

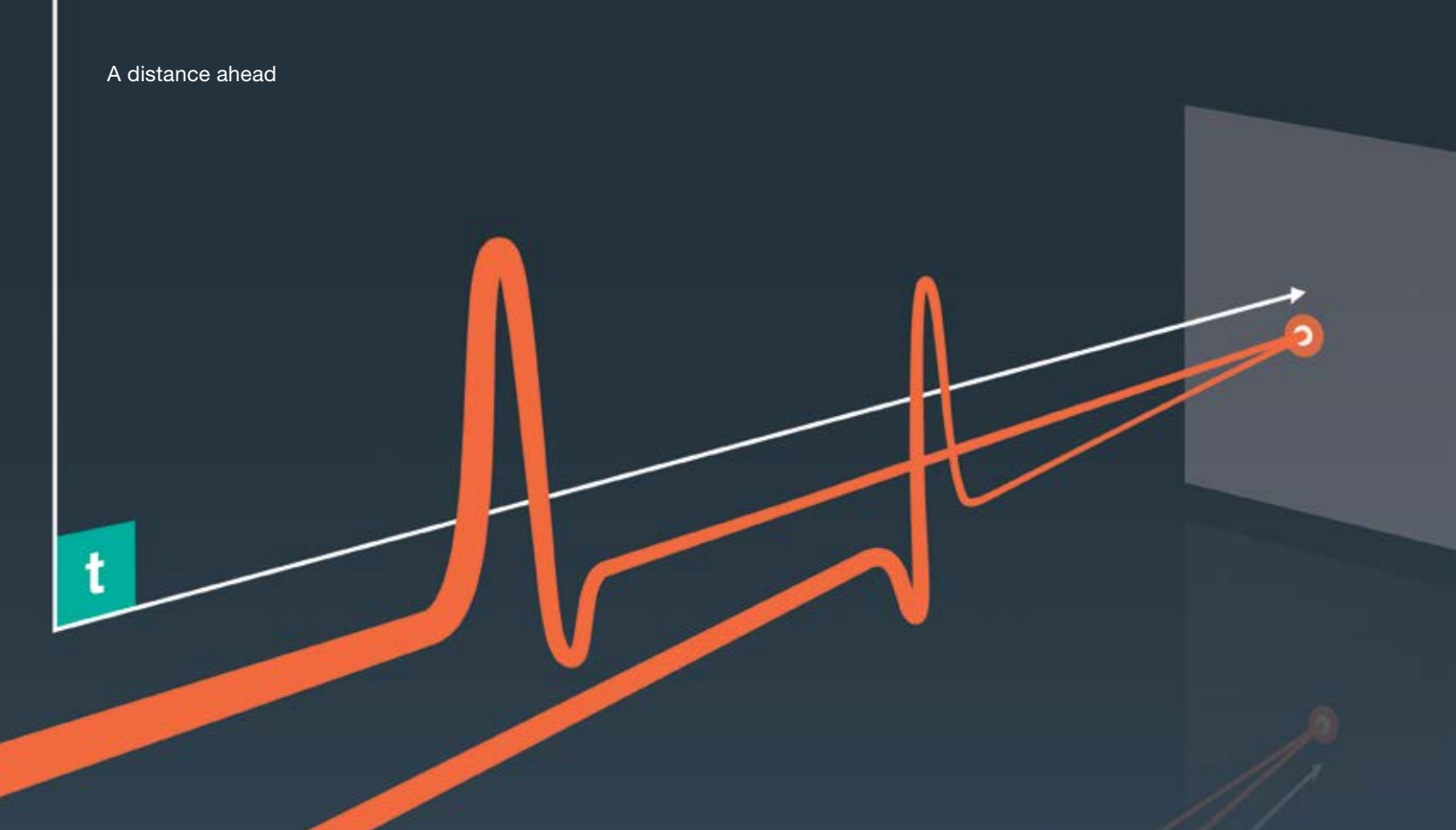
**Providing unmatched precision.  
Delivering 360° performance.  
Ensuring unrivaled longevity.**

R2000  
2D Laser Scanner



Your automation, our passion.

