

SENSING YOUR NEEDS

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EDITORIAL

Dear Reader,

■ Even in crisis, or perhaps especially in crisis, there are interesting options which strengthen one's competitive position. Pepperl+Fuchs has used the unique opportunity to acquire the proximity sensor business from Siemens. You can find out more about this in our Company News.

In addition to this great opportunity to accelerate our growth with this acquisition, we have also used this crisis period to increase our growth potential with innovative product developments. For example, we are presenting a compact AS-i I/O-module with which individual binary standard sensors can also be connected to the AS-i flat cable simply and cost-effectively. The world's first reflection principle ultrasonic sensor with a stainless steel housing enables entirely new applications. Furthermore, we have continued to improve the Measurement instead of Detection principle, and applied it to vision sensor technology. Finally, we are using vision sensor technology for a new positioning system for material handling.

The following pages provide you with an overview. Enjoy reading.

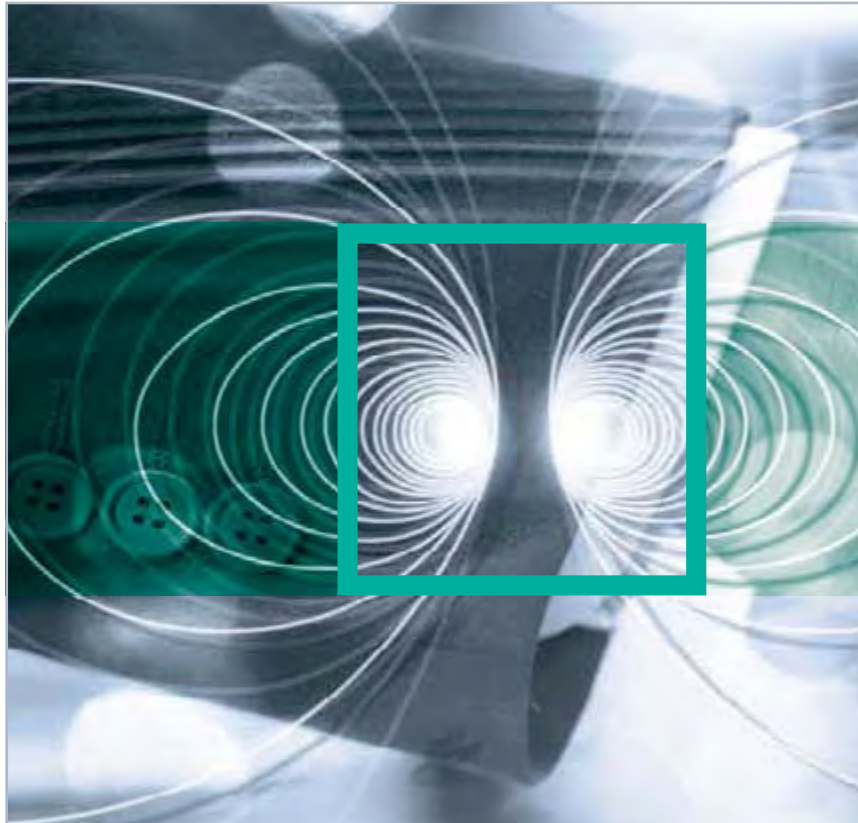


Wolfgang Helm
Manager, Business Unit Sensors

COMPANY NEWS

Strengthening Market Position

Pepperl+Fuchs acquires proximity switches business from Siemens



■ Pepperl+Fuchs and Siemens Division Industry Automation, Nuremberg, signed an agreement on the acquisition of the Siemens binary proximity switches business for Pepperl+Fuchs factory automation. Thus, Pepperl+Fuchs is strengthening its good market position in ultrasonic sensor technology for factory automation, and expanding its product portfolio in the field of inductive proximity switches and photoelectric sensors. "More than 50 years after the discovery of inductive proximity sensors by Pepperl+Fuchs, we have used the opportunity to integrate a world-renowned and respected portfolio into our range of products. We will use the consolidation of both world-leading ultrasonic sensor product lines to strengthen our innovation in this area. As a customer, you will profit from the impact of this new consolidation," said Wolfgang Helm, manager of Business Unit Sensors.

Pepperl+Fuchs is a medium-sized family-owned enterprise and a leading manufacturer in industrial sensor technology for factory automation. Today the

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atch from Siemens



products range from inductive technologies to capacitive, magnetic, photoelectric and ultrasonic sensors, as well as rotary encoders, vision sensors and complex industrial vision systems. The company also offers a wide product range in the fields of RFID and AS-Interface.

