



**Model Number**

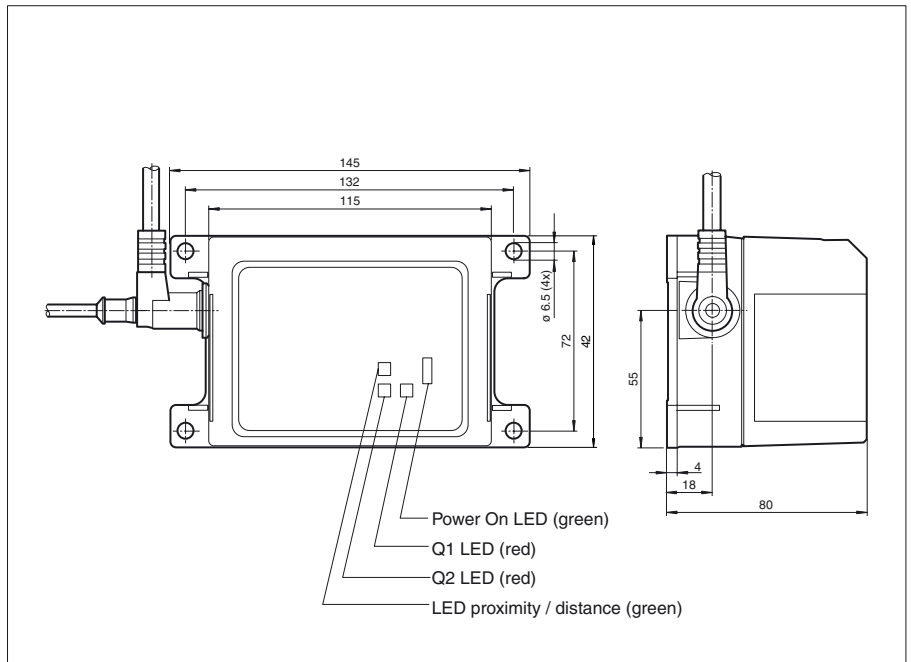
**VDM54-6000-R/20/105**

Distance sensor  
with 5-pin, M12 connector

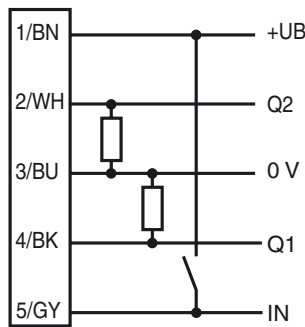
**Features**

- Measuring method PRT (Pulse Ranging Technology)
- Adjustable switch outputs
- Not sensitive to ambient light

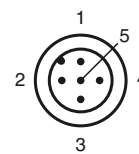
**Dimensions**



**Electrical connection**



**Pinout**



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## Technical data

### General specifications

Measurement range	0 ... 6 m
Reference target	Reflector H100-2R
Light source	laser diode
Light type	modulated infrared light
<b>Laser nominal ratings</b>	
Laser class	1
Wave length	900 nm
Beam divergence	120 mrad
Pulse length	≤ 8 ns
Repetition rate	≥ 4 kHz
Maximum optical power output	2.6 W
Approvals	CE
Measuring method	Pulse Ranging Technology (PRT)
Response delay	< 100 ms
Ambient light limit	halogen light 50000 Lux

### Indicators/operating means

Operating display	LED green
Function display	Switching state (output): 2x LED red Operating mode (Banking) : LED, green

### Electrical specifications

Operating voltage	$U_B$	18 ... 30 V DC
Ripple		10 % within the supply tolerance
No-load supply current	$I_0$	≤ 200 mA
Time delay before availability	$t_v$	≤ 300 ms

### Input

Input signal	high: $U_{B+}$ ; low: 0 V (for Banking near- / far-switching)
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### Output

Switching type	dark on
Signal output	2 PNP, short-circuit protected, reverse polarity protected
Switching current	max. 200 mA
Voltage drop	$U_d$ ≤ 2.4 V

### Ambient conditions

Ambient temperature	0 ... 50 °C (32 ... 122 °F)
Storage temperature	-20 ... 70 °C (-4 ... 158 °F)

