Product data sheet

OndoSense *reach* C300

Radar for collision avoidance & object detection

ONDOSENSE
reach

Technical data

General data	
Radar frequency (FMCW)	122.25 - 123 GHz
Radiation power	EIRP < 100 mW
MTTF	> 125 years
Opening angle	±8°
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

[1]Maximum range was established using a 0.25 m corner reflector

| Mechanical data	
Width / Diameter	30 mm
Length	93.65 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
EMC	IEC 61496-1, IEC 61000-6-2, IEC 61000-6-4

| Electrical data	
Power supply	24.0 V DC (12 - 36 V)
Power consumption	80 mA (at 24 V DC)
Power dissipation	2.4 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 m^2).
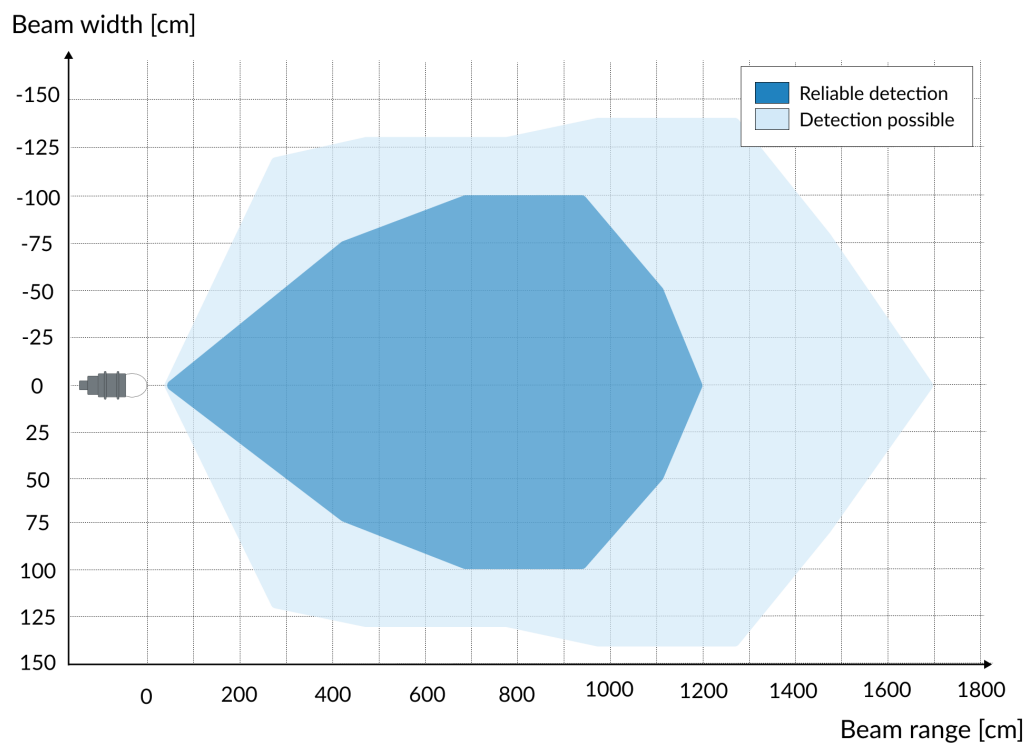
Note: The effective beam pattern depends on the sensitivity level, the target properties and the sensors measurement range.

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.
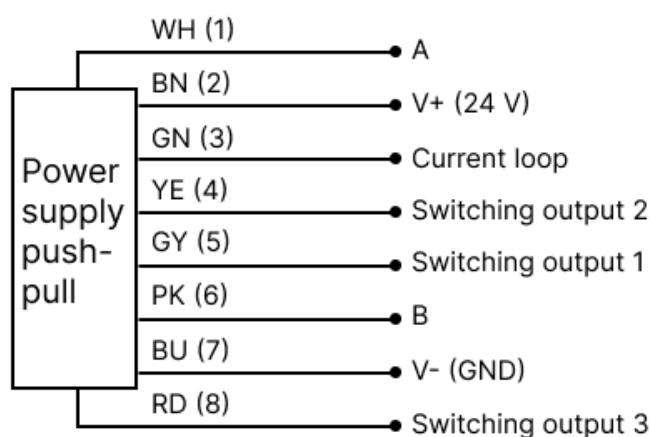
Pinout diagram sensor
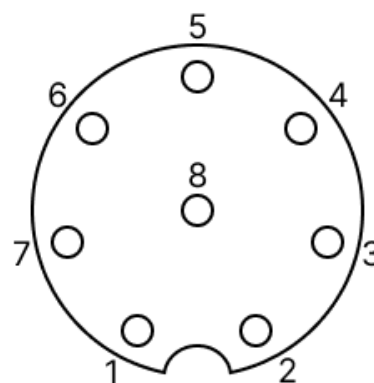
M12 8-pin a-coded male layout

Dimensional drawings

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