Product data sheet

OndoSense *reach* C300

Radar for collision avoidance & object detection

ONDOSENSE *reach*

Technical data

General data	
Measurement range [1]	0.3 - 30 m
Measurement rate	100 Hz
Sensing/ protection zones	up to 4 - via switching outputs
Linearity	up to ±5 mm
Repeatability	up to ±2 mm
Opening angle	±8°
Radar frequency (FMCW)	122.25 - 123 GHz
Radiation power	EIRP < 100 mW
MTTF	> 125 years

[1] Maximum range was established using a 0.35 m corner reflector

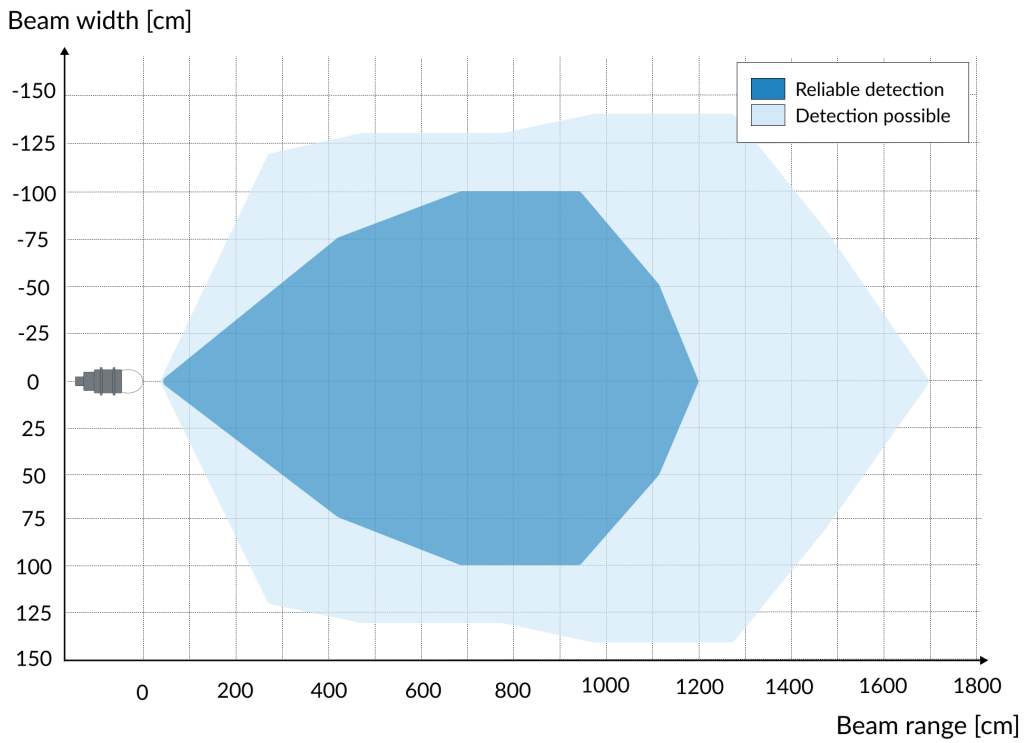
Mechanical data	
Width / Diameter	30 mm
Length	92.65 mm
Housing material	Stainless steel grade 1.4404
Lens material	PTFE
Connection	M12, 8-pin, a-coded connector
Weight	205 g (170 g sensor + 35 g M30 nuts)

Environmental data	
Protection class	IP67/IP69K
Operating temperature	-40 ...+70 °C
Storage temperature	-40 ...+85 °C

Electrical data	
Power supply	24.0 V DC (12 - 30 V)
Power dissipation	1.8 W
Reverse voltage protection	yes
Communication interface	RS485 (half-duplex mode)
Switching outputs	3x push-pull (PNP/NPN)
Analog outputs	Current loop (4 - 20 mA)

