

Engineering Life Sciences.

Automation and protection where
hygiene, control, and compliance
matter the most.

Products and Solutions
for the Pharmaceutical and
Life Science Industry



Your automation, our passion.

 **PEPPERL+FUCHS**

Solutions for Your Specific Area in the Pharmaceutical and Life Science Industry

As a highly regulated sector, the pharmaceutical industry has to comply with a large number of laws and regulations. Companies not only have to ensure quality and purity for each individual production step, but also document it and reliably store the corresponding data. This is the reason why pharmaceutical companies benefit in particular from digitalization and automation.

As a trusted partner, Pepperl+Fuchs offers a comprehensive range of GMP compliant products specifically designed for complex production processes and quality assurance, even in demanding cleanroom environments. From real time monitoring and documentation to secure signal transfer and explosion protection, our solutions ensure that your operations meet the highest standards of safety and regulatory compliance. Our products not only help you streamline operations, but they also reduce downtime, enhance data integrity, and improve overall productivity, all while ensuring compliance with strict pharmaceutical regulations. Whether you are looking to optimize your manufacturing processes or ensure safe operations in hazardous areas, Pepperl+Fuchs provides the tailored solutions you need.

For more information, visit
pepperl-fuchs.com/br-life-sciences



Engineering Life Sciences Applications

Delivery and Storage

A wide range of raw materials form the basis of every pharmaceutical product. When trucks deliver essential liquids or gases, Pepperl+Fuchs solutions ensure safe, efficient, and compliant handling, monitoring, and documentation. This includes GMP-compliant HMI systems with MES/DCS/ERP access, automation infrastructure, and rugged mobile devices for use even in hazardous areas.



Production in Cleanrooms and Hazardous Areas

Pharmaceutical cleanrooms place strict demands on automation, especially in hazardous areas. Components must be easy to clean, chemical-resistant, explosion-protected, and certified. Pepperl+Fuchs offers a comprehensive portfolio to meet these needs—from GMP-compliant HMI systems with peripherals to dual sensors, label printers, pressure measurement, and Ethernet-APL solutions.



Laboratory and Control Room

Laboratories are key to R&D, testing, and quality assurance in pharmaceuticals. Easy access to information and compliant documentation is essential. Pepperl+Fuchs HMI systems enable real-time control, monitoring, and easy cleaning, while thin clients ensure clear process visibility in control rooms.



HMI

- HMI solutions with flexible mounting options: pedestal, panel mounting, wall and ceiling mounting, mobile systems
- Various communication technologies: remote monitor (thin clients), PC, or direct monitor
- Suitable for continuous operation in harsh environmental conditions and explosion-hazardous areas
- Special features such as shock and vibration resistance, outdoor suitability for chemical plants, and GMP-compliant design for life sciences and pharmaceutical applications
- Large selection of peripheral devices: RFID readers, keyboards, or 1-D/2-D code handheld readers, and more



Mobile Devices

- Intrinsically safe smartphones and tablets allow mobile communication in harsh environments and help make work processes safer and more efficient
- The rugged devices support mobile workers during check-ups, inspections, maintenance measures, inventory, and material tracking
- Scratch-resistant displays can be operated with wet hands or gloves



Automation Infrastructure

Pepperl+Fuchs provides pharmaceuticals and life sciences with a broad range of automation infrastructure components that enable continuous communication along the entire production process. Learn more about your options for most reliable communication.



Interface Technology

Pepperl+Fuchs is a trusted leader in the pharmaceutical industry, offering isolated barriers and signal conditioners for safe, reliable signal transmission. Our interface modules support accurate data flow in critical processes, enhancing safety, reliability, and GMP compliance while minimizing risks and downtime.

Ethernet-APL

Ethernet-APL delivers fast, reliable 10 Mbit/s communication over distances up to 1000 m, enabling real-time monitoring and control in hazardous and cleanroom areas via a single two-wire cable. It integrates seamlessly into new or existing installations, providing flexibility for greenfield and brownfield projects while optimizing processes and lowering infrastructure costs.

Fieldbus Infrastructure

In pharmaceutical production, Pepperl+Fuchs fieldbus components improve data accuracy, simplify installation, and enable remote diagnostics. This reduces on-site maintenance, saves resources, and allows easy connection of safety devices, enhancing safety and efficiency.

Remote I/O

In pharmaceutical production, Remote I/O systems integrate analog field devices into digital control systems, ensuring accurate data, efficient automation, and compliance with strict regulations.



