



HFA/A

Brightness sensor with photo-diode

Measuring size: temperature, brightness

Output: 0-10 V, 4-20 mA, passive sensor

Highlights: 8 lux measurement range, easy-to-install surface-mounted housing



Description

The brightness sensor HFA/A registers the brightness from 0-100 kLux using a photo-diode and, optionally, also the temperature from 0...+50°C. For further processing the transducer converts the measuring result into a linear output signal 0-10 V respectively 4-20 mA. 8 different measuring ranges be selected (0-0.5 kLux, 0-1 kLux, 0-2 kLux, 0-5 kLux, 0-10 kLux, 0-20 kLux, 0-50 kLux, 0-100 kLux) which can be switched, according to requirements, by the innovative DIP switching technology. The robust housing is defined especially for outdoor use. The brightness sensor is optimally suited for an energy efficient control of buildings, such as e.g. controlling the lighting in offices, industrial facilities etc..

Technical Specifications

Measurement range brightness	0-0,5 kLux, 0-1 kLux, 0-2 kLux, 0-5 kLux, 0-10 kLux, 0-20 kLux, 0-50 kLux, 0-100 kLux
Measurement range temp.	0...+50°C
Accuracy	±10% FS (20°C)
Temperature dependency	±5% FS / 10 K
Response time (t90)	< 1 s
Linearity inaccuracy	< ±5% final value
Offset	±10% from the selected measuring range by 270° potentiometer
Sensor	Brightness: photodiode, Temperature: resistance sensor
Sensor protection	mounted inside housing
Running-in time	< 3 s
Supply voltage analog 0-10 V	24 V AC/DC (±5%)
Supply voltage analog 4-20 mA	15...36 V DC (U _{bmin} = 15 V + R _{Load} *0,02A)
Current consumption at 0-10 V	typ. 10 mA
Current consumption at 4-20 mA	max. 20 mA / output
Analogue output 0-10 V	3-wire connection, min. load resistance 100 kOhm
Analogue output 4-20 mA	2-wire connection (transmitter), max. R _{Load} (Ohm) = (+U _b - 15 V) / 0,02 A
Switching Hysteresis Relay	2% of the selected scaling (without display), 0,5...5% of the selected scaling adjustable (with display)
Electrical connection	screw terminals max. 1,5 mm ²
Housing	Polycarbonate PC UL 94 V0 with hinge locks, color signal white similar to RAL 9003



Cable gland	PG11 high-strength cable gland with strain relief
Dimensions	Housing: L 89 x W 80 x H 47 mm, Protection sleeve: Ø 6 x 45 mm
Protection type	IP65
Protection class	III
Working range r.H.	0...98% r.H. in contaminant-free, non-condensing air
Working temperature	Electronic: -20...+50°C
Storage temperature	-20...+50°C
Installation	screw fastening
Approvals	CE, EAC, RoHS

Variants

Article Number			
Brightness (preset)	Temperature	Output brightness	Output temperature
HFA/A-UI			
0-20 kLux	n/a	0-10 V, 4-20 mA	n/a
HFA/A-UI10			
0-20 kLux	0...+50°C	0-10 V, 4-20 mA	Pt100 (DIN EN 60751 Cl. B)
HFA/A-UI20			
0-20 kLux	0...+50°C	0-10 V, 4-20 mA	Pt1000 (DIN EN 60751 Cl. B)
HFA/A-UI30			
0-20 kLux	0...+50°C	0-10 V, 4-20 mA	Ni1000 (glass passivated)



Dimensional Drawing