 **PEPPERL+FUCHS**



## 2D Laser Scanner with 360° All-Round Visibility

The innovative R2000 2D laser scanner is the perfect combination of modern technology and design elements that raises the bar in scanning technology. This opens up a range of interesting new applications for the R2000.



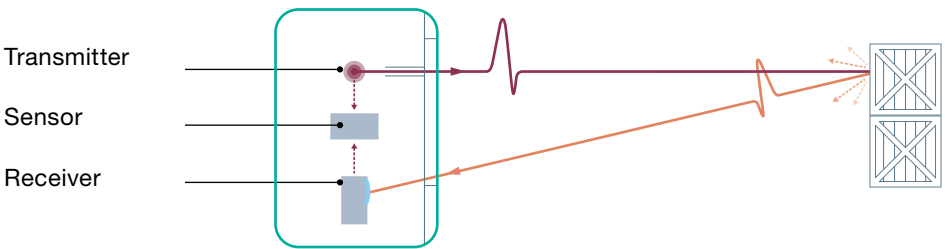
## A Distance Ahead: A Distinctive Market Advantage

The new generation of photoelectric sensors combines standard sensors and the latest measuring methods.

Sensors with PRT emit a very short, high-intensity light pulse and calculate object distance based on the speed-of-light and time-of-flight of the reflected light pulse. Unlike other time-of-flight sensors that emit a continuous light beam, PRT sensors emit light pulses up

to 250,000 times per second. Compared to a continuous source, the energy density of one PRT pulse can be up to 1,000 times greater, allowing stable and extremely reliable detection, even at distances of 300 meters or more. In contrast to triangulation-based sensors,

the detection range of a PRT sensor is not limited by the geometrical layout of the sensor optics. Consequently, PRT sensors can take advantage of smaller housings while still providing significantly larger detection ranges.



Pulse Ranging Technology – true time-of-flight technology

### One Series, Two Versions

The R2000 is capable of extremely accurate measurements at lightning-fast scan rates. An interactive display with text and graphical information about the application, combined with simple configuration, make it incredibly user-friendly.

And PRT allows reliable and precise measurements in industrial environments. Very small objects are consistently detected, even at long distances.

Two versions of the R2000 are available for your applications. The R2000 Detection is an easy-to-use laser scanner for demanding field monitoring

applications. The R2000 UHD is suitable for complex measuring tasks and navigation.

### R2000 Series Highlights

- Pulse Ranging Technology for high precision and reliability
- Sharp, pinpoint light spot allows detection of small objects, reflectors, or edges
- 360° measurement for all-round visibility
- Compact design for simple mechanical integration
- Interactive, wrap-around LED display provides easy-to-see status information

General Technical Data		Accessories	Description
Detection/ measuring range	0.2 ... 10 m to a white object/ 0.2 ... 30 m to a reflector (R2000 Detection) 0.2 ... 60 m to a reflector (R2000 UHD)	PACTware	FDT framework
Light type	Red laser light, laser class 1	Device Type Manager	DTM R2000 Series
Light spot diameter	<20 mm at 10 m	MH-R2000	Mounting aid
Rotational speed/ detection rate	R2000 UHD 10–50 Hz 600–3,000 RPM R2000 Detection 10–30 Hz 600–1,800 RPM	V1SD-G-ABG-PG9	Field-attachable male connector
Dimension (W x H x D)	106 mm x 116.5 mm x 106 mm	V1-G-5M-PUR	Female connector
Operating voltage	10 V ... 30 V	V1SD-G-2M-PUR-ABG-V45-G	Connection cable 2 m
		V1SD-G-5M-PUR-ABG-V45-G	Connection cable 5 m

# R2000 Detection Scanner for Demanding Field Monitoring Applications

The R2000 Detection laser scanner offers four user-configurable detection fields. Each field can be edited and assigned to a specific output with user-friendly software. Also, a sharp, pinpoint light spot enables precise detection of small objects and edges.



360° scanning for positioning, area monitoring, or collision avoidance

### R2000 Detection

Combining simple configuration with a razor-sharp, 2D scan plane that enables object detection only a few millimeters above a surface, the R2000 Detection provides an ideal solution for application tasks that include gap control, empty storage bay detection in an ASRS facility, and collision avoidance in AGV and stacker cranes.

