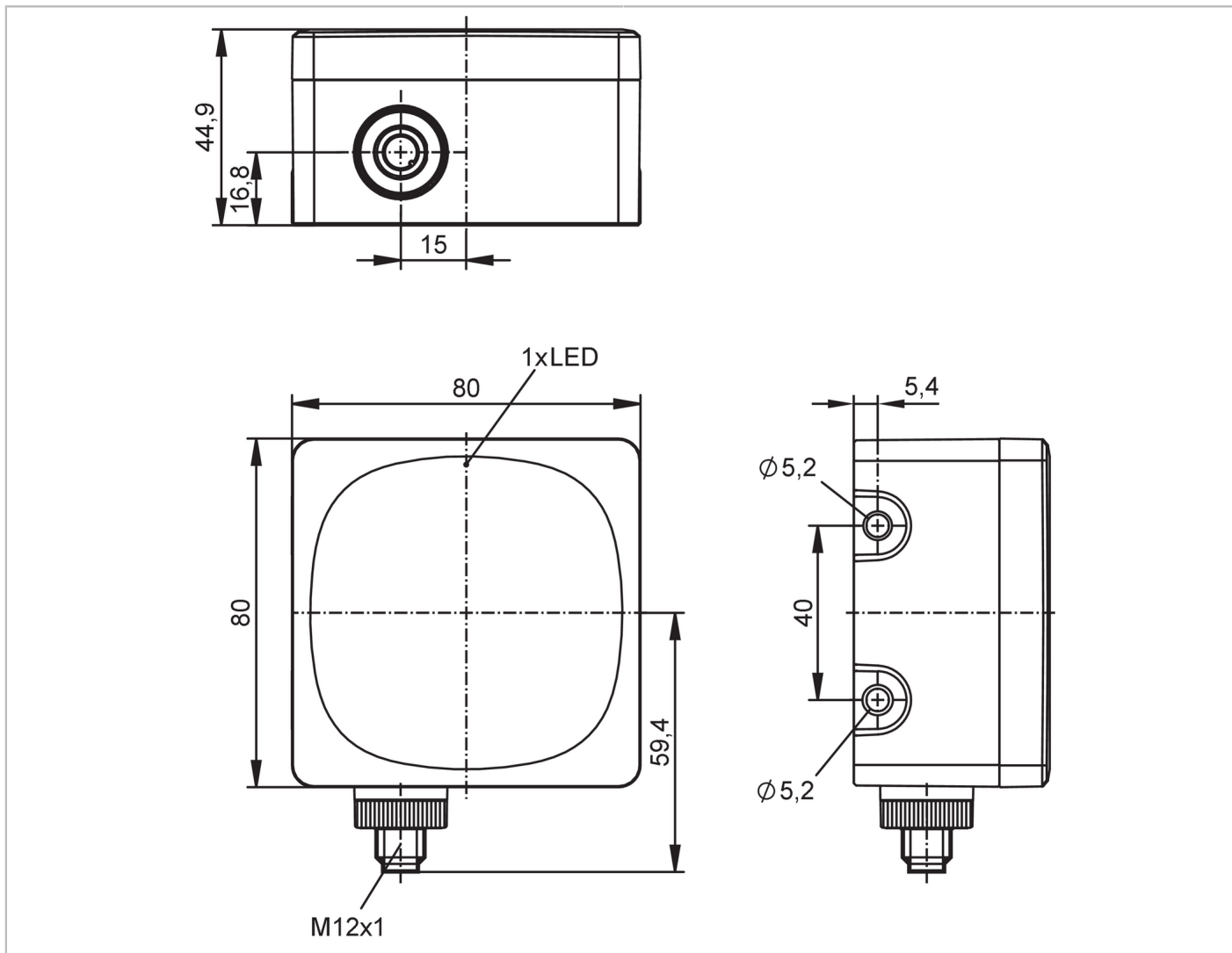


R1D201



Radar distance sensor

R1DBA00KG/US/CAN



Product characteristics

Communication interface	CAN
Housing	rectangular
Dimensions [mm]	80 x 80 x 45

Application

Radio approval for	EU/RED; USA; Canada; Great Britain; Australia; Chile; Brazil; Japan; Mexico; Namibia; New Zealand; South Africa
Note on radio approval	The list of countries applying the European Radio Equipment Directive 2014/53/EU (RED) can be found under "Downloads".

Electrical data

Operating voltage [V]	9...32 DC; (to SELV/PELV ; energy-limited circuits according to IEC/UL 61010-1 3rd ed. cl. 9.4)
Current consumption [mA]	< 300; (mean value: 150 mA)
Power consumption [W]	9; (maximum)
Protection class	III
Reverse polarity protection	yes

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Max. power-on delay time [ms]	1000
Operating frequency [GHz]	77...81
Radiated peak power EIRP [dBm]	30
Maximum radiated average power spectral density [dBm/MHz]	-17

Monitoring range

Range [m]	0.1...50; (based on E23014)	
Angle of aperture cylindrical [°]	Horizontal	40
	vertical	20

Measuring/setting range

Measuring range [m]	0.1...50; (see diagram:)
Sampling rate [Hz]	20

Software / programming

Parameter setting options	via PC with ifm Vision Assistant
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Interfaces

