

PRESS KIT BAU 2019

You can find Pepperl+Fuchs in hall B3, booth 121

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Factory Automation

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6. **Direction Detection**

We would be very pleased if you would continue publishing our press reports in your magazine. Should you have any question or if you are interested in a special subject, please do not hesitate to contact us.

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January 2019

Company Profile Pepperl+Fuchs



Location Mannheim



Location Singapore



Location Twinsburg

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Managing Directors: Dr.-Ing. Gunther Kegel (CEO), Werner Guthier, Mehmet Hatiboglu

Year of foundation: 1945

Reporting year 2017:

Turnover: 630 Mill. Euro (consolidated external sales)

Employees: 6.000 worldwide

Divisions: Factory Automation, Process Automation

Manufacturing plants: Germany, USA, Singapore, Hungary, India, Indonesia, Vietnam, Czech Republic

Subsidiaries: more than 40 companies on 6 continents

**Main target markets:**

Factory Automation: machine building industry, automotive industry, material handling and logistics, printing and paper industry, packaging machinery, process equipment, door/gate/elevator construction, textile industry, renewable energies

Process Automation: chemical and pharmaceutical industry, oil and gas industry including offshore and marine, power industries, water and waste water

Core products**Components for the Factory Automation:**

the sensor types inductive, capacitive, ultrasonic, photoelectric, rotary encoders, identifications systems, barcodes, data-matrix-codes, vision sensors

Components and solutions for the Process Automation:

interface modules, remote I/O systems, fieldbus infrastructure techniques completed by based around enclosures in the increased safety, intrinsic safety and flameproof protecting classes with approvals for the integration of a wide range of electrical apparatus, level control devices, Ex-operating terminal systems, electrical explosion protection equipment, Ex-IPCs, seminars teachware and services

Mannheim, January 2019

Career: If you want to learn more about career opportunities at Pepperl+Fuchs please visit our career portal karriere.pepperl-fuchs.com. Our contacts will be pleased to assist you.

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At a glance:

- An intelligent wall suppression function allows complete protection up to the wall without sensor shutoff
- Improved collision protection at the closing edges due to the inclined position of the outer beams
- Universal applications thanks to reliable functioning in any environment
- A detection field that can be adjusted via freely movable transmitter and receiver modules

Uncompromising Safety and Highest Level of Convenience: DoorScan from Pepperl+Fuchs

Maximum collision protection and optimum flexibility for automatic rotating doors

Automatic doors are an integral part of modern building technology. Sensor solutions used in this field must fulfill demanding requirements. This is where the DoorScan from Pepperl+Fuchs sets the benchmark. The solution combines maximum safety with optimum flexibility and a perfect installation concept. The DoorScan is a presence sensor for doors up to 3.5 m high that scans the areas directly in front of and behind swinging doors to protect people and objects from colliding with the door. The universal system ensures reliable detection in any situation thanks to intelligent wall suppression that functions even when doors are fully open. The convenient snap-in mechanism enables modules to be mounted quickly and without any tools, and the system is commissioned by simply pressing the Teach button.

The DoorScan from Pepperl+Fuchs works according to the active-infrared principle with background evaluation and is suitable for operation in both a stationary and moving position. The presence sensor forms a continuous detection field on each side of the door. If a person