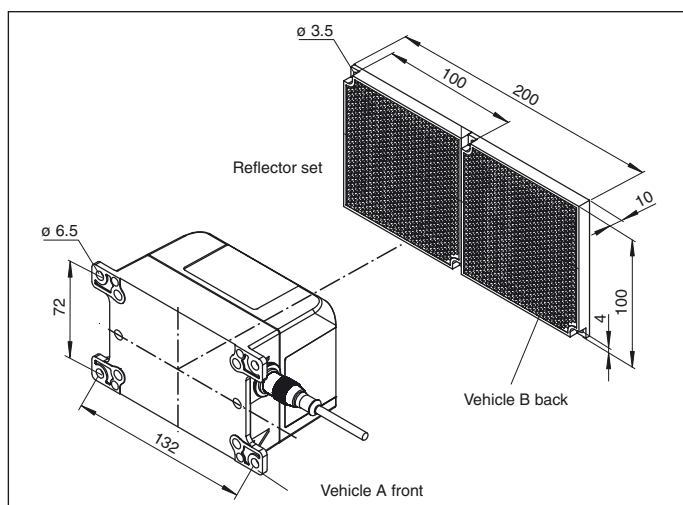
### Mechanical specifications

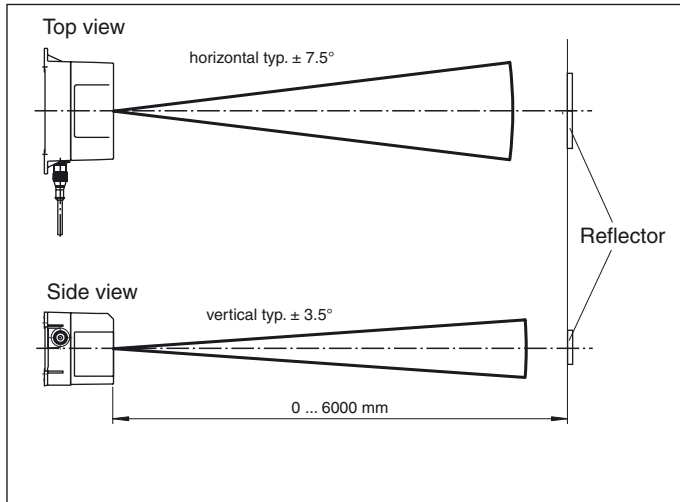
Protection degree	IP54
Connection	M12 x 1 connector, 5-pin
<b>Material</b>	
Housing	ABS
Mass	200 g

### Compliance with standards and directives

<b>Directive conformity</b>	
EMC Directive 2004/108/EC	EN 60947-5-2
<b>Standard conformity</b>	
Laser class	IEC 60825-1:2007

## Curves/Diagrams





**Adjustment**

**Banking near- / far-switching**

E1 / Banking	Q <sub>1</sub> switches when	Q <sub>2</sub> switches when
0 V (LOW)	SP 1	SP 2
+ U <sub>B</sub> (HIGH)	SP 3	SP 4

SP 1 / SP 2 / SP 3 / SP 4 = Distance setup

**Example for near- / far-switching**

E1 / Banking	Q <sub>1</sub> switches when	Q <sub>2</sub> switches when
0 V (LOW)	150 cm (SP 1)	450 cm (SP 2)
+ U <sub>B</sub> (HIGH)	100 cm (SP 3)	150 cm (SP 4)

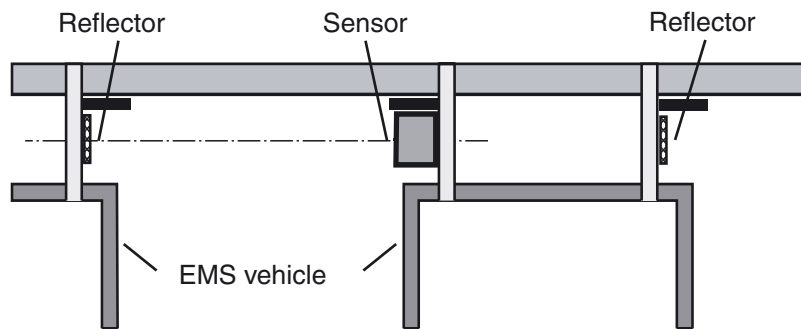
Input IN = LOW -> here large distance (vehicle loaded)

Q<sub>2</sub>: controls slow motion

Q<sub>1</sub>: stopps vehicle

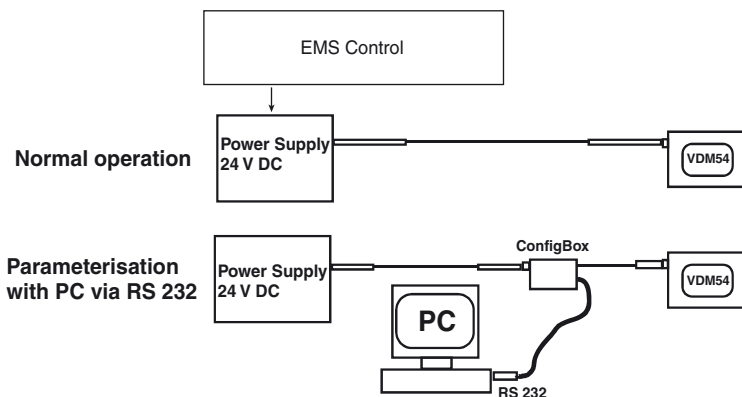
(In case of a wire break of IN the large distance is applied in this example)

**Mounting example**



**Software**

Setting with VDM Config  
(Free download at [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com))



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