Beam pattern

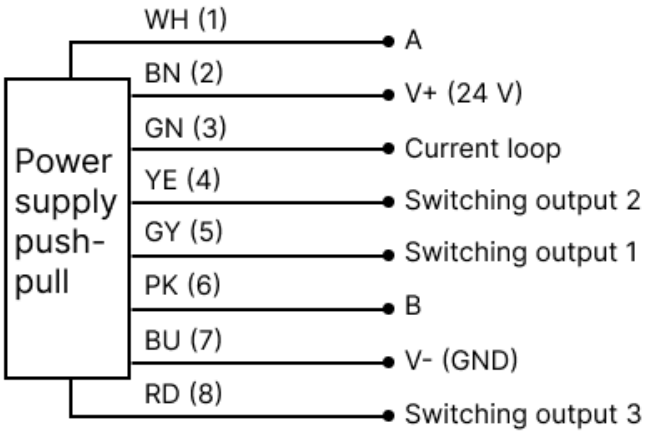
Typical beam pattern for a metal pipe (⌀: 0.025 m, RCS: 0.1 m²).



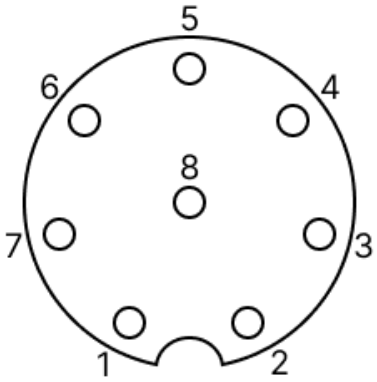
Note: The effective beam pattern depends on the sensitivity level, the target properties and the sensors measurement range.

Connection

V+ (24 V) and V- (GND) are used for the power supply. The pins A and B are used for RS485 data exchange. These 4 pins are needed for operating the sensor with RS485 communication. The sensor can be connected with an 8-pin a-coded M12 cable. Additional pins are the 3 switching outputs and the current loop.



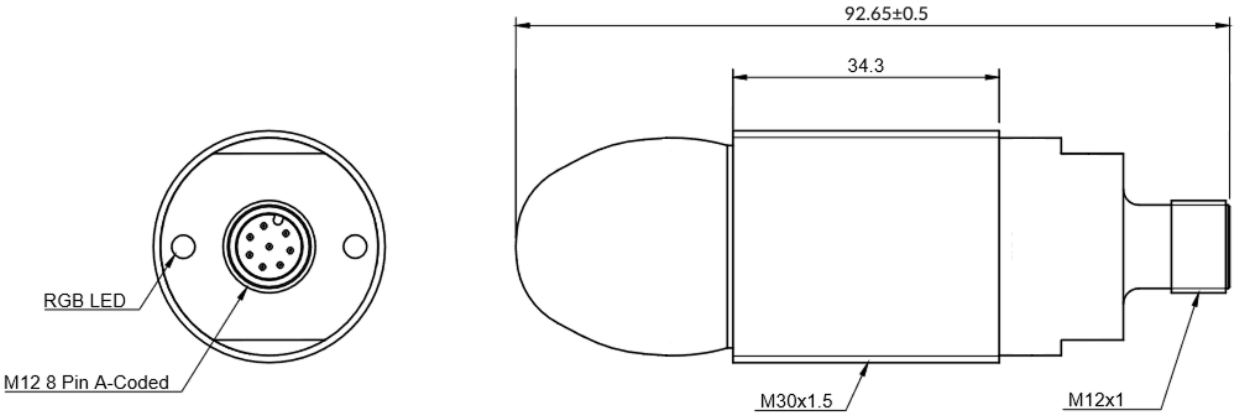
Pinout diagram sensor



M12 8-pin a-coded male layout

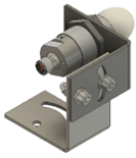
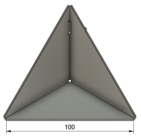
Dimensional drawings

The lens geometry has been abstracted. All offered lenses will fit within the envelope.



Accessories

Name	Description	Ordering Nr.
Install		

	Name	Description	Ordering Nr.
	M30 MountingBracket	Front-mounting of OndoSense reach with a horizontal range of ±15°	MB.R100.1000
	M30 SwivelBracket	Front-mounting of OndoSense reach with a horizontal and vertical range of ±30°	MB.R200.1000
Reflect			
	CornerCube - 100	Increases the signal strength and the possible angle between sensor and target. RCS: 70 m²	CC.0100.1000
	CornerCube - 250	Increases the signal strength and the possible angle between sensor and target. RCS: 2732 m²	CC.0250.1000