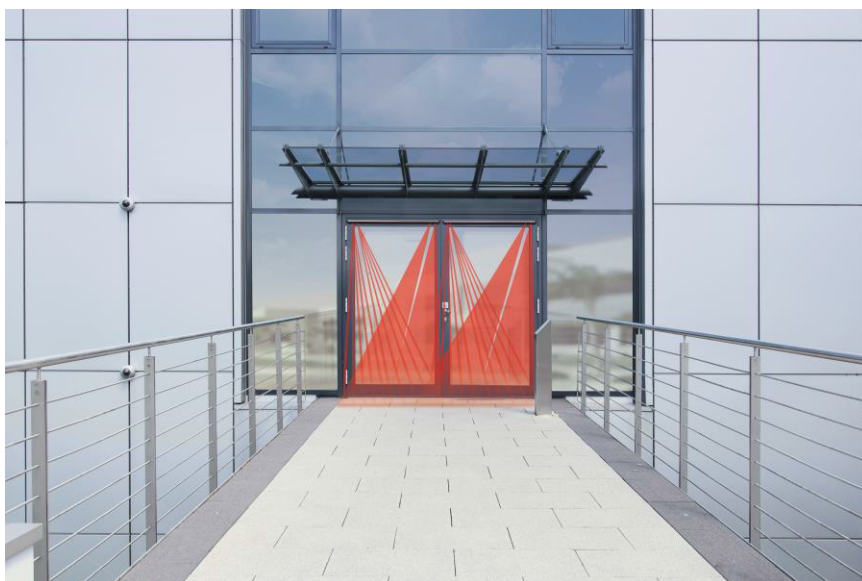
or object passes through the protective beams near the door, the door stops moving immediately.

To ensure the safe operation of automatic doors, it is crucial that people and objects are detected quickly and reliably when they approach the closing edges. The slightly inclined position of the outer monitoring beams enables the DoorScan to offer increased safety at the main and hinge edges and protects people and objects from colliding with the door. The angled outer beams are switched on/off using a DIP switch.

Intelligent wall suppression allows the DoorScan to provide complete protection up to the wall without sensor shutoff. The wall is automatically taught in during commissioning at the touch of a button, ensuring optimum collision protection up to a full opening of the door. The integrated wall suppression can be switched off and shortens commissioning if no wall is present.

Mirrored walls, dark mats, polished stone slabs or gratings in front of the doors do not pose a challenge. When unlocked, the modules of the DoorScan can be moved freely in the sensing strip. The width of the detection field increases or decreases depending on the distance between the transmitter and receiver modules. This expanded sensing area enables precise adaptation to various door widths and therefore maximum flexibility when using the DoorScan.

The DoorScan is compatible with any door drive. With its slim, well-designed profile, the solution is an understated addition to modern door design.



The presence sensor forms a continuous detection field.



All system elements of the DoorScan can be identified quickly and unmistakably via the specific color of their housing: red designates transmitter modules, blue designates receiver modules, and green designates the interface module.



With its slim, well-designed profile, the solution is an understated addition to modern door design.

Key words: active-infrared principle with background evaluation, presence sensor, rotating doors, wall suppression

Author: Carsten Roth

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Characters Summary: 700, with spaces

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At a glance:

- Large 4 x 4 m radar detection field and fast response time open doors quickly for a smooth flow of pedestrian traffic
- The highest degree of safety due to the large adjustable infrared protection field
- Reliable operation on various floor surfaces
- Easy to install and user-friendly with automatic teach-in function and multicolored LED

Open Quickly, Close Safely—with the Two-in-One MotionScan Sensor for Automatic Sliding Doors

Reliable operation in every situation and timely door opening for unrestricted passage

The two-in-one MotionScan sensor from Pepperl+Fuchs combines managing large numbers of people with the ability to safely identify and protect individuals simultaneously. The large radar detection field detects approaching persons early and ensures doors open in a timely manner. At the same time, the large infrared protection field provides the best possible protection to prevent people from colliding with the doors.

Timely door opening ensures unrestricted passage. The high-performance MotionScan radar module emits a pulse instructing automatic sliding doors to open. Within the large radar detection field of up to 4 x 4 m, approaching persons are quickly and reliably detected, ensuring unrestricted passage even for large numbers of people.

To avoid the danger presented by closing doors, the active infrared light sensor integrated into MotionScan ensures that the leading edge is protected on both sides of the door. To provide the highest degree of safety and collision protection, a total of three infrared emitter banks are used to create a protection field starting from the door up to a maximum distance of 1.10 m. This protection field can be adjusted.

