FuehlerSysteme eNET International
Die Marke für Sensorik

EN **DATA SHEET**

HFR/A

Brightness sensor with photo-diode for indoors

Measuring size: temperature, brightness
Output: 0-10 V, 4-20 mA, passive sensor
Highlights: 3 lux measurement ranges, modern housing design, on-wall or on flush-mounted box

MADE IN GERMANY

Description

The brightness sensor HFR/A registers the brightness from 0-20 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. 3 different measuring ranges be selected (0-0.5 kLux, 0-1 kLux, 0-20 kLux) which can be switched, according to requirements, by the innovative DIP switching technology. The modern room housing in modern design is specially designed for indoor 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, 0-20 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 (Ubmin = 15 V + RLoad*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. RLoad(Ohm) = (+Ub - 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 mm²
Housing	ABS polyman, colour signal white like RAL 9003
Cable gland	on the back or housing side (predetermined breaking point)
Dimensions	Housing: L 82 x W 82 x H 25 mm
Protection type	IP30
Protection class	III
Working range r.H.	0...98% r.H. in contaminant-free, non-condensing air
Working temperature	0...+50°C
Storage temperature	-20...+50°C
Installation	on-wall or on flush-mounted box
Approvals	CE, EAC, RoHS

Variants

Article Number			
Brightness (preset)	Temperature	Output brightness	Output temperature
HFR/A-I			
0-1 kLux	n/a	4-20 mA	n/a
HFR/A-I10			
0-1 kLux	0...+50°C	4-20 mA	Pt100 (DIN EN 60751 Cl. B)
HFR/A-I20			
0-1 kLux	0...+50°C	4-20 mA	Pt1000 (DIN EN 60751 Cl. B)
HFR/A-I30			
0-1 kLux	0...+50°C	4-20 mA	Ni1000 (glass passivated)
HFR/A-U			
0-1 kLux	n/a	0-10 V	n/a
HFR/A-U10			
0-1 kLux	0...+50°C	0-10 V	Pt100 (DIN EN 60751 Cl. B)
HFR/A-U20			
0-1 kLux	0...+50°C	0-10 V	Pt1000 (DIN EN 60751 Cl. B)
HFR/A-U30			
0-1 kLux	0...+50°C	0-10 V	Ni1000 (glass passivated)

Dimensional Drawing