



Oil and Gas

Solutions for production, transport, and processing

In dialog with customers and partners worldwide

Phoenix Contact is a global market leader in the fields of electrical engineering, electronics, and automation. Founded in 1923, the family-owned company now employs around 14,000 people worldwide. A sales network with over 50 sales subsidiaries and more than 30 additional sales partners guarantees customer proximity directly on site, anywhere in the world.

Our range of services consists of products surrounding various different electrotechnical applications. This includes numerous connection technologies for device manufacturers and machine building, components for modern control cabinets, and tailor-made solutions for many applications and industries, such as automotive production, wind energy, photovoltaics, the process industry or applications in the field of water supply, power distribution, and Transportation Infrastructure.



Company independence is an integral part of our corporate policy. Phoenix Contact therefore relies on in-house competence and expertise. We are constantly coming up with innovative product ideas in order to meet the requirements of our customers. Numerous patents emphasize the fact that many of Phoenix Contact's products have been developed in-house.



The Oil and Gas industry is changing: both producers and operators need to increase the efficiency of their systems. Phoenix Contact offers a comprehensive portfolio of hardware and software for the future-proof automation of the sometimes outdated installations involved in the production, transport, and processing of oil and gas. You can make production more efficient and minimize downtimes with these turn-key solutions which support flexible expansion and include control and remote control technology, safety and Ex i components, surge protection, and industry-specific software.



Contents

Overview:

Solutions for Oil and Gas	04 – 05
Solutions for upstream	06 – 07
– Production sites	08 – 09
– Measuring points and local tanks	10 – 11
Solutions for midstream	12 – 13
– Pipelines and transport	14 – 15
– Tank farms	16 – 17
Solutions for downstream	18 – 19
– Refinery	20 – 21
– Networks in process engineering	22 – 23
Solutions for offshore	24 – 25
– Drilling platform	26 – 27
– FPSO and platform suppliers	28 – 29
Quality is no coincidence	30 – 31
– Engineering and control cabinet solutions	32 – 33
– Services for functional safety	34 – 35
– Service and support	36 – 37
– Inspiring Industry solutions, thanks to excellent products	38 – 39



Upstream

Onshore production systems present different challenges, from monitoring of the process parameters up to the development of optimization potential for production sites. Phoenix Contact offers safe and reliable solutions for efficient automation of all processes associated with the production site.

For further information, see page 6 onwards



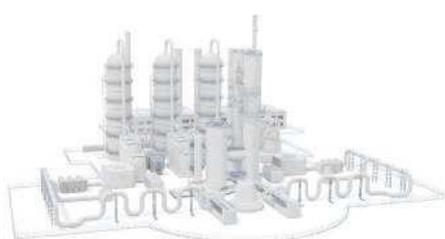
Overview: Solutions for Oil and Gas



Midstream

Pipelines and storage systems are the backbone of the Oil and Gas industry. For this reason, they require integrated communication systems with a large number of connection options. We support our midstream customers with monitoring and production solutions.

For further information, see page 12 onwards



Downstream

Absolute failsafe performance is the most important factor when operating a downstream application. Phoenix Contact offers robust I/O systems, redundant control systems as well as a number of components for functional safety in order to guarantee an error-free process.

For further information, see page 18 onwards



Offshore

In the case of offshore systems, the focus is on both the systematic failsafe performance and material robustness of the technology. Here, Phoenix Contact is a premier supplier of redundant network and control solutions for monitoring and alarms.