Whether high-gloss marble, stone tiles or gratings—MotionScan provides the highest level of functional safety for every kind of floor covering. The protection and detection fields, integrated direction monitoring and cross-traffic suppression as well as the mounting height of up to 3.2 meters can also be adjusted, which means MotionScan can be used for a range of applications.

Thanks to its convenient, single button operation and the integrated installation instructions on the sensor, installing and commissioning MotionScan is quick and easy. The operating state is also conveniently and clearly displayed via a multi-colored LED.



Safely identify and protect—the two-in-one MotionScan sensor from Pepperl+Fuchs combines both of these functions



Flexibly adjustable protection and detection field

Key words: radar, motion detector, door opening, two-in-one sensor

Author: Carsten Roth

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At a glance:

- Suitable for harsh outdoor applications thanks to durable housing with IP67 degree of protection
- Time-saving mounting due to the convenient wall bracket and detent for adjusting the detection field
- Optimization of operating processes via targeted door/gate opening

RAVE—The Extremely Robust Radar Motion Detector with Degree of Protection IP67

New motion detector as the ideal door opener in harsh ambient conditions

In the field of door, gate and elevator construction, Pepperl+Fuchs provides a comprehensive portfolio of high-performance sensors. In addition to the "RaDec" and "RMS" product families, the new RAVE radar motion detector supplements the radar sensor portfolio with an extremely robust model. With IP67 protection, the new motion detector functions as an ideal door opener for demanding automation tasks in harsh ambient conditions.

The new RAVE radar motion detector makes an impression with its extremely robust housing with IP67 degree of protection. Thanks to this protection class, the opening impulse sensor possesses a high level of immunity to rain, dust, and dirt as well as extreme temperature fluctuations. The RAVE is therefore the ideal sensor solution for harsh industrial environments.

The installation concept of the RAVE radar motion detector consists of a bracket for easy mounting of the device and a detent for quick adjustment of the detection angle. The operating and switching status is always clearly visible via the display LEDs. Individual settings can be easily adjusted using the integrated push buttons or via remote control.

The powerful RAVE is equipped with an extra-wide detection field. The radar motion detector enables cross-traffic suppression and has two relays that differentiate between person/vehicle detection in addition to opening the door depending on the situation. This allows traffic flows to be regulated, energy to be saved and processes to be optimized.



Time-saving mounting due to the convenient wall bracket and locking plate for adjusting the detection field

Key words: radar, motion detector, door opening, person detection and vehicle detection

Author: Carsten Roth

Characters: 1502, with spaces

Characters Summary: 433, with spaces

Pictures: P+F_BeautyShots_RAVE_Final
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At a glance:

- Robust counting sensor which provides reliable counting results independent from environmental influences such as ambient light, humidity or dirt.
- Detection of people in both directions at the same time
- The system offers the following interfaces: CAN, Ethernet, digital I/O
- Easy installation with no further adjustment necessary
- Independent from ambient light thanks to the infrared light emitted through the sensor

Counting system - TALLY

The innovative counting system from the product family „Count“ from Sensotek evaluates real distance and shape information, recognizes people based on their shape and movement and counts people in both motion directions.

The application of people counting is sensory very challenging due to the variety of evaluated parameters and most different qualities of the „Human“ target.

Thanks to the sensor's algorithm, a single person will be recorded and counted regardless of her/his height and stature.

The measuring principle is based on the Time-Of-Flight system and offers a 500-pixel array, with which the sensor measures the real distance to the object and therefore detects it three-dimensionally.

As a result, a high precise counting with the best accuracy is made possible.

The following interfaces are available: CAN, Ethernet, digital I/O.