Inspection

VMT image processing systems inspect pharmaceutical products before packaging, meeting strict life science standards and complying with 21CFR Part 11, cGMP, and GAMP.

Packaging

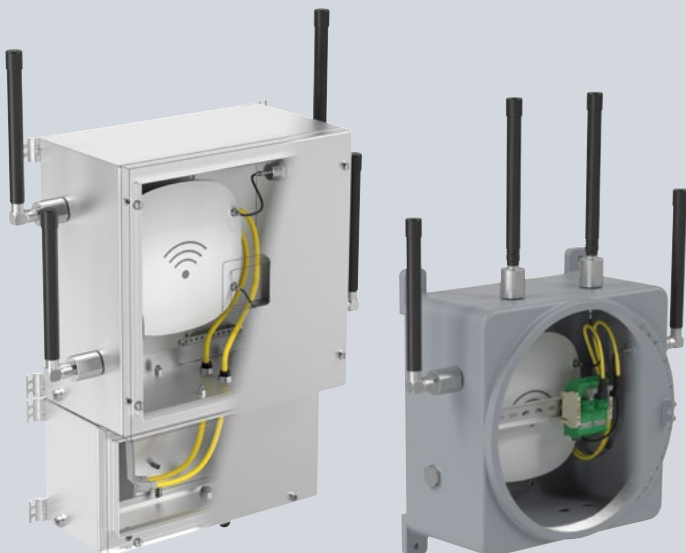
Industrial vision systems and sensors check packaging for correct barcodes, batch information, and production dates to ensure compliance with pharmaceutical regulations.

Logistics

Pepperl+Fuchs RFID solutions enable full traceability. RFID gate readers efficiently detect large quantities of RFID tags on packages, cartons, or pallets.

Disconnect Switch

- Helps meet GMP guidelines with clear disconnection and safe shutdown, ensuring compliance and enhancing operational integrity
- Safeguard against overcurrent and short circuits, reducing risks to sensitive laboratory equipment and automated systems
- Prevents accidental startup during maintenance, ensuring safety and avoiding costly downtime
- Minimizes electrical surges and wear, helping extend the lifespan of critical pharmaceutical equipment
- Suitable for Zone 1/21, Zone 2/22, and Class I, II, Div. 1 hazardous areas, ensuring safety in potentially explosive environments
- Durable aluminum enclosure provides flameproof protection for long-lasting, reliable performance in demanding environments



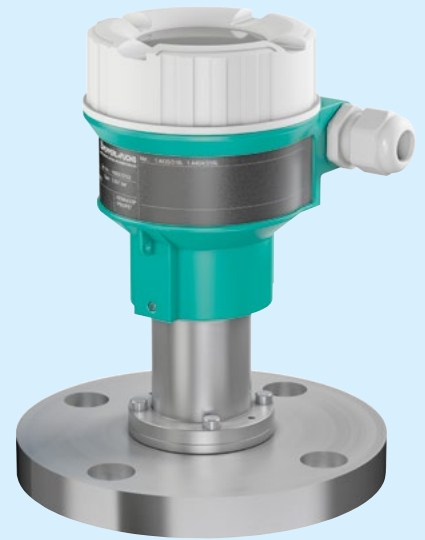
Wireless Access Points

- Wireless access point solutions for the use of industry-standard access points (e.g., Cisco or Aruba) in hazardous areas
- Rugged enclosures made of GRP, stainless steel, or aluminum
- Optional integration of Ex-certified antennas for optimum network coverage
- Installation of other radio-based components (RFID, UWB, BLE, LoRaWAN) and realization of IoT solutions possible



Level Measurement

- Comprehensive portfolio of level measurement products that meet the stringent requirements of pharmaceutical production
- Pressure transmitter for measuring process pressure and hydrostatic levels with a complete range of hygienic process connections
- Vibration limit switch for measuring fluid limit values in storage, expansion, mixing, and collection containers; all parts in contact with the process are stainless steel, polished or coated on request



Purge and Pressurization

- Complete pressurized enclosure solutions consisting of control units and predefined and certified enclosures
- Use of conventional electrical equipment in explosion-hazardous areas
- Various systems and types of protection for every requirement
- Fully automatic monitoring and control of enclosure pressure and temperature within the pressurized enclosure
- Menu-guided user interfaces provide maximum ease of use and flexibility for your application



Your automation, our passion.

- Industrial Sensors
- Industrial Communication and Interfaces
- Enterprise Mobility
- Hazardous Area Products and Solutions

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Pepperl+Fuchs Quality

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