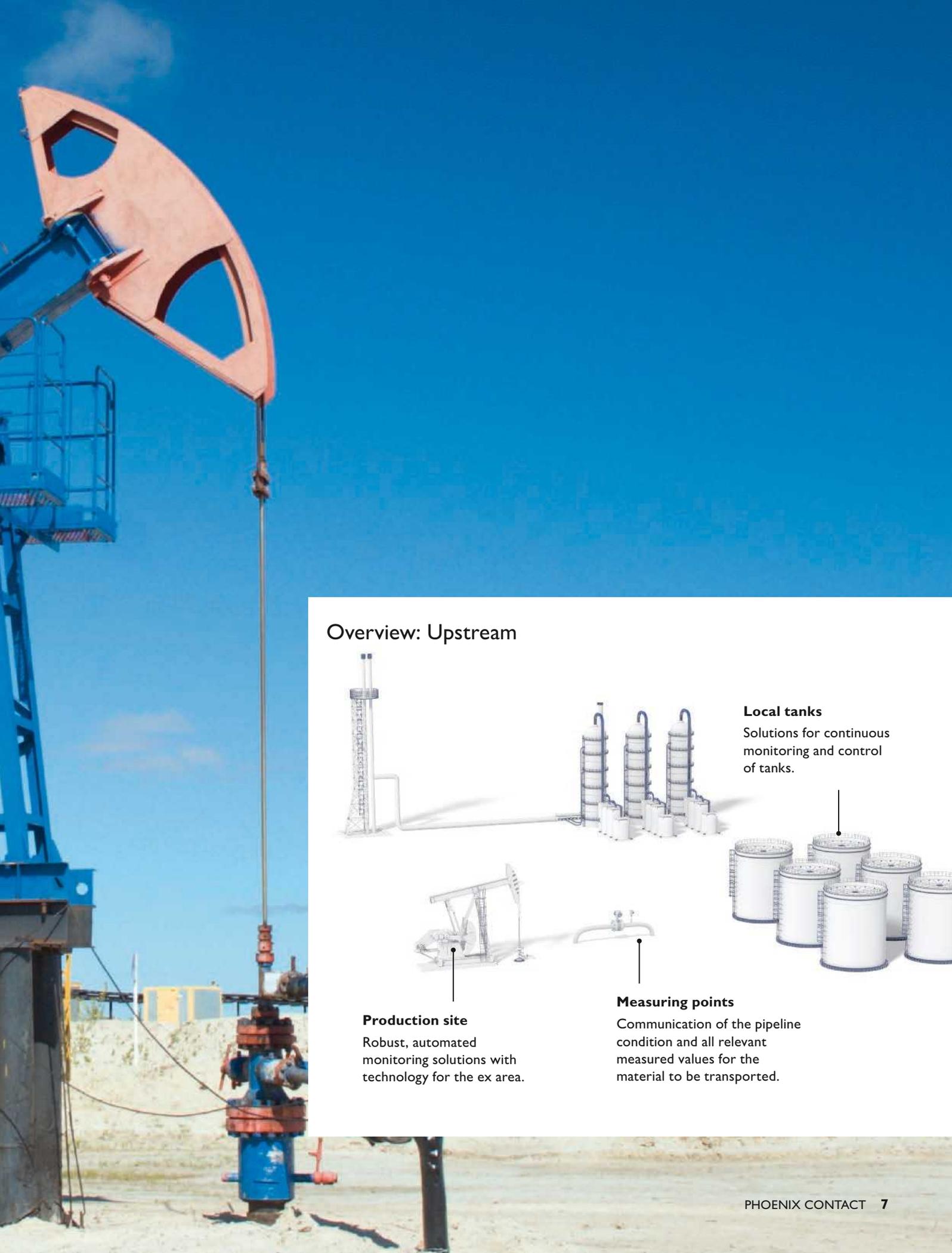
For further information, see page 24 onwards

Solutions for upstream

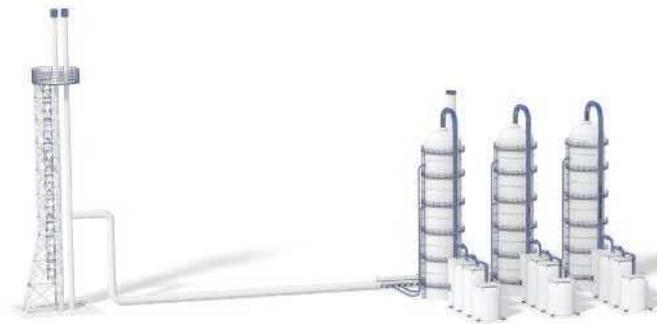
Robust monitoring and communication solutions are required from the production site to the pipeline through to storage in local tanks. Typical regions for production sites are characterized by large temperature differences and often lack infrastructure.

Signals from Ex zones need to be transmitted reliably over hundreds of kilometers. Phoenix Contact has the industry know-how to combine a wide range of products to create a large range number of solutions. The basis of this includes robust components for extended temperature range, network technology for the widest range of transmission methods and I/O systems for all common sensor signals.