People count for automatic revolving doors, controlled vestibules, mantrap security doors and turnstiles with directional evaluation

Key words: Counting System, TOF

Author: Raphael Bauer

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At a glance:

- Robust anti-tailgating sensor that guarantees a reliable detection of authorized people in revolving doors and security interlocks independent of environmental influences
- Even in difficult situations like piggy-packing or tailgating the access can be safely blocked/denied or aborted.
- The system offers the following interfaces: CAN, Ethernet, digital I/O
- A sabotage of the sensor can trigger a silent alarm
- As a system the sensor and the evaluation box 3 D I/Os will be switched (OK, NOK, sabotage)

Anti-tailgating sensor „ONLY ONE“

The innovative anti-tailgating sensor from the product family ONLY ONE from Sensotek evaluates real distance and shape information, recognizes people based on their shape and movement and makes sure that only the authorized people are allowed access to a building.

The application of people counting is sensory very challenging due to the variety of evaluated parameters and most different qualities of the „Human“ target.

Thanks to the sensor's algorithm a single person can pass successfully regardless of his/her height or stature. If this person carries, for example, a suitcase or a backpack the access will be denied.

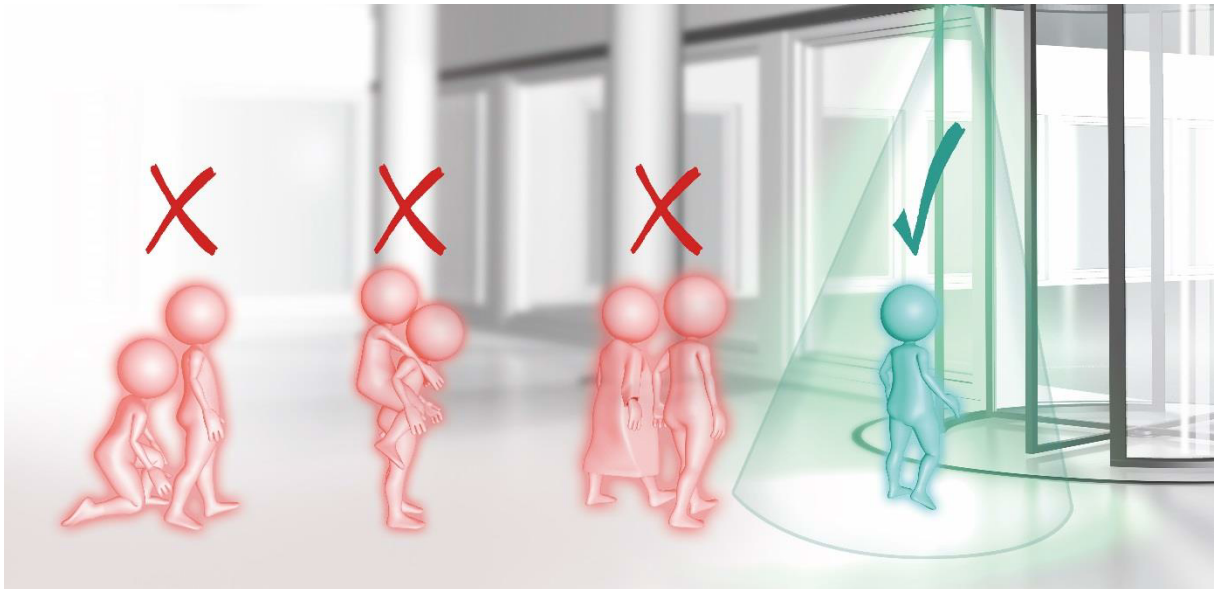
Through the Time-of-Flight (TOF) technology the system offers a very high standard of people recognition independent from color, temperature, ambient light, reflections and environmental influences.

The 500-pixel resolution enables a detailed distance measurement of the object in the detection field. Also, for a reliable detection, a sufficiently long tracking of the detected

person is guaranteed. This dynamic detection, that occurs thanks to multiple consecutive images, gives significantly more security when detecting individual persons.

The TOF-VS500 system recognizes a sabotage attempt and triggers a silent alarm. The following interfaces are available: CAN, Ethernet and digital I/O.

