

EDITORIAL



Dear Readers
 "Football Mania" has ruled this summer. Football fans, the world over, have looked to South Africa to cheer their

team on. Perfect teamwork is the key, especially in automation technology. Even the toughest game can be won when you all work together.

How can ifm electronic best score for you? With interesting application solutions and products with good price/performance ratios. So let the i-STEP newsletter introduce part of ifm's squad to you.

Enjoy reading.

Yours

Dr. Thomas May
 Managing Director

ifm electronic – close to you!

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APPLICATION



A laser distance sensor detects the supply of steel blocks

For 110 years the company TSTG Schienen Technik GmbH & Co. KG has been present in the rail market. In Duisburg, with more than 450 employees, this traditional company produces 300,000 tons of rails a year.

To allow rolling the rails to the corresponding profile, the raw material, a steel block has to be heated to a core temperature of approx. 1,200 °C first.

The complete processing of the steel blocks is carried out as a chain of production steps. Several of ifm's efector pmd laser distance sensors detect the correct position of the steel blocks on the roller conveyor.

Laser distance sensor

The efector pmd detects distances in the range of 15 cm to 10 m to the nearest millimeter.

It operates to the time-of-flight principle: The transmitter transmits a modulated light signal and measures the phase shift between the transmitted and received signal.

The detected distance is indicated on the 4-digit display and provided via the scalable analogue output (4...20 mA).

The user can set the parameters of up to

A laser distance sensor efector pmd detects the position of steel blocks.

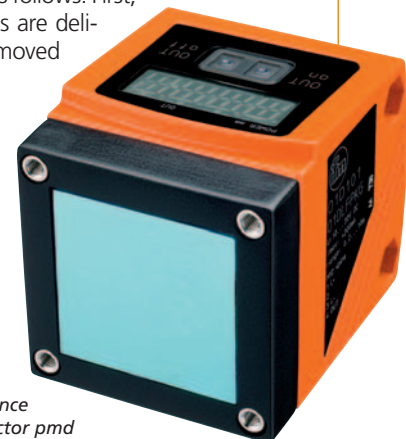
two switching outputs. These outputs switch or use the window function when a defined distance has been reached.

Position detection between the roller conveyor and the oven

Four laser distance sensors are fixed in one line along the alignment side of the roller conveyor. Starting at the collection point next to the oven, the steel blocks are transported via the roller conveyor to the oven door.

The blocks have to be positioned correctly on the roller conveyor to allow their transport.

It works as follows: First, the blocks are deliberately moved



Laser distance sensor efector pmd

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APPLICATION

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Safety for facade lifts

...thanks to the mobile controller ecomatmobile R360

Whether Taipei, Abu Dhabi or the corporate headquarters of ifm electronic in Essen: The company Wahlefeld Fassadenaufzugstechnik GmbH from Krefeld designs and manufactures facade lifts and ladder systems for buildings all over the world.

Facade lifts on skyscrapers are used for maintenance and cleaning of facades and windows. Reliable and robust controller electronics guarantee risk-free working at a dizzy height.

As requested

The buyer defines the technical design, handling and maintenance of the installations. There are many options: systems for one or two persons, with or without roof car, with central cantilever arm, rigid or tiltable or rotatable crossheads for parallel alignment to the facade. Safety and local operating conditions also define the design.

On the safe side

For safety reasons gondolas for persons are always equipped with a dead man's handle. The user keeps it pressed to move along the facade. If the handle is released, the controller triggers a braking operation.

ensure that the gondola is always parallel to the facade.

For outdoor use

ifm's sensors and control systems are particularly suited for robust applications. They function in extreme cold and heat. They are resistant to dirt, water and humidity. Even extreme mechanical strain by impact or shock cannot do any harm. Operational reliability is ensured even in case of strong fluctuations of the supply voltage in the battery / generator system.

They are not affected by conducted and radiated interference. Easy networking is ensured using the CAN bus for mobile applications. The controllers can be compared with a blackbox system for the implementation of a central or decentralised system design.

ifm meets the particularly high requirements for mobile vehicles. An automation system you can rely on 100%. (abi / hn)

You can find more product information at: www.ifm.com/uk/news081002

PRODUCTS

Current is now orange.

Switched-mode power supply by ifm

Power supplies - normally not decisive, are they? Very often their effect on the current quality is underestimated and thus their influence on unplanned machine standstills. Sensors, actuators and other electronic components need a reliable supply with 24 V DC direct current.

