

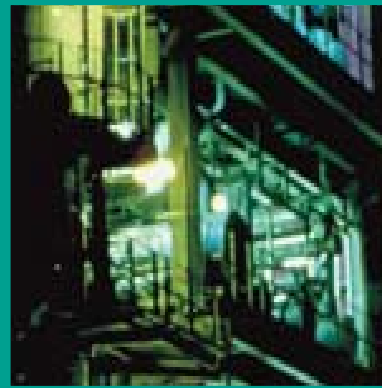
02/2007

PROTECTING YOUR PROCESS

The Process Automation
Magazine

Tracking down the
Gremlins in your system
Page 2-3

Football Robots
in Hannover
Page 5





Dear Ladies and Gentlemen, Dear Readers,

In the age of “E-Mail” and “Blackberry” is a printed Newsletter still appropriate, or should we expect our customers and readers to print out themselves a file sent in an appendix?

We are of the opinion that it is always appropriate that we should take the trouble to provide our customers and readers with the latest information about Pepperl+Fuchs products, applications, projects and solutions in a suitable printed form in addition to information provided via electronic media.

Therefore, on the occasion of the Hannover Fair / Interkama 2007, our respective Newsletters for Factory Automation - “Sensing Your Needs” and for Process Automation - “Protecting Your Process” are appearing for the first time and at the same time in a new format uniquely tailored to customers in the machinery and plant construction industry, the automobile industry, etc. and the latter focused on customers in the process industries.

In the future, also, both of these brochures will always be published simultaneously, three or four times each year.

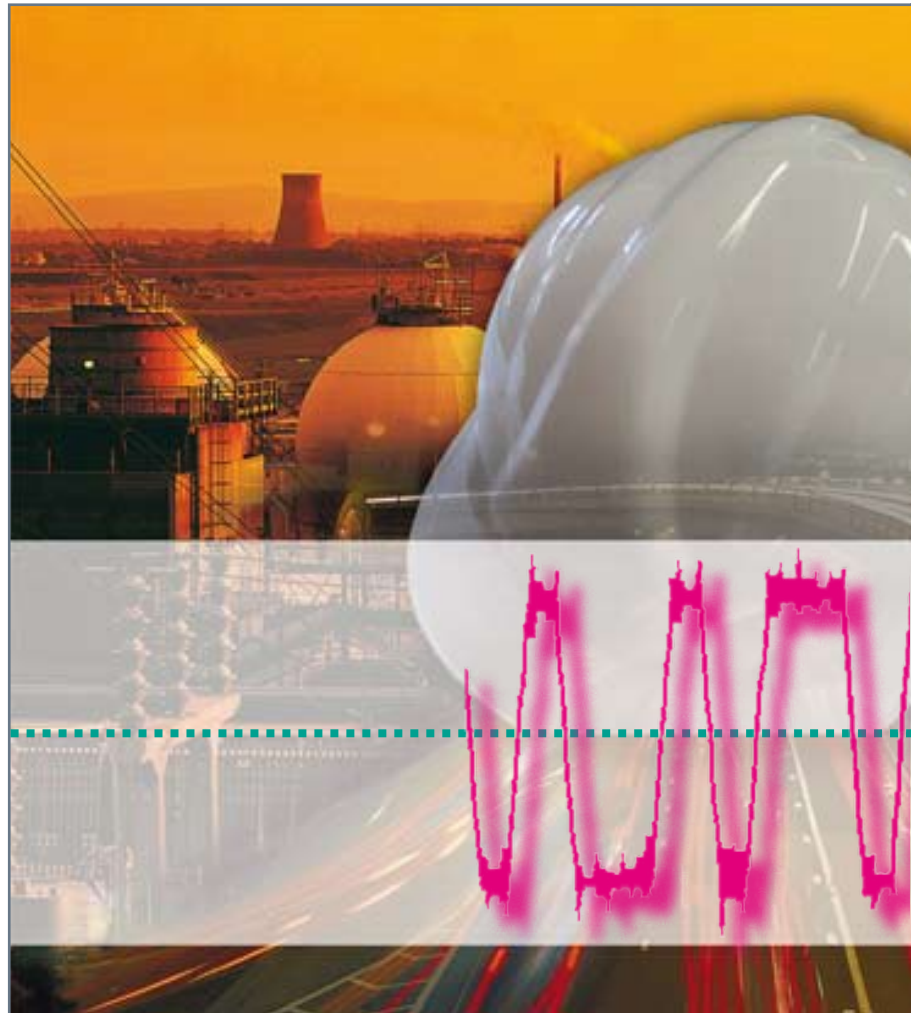
We hope you enjoy reading them!