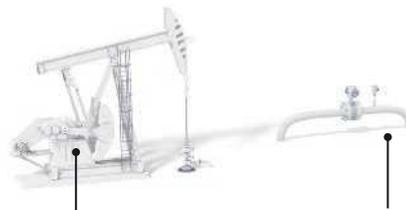


Overview: Upstream



Local tanks

Solutions for continuous monitoring and control of tanks.



Production site

Robust, automated monitoring solutions with technology for the ex area.

Measuring points

Communication of the pipeline condition and all relevant measured values for the material to be transported.

Solutions for upstream

Production site

Production sites for oil or gas can be very different depending on the geology, geography, material to be transmitted, and quantity. In addition, they can be located several kilometers from each other: often neither cables nor GSM networks are available. Older production sites are not usually equipped with monitoring systems and this results in expensive servicing.

Phoenix Contact offers robust complete solutions for digitalizing the oil field, either for retrofitting (Brownfield) or new installation (Greenfield). This enables reliable and cost-effective monitoring and diagnostics even over large distances.



Your advantages:

- One contact for digitizing the oil field, thanks to scalable complete solutions
- Safe communication with encryption technology for a large number of transmission methods
- Efficient and cost-saving maintenance with concepts for mobile or distributed system access



Production site monitoring

Remote Terminal Units, in short RTU, are an essential aspect for remote monitoring of production sites. With complete solutions from Phoenix Contact, you considerably improve your access to your assets. The production and availability of the system is therefore more transparent because maintenance can be performed according to the monitored data.

Secure networks

Depending on the technical and geographical requirements of your production site, Phoenix Contact offers you reliable and safe solutions for data transmission to and from the control room: from wireless systems with proprietary protocol via 3G modems with security router and VPN technology and SHDSL modems if the infrastructure makes cables available.

Remote diagnostics

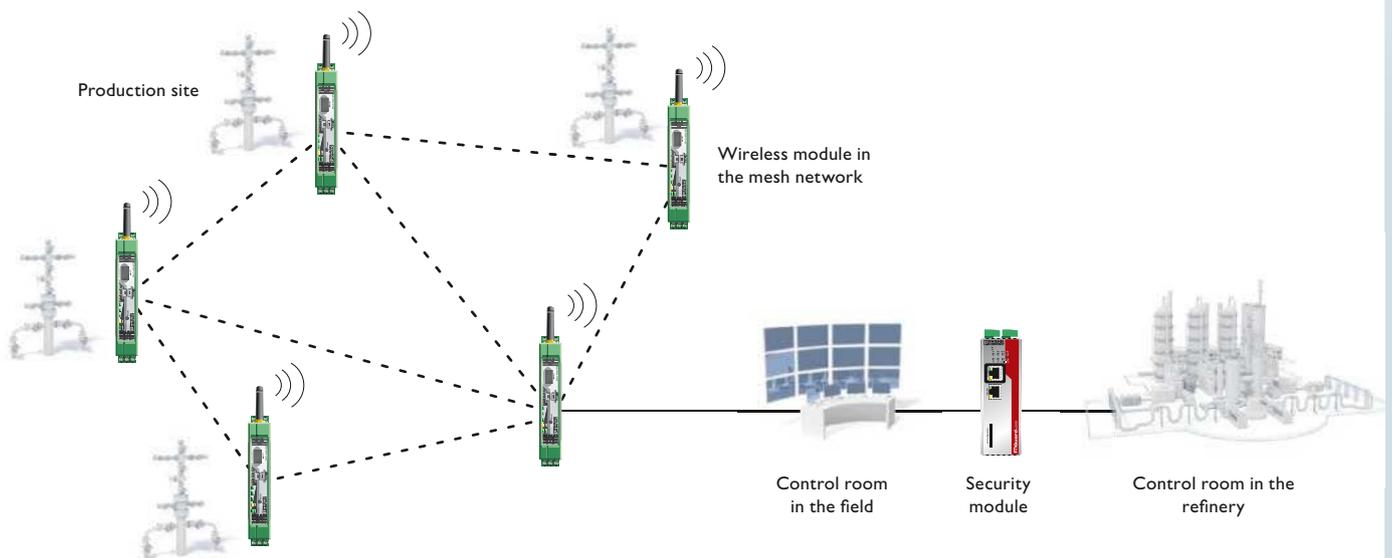
Access your production site from any location and at any time for flexible diagnostics of the system condition. For example, you can use the Visu+ mobile app with an Ex zone-approved tablet or smartphone to access information from your production site. This provides efficient operating and monitoring solutions for your service personnel.