“We wish to use the technological range, the highly qualified personnel, and the strong market position of Siemens, to expand our competitiveness and earning power,” said Dr. Gunther Kegel, CEO of Pepperl+Fuchs GmbH.

The parties have initially agreed upon an integration period during which the seamless transfer of the business to Pepperl+Fuchs has been arranged.

During this integration period, Siemens will continue to accept and execute all orders for proximity switches. At the end of the integration period, this responsibility devolves to Pepperl+Fuchs. All products from the Siemens PX portfolio will be taken over by the Pepperl+Fuchs product range and will continue to be produced and distributed unchanged. This approach shall take into account the efforts of both parties to guarantee delivery capacity and customer care without interruption during the integration. The transfer of the business to Pepperl+Fuchs is scheduled for mid 2010.

For additional information please visit our site at:
www.pepperl-fuchs.com/13624

PRODUCT

The measuring photoelectric sensor

A bridge between distance sensors and photoelectric sensors

■ The measuring photoelectric sensor combines the benefits of the triangulation principle with the measuring functionality of a distance sensor. As is common with distance sensors, a measuring principle is integrated in the RL31-8-H that enables a variety of switching functions in one device. The result is outstanding performance data, such as the sensing range up to 800 mm and the continued small

BW/WB differential up to the final detection range. The innovative PowerBeam light source provides a very bright, clearly visible red light spot. Therefore, reliable detection of objects with dark surfaces is also guaranteed, with no compromises in accuracy or repeatability.

The sensor is equipped with an IO-Link interface, through which the measuring principle is optimized to the requirements of the relevant application. Functions such as background suppression, background evaluation, foreground and background suppression, as well as hysteresis mode can all be programmed according to the task.

The large detection range, flexibility, and various mounting options of the RL31-8-H saves costs and reduces the variety of models.

For additional information please visit our site at:
www.pepperl-fuchs.com/13625



RL31-8-H

PRODUCT

ML100 photoelectric sensor series

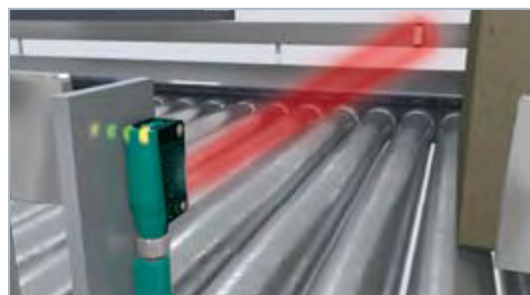
New, user-friendly and powerful

■ The ML100 series sensors are a complete family of miniature photoelectric sensors. They are ideally suited for applications where long ranges and a high level of functional safety are required. There is a demand for this type of sensor not only in material handling, but also in other areas.

All sensors feature the highest optical performance and long-term stability, which makes these photoelectric sensors the best on the market. They also feature a powerful lens and PowerBeam LEDs. PowerBeam guarantees excellent visibility of the red light spot and enables problem-free alignment without a hole in the center of the light spot, even on the smallest of reflectors. Secure mounting is ensured by the all-metal threaded bushing. Status LEDs provide information regarding reliable operation. The green LED indicates Power On, while the yellow LED shows the status on the optical front ends of the sensors.

With these features, the ML100 series fulfils all important criteria for user-friendly, time-saving and universal application in factory automation.

For additional information please visit our site at:
www.pepperl-fuchs.com/13626



ML100

■ PRODUCT CONCEPT

High-accuracy 3D measurement smart camera

Product study: LineRunner400 multi-line laser light sensor

■ In a first product study of the LineRunner400 (LR400), Pepperl+Fuchs presents the world's first multi-line laser light sensor as a smart camera for three-dimensional object measurement.

Based on the triangulation principle, an object can be measured two-dimensionally in x and y directions in standstill or three-dimensionally in movement when captured several times with a laser light sensor. A three-dimensional measurement in standstill is not possible with common laser light sensors.

Using several laser light lines, the LR400 can accurately measure an object without movement. The LR400 holds the complete evaluation of measured data on the sensor and can therefore be used as a standalone sensor without a PC. Unlike conventional camera technology, the laser light process guarantees robust measurements, even with various object and background colors and ambient light. Laser protection class 1 spares the user of complex and expensive protective measures.

