Enabling 3-D perception.
Reimagining LiDAR.
Minimizing costs.

R2300
3-D LiDAR Sensor

Your automation, our passion.

PEPPERL+FUCHS

R2300
Reliable and Highly Efficient with Multiple Layers

Robust Construction and Precise Measurements

The R2300 multi-layer scanner provides the user with significantly more scanning information than single-layer devices, thus ensuring a far more reliable detection result for the sensing range. Solid-state electronics make the sensor especially durable. The use of PRT technology guarantees highly precise and reliable measurements, regardless of the ambient and object conditions. Using only one multi-layer scanner instead of several sensors reduces acquisition, wiring, and integration costs.

Highlights

- Cost-effective and versatile multi-layer LiDAR sensor for object perception in 3-D space
- High sampling rate and measurement density— ideal for positioning, object classification, and navigation-support tasks
- Simplified installation and commissioning with integrated pilot laser
- Solid-state electronics increase durability, efficiency, and longevity

| Technical data	R2300
Order code	OMD10M-R2300-B23-V1V1D-4S
Measuring range	10 m to white (90 %) 4 m to black (10 %)
Scanning angle	100°
Repeatability	12 mm
Resolution	1 mm
Light type	Measuring laser: infrared (laser class 1) Alignment laser: red (laser class 1)
Angle resolution	0.1°
Measuring rate	Up to 4,000 pixels per scan
Interface	Ethernet UDP 100 Mbit/s

Measuring range 10 m
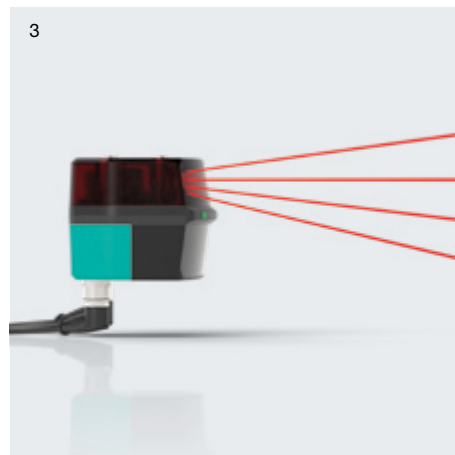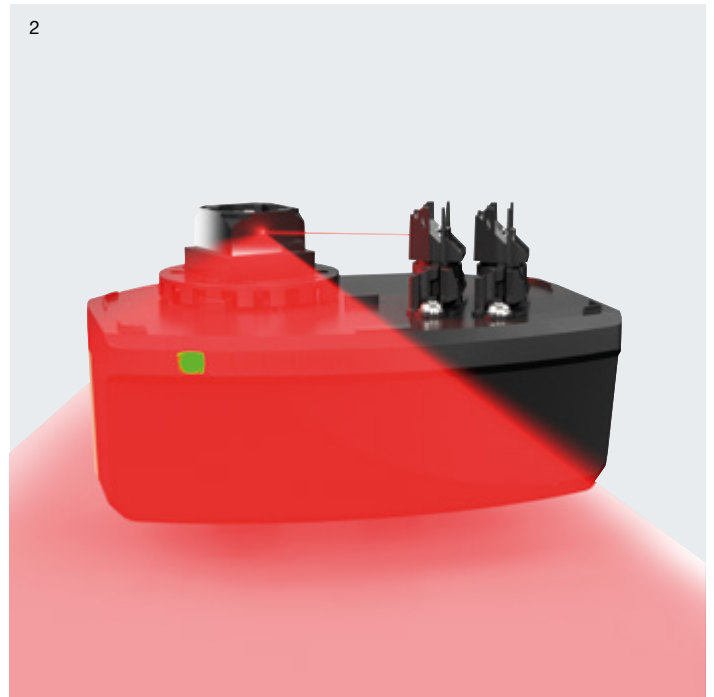
Scanning angle

4 scanning layers

Pilot laser

For more information, visit:
www.pepperl-fuchs.com/pf-r2300
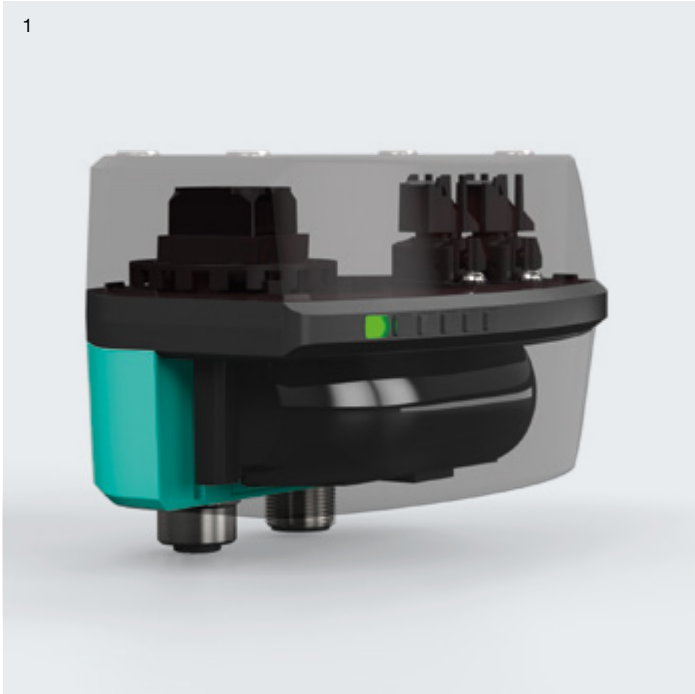
1: separation of emitter and receiver
2: rotating mirror
3: measurements on four scanning layers

