



**Model Number**

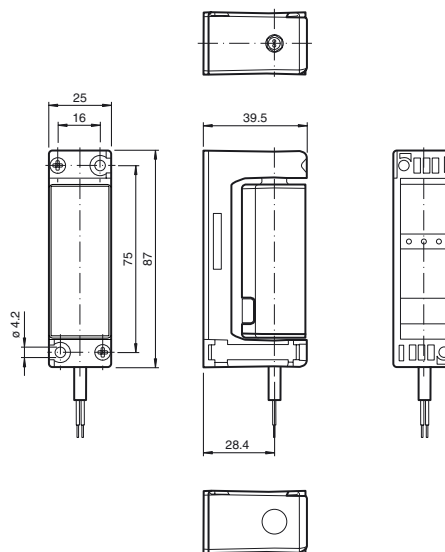
**RL81-54/25/31/115**

Retroreflective sensor  
with 2 m fixed cable

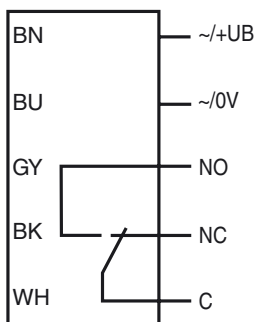
**Features**

- Retroreflective sensor with polarization filter and foreground suppression for suppressing reflective objects
- Relay output

**Dimensions**



**Electrical connection**



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

**Technical data****General specifications**

Effective detection range	REF-H88x25 0 ... 6 m REF-H88x50 0 ... 12 m
Reflector distance	REF-H88x25 2.6 ... 10 m REF-H88x50 2.5 ... 15.5 m
Threshold detection range	REF-H88x25 10 m REF-H88x50 15.5 m
Reference target	REF-H88x25
Light source	LED
Light type	modulated visible red light , 640 nm
Diameter of the light spot	approx. 200 mm at a distance of 6 m
Angle of divergence	3 °
Ambient light limit	EN 60947-5-2 10000 Lux

**Functional safety related parameters**

Mission Time ( $T_M$ )	20 a
Diagnostic Coverage (DC)	0 %

**Indicators/operating means**

Function indicator	LED yellow
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**Electrical specifications**

Operating voltage	$U_B$	12 ... 24 V AC/DC
Ripple		10 %
No-load supply current	$I_0$	≤ 40 mA
Time delay before availability	$t_v$	< 300 ms

**Output**

Switching type	light on
Signal output	Relay, 1 alternator Relay energized: Light beam is not interrupted
Switching voltage	max. 50 V AC ; 60 V DC
Switching current	max. 1 A
Switching power	max: 30 W ; 60 VA
Response time	Light beam unobstructed to light beam interrupted: 10 ms Light beam interrupted to light beam unobstructed: 80 ms

**Conformity**

Product standard	EN 60947-5-2
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**Ambient conditions**

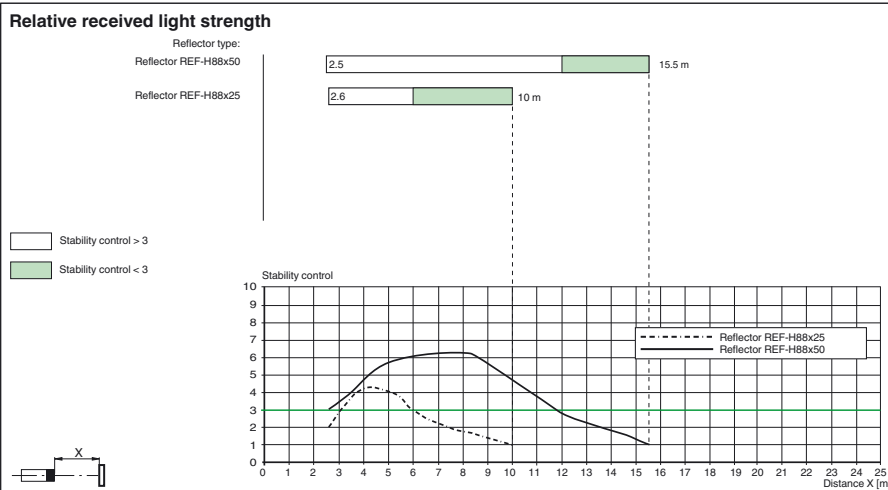
Ambient temperature	-30 ... 60 °C (-22 ... 140 °F)
Storage temperature	-40 ... 70 °C (-40 ... 158 °F)

**Mechanical specifications**

Degree of protection	IP65
Connection	2-meter PVC cable
Material	
Housing	Polycarbonate
Optical face	PMMA
Mass	approx. 155 g

**Approvals and certificates**

CCC approval	CCC approval / marking not required for products rated ≤36 V
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**Curves/Diagrams**

Other suitable accessories can be found at  
[www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

**Function display**

LED yellow	Stability control	Description
< 15 min after power up (set-up)		
off	SC > 3	light beam free, sensor ideal aligned or positioned for longest operating time
flashes 2 Hz	1 < SC < 3	sensor not properly aligned, sensor or reflector dirty
on	SC < 1	sensor misaligned or light beam interrupted
> 15 min after power up (operating)		
off	SC > 1,5	light beam free
flashes 4 Hz	1 < SC < 1,5	sensor or reflector dirty
on	SC < 1	light beam interrupted