For good switched-mode power supplies, fluctuating supply voltages, fast load changes, peak voltages or voltage dips do not influence the output voltage. In contrast to regulated transformer power supplies, switched-mode power supplies are in a position to regulate *ClassicLine AS-i*

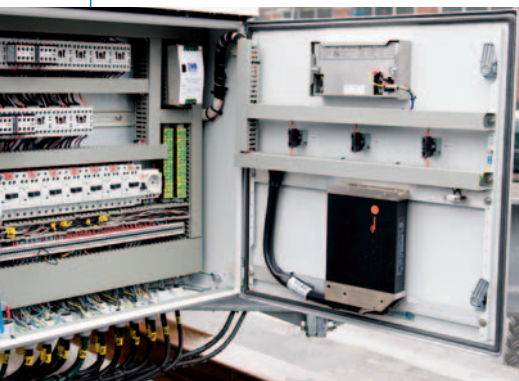
much more interference. The supply of the connected consumer loads becomes safer.

The new switched-mode power supplies from ifm electronic are tailored to suit the requirements of sensors and system solutions. They are state-of-the-art technology as regards industrial current supply, especially AS-i networks.

Two types are available: A robust narrow metal housing with screw terminals or a small compact plastic housing with insulation displacement terminals.

The input voltage range is between 100...240 V AC ± 10 %, the output voltage of the 24 V DC power supplies can be set between 24 and 28 V.

Further information at: www.ifm.com/uk/news081003



The R360 mobile controller controls the functioning of the gondola.

With ifm technology

The variety of horizontal and vertical travel options is controlled by the ifm mobile controller R360 (order no. CR0020).

Depending on a customer's request, a display (order no. CR1055) shows the status of the installation.

Different sensors are used as pulse pick-up. An ifm encoder type RA6007 monitors the length of the wire cable to which the gondola is attached.

The ifm inclination sensor type EC2019 monitors the angle of the rockers to





PRODUCTS



Tight and sealed ecolink M8 connectors

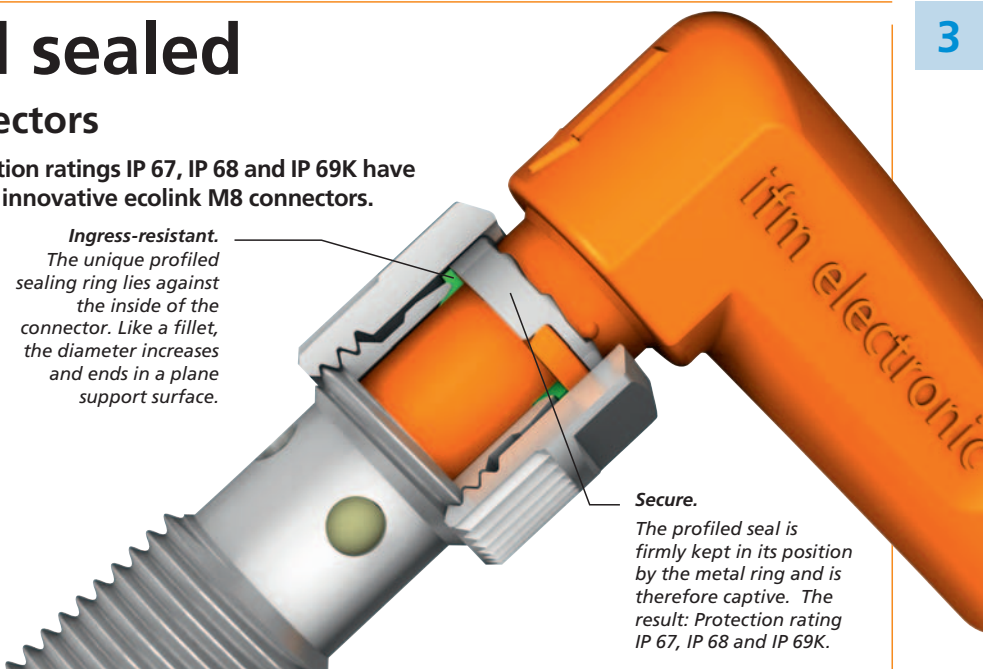
Patented and unique: So, the high protection ratings IP 67, IP 68 and IP 69K have been achieved for the first time with the innovative ecolink M8 connectors.

Industrial M8 round connectors are a standard in today's automation technology. However, they were hardly used in wet areas due to their bad sealing. Furthermore, the common round M8 connectors are not shock and vibration resistant.

The profiled sealing ring patented by ifm is setting new standards for M8 connectors: It fits exactly against the inner surface and front of the device plug, providing an even contact pressure. Allowing high protection ratings of IP 67, IP 68 and IP

Ingress-resistant.
The unique profiled sealing ring lies against the inside of the connector. Like a fillet, the diameter increases and ends in a plane support surface.

Secure.
The profiled seal is firmly kept in its position by the metal ring and is therefore captive. The result: Protection rating IP 67, IP 68 and IP 69K.