A handwritten signature in black ink, appearing to read 'Gunther Kegel'.

Dr.-Ing. Gunther Kegel
Managing Director
(Board of Management)

Tracking down the

COMPANY NEWS Diagnosis of the physical



The testing laboratory (Prüflabor) of Rheinhold & Mahla has examined in comprehensive tests the influence of environmental conditions on FOUNDATION Fieldbus H1 and PROFIBUS PA fieldbus networks. Variations in humidity and temperature were tested as well as disturbance of EMI, corrosion and aging. The last point is particularly important due to the long service life of process plants. And what happens to the fieldbus physical layer, if and when the operator decides to reconfigure or enhance the plant?

Fieldbus has proven itself to be very stable. Tests in the laboratory and in running plants have shown, that a single fault does not impair communications as long as this fault is not fatal. And aging? Two fieldbus segments in different design were exposed to drastic temperature changes and salt water misting without measurable influence on rel-

Gremlins in your system

layer of fieldbus systems



evant parameters. The fieldbus continues operation even when prescribed limit values are exceeded.

However susceptibility to failure increases when multiple faults occur, as can happen during installation or re-configuration of a plant.

Exemplary scenarios were re-enacted in the laboratory.

It is important to detect the first fault or avoid it during installation.

During a field trial at Clariant Produkte (D) GmbH in the industrial park Höchst, continuous monitoring of approx. 40 segments/300 instruments was installed.

The plant was subject to frequent extensions and installation work. Acute violations of limit values were detected and could be fixed, before production was affected.

Based on the results it is recommended to install permanent physical layer diagnostics in new plants.

The testing laboratory of Rheinhold & Mahla deems the use of diagnostic tools for the fieldbus physical layer as very wise. Permanent supervision can increase plant availability through avoidance of unwanted plant shutdown and optimizes cost.

Based on the investigation and results the NAMUR working group 2.6 – Fieldbus will create a NAMUR-recommendation for maintenance and repair of fieldbus.

Dipl.-Ing. Sven Seintsch

R&M Prozesstechnik GmbH

C&I test laboratory

Andreas Hennecke

Product Marketing Manager

Fieldbus Technology/FieldConnex

Optimized component density with KC modules

NEWS Same signal integrity, smaller footprint

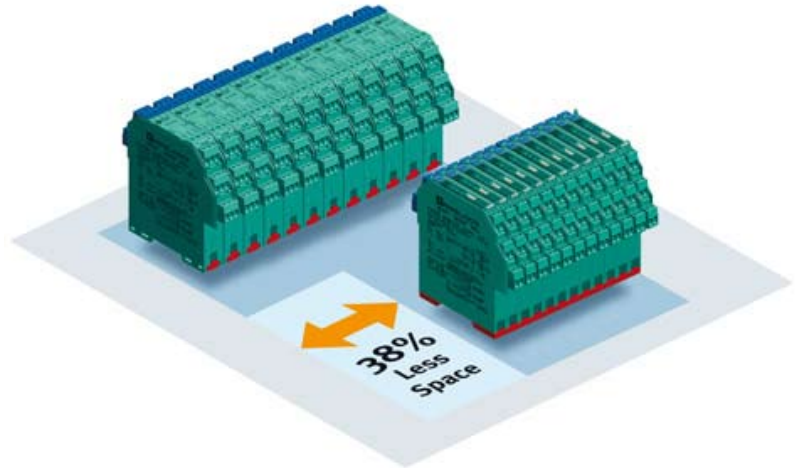
In the context of industrial signal transmission, users demand high availability of the individual instrumentation circuits and at the same time the most compact installation they can find. With a width of just 12.5 mm the new KC interface modules satisfy both these requirements.

