

PROCESS AUTOMATION

**DISPLAY, CONTROL AND
MONITORING SOLUTIONS**

**FOR HAZARDOUS AND
INDUSTRIAL APPLICATIONS**



STATE-OF-THE-ART AUTOMATION TECHNOLOGY FOR HAZARDOUS AREAS AND INDUSTRIAL APPLICATIONS

Pepperl+Fuchs Customer and After-Sales Service

Expert support is provided for your specific application. Our knowledge of hazardous locations and industrial environments gives us the unique ability to customize a solution to meet the demanding requirements of your application.

Configuration of your visualization system can be handled with our team of experts. Our staff is trained on the latest technologies and we are confident that our hazardous area solutions will meet your needs.

Custom products are developed for a wide range of individual applications with Pepperl+Fuchs' own Systems & Solutions group. From hardware to software systems, the experienced team of experts from Pepperl+Fuchs is able to develop a customized solution to meet your exacting requirements.

Applications

- Machine Level Interface
- Data Analysis
- Batch Operations
- SCADA Systems

Industries

- Oil and Gas
- Chemical and Petrochemical
- Pharmaceuticals
- Flavours and Fragrances
- Food and Beverage
- Grains & Fibers



Quality and safety

We specialize in precision. Whether it is accurate instrumentation or meeting the specifications of the most demanding internal standards, Pepperl+Fuchs' equipment excels in difficult environments. As a guarantee of quality, our products are produced according to the ISO 9001 International Standard and carry all national and international certifications and registrations. That means every product will meet the demands of your most challenging application, no matter where you are. Pepperl+Fuchs does more than simply meet global standards – we set them!

Customer satisfaction

We also specialize in customer service. Whether you're installing new control and monitoring instrumentation, replacing components, or need an answer to your questions, our global presence will keep your system operating at peak efficiency. Answers to your questions are just a phone call away and our international network of professionals is available for local support and training. At Pepperl+Fuchs, your success is our only goal, no matter which part of the globe you call home.



DISPLAY, CONTROL, AND MONITORING FOR HAZARDOUS AND INDUSTRIAL APPLICATIONS



Text and Graphics Terminals **TERMEX**

TERMEX offers intrinsically safe backlit operator panels for hazardous areas. When it comes to control and display in hazardous areas, Pepperl+Fuchs has set new benchmarks with the intrinsically safe operator panels in the TERMEX family. Approved for use in ATEX Ex Zones 1 and 2 (II 2G) and 22 (II 3D), as well as in Class I, Div 1, this product family facilitates flexible and inexpensive operator control and monitoring of machines and processes.

The operator panels are typically connected to PLC or PC systems, and various communication protocols and fieldbus interfaces (PROFIBUS-DP, Modbus, DF1, etc.) are available. Classic terminal operation is also possible with a connection to a host computer using an ASCII protocol. Several types of serial and discrete peripherals can be connected directly in the hazardous area including barcode readers, weigh scales, pushbuttons, and switches. The complete system is easily projected with P+F's EXTEC TERMEX^{PRO} Windows project design software and can also be additionally programmed using the EPCA "C" programming toolbox.

Project Design Software **TERMEX^{PRO}**

TERMEX^{PRO} is a high-performance, easy, and intuitive Windows software package for graphical configuration of all text and graphics control, display, and visualization devices in the TERMEX family. The user-friendly package uses an object-oriented interface and has integrated testing and simulation tools, a graphics library, language support, and many other powerful features. TERMEX^{PRO} reduces the time required for configuration and supports project documentation.

Programming Tool **EPCA**

EPCA is a Windows software package capable of "C" language programming used for the optional implementation of additional functions for all control, display, and visualization devices in the TERMEX family. EPCA, integrated into TERMEX^{PRO} as an option, includes a sophisticated development environment with an extensive library of functions that allows complex programming to be implemented quickly and easily.