#### R2000 Detection Highlights

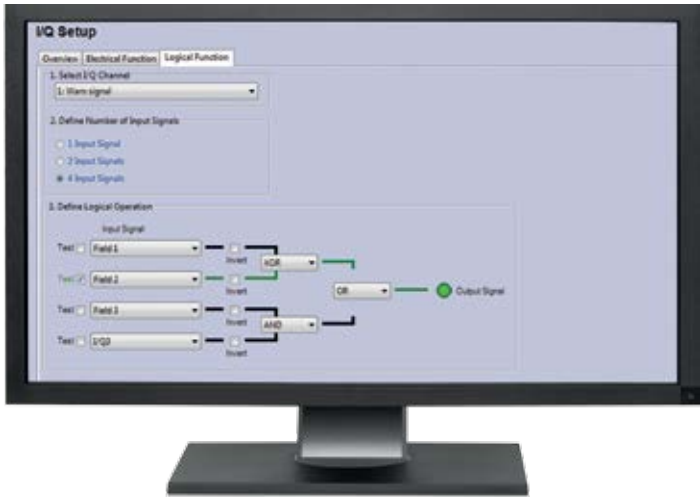
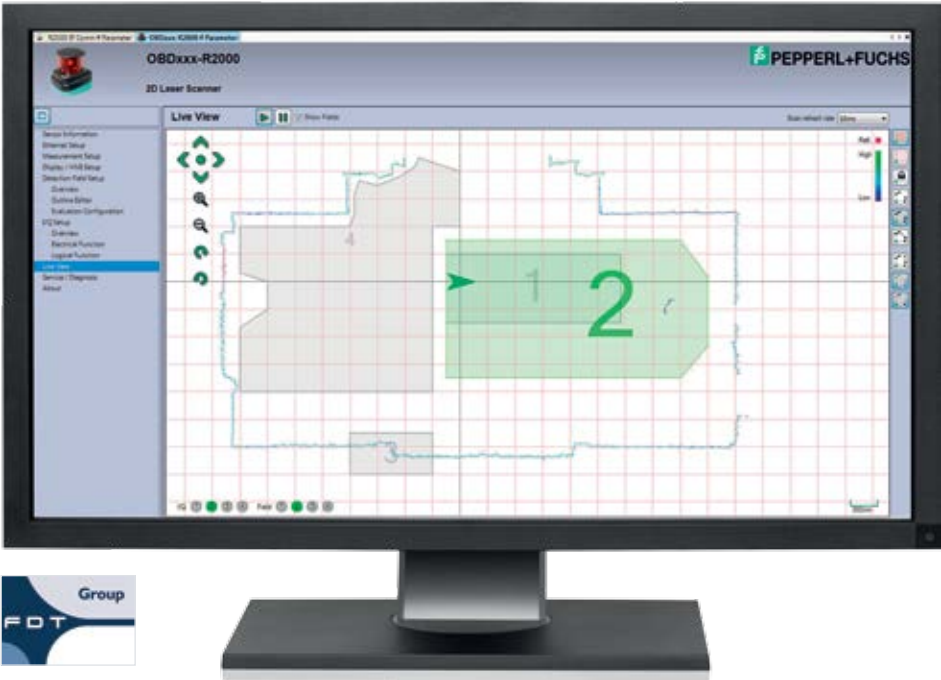
- A stable, wobble-free scanning axis guarantees precise monitoring of the scan surface
- Highest angular resolution of any digital I/O scanner on the market – 0.071° – ensures detection of extremely small objects
- Simple handling - 4 freely configurable detection fields easily link to the digital outputs

Product Description R2000 Detection OBD10M-R2000-4EP-V1V17	
Min. object width	≥1 mm
Angle resolution	≥0.071°
Repeat accuracy	12 mm
Input/output	4 NPN or PNP inputs/outputs (selectable)
Number of switching fields	4 user-defined fields
Interface	Ethernet TCP/IP (for configuration and diagnostics)

Accessories	Description
V17-G-2M-PUR	Connection cable 2 m
V17-G-5M-PUR	Connection cable 5 m

### Simple to Use – Four User-Defined Detection Fields

The four detection fields are quickly and easily defined with the DTM's intuitive field editor.

