Specifications

Item	Through-beam		Retro-reflective with M.S.R.	Diffuse-reflective	
	E3H2-T4	E3H2-T2	E3H2-R	E3H2-DS30	E3H2-DS10
Sensing distance	4 m (adjustable)	2 m	2 m (teachable) (when using E39-R1S)	300 mm (teachable)	100 mm (fixed)
Differential travel	20% max of sensing distance	10% max of sensing distance			
Light source (wave length)	Infrared LED (880 nm)		Red LED (660 nm)	Infrared LED (880 nm)	
Power supply voltage	10 to 30 VDC, 10% ripple				
Current consumption	45 mA max				
Control output	Load current: 100 mA max. (residual voltage 2 V max.); E3H2-_C_: NPN E3H2-_B_: PNP				
	Light-on/dark-on selectable by wire	E3H2-T2_2_: dark on E3H2-T2_1_: light on	Light-on/dark-on selectable by wire		
Protective circuits	Power supply reverse polarity protection, output short circuit protection				
Response time	Operation or reset: 2.5 ms max	Operation or reset: 1 ms max.	Operation or reset: 1.1 ms max		
Sensitivity adjustment	Potentiometer adjuster	–	Teach-in		–
Ambient illumination	Incandescent lamp: 1500 lx max.; Sunlight: 5000 lx max.				
Ambient temperature	Operating: -25 to +55°C	Operating: -25 to +50°C	Operating: -25 to +55°C		
Degree of protection	EN 60529: IP67				
Indicators	Emitter: Power supply indicator: yellow Receiver: Operation indicator: yellow		Output indicator: yellow		
Weight pre-wired connector	 approx 110 g approx 40 g	 approx 90 g approx 30 g	 approx 55 g approx 20 g		
Material case lens	 nickel-plated brass plastic	 stainless steel plastic	 nickel-plated brass plastic		

Operation

Sensitivity adjustment

E3H2-T4

The emitter of the E3H2-T4 allows an adjustment of the emitted amount of light by turning the potentiometer. Turn the potentiometer clockwise for increasing the amount of emitted light and counter-clockwise for decreasing the amount of emitted light.

E3H2-R2

a) standard mode
To teach the retro-reflective model E3H2-R, place the sensor with the lens facing the reflector. Press the teach button for 2-5 seconds. For remote teach connect the white wire (Pin 2) for 2-5 seconds to common (-).
The threshold is now set to 50% of the received light level.

b) high sensitivity mode (e.g. for semi-transparent models)
To teach the retro-reflective model E3H2-R in high sensitivity mode, place the sensor with the lens facing the reflector. Press the teach button for >8 seconds. For remote teach connect the white wire (Pin 2) for >8 seconds to common (-).
The threshold is now set just below the received light level.

If the teaching was successful the LED should no longer be flashing and a state change occurs when the light is interrupted.

E3H2-DS30

a) standard mode
To teach the diffuse-reflective model E3H2-DS30, place the object in front of the sensor at the required sensing distance. Press the teach button for 2-5 seconds. For remote teach connect the white wire (Pin 2) for 2-5 seconds to common (-).
The threshold is now set to 50% of the received light level.
When the object is removed, a state change at the sensor should occur. If this is not the case the high sensitivity mode may be required.

b) high sensitivity mode
To teach the diffuse-reflective model E3H2-DS30 in high sensitivity mode, place the object in front of the sensor at the required sensing distance. Press the teach button for >8 seconds. For remote teach connect the white wire (Pin 2) for >8 seconds to common (-).
The threshold is now set just below the received light level. When the object is removed, a state change at the sensor should occur and the LED should no longer be flashing.

For E3H2-T2 and E3H2-DS10 the sensitivity setting is fixed.

Operation mode selection

The light-on / dark-on operation mode can be selected by wire (except for E3H2-T2). The white wire (Pin 2) can be connected to plus (+), common (-) or left open (not connected) for the default setting.

a) E3H2-T4 Receiver
Default setting (wire left open): DARK-ON
Connected to plus (+): LIGHT-ON
Connected to common (-): DARK-ON

b) E3H2-R2
Default setting (wire left open): DARK-ON
Connected to plus (+): LIGHT-ON
Connected to common (-): TEACH*1

c) E3H2-DS30
Default setting (wire left open): LIGHT-ON
Connected to plus (+): DARK-ON
Connected to common (-): TEACH*1

d) E3H2-DS10
Default setting (wire left open): LIGHT-ON
Connected to plus (+): DARK-ON
Connected to common (-): LIGHT-ON

For E3H2-T2 the operation mode is fixed and models with light-on and dark-on operation are available.

*1 In case the remote teach operation is required when the white wire is connected to plus (+), add a 2.2 kΩ resistor between the white wire and (+) to avoid a short circuit.