



newsletter

Innovations for a successful partnership

May 2010 · Issue 11

EDITORIAL



Dear Readers

The new edition of the i-STEP newsletter offers you exciting and informative news about trends in automation

technology, new technologies and product developments that might also minimise your costs.

For 40 years now, the name ifm electronic has stood for quality, innovation and close customer contact - a claim we want to continue to live up to in our anniversary year 2010.

Therefore, the i-STEP newsletter is just as market-oriented and customer-oriented as our sensors and systems. The central idea: ifm products are designed to simplify and optimise your processes.

We are pleased to present to you the latest industry information, hot off the press, in this edition of the i-STEP newsletter.

Wishing you a successful day

Dr. Thomas May
Managing Director

ifm electronic – close to you!

TOPICS

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COMPANY

Harmony of old and new on our anniversary



ifm electronic moves into new corporate headquarters

The new corporate headquarters of ifm electronic gmbh, Germany.

Perfect timing: on time for the 40th anniversary, ifm electronic moves into the new corporate headquarters, "Glückaufhaus". With the goal of an even more efficient co-operation, four of the five locations in Essen are now combined on one site. The relocation is, not only, a reason for ifm to celebrate but also for townscape: The historic building at Friedrichstraße 1 had been empty for ten years and was about to fall into decay.

Heavily marked by time, the building was given new life. Engineers, project developers and countless workers spent 18 months working together – to achieve this great result.

The project Glückaufhaus

The listed historic façade was fully restored. A light-flooded glass extension forms a fascinating contrast to the historic brick.

The completely redesigned office building has variable room layouts as well as state-of-the-art communication and building technology.

350 ifm employees moved in at the end of 2009.

A symbol of Essen's history

Built in 1922/23, according to plans by architect Ernst Bode, the Glückaufhaus is regarded as a typical example for the architecture of the 1920s. For a long time it was a landmark for the industrial change in Essen and today it is part of Essen's Culture Trail. The Culture Trail connects places of art and culture, architecture and sculptures to this years European Capital of Culture; Essen.

Harmony of old and new

Like Essen's Culture Trail, ifm and the Glückaufhaus are a mix of tradition and modernity. Michael Marhofer, Chairman and Managing Director of ifm in Essen, explains: "We attach importance to our corporate philosophy, our traditional values. At the same time, we are willing to constantly reinvent ourselves, to regard innovation as a part of our every action."

www.ifm.com/uk/news051001

Glückaufhaus' former appearance.



APPLICATION

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Tough and reliable!

Inductive sensors in permanent use at Mr. Wash

Squeaky clean - about 500,000 times per year: ifm sensors reliably ensure safe and undisturbed operation even at peak times, when thousands of cars drive through the car wash every day.



The two fully automatic car washes of Mr. Wash in Essen are about 50 metres long with a conveyor that moves the customers' cars through the system. Release mechanisms are installed on the floor, at about one metre distance from each other. On their axes, a target is detected by inductive sensors. So, the position of the vehicle is detected at all times and the automatic cleaning process is started.

Mr. Wash has preferred the combination of release mechanisms and inductive ifm sensors (type IG5564) for years, because it has proven itself, compared to other solutions. "This type of position detection has proven to be absolutely reliable", says Mr Schmidt, Technical Manager of Mr. Wash AG in Essen.

All wash processes run smoothly, with the customer cars being guided through the system. The textile brushes do not rotate before the car triggers the release mechanism and is in the correct position. Also, the wheel-rim cleaner does not start before the first vehicle axle is in the washing zone.

Here too, inductive ifm sensors monitor

The targets of the release mechanisms, installed at a distance of one metre from each other, are monitored by inductive ifm sensors type IG5564.

the final position of the wheel-rim cleaner.

So, an ideal dosing of water and the cleaning additives is possible. Consumption costs are reduced and the environment is protected.

