



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 |



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|---------------------|--|
| 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) |

Accessories

SB/E

Snap-on mounting for DIN rails



motrona AX350

AX350: touchMATRIX® Process Indicator with two 16 bit Analog Inputs



motrona AX020

AX020: Process Indicator for Analog Signals





Dimensional Drawing