Communication interface	CAN	
Number of CAN interfaces	1	
Transmission rate	250 (125...1000) kBaud	
Protocol	SAE J1939	
Factory settings	Baud rate: 250 kBit/s	
	device address (ECU): 126	
	UDS interface: 1000 kBaud	
Usage type	Parameter setting; Data transmission	
Note	For further information please refer to the software manual available under "Downloads"	

Operating conditions

Ambient temperature [°C]	-40...85
Storage temperature [°C]	-40...85
Protection	IP 65; IP 66; IP 67; IP 69K; (with mounted connectors or protective caps)

Tests / approvals

EMC	DIN EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	DIN EN 61000-4-3 HF radiated	10 V/m
	DIN EN 61000-4-4 Burst	2 kV
	DIN EN 61000-4-6 HF conducted	10 V
	DIN EN 61000-6-2	noise immunity / industrial environments
	EN 55032 emission	class A
Impact resistance	IEC 62262	IK06 (1J)
Vibration resistance	DIN EN 60068-2-6 Fc	10 g 10 frequency cycles, 1 octave/minute, in 3 axes
Shock resistance	DIN EN 60068-2-27 Ea	50 g 11 ms half-sine; 10 shocks each in every direction along the 3 coordinate axes
Continuous shock resistance	DIN EN 60068-2-29 Eb	40 g 6 ms half-sine; 4,000 shocks each in every direction along the 3 coordinate axes
Fast temperature changes	DIN EN 60068-2-14 Na	TA = -40°C; TB = 85°C; t1 = 30 min; t2 = < 30 s; 300 cycles
Salt spray test	DIN EN 60068-2-11 Ka	8 test cycles

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Radar distance sensor

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Electrical safety	DIN EN 61010-2-201	electric shock / electrical supply only via SELV/PELV circuits
MTTF [years]		56
UL approval	Ta	-40...65 °C
	Enclosure type	Type 1
	voltage supply	Limited Energy
	File number UL	E205959

Mechanical data

Weight [g]	415.3
Housing	rectangular
Mounting	flush mountable
Dimensions [mm]	80 x 80 x 45
Material	housing: PA; radome: PEI; sealing: HNBR

Displays / operating elements

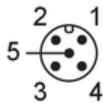
Display	Power	1x LED, green
	errors	1x LED, red

Remarks

Pack quantity	1 pcs.
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Electrical connection

Connector: 1 x M12; coding: A; Contacts: 5



- 1: screen
- 2: Operating voltage
- 3: GND
- 4: CAN-H
- 5: CAN-L

Other data

Operating mode	standard	Long range, high velocity	
max. distance	0.1...20 m	0.25...50 m	
distance resolution	100 mm	320 mm	
distance accuracy	± 5 mm	± 15 mm	
max. velocity	± 6 m/s	± 15 m/s	
velocity resolution	0.35 m/s	0.38 m/s	
speed accuracy	± 0.01 m/s	± 0.04 m/s	
Sampling rate	20 Hz	20 Hz	
Distance	based on E23013		
Resolution	for the detection of two objects of the same size		
Accuracy	for a strong, point-shaped target		

R1D201

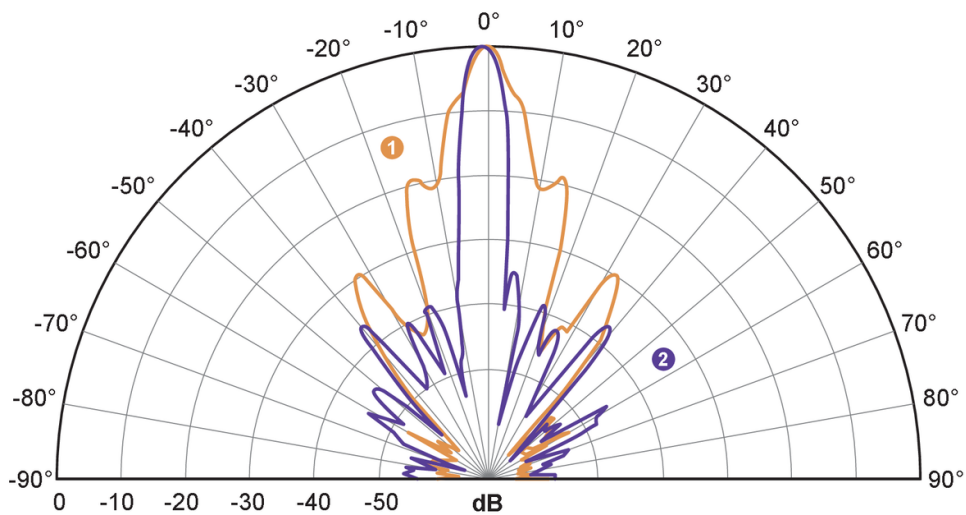


Radar distance sensor

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Diagrams and graphs

Monitoring range



1: azimuth

2: elevation

conditions

Reflector: 4.3" Trihedral Corner Reflector (SAJ043-S1)

RCS: 10 dBm²

Distance: 5 m

operating frequency: 79 GHz