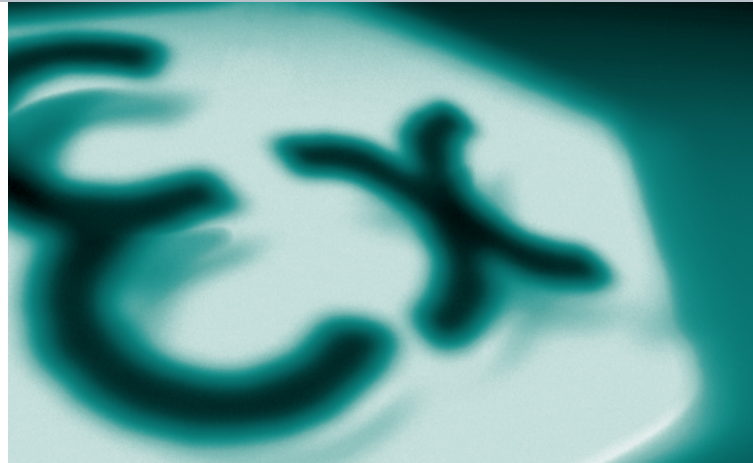




iPC-EX

The PC Operator Station with 15" & 18" Monitors

iPC-EX is a KVM interface-based PC operator terminal for the most challenging control and visualization tasks in hazardous areas (Zones 1, 2, and 22). It is an industry-standard local visualization solution for process control systems in the chemical, pharmaceutical, and petrochemical industries. With the iPC-EX solution, only the operator control and monitoring elements (monitor, keyboard, and mouse) are actually located in the hazardous area, while the IBM compatible PC is installed up to 1000 m away in the safe area, well outside the danger zone. The PC hardware can be replaced—or the software updated—quickly, easily, and without any restrictions in the safe area. P+F also offers a wide range of stainless steel enclosure variants that comply with a high degree of protection.



VISUEx

The 10" and 12" Panel PC for Hazardous Areas

VISUEx is a panel PC system for use in hazardous areas (categories II 2G (Zone 1, 2) and II 2D (Zone 21, 22)).

It features an integrated PC, touchscreen, Ethernet network, and serial RS485 / TTY connection. Visuex is designed for challenging control and visualization tasks in the chemical, pharmaceutical, and petrochemical industries. It is ideal for installation in a panel or in a compact stainless steel enclosure. The front of the PCEX is dust-tight and splashproof (IP65).

PANEL PC = operator panel + integrated PC

This combination of an operator panel and a powerful, integrated PC opens up a host of potential applications. The panel PC provides an ideal platform for control and display panels with the visualization system of your choice, for software PLC systems, and for client-server applications with a SCADA system or web terminals. The integrated, serial TTY/RS 485 and Ethernet ports facilitate a connection to a controller and server in the safe area, even over long distances. The intrinsically safe interfaces can be used to connect a barcode reader and an intrinsically safe expansion keyboard with a trackball or a touchpad mouse.

EXTEC VISUNET – ETHERNET-BASED VISUALIZATION SOLUTIONS



VisuNet PC

15" and 19" Panel PC for challenging demands in industrial environments

- Neutral PC platform (1.8 MHz Pentium M)
- Interfaces: Ethernet, USB, RS232, RS485, RS422
- Pepperl+Fuchs software package for data security/data recovery/software backup, etc.
- Front access for wall mount installation
- Modular concept



VisuNet is the world's first visualization platform for process industries that exclusively uses Ethernet TCP/IP network structures and completely dispenses with proprietary communication techniques.

VisuNet integrates all the benefits of a modern network infrastructure, either as a remote monitor solution with display, keyboard, and mouse up to 2 km away from the PC in the safe area, or as a full-scale panel PC installed in the hazardous area.

VisuNet devices are designed for installation and operation in hazardous areas. They comply with even the toughest requirements in terms of robustness, safety, and functionality.