Easy Commissioning and Low Level of Interference

With the exception of the rotating mirror, the R2300 has entirely solid-state electronics. This makes the sensor resistant to impact and vibration and reduces its susceptibility to interference. An integrated pilot laser can be switched on to allow users to simply align and commission the R2300 without additional tools.

Large Field of View and Sophisticated Mechanical Concept

The R2300 multi-layer scanner combines a very high degree of angular resolution of 0.1°, a high sampling rate, and a precise light spot. This ensures precise and reliable detection of the smallest object structures and contours. The scanner delivers both flexibility and a high level of accuracy when it is used in the field. Mechanical separation of the emitter and the receiver prevents optical short circuits. This results in cleaning intervals that are much longer than for other devices in this class, and significantly reduced downtimes. The extremely compact design of the R2300 means that it can be used in the smallest spaces, for example in automated transport systems.
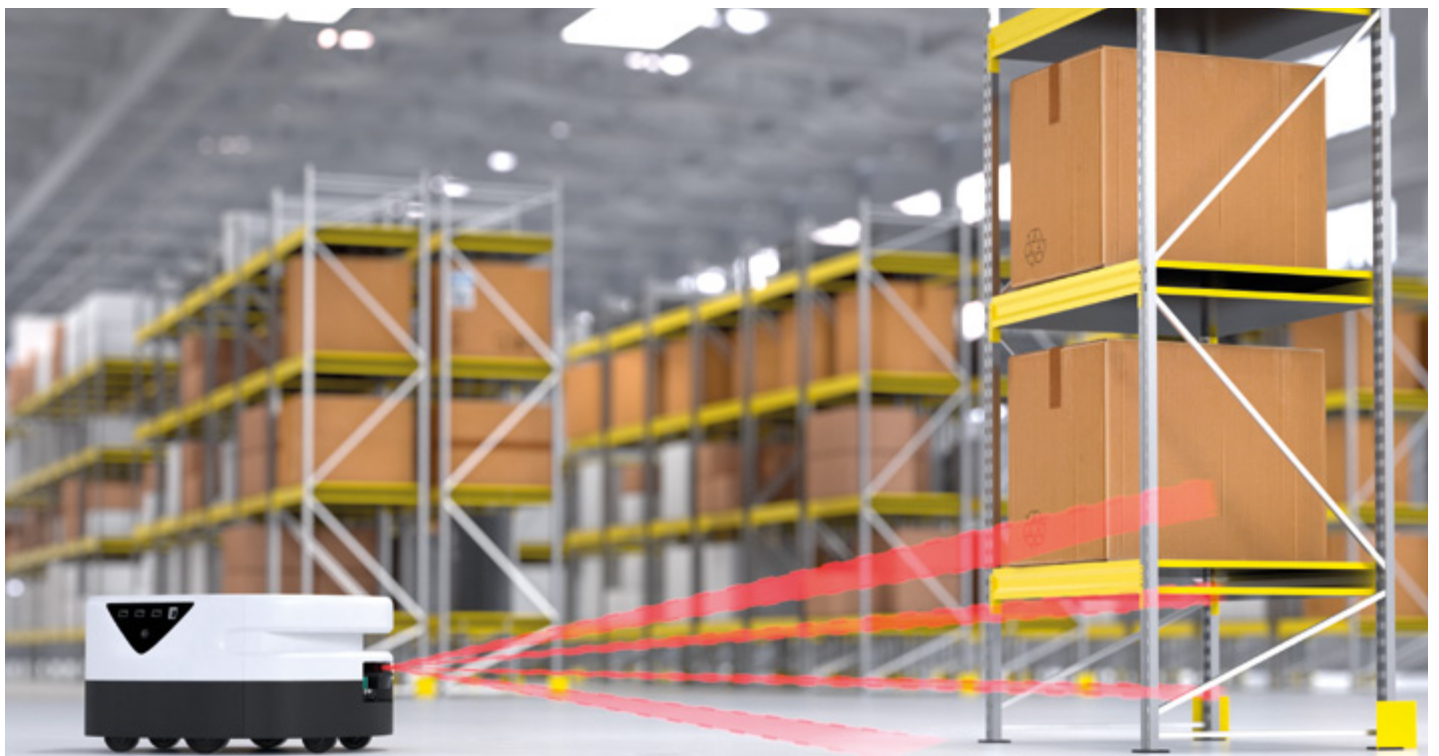
R2300
A Perfect View of Every Layer

Many applications require different layers to be detected simultaneously. This is where the R2300 from Pepperl+Fuchs really comes into its own. This 3-D LiDAR sensor can be trusted to keep an eye on everything, including the end of a conveyor belt, the location of a pallet, and the position of a load.