By assigning each interface module to a single respective field device a higher signal availability is achieved than is the case with multi-channel applications (Single-Loop-Integrity), because a failed instrumentation circuit does not impact on other instrumentation circuits.

The diminutive 12.5 mm wide KC modules take up to 38 % less space than in previous solutions – or to put it another way, every third control cabinet can be dispensed with!

And there are other savings too! The cooling requirement in the control cabinet – an important cost aspect over the whole life cycle of a plant – is minimized due to the very low power losses of these devices.

The product range includes isolating modules for in-



trinsically safe binary and analog process automation signals – and it can all be supplied to satisfy the SIL requirements!

Stefan Pflüger
Product Marketing Manager K-System

Greater flexibility in a smaller space

PRODUCT Quick and easy wiring with system cables

The H-System, based on termination board technology, offers flexibility coupled with the highest functionality. Preformed connector cable assemblies with multi-pin

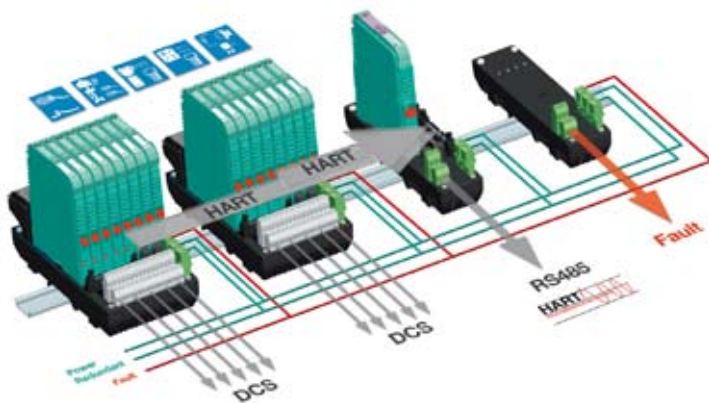
system connectors reduce the engineering and replace tedious and expensive individual manual wiring.

The preparation of the associated documentation is also simplified and a reduction in the number of wiring faults reduces the time spent on commissioning.

A component density of more than 30 % greater than that of conventional construction types is obtained on the 12.5 mm small interface modules of the H-System. Also, reduced power losses lead to lower temperatures in the control cabinet.

Individually usable potential-free fault warning outputs are provided for convenient operation and maintenance and an integrated HART interface and LEDs facilitate status indication and codeable plug-in stations.

In a nutshell: Maximum savings in costs with greater flexibility and space savings too!



Markus Dörr
Product Manager Motherboards & Accessories

Functional, modular and cost-effective

NEWS VisuNet RM – the network-capable PC Operating Station



VisuNet RM, the PC Remote Operating Station with up-to-date transfer technology between the PC and operating and display units.

VisuNet breaks with the customary means of transfer via analogue signals, using signal amplifiers, and using network-based transfer technology it facilitates the operation of a number of PC Remote operating stations via a PC unit. The product family is designed for use in the Ex-area in the categories II 2G, II 2D, Class 1 Zone 1, Ghost and NEPSI.

The core components, display, keyboard, housing and the installation components - stand, wall and ceiling suspension systems – are of modular construction.

Additional options such as heating, high brightness display, control devices such as emergency-stop buttons, indicator lights and key-operated switches sup-



plement the core modules. Peripheral equipment, such as the keyboard, mouse, barcode scanner, USB and WLAN stick can be connected using a variety of interfaces. Extended interface modules, such as RS232-Ex e, and RS485/422-Ex e can also be integrated.

Rainer Traub
Product Manager Extec



Football Robots in Hannover

EVENT Industrial know-how and the Robocup will be sources of inspiration at this year's Hanover Fair and INTERKAMA⁺ from 16-21 April 2007

The Robocup – the football robot championships – will be held at the Hanover Fair as an attraction for aspiring

engineers. And, as usual, the Hanover Fair will be the ideal venue to catch up on the latest industrial know-how. INTERKAMA⁺ is a showpiece for all aspects of process automation - from individual components right through to complete automated solutions, supplemented by engineering and repair and maintenance services. Representatives from the fields of chemical and pharmaceutical engineering, oil and gas, the food and drinks industry, the supply industry, waste disposal and other branches of industry will all be present and the number of foreign visitors has been fast approaching 30 percent in recent years. The Pepperl+Fuchs stand in Hall 7 will be one of the centers of attraction, where experts will be happy to invite you to specialized discussion on problem areas and their solution with the innovative products from our company.