Networking the digital oil field

Production sites often constitute an extensive and widely meshed network. At Phoenix Contact, you will find communication solutions based on

Radioline wireless modules for reliable data transmission even over several kilometers. Radioline also allows fast setup of mesh networks, directly on the device using a

thumbwheel or USB stick. In the event of a fault, failure of a wireless module is compensated immediately.



Solutions for upstream

Measuring points and local tanks

It is necessary to continually monitor and control the quality and flow as well as check for leaks of the transported hydrocarbons while they are on their way from the production site for further processing or to the storage tanks. Standardized measuring procedures, for example, according to API, presume equally standardized data processing in the electronics.

Phoenix Contact offers modular control and I/O system solutions for virtually all common types of signals. Dedicated function block libraries simplify integration of the measuring stations considerably. You will also find proven monitoring solutions for automatic filling and emptying of the storage tanks.

Your advantages:

- A modular solution for virtually all field devices, thanks to support for all common protocols
- Keeping an eye on quality and quantity at all times with monitoring technology according to the API standard
- Fast engineering of complex calculations, thanks to dedicated function blocks



Function blocks for Oil and Gas

You obtain exact values on your production with API-compliant function block libraries for calculating gas volume. In addition, the engineering is considerably simplified, thanks to ready-to-use function blocks, saving time and costs.

Tank monitoring

Thanks to the modular design, it is possible to extend your tank monitoring system at any time with our control and communication technology.

This allows you to continually monitor your filling levels as well as the inflow and outflow quantities because the calculation is based on the current data of your tanks.