Reliable Navigation of AGVs

The warehousing and logistics sector often uses automated guided vehicles (AGVs), which drive under racks and lift them up before transporting them (and their contents) to the specified destination. The R2300 3-D LiDAR sensor can be used in such cases to supply the data needed to avoid collisions and navigate the AGVs reliably. Outstanding measurement accuracy and area detection guarantee absolutely reliable transport. The compact design of the housing makes the scanner the ideal choice given the small amount of space available in these vehicles.

Precise Positioning at Transfer Stations

Many systems in the warehousing and logistics sector use transfer stations. AGVs might collect pallets at the end of a belt, for example. Mounted on the vehicle, the R2300 supplies accurate information on the location and position of the load and ensures optimal positioning of the vehicle. The use of four scanning layers guarantees reliability and significantly increases process reliability at transfer stations.
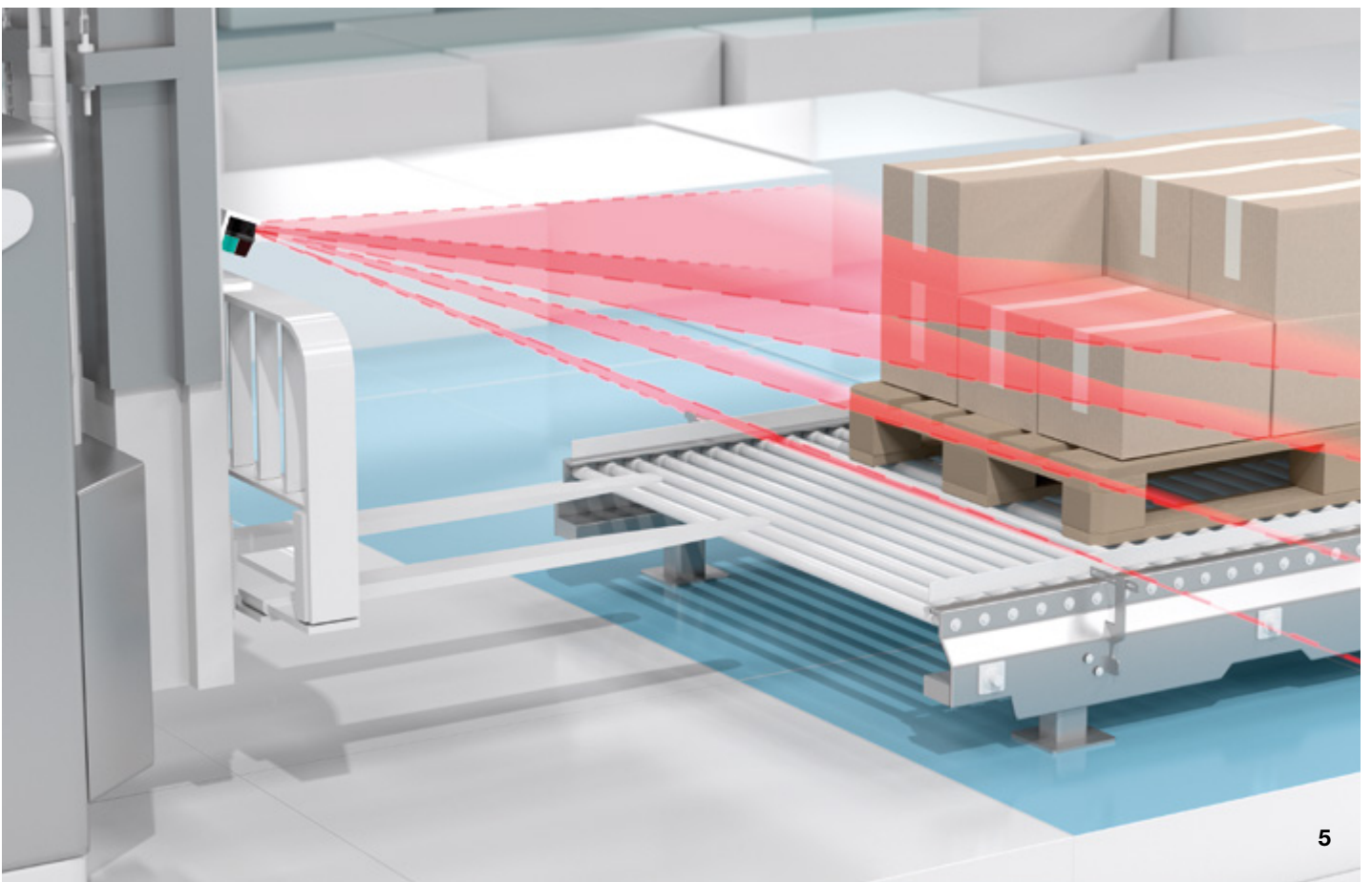
Your automation, our passion.

Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus
- Remote I/O Systems
- Electrical Ex Equipment
- Purge and Pressurization
- Industrial HMI
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity

PEPPERL+FUCHS