Jürgen George
Manager Marketing and Strategic Planning Process Automation



Light in the darkness

KNOWLEDGE Pepperl+Fuchs prepared the market study “Interface technology“ for the noted journal “atp“

The “Zeitschrift für die Praxis von Prozessautomatisierung und Fertigungsautomatisierung sowie Prozess- und Fertigungsleittechnik, Messtechnik, Steuerungs-, Regelungs- und Informationstechnik“ (“Journal for the practice of process and production automation, process and production control technology, control and instrumentation and information technology) – abbreviated to “atp”, published a market overview of Interface technology. In issues 5/06, 6/06 and 8/06 the basic functional principles and the development trends in conventional point-to-point connection, remote I/O systems and field bus installation technology were described for the user and the manufacturer, in an independent and neutral manner, although not free-of-charge. Pepperl+Fuchs was selected for the project as a recognized expert and fair partner. We collected data from manufacturers, which our authors used to obtain an assessment of the market and compile this very readable and informative magazine series.



Jürgen George

Manager Marketing and Strategic Planning Process Automation

FOUNDATION Fieldbus analog and digital Remote I/O

PRODUCT Adapts all kinds of analog and digital I/O signals to the bus

FOUNDATION Fieldbus used for modern process instrumentation offers vast savings and technical improvements. The addition of the Fieldbus ComUnit to our established range creates a new FF Remote I/O to support all non-FF signals.



In contrast to dedicated input devices, the modular I/O combines 20 analog or 40 digital I/O, or any combination, in one unit. It supports NAMUR switches, solenoid outputs, temperature signals and supply circuits for 2 or 4 wire transmitters.

It carries the “tick mark” as a standard FF device and connects directly to the trunk.

It even offers functional safety through a bus independent shut-down.

The FF Remote I/O does not load the bus, because it has its own power supply, making it independent from the trunk power.

It also drives digital outputs, including high power IS solenoids, or even increased safety power relays next to IS loops.

Rainer Hillebrand

Product Marketing Manager Remote I/O

Fax/E-Mail Reply Form

Fax: +47 35 57 38 49 • E-Mail: info@no.pepperl-fuchs.com

I would like to receive the following information about Pepperl+Fuchs Products:

PROTECTING YOUR PROCESS

Tracking down the Gremlins in your system

COMPANY NEWS Diagnosis of the physical layer of fieldbus systems



Dear Ladies and Gentlemen, Dear Readers,

In an age of "PC Repair" and "Modem Fix" a person becomes self-appointed, or almost self-appointed, as a troubleshooter for computers and networks to get themselves a fix and to be happy.

We are of the opinion that it is always important that we should have the means to provide our customers and users with the most comprehensive about diagnosis of their systems. In addition, projects and solutions in a number of areas are available to the complete range of IT professionals.

Thanks to the success of the new issue Fax (November 2007) and the success of the November Fax, we have the pleasure of presenting you with the "Tracking down the Gremlins" Fax. It is an opportunity for the first time for the user to be able to diagnose and repair the physical layer of the system. The "Tracking down the Gremlins" Fax is a comprehensive guide to the physical layer of the system. It is a comprehensive guide to the physical layer of the system. It is a comprehensive guide to the physical layer of the system.

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Article Pages 2/3

PROTECTING YOUR PROCESS

Optimized component density with KC modules

NEWS Same signal integrity, smaller footprint



In the context of industrial digital transmission, users demand high availability of the industrial transmission bus. This is the case with health-care applications (e.g. long-term patient care) and in the case of the food and beverage industry. The same signal integrity, smaller footprint.

The introduction of the new KC modules has led to a 20% increase in component density. The same signal integrity, smaller footprint.

Article Page 4/A

02/2007

PROTECTING YOUR PROCESS

Functional, modular and cost-effective

NEWS VisuNet RM – the network-capable PC Operating Station



October 2007, the VisuNet Operating Station was the first network-capable PC operating station to be developed by Pepperl+Fuchs.