- ATEX, categories II 2G, II 2D
- IEC Ex, Zones 1/21
- Others: by request

VisuNet RM Remote Monitor

The first industrial visualization system based on Ethernet TCP/IP and using remote desktop protocol (RDP)

- Ethernet network connectivity
- Interfaces: Ethernet and USB, and others by request
- Front access for direct wall mount installation
- Modular concept

VisuNet OB Option Box

Modular enclosure system for network and power supply components in hazardous areas, ATEX Zones 1 and 21

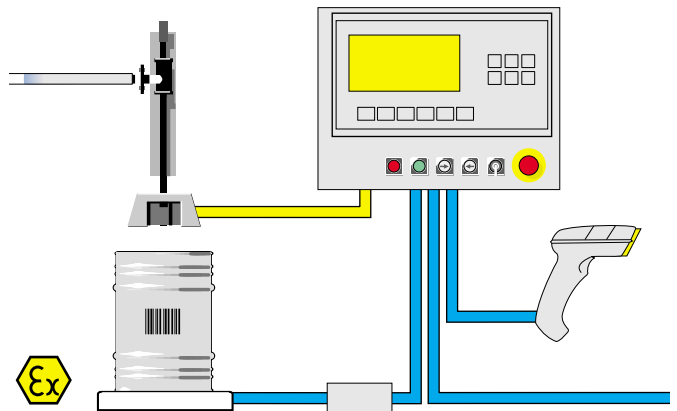
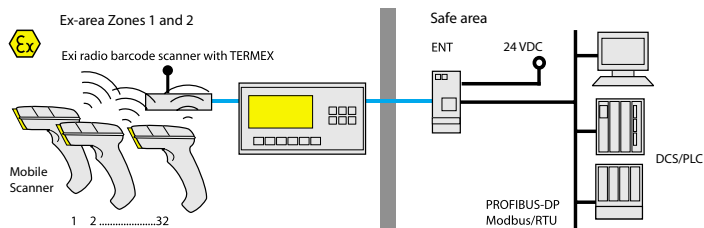
- Modular concept: power supply, media converter, network components
- Stainless steel housing
- Approvals for hazardous areas





SCANEX I.S. Barcode Reading Systems

SCANEX is a complete family of intrinsically safe barcode readers for hazardous areas (Zones 1, 2, and 22) that can be used for a variety of industrial applications. The family contains intrinsically safe hand-held barcode scanners available in wireless or cable versions. The devices are capable of reading all standard barcode families used in the retail or industrial sectors. All intrinsically safe barcode readers can be connected directly to either a host computer or an operator terminal as part of the TERMEX, iPC-Ex, VISUEX or VisuNet families of products.



COMPEX I.S. Weighing Equipment

COMPEX is an intrinsically safe weighing solution suitable for industrial applications involving the TERMEX text and graphic terminals. Scales, load cells, and other related weighing equipment from various manufacturers can be interfaced together; therefore, all measurement, display, and processing tasks are handled conveniently inside the hazardous location with COMPEX.

TASTEX I.S. PC Keyboards



TASTEX are intrinsically safe, foil-type, short-travel keyboards and mouse systems that are suitable for connection to a PC. They easily combine with the iPC-Ex, VISUEX, and VisuNet range of products as well as other hazardous area computer systems. Various keyboard layouts are available to meet specific international requirements. All TASTEX components can be supplied in a panel-mounted version or within a stainless steel housing for desktop mounting.

For direct connection to PC in the safe area, a double PS/2 barrier is available.

WHY USE ETHERNET FOR NETWORK VISUALIZATION?