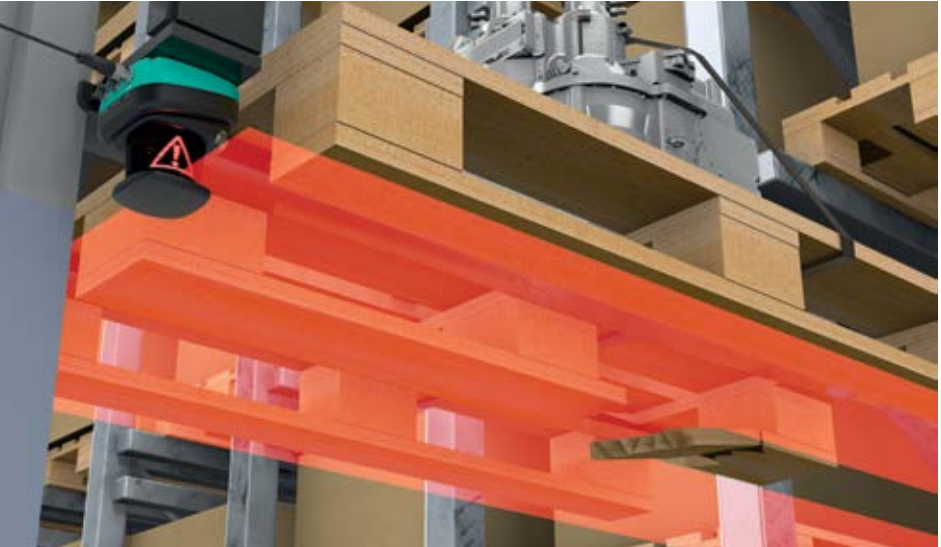


Fields and inputs are linked logically to the outputs and make configuration very simple and user-friendly.

PACTware and R2000 DTM software are a free download at [www.pepperl-fuchs.com/dtm-r2000](http://www.pepperl-fuchs.com/dtm-r2000)



Detect protrusions or obstacles over large areas



Detection of small overhangs such as damaged pallets



# R2000 UHD Scanner for Precise Navigation and Measuring Tasks

In addition to exact distance and angle measurement, the R2000 UHD (Ultra High Density) can differentiate between natural objects and reflectors. An accurate time stamp in the measurement data allows precise integration into dynamic measurement tasks.



### R2000 UHD

The R2000 UHD combines speed with high resolution. It offers an unmatched angular resolution down to 0.014° and a lightning-fast scan rate of 50 revolutions per second. This provides 250,000 scan points per second, making it ideal for high-speed applications even at long distances.

#### R2000 UHD Highlights

- Suitable for high-speed applications due to a rapid scan rate of 50 Hz
- Best angular resolution on the market of 0.014° ensures extremely accurate detection

Product Description R2000 UHD OMD10M-R2000-B23-V1V1D	
Repeatability	<12 mm
Resolution	1 mm
Angle resolution	≥0.014 °
Measuring rate	Up to 250,000 measurements/s
Interface	Ethernet TCP/IP, UDP, 100 Mbit/s
Output data	Distance/angle/signal/time stamp



R2000 UHD navigates up to 60 m with reflectors as small as 40 mm



R2000 UHD provides distance data for navigation

# Your automation, our passion.

## Process interfaces

- Intrinsically safe barriers
- Signal conditioners
- Fieldbus infrastructure
- Remote I/O systems
- HART interface solutions
- Wireless solutions
- Level measurement
- Purge and pressurization systems
- Industrial monitors and HMI solutions
- Explosion protection equipment
- Solutions with process interfaces

## Industrial sensors

- Proximity sensors
- Photoelectric sensors
- Industrial vision
- Ultrasonic sensors
- Rotary encoders
- Positioning systems
- Inclination and acceleration sensors
- AS-Interface
- Identification systems
- Logic control units
- Cordsets