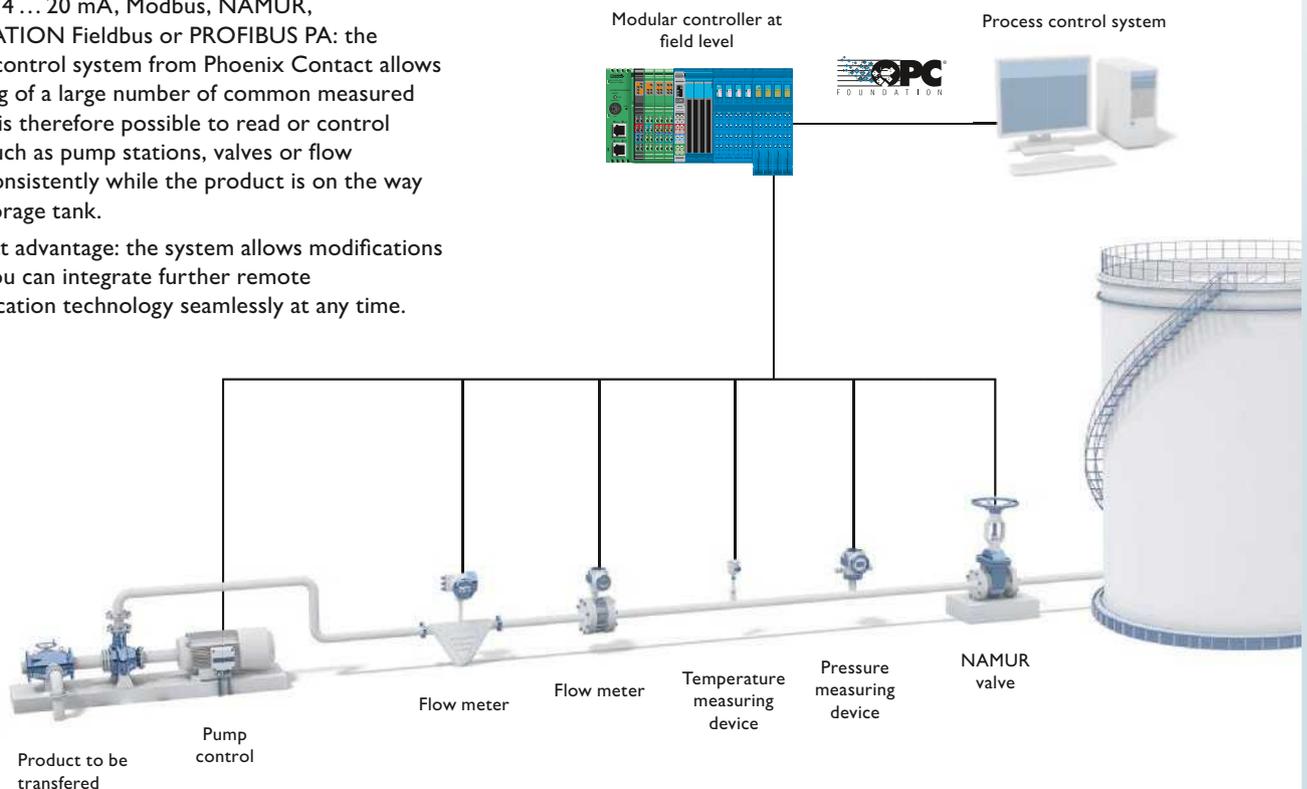
LACT units

Phoenix Contact offers automated measuring and monitoring solutions with dedicated function blocks for LACT units (Lease Automatic Custody Transfer). The density, temperature, and constituents of the material to be transferred are analyzed based on API standards. API-compliant information is always available for calculation and further processing.

Measuring and control solutions

Whether 4...20 mA, Modbus, NAMUR, FOUNDATION Fieldbus or PROFIBUS PA: the modular control system from Phoenix Contact allows processing of a large number of common measured values. It is therefore possible to read or control devices such as pump stations, valves or flow meters consistently while the product is on the way to the storage tank.

Your great advantage: the system allows modifications so that you can integrate further remote communication technology seamlessly at any time.