69K to be achieved. A metal ring with saw tooth contour protects the coupling nut against unintended loosening in case of shock

Even in bright lighting conditions the LEDs are clearly visible in the transparent black version.

and vibration. The connectors are 100% compatible and fit on all standardised M8 plugs. Manual tightening of the nut is sufficient to guarantee a high protection rating and shock and vibration resistance

For more details about ecolink M8, visit: www.ifm.com/uk/news081004

PRODUCTS

Show your colours!

Precise colour detection at a low price

Often colour is the only selection criterion for detecting, checking and sorting goods. Colour deviations in the tolerance range often cause unnecessary problems. How precise must colour detection be and how fast should it be? With its five selectable tolerance steps and an enormous switching frequency, the new colour sensor O5C500 even distinguishes between the finest colour shades without any failure.

With a switching frequency of 2000 Hz the sensor uses the colour to distinguish between packages, labels and imprints. The tolerance step set by the user determines the accuracy.

The unit is set to the colour to be detected simply by pressing the button once. The easy operation with the 1-point teach method saves time and money.



Precise detection of labels and imprints.

Nuance colour detection in compact O5 housing.



The high-resolution colour sensor in the tried-and-tested, robust and compact O5 housing has an unbeatable low price. Extensive mounting accessories, also for fine adjustment, complete this range.

Learn more about the new O5C500 at

www.ifm.com/uk/news081005



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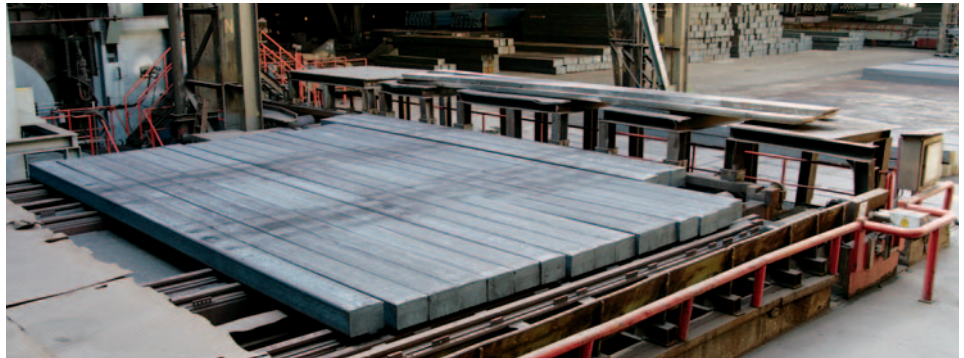
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to the buffers.

The laser distance sensors are mounted behind the buffers. They detect the block present directly in front of the buffer and trigger the backward movement of the block. As soon as the defined distance between the buffer and the block has been reached, the block is laid down according to the length measurement.

Now the workpiece is in the correct position to be transported to the oven door via the roller conveyor.

Before the use of the efector pmd TSTG Schienen Technik used a diffuse reflection sensor. "The sensors we used before had the disadvantage that they did not fully detect the blocks because of the reflection of



the sinter, a mineral deposit on the workpiece. When it was raining, it was particularly difficult since the blocks were also wet" explained Jochem Tuttas.

Collection point of the steel blocks
You will find technical information about efector pmd at:
www.ifm.com/uk/news081001

NEWS FROM SCIENCE AND TECHNOLOGY

CONTACT

America's Cup – sporting or technical competition?

160 years old but more competitive than ever

The origin of America's Cup is a regatta, around the Isle of Wight, in the year 1851. Despite an almost 160-year-old history, this sport event is as exciting now as it was that first day.

Two financially strong protagonists make the race for the challenge cup a financial and technical competition. Starring: Defender Ernesto Bertarelli, heir of a biotech company and richest Swiss with an estimated 10.3 billion US dollars, as well as challenger Larry Ellison, founder of the software company Oracle and 4th richest man in the world.

The race

"There is no second" - This sentence explains the rules of "America's Cup": Two sailing yachts - defender and challenger - compete in several races. The yacht winning a previously defined number of races wins the cup. It is about fame and glory - there is no prize money.

The battle ashore

Before the actual competition starts both

opponents put up a grim fight for components and team. Plans were made and abandoned until the challenger, the BOR 90, was ready. The defender, the SUI Alinghi, was also brimming over with technology.

The "boats"

Alinghi: A catamaran with a 50 metre mast where a sail of more than 1000 m2 can be set.

The trimaran BOR 90: A 625 m2 large wing sail, 80 % larger than the wing of a Boeing 747. One superlative follows the other. The winner of the competition was the trimaran BOR 90. It won the 33rd America's Cup with 2:0.

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