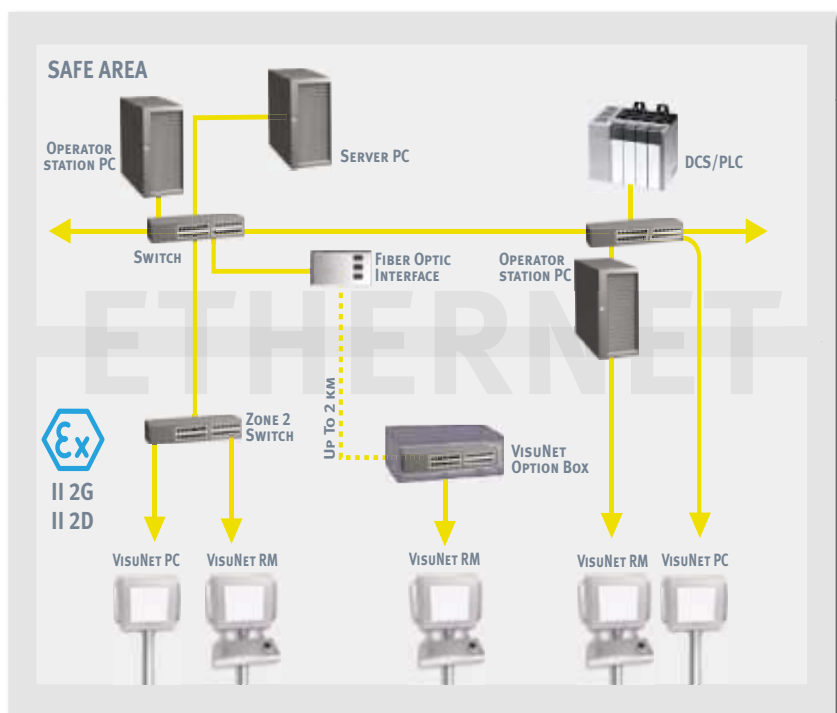
The trend is unmistakable. Information technology (IT) is increasingly penetrating automation technology at an accelerating pace. Networks based on fast Ethernet and the TCP/IP protocol familiar to all Internet users clearly lead the field. As the first programmable controllers and complex field devices with an Ethernet interface appear on the market, a whole generation of network enabled devices such as operator and display panels are enriching automation technology.

Pepperl+Fuchs is introducing the VisuNet RM remote monitors for PC based visualization of processes and plants. Based on the popular and widely used Ethernet network technology and TCP/IP protocol, VisuNet RM utilizes the Ethernet network already familiar to all Internet and Intranet (corporate network) users. Eliminating the need for the traditional KVM point-to-point topology, this opens up new and flexible opportunities for interfacing the monitors from the PC in the safe area. As data transmission is based on standard Ethernet with TCP/IP, the existing network infrastructures can continue to be used without any problems. The cables and switches are identical to those employed for the Internet and Intranets.

The actual image transfer from the PC of the operator station to the VisuNet RM takes place over the network using TCP/IP packets. The compressed image data requires only a very narrow bandwidth for communication, using a standard feature of the Windows operating system, the remote desktop protocol (RDP).



Since Ethernet and TCP/IP form the backbone, the data is sent in packets to preset addresses (that of the operator station PC and that of the VisuNet RM). A connection to another PC can be set up on the VisuNet RM by changing the address of the operator PC station. When using a Microsoft Server operating system, it is also possible to connect several VisuNet RMs to a single operator station PC allowing each VisuNet RM to show different information, acting like an individual client.



Ethernet Network Topology

PROCESS AUTOMATION – PROTECTING YOUR PROCESS



For over a half century, Pepperl+Fuchs has been continually providing new concepts for the world of process automation. Our company sets standards in quality and innovative technology. We develop, produce and distribute electronic interface modules, Human-Machine Interfaces and hazardous location protection equipment on a global scale, meeting the most demanding needs of industry. Resulting from our world-wide presence and our high flexibility in production and customer service, we are able to individually offer complete solutions – wherever and whenever you need us. We are the recognized experts in our technologies – Pepperl+Fuchs has earned a strong reputation by supplying the world's largest process industry companies with the broadest line of proven components for a diverse range of applications.

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