



The Next Generation:

2π SENSE

**Industrial D-Band Radar
for Your Application**

2π SENSE – Maximum Performance in a Minimum Footprint

The X1000 series of industrial radar sensors are unlike any other commercially available sensors. It is based on our High-Performance **2π SENSE** technology offering outstanding range resolution, stability and accuracy. Industrial variants of the X1000 series come with full IP67 dust-/waterproof rating and a dual 1 Gigabit Ethernet interface and an extensive ecosystem of lens antennas.



// X1000 SERIES INDUSTRIAL RADAR: Sensor Specifications //

Parameter	Specification
Operating Frequency:	126 to 182 GHz* D-band
Sweep Bandwidth:	56 GHz* -3 dB range resolution of 2.4 mm in air
Modulation:	FMCW Frequency Modulated Continuous Wave
Channels:	1x TRX transceiver, copolar 2x RX receivers (Co-Polar left & right channel or Cross-Polar with embedded OMT)
Measurement Rate:	Up to 1 kHz at 5.5 m maximum distance and full sweep bandwidth
Temperature Range:	-40°C to +60°C / -40°F to +140°F
Protection Level:	IP67 dust-/waterproof according to IEC 60529
Power Supply:	20 to 55 VDC galv. isolated or PoE Power-over-Ethernet IEEE 802.3at Type 1 (13W)
Interfaces	Dual 1G Ethernet switched 1 Gigabit Ethernet, TSN ready switch BLE - Bluetooth Low Energy PNP Input TTL-Level PNP Output 3.3V to 55V galv. isolated
Protocols:	SCPI Standard Commands for Programmable Instruments for Raw Data OPC-UA OPC Unified Architecture
Antennas:	Collimated 3° HPBW half-power beam-width dielectric lens F=100mm / F=150mm focal dielectric lens Custom antennas designed to your needs
Mechanical:	Dimensions: 120 mm x 60 mm x 70 mm (L/H/W) Mounting: 4 through holes for M4 fasteners, 4 blind holes for 3.0 mm dowel pins
Compliance /Certificates:	Work in progress (subject to change) and planned for 2024: EU & CEPT: CE "RDI-S" device class according to ECC DEC (22)03 US: FCC Part 18

*: Frequency bands subject to ITU RR 5.340 might be excluded depending on used regulation / national implementation



2pi-Labs GmbH
Universitätsstraße 150
44801 Bochum

Phone: +49 234 545069 00
E-Mail: info@2pi-labs.com