperature***	***Output voltage***
1	***2***	***3***		
[Lux]	***[kLux]***	***[kLux]***	***[°C]***	***[V]***
0	***0***	***0***	***-30***	***0***
20	***1***	***5***	***-20***	***1***
40	***2***	***10***	***-10***	***2***
60	***3***	***15***	***0***	***3***
80	***4***	***20***	***10***	***4***
100	***5***	***25***	***20***	***5***
120	***6***	***30***	***30***	***6***
140	***7***	***35***	***40***	***7***
160	***8***	***40***	***50***	***8***
180	***9***	***45***	***60***	***9***
200	***10***	***50***	***70***	***10***

Theben AG
Hohenbergstr. 32
72401 Haigerloch
Tel. +49 (0) 74 74/6 92-0
Fax +49 (0) 74 74/6 92-150

Service
Tel. +49 (0) 90 01 84 32 36
Fax +49 (0) 74 74/6 92-207
hotline@theben.de

Adresses, telephone numbers etc. at www.theben.de