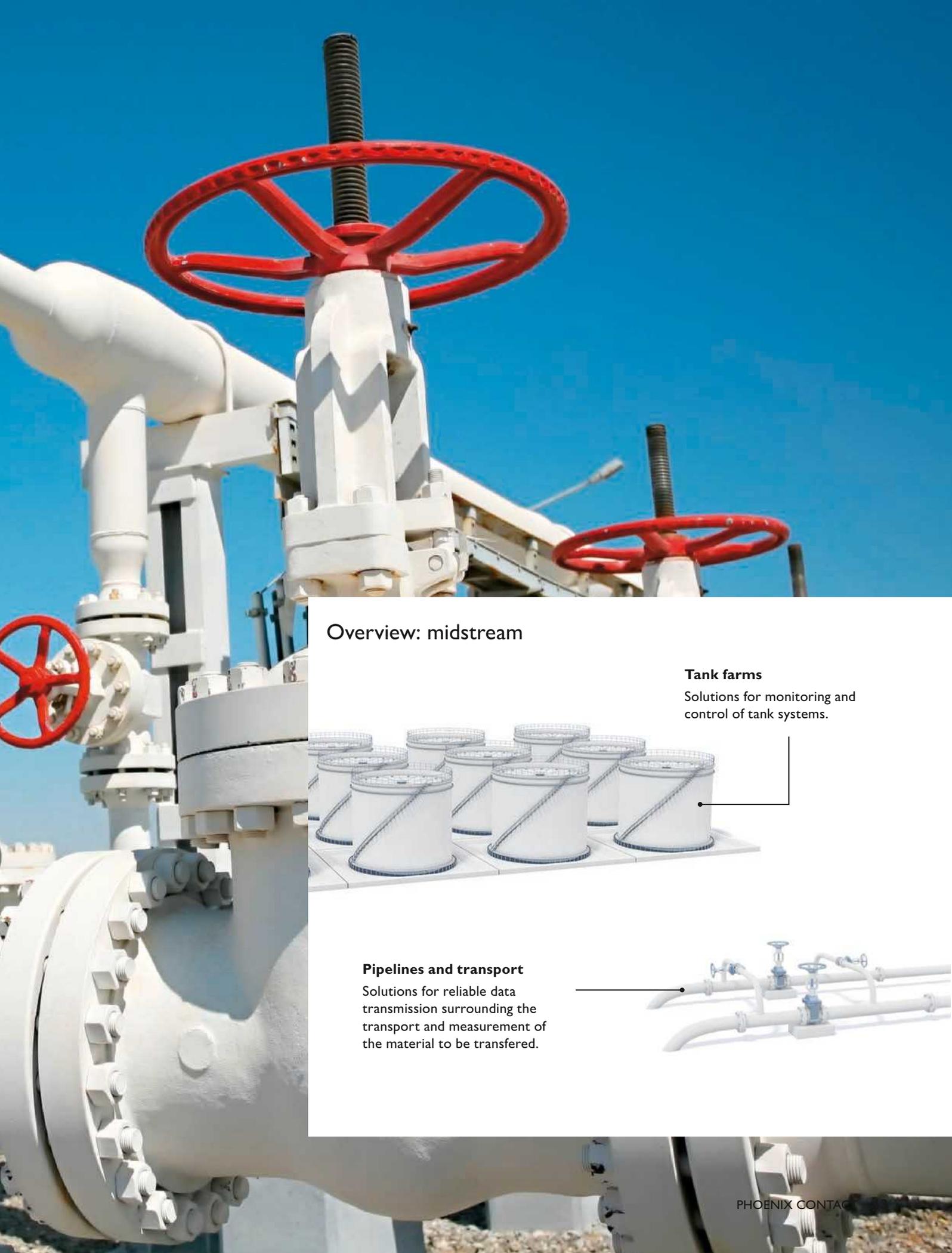


Solutions for midstream

Pipelines with lengths of several hundred kilometers need high-performance monitoring solutions to detect and localize leaks or even fractures precisely and promptly. At the same time, it is essential to be able to determine the valve position for inspection and cleaning with pigs. It is also necessary to avoid surge voltages both in the pipe system and the tanks in order to protect the electronics against damage.

Phoenix Contact offers complete solutions related to the midstream field on the basis of surge protection, wireless technology, functional safety technology as well as stand alone solutions for reliable monitoring of remote systems.





Overview: midstream

Tank farms

Solutions for monitoring and control of tank systems.



Pipelines and transport

Solutions for reliable data transmission surrounding the transport and measurement of the material to be transferred.



Solutions for midstream

Pipelines and transport

Digitalize your transport paths and communicate consistently from the pipeline sensor to the control room. This allows you to benefit from our know-how in monitoring and remote control technology to monitor your systems reliably, irrespective of the specified infrastructure.

Complete solutions for automation of pigs are available from us for servicing and inspection with pig traps. To reliably reduce harmful surge voltages, we offer a wide range of innovative lightning protection arresters.

Your advantages:

- Fast and safe monitoring of leaks with complete packages for a large number of signal types
- Keeping an eye on pipelines at all times with solutions for automated pig traps and valve position monitoring
- Reliable protection against damage from surge voltages, thanks to isolation spark gaps



Leak monitoring

Solutions for leak monitoring are usually based on the comparison of two adjacent measuring points. Phoenix Contact offers solutions which allow recording and processing of a large number of different sensor signals, even from the Ex zone. You will find a variety of wireless or cabled solutions for reliable transmission.