With these excellent features, the LR400 can be used in many applications such as presence checks, 3D shape measurement, position control, height control, volume measurement and tolerance control.

For additional information please visit our site at:
www.pepperl-fuchs.com/13627



High-accuracy 3D measurement with the LR400

■ PRODUCT

50-fold transfer rate

High-end sensors for automatic storage and retrieval applications

■ High-end sensors such as the VOS120-FFPL special vision sensor for exact rack fine positioning or the VDM100 series distance measurement device with highly precise Pulse Ranging Technology (PRT) are just two examples of innovations from Pepperl+Fuchs in the application field of automatic stock feeders.

The latest development heralds a new chapter in stock feeder automation. The LS680-DA optical data coupler operates with a data rate of 100 Mbit/s even over distances up to 150 m. It is approximately 50 times (!) faster than all other devices available on the market. For the first time, this opens up the possibility of fast Ethernet transfer with an optical data coupler using the actual full bandwidth. Thanks to the protocol-free transfer, the new devices are suitable for both TCP/IP as well as industrial Ethernet dialects, such as PROFINET or EtherNet/IP. With this unique solution, the "bottleneck optical data coupler" is

finally a thing of the past. Now, it is easy to connect vehicle controls of the automatic storage and retrieval vehicles to the stationary control system without reducing the Ethernet transfer speed.

The implementation of new applications, such as the online transmission of high-quality image information, has a completely new basis in the LS680, which inspires new ideas.

For additional information please visit our site at:
www.pepperl-fuchs.com/13628

LS680-DA



■ PRODUCT

Inductive position coding system (PCI) for heavy machine construction

■ Rotary joints or slewing bearings track large objects such as wind turbines or solar panels for optimum wind or sun direction; in marine engineering and port systems technology, large loads are moved via the pivot joint of a crane boom. Here, the new inductive position coding system (PCI) accurately records the movements to optimize the processes, saving time and energy.

The sensor detects several steel pins along a code rail and calculates the absolute rotation angle position of the bearing. The exact position is available without a reference run after switching on the inductive position coding system which is an advantage during intermittent operation or after maintenance work.

Designed for a bearing diameter of 0.5 m - 4 m, the coding system provides an absolute angle resolution of 0.24° - 0.03°. Depending on the required measurement accuracy, angular speeds between 3°/sec and 12°/sec are attainable. The structure of the inductive position coding system enables both mechanical adaptation to the specific customer application as well as modification of the data interface.

For additional information please visit our site at:
www.pepperl-fuchs.com/13629



The inductive position coding system is wear-free and extremely resistant to soiling. It's ideally suited for encoding the rotation angle of slewing bearings in heavy machine construction.

■ PRODUCT

AS-Interface in pole position with the G10 ultra-compact module

■ At 22 x 27 x 40 mm per I/O, the world's smallest AS-Interface module is approximately 5 times smaller than conventional field modules. With two inputs and one output, it can even be mounted in the cable duct. Nearly every standard sensor/actuator is AS-Interface compatible. With fewer outlets and the compact size, connection cables are completely eliminated and parallel wiring is further reduced due to decentralized installation. The one-piece enclosure with 5 LED indicators mounts very quickly. It's made of robust plastic with a V4A cable gland. The AS-Interface flat cable makes contact via round, gold-plated pins, the same way as the AS-Interface splitter has proven itself for years. The main advantages are:

- IP68/69k degree of protection
- reduced connection costs
- flexible, decentralized installation
- connection of standard sensors/actuators



G10 modules are cost-effective solutions for decentralized installations in the smallest space

Use the advantages of an AS-Interface with our G10 ultra-compact module.

For additional information please visit our site at: www.pepperl-fuchs.com/13630

■ PRODUCT

PCV Data Matrix Positioning System

Let's get straight to the point...

■ ...in Data Matrix code (2D-code), information is encoded on a square area as a pattern of dots. Compared to one-dimensional barcodes (1D-code), the information density per unit area is clearly increased. We are using this code as the basis of a new positioning system! Individual Data Matrix codes can be positioned horizontally or vertically along a path that can be read and decoded with a camera-based reading head. The exact position is output in x and y directions.

The benefits are striking:

- the highest data integrity,
- a slim code band for the narrowest of mounting sites and
- the smallest curve radii are possible.

Because at least 6 codes are always read, there is a high code redundancy. Even with a lot of contamination or damage, the exact position is reliably determined, meeting the strict requirements of material handling.