Inductive ifm sensors are in continuous use in the rough car wash application, where the sensors are permanently exposed to dirt, humidity and shocks: there must be no penetration of moisture and foreign bodies, because the Mr. Wash car washes must function safely and reliably every day.

Watch out for an orange sensor, the next time you have your car washed.



Release mechanisms detect the position of the vehicles at all times and start, for example, the wheel-rim cleaner. The end position of the wheel-rim cleaners is also monitored by ifm sensors

More details at: www.ifm.com/uk/news051002

PRODUCTS

Keeping track of small metal parts...

Nothing escapes the inductive ring and tube sensors!

Even Sherlock Holmes can learn something from these sensors - they are extremely fast and reliable and detect even the smallest parts ... even steel balls of only 0.6 mm diameter, flashing by at a speed of 35 m/s. All that, with a response time of only 0.2 ms!

Ring or tube sensors?

The difference: ring sensors have a plastic tube guided through the opening of the sensor, through which metal parts are transported. Screws, springs and other small parts are reliably detected this way. External interference can be virtually excluded due to the focused sensor field.

Tube sensors, however, are fixed to tubes, carrying metal parts, from the outside. In addition to the fast and simple installation using cable ties, you only need one sensor for many different tube diameters.

Common features

Typical applications are the handling

industry, the manufacture of iron products, sheet metal products and metal products as well as special purpose



machinery.

There are versions for static as well as dynamic applications for both sensor systems.

For ring sensors, the NC/NO function can be freely selected. There are setting options for pulse stretching and sensitivity via a potentiometer.

But that's not all: in addition to all these features, both sensor types convince with their good price/performance ratio.



The new ring and tube sensors from ifm detect everything.

For more about ring and tube sensors go to: www.ifm.com/uk/news051003

APPLICATION

efector octavis in winter sports

Real-time monitoring on Swiss mountain railways

Cableway system on the Matterhorn.

The company Zermatt Bergbahnen is treading new paths in the monitoring, maintenance and repair of its cableways. The use of vibration sensors from ifm electronic makes real-time monitoring of the systems possible.

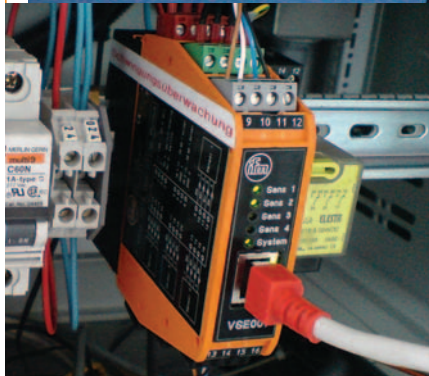
This considerably increases operational reliability and plant uptime.

In the ski areas around Zermatt, combi cableways transport visitors to their skiing destinations. Combi cableways alternately have cabins and 6 seats on the supporting cable. So, the passengers can decide whether they want to sit in a closed cabin or in the open air.

The vibration sensor efector octavis monitors the electric motors and, if required, also the epicyclic gear of the railway drive.

Normally, such drive motors are monitored by periodical manual measurements with measurement devices, but this, of course, only means a punctual determination of the values at relatively large intervals. This makes the fast detection of malfunctions almost impossible.

Monitoring with efector octavis is different: vibration conditions and



Vibration monitoring with efector octavis and evaluation unit.

bearings are permanently monitored and allow the consistent tracking of changes. The measurements are more precise and the memory allows the tracing of changes, i.e. continuous or erratic. This makes an early intervention possible before damage occurs.

The frequency-controlled drive motors from ABB used in the combi cableway operate under changing load conditions. A conventional manual measurement for testing is of little use here, because the harmonic waves are measured as well. With efector octavis however, it is possible to determine the frequencies to be monitored, in the frequency range, in a targeted way.

Therefore, permanent monitoring of frequency-controlled motors is particularly useful. Error messages are clearly displayed in the system control and are easy to understand. And an error message does not have to mean deactivation. The staff on site may directly take the necessary actions, so that no interruption occurs, or contact the technical manager in case of questions. This reduces business interruptions and costs.