The following situations are safely detected by the system:



Separation system for automatic revolving doors, controlled vestibules, mantrap security doors and turnstiles

Key words: Anti-tailgating „OnlyOne“, TOF

Author: Raphael Bauer

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Pictures: Cumulus No. Vereinzelung-image
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At a glance:

- Rugged direction detection sensor that reliably detects the motion vector and is unaffected by environmental influences such as extraneous light, moisture, and dirt
- The system offers CAN, Ethernet, and digital I/O interfaces
- Easy installation without the need for adjustments
- The infrared light emitted by the sensor means it is not affected by a lack of ambient lighting

Direction Detection

Direction Detection System DirCheck

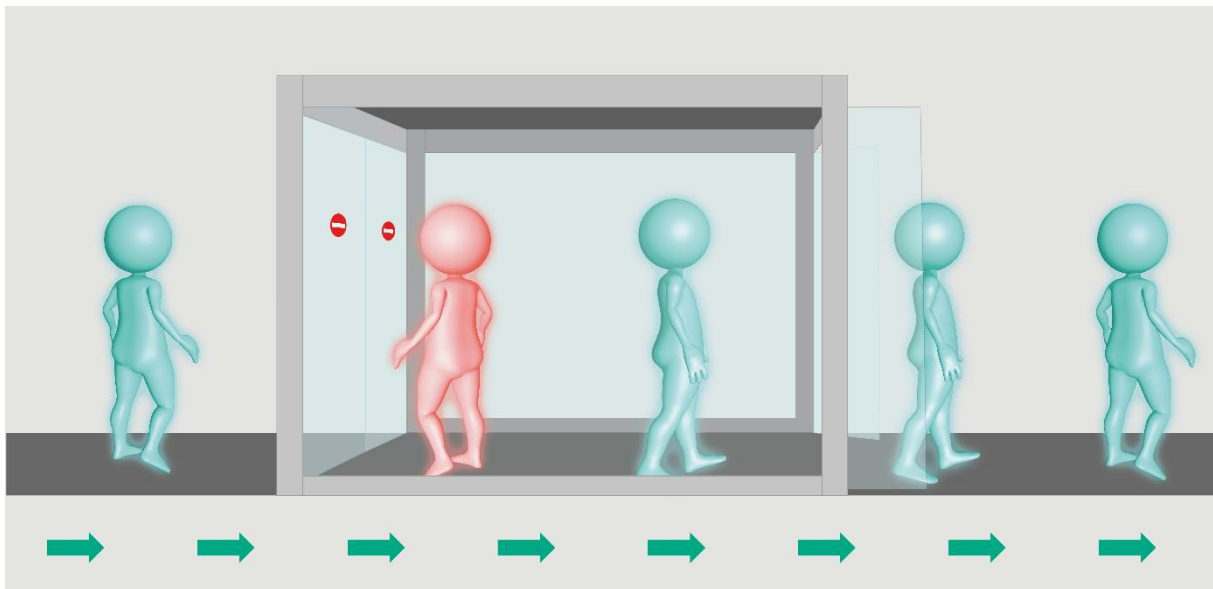
The innovative direction detection system from Sensotek's Only One product family evaluates real distance and shape information, identifies people based on shape and movement, and reliably recognizes the motion vector.

Due to the variety of parameters that are analyzed and the different characteristics of a human target, using sensors to detect distance is very demanding.

The stored algorithms ensure that people and objects moving in the opposite direction can be reliably detected, regardless of their height, build, clothing, and any bags they are holding.

The measuring principle is based on the time of flight system and offers a 500-pixel matrix, which the sensor uses to measure the actual distance from the object and to record the object in three dimensions. This allows for highly accurate counting with the best possible accuracy.

The system offers CAN, Ethernet, and digital I/O interfaces.



Direction recognition at personnel locks

Key words: Counting, TOF

Author: Raphael Bauer

Characters: 904, with spaces

Characters Summary: 0, with spaces

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