The PCV reading head uses modern camera technology and, due to the elimination of laser diodes and mechanical parts, is extremely robust, and provides a long service life. Distances up to 10 km including



Overhead conveyor application with Data Matrix code band and PCV reading head for optimum positioning

height measurement, extensive diagnostic information and DC switch outputs are just a few features of the unique Data Matrix positioning system.

For additional information please visit our site at:
www.pepperl-fuchs.com/13632

■ PRODUCT

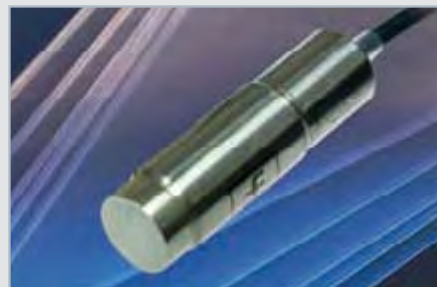
Ultrasonic metal face proximity sensor

UMC3000 in full metal cover: IP68/69K

■ Can it be impermeable? Then the first metal face proximity sensor with ultrasonic technology is the right choice. The UMC3000 has been especially developed for applications where the sensor is subject to high humidity and needs to be resistant to contamination. The surface and shape of the housing are so smooth that the sensor meets the strict requirements for the food industry.

Despite the impermeable housing design, this sensor has a LED display. The LED cover is made from a pharmaceutical and food-safe plastic that is resistant to all common chemical detergents.

- Ultrasonic proximity sensor with metal face converter
- 200 mm - 3000 mm sensing range
- Robust and impermeable IP68/69K design
- Housing material 1.4404 (V4A), AISI 316L
- Designed according to the EHEDG guidelines for hygienic design



Ultrasonic metal face proximity sensor

(EHEDG = European Hygienic Engineering & Design Group)

For additional information please visit our site at:
www.pepperl-fuchs.com/13631

■ PRODUCT

PAX, the electronic cam switch controller

Electronic, not mechanical: positioning at the highest level

Cam switch controllers are used wherever control is achieved as a function of machine position. With mechanical cam switch controllers, and particularly with rotational movements, mechanical cams are positioned on a shaft. These cams must be intricately positioned according to the required application switching characteristics in order to actuate the mechanical switches.

It is much simpler with the PAX electronic cam controller. The shaft position is detected with a wear- and maintenance-free PMI inductive rotation angle sensor and transferred as an absolute value to the robust PAX. With a PC, using a USB interface, individual switching windows, switching points or switching ramps in the electronic cam controller can be parameterized. The intuitive software is integrated into the PAX and opens automatically on connection with a PC.

In the PAX, up to 12 switch outputs, 250 mA each, and two outputs, 3.5 A each, can be parameterized. The



The robust PAX cam switch controller in combination with the PMI inductive rotation angle sensor saves money and space.

six analog 4 mA - 20 mA current outputs are unique.

The highlight: the Micro-SD card

All parameters are stored on an integral micro SD card. The PAX can simply be exchanged, or the parameterization can easily and quickly be copied to other systems.

■ PRODUCT

50 m distance measurement device with PRT

Are you still scanning or are you measuring yet?

The VDM28 family of distance sensors with Pulse Ranging Technology (PRT) achieves measurement distances of up to 50 m against a reflective tape in the next stage of innovation. Also, the new VDM28-50-R is in a compact, standard photoelectric sensor housing and uses the superior PRT. This produces very accurate, unambiguous results, regardless of the ambient conditions.

The sensor equipped with two switching outputs as well as IO-Link is optionally available with a 4 - 20 mA interface. IO-Link is not only for programming and diagnostic purposes, it allows a convenient readout of the digitized measured value as a 16-bit word as well as switching information. Moreover, IO-Link simplifies the connection tech-

nology and minimizes installation costs. The four pins of an M12 connector are quite sufficient to transfer all information. As a standardized interface, IO-Link guarantees simple integration in a wide range of controls.



The combination of IO-Link and PRT makes the system particularly attractive, since the extraordinary network performance of the sensor is available to the user in its entirety and at a moderate cost.

■ EVENT

Hannover Messe
19.04. - 23.04.2010

Motek, Stuttgart
13.09. - 16.09.2010

SPS/IPC/DRIVES, Nürnberg
23.11. - 25.11.2010

Valve World, Düsseldorf
30.11. - 02.12.2010

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