Also, the image gain by an increased plant uptime and reliability should not be underestimated.

PRODUCTS

Power times two

32-bit ExtendedController for mobile vehicles

With the new ExtendedController, ifm electronic is presenting a further powerful 32-bit controller. More than twice as many sensors and actuators can be connected to the programmable mobile controller type CR0232, as compared to the "little brother" CR0032. In this way, ifm electronic reacts to the market demand for products suited to ever more complex mobile applications.

The device is ideal for the integration in cranes, fire engines, municipal vehicles as well as construction machines and agricultural machines.

The ExtendedController has a compact, closed metal housing with flange fastening.



The connection of 80 input/output points is made via two 55-pole central plugs: 32 multifunctional inputs, 32 freely configurable outputs with diagnostic capabilities and 16 additional digital outputs are available.

Four CAN interfaces with CANopen and SAE J1939 protocol support all important bus protocols and transmission rates as well as the data exchange.

Programming is made with CoDeSys according to IEC 61131-3.

For more details about the Extended-Controller go to:

www.ifm.com/uk/news051005

You can find more details at:

www.ifm.com/uk/news051004



A 3D vision sensor on the bus

A group of pupils determine the passenger density in buses, using a sensor

Imagine: 8 am, you are standing at a bus stop, waiting for the bus. The bus arrives, nobody gets out, nobody moves an inch. You ask yourself: is there any space left? What door should I use? Then the bus leaves without you and you are annoyed: isn't there a better solution?

Yes, there is: a group of pupils, from Pelizaeus secondary school in Paderborn, set out to take public transport into the future. The nine young people presented their research idea at the FIRST LEGO League.

The task

The pupils of Pelizaeus school took a closer look at the buses of Paderborn's bus company PaderSprinter in the framework of "SmartMove". The buses are often manned unevenly, which leads to longer boarding times and delayed schedules. Also, the calculation of employee requirement, or the schedules, is complicated by the uneven load of the buses.

The solution

The suggestion of the pupils is not only clever, but also convinces the Paderborn-based bus company: in their system, a 3D sensor from ifm electronic determines the passenger density in the different areas of the bus. The compact 3D vision sensor, efector pmd 3d, detects objects, their volume, distance, height and surface. The pupils from Paderborn use this feature to monitor and evaluate the passenger space.

Result: with their solution, the Pelizaeus school team were ranked 3rd in a total ranking of 20 participating teams.

The entire team of the Pelizaeus school.



To combine conventional teaching and showmanship, the solution was presented in an entertaining way in the form of a theatre play.

FIRST LEGO League?

The FIRST LEGO League is a robot competition for children and young people aged 10 to 16, in which robots are designed and built. There is a new research topic every year. 2009 it was the development and presentation of ideas and approaches regarding "Smart Move - Changes in Transport".

The non-profit association HANDS on TECHNOLOGY e.V. organises the FIRST LEGO League (FLL) every year, with the goal of enthusing young people for science and technology at an early stage.

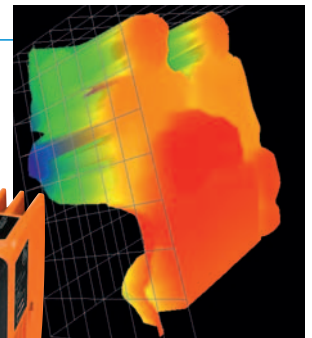
TIP

At a glance - the ifm data sheet comparison

On our website, we offer a tool for the simple selection of products. A new function has been added: in the selector's lists of results you can now directly compare two products. To do so, select two products via the checkbox at the beginning of the line. A table opens in which all differences are marked in colour and can be seen at a glance.

www.ifm.com/uk/news051007

efector pmd 3d



The measurement points of the 3D image enable the evaluation of the characteristics of objects or scenes, irrespective of the distance.

You can find more details at: www.ifm.com/uk/news051006

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