The VisuNet Operating Station is a functional, modular and cost-effective PC operating station. It is a functional, modular and cost-effective PC operating station.

Article Page 5/A

PROTECTING YOUR PROCESS

Light in the darkness

KNOWLEDGE Pepperl+Fuchs prepared the market study "Interface technology" for the noted journal "atp"




The "Study on the PC Process" from Pepperl+Fuchs is a comprehensive study on the PC process. It is a comprehensive study on the PC process.

Article Page 6/A

PROTECTING YOUR PROCESS

The intrinsically safe Ethernet Isolator

EVENTS Full speed ahead in the D-Zone



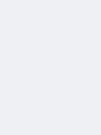
When it comes to networking, the D-Zone is a hot topic. It is a hot topic. It is a hot topic.

Article Page 8/A

PROTECTING YOUR PROCESS

Football Robots in Hanover

EVENT Industrial know-how and the Robocup will be sources of inspiration at this year's Hanover Fair and INTERKAMA* from 16-21 April 2007



The Robocup is a world-famous competition. It is a world-famous competition. It is a world-famous competition.

Article Page 5/B

PROTECTING YOUR PROCESS

FOUNDATION Fieldbus analog and digital Remote I/O

PRODUCT Adapts all kinds of analog and digital I/O signals to the bus



FOUNDATION Fieldbus is a standard for industrial automation. It is a standard for industrial automation. It is a standard for industrial automation.

Article Page 6/B

PROTECTING YOUR PROCESS

The High Density Power Hub

PRODUCT Simplifies and redundancy for FOUNDATION Fieldbus



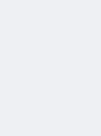
The High Density Power Hub is a device for industrial automation. It is a device for industrial automation. It is a device for industrial automation.

Article Page 8/B

PROTECTING YOUR PROCESS

The green light for your future

CONTACT Please contact us for more information



The green light for your future is a device for industrial automation. It is a device for industrial automation. It is a device for industrial automation.

Article Page 8/C

Company: _____

Name: _____

Function: _____

Address: _____

City: _____

Country: _____

Telephone: _____

Telefax: _____

E-Mail: _____

Please contact me.

I don't want to receive this Newsletter anymore.

The intrinsically safe Ethernet Isolator

Full speed ahead in the Ex-Zone

This innovation from the inventors of the FieldBarrier brings high-speed Ethernet into the explosion hazardous area Zone1/Div. 1 with galvanic isolation. Connect sophisticated equipment – Industrial PCs such as the iPC-EX or measurement equipment – to a network in the safe area, even



when mounted on moving machinery. The inexpensive, simple cable is easy to install and replace – with full protection from hazardous effects in the event of cable breakage and during maintenance work. The total cost of a connection is low compared to fibre-optics and transmitter modules. Need we say more?

Andreas Hennecke

The High Density Power Hub

Simplicity and redundancy for FOUNDATION Fieldbus H1

Meet the High-density Power Hub for the field bus.



Redundancy as standard and many passive components make this the most reliable of all power supplies on the market.

Custom connection options for Emerson, Yokogawa and Honeywell – make integration a snap. It can be certificated for applications up to SIL 3.

Low capital expenditure! It takes the smallest amount of space in the cabinet per segment. This is not so much down to its small surface area, but to the very low heat output.

With two individual modules per segment even spare holding costs are kept to a minimum. And our Advanced Diagnostic Module also fits the bill.

Andreas Hennecke

The green light for your future

Themed specialist seminars by Pepperl+Fuchs

Millions of people are engaged worldwide in the business of improving and optimizing processes and procedures. It is no longer the raw materials themselves, but rather the qualification of these technical specialists that dictates the quality of the end products. An inexhaustible resource for the future.

However, qualifications and knowledge itself must be continually developed.

It is to this end that we offer optimized seminars on the themes of explosion protection



and functional safety. Seminars tailored to suit you and the tasks you face!

Gerhard Jung

EVENTS

9th - 11th October 2007
PA Messen

A specialist fair for Instrumentation, Automation and Industrial IT.

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