Corrosion prevention

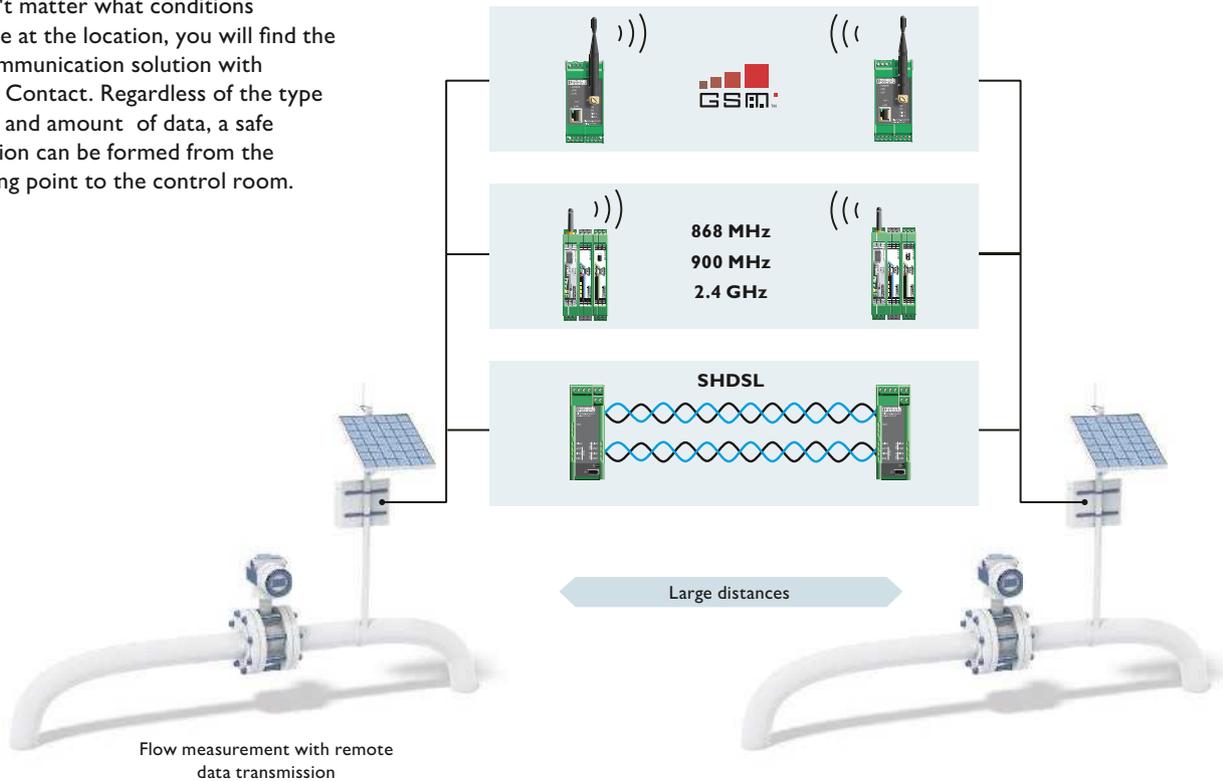
With the help of measuring and pig trapping, you ensure the good condition of your pipeline and keep your transport system efficient. All valve positions must be clearly detected and transmitted for safe use of pig traps. Pig traps can be automated efficiently at the beginning and end of inspection and you can monitor valves reliably at any time.

Surge protection for pipelines

Surge voltages caused by lightning strikes can make it impossible to repair pipe flange seals or even destroy them. With isolating spark gaps from Phoenix Contact, you ensure reliable protection of your pipelines at every pipe transition and also longer maintenance intervals and operating times.

Communication solutions for any infrastructure

It doesn't matter what conditions dominate at the location, you will find the right communication solution with Phoenix Contact. Regardless of the type of signal and amount of data, a safe connection can be formed from the measuring point to the control room.



Solutions for midstream

Tank farms

Tank farms often consist of different sized tanks, sometimes with a storage capacity of 100,000 m³. Continual filling and emptying of the tanks must be monitored and reliable overflow protection must be installed. Automated valve position monitoring is essential for this purpose.

With the modular control and I/O systems, remote control and remote maintenance technology as well as signal conditioners for the Ex area, Phoenix Contact provides a broad basis for consistent automation of storage tanks.



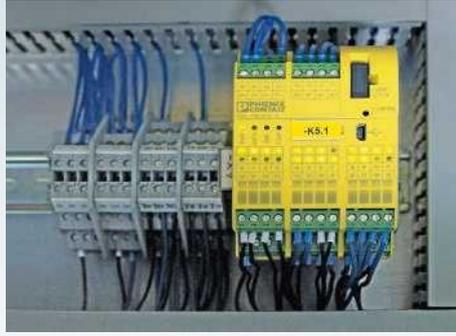
Your advantages:

- Tested safety with SIL-certified technology for overflow protection
- Standardized sensor communication with I/O technology according to NAMUR
- One contact person for tank and valve monitoring, thanks to a wide range of products as well as solution and industrial sector know-how



Valve position monitoring

Reduce the failure rate of your pipeline and transport system and associated costs. The modular monitoring solution for NAMUR valve position sensors allows continual confirmation and evaluation of all processes from the field.



Overflow protection

Automated tank filling offers numerous advantages. However, for absolutely reliable overflow protection, an independent safety system according to SIL 2 must be installed. This is the only way to ensure that the inflow valves are reliably switched.

Phoenix Contact offers the right solutions with redundant control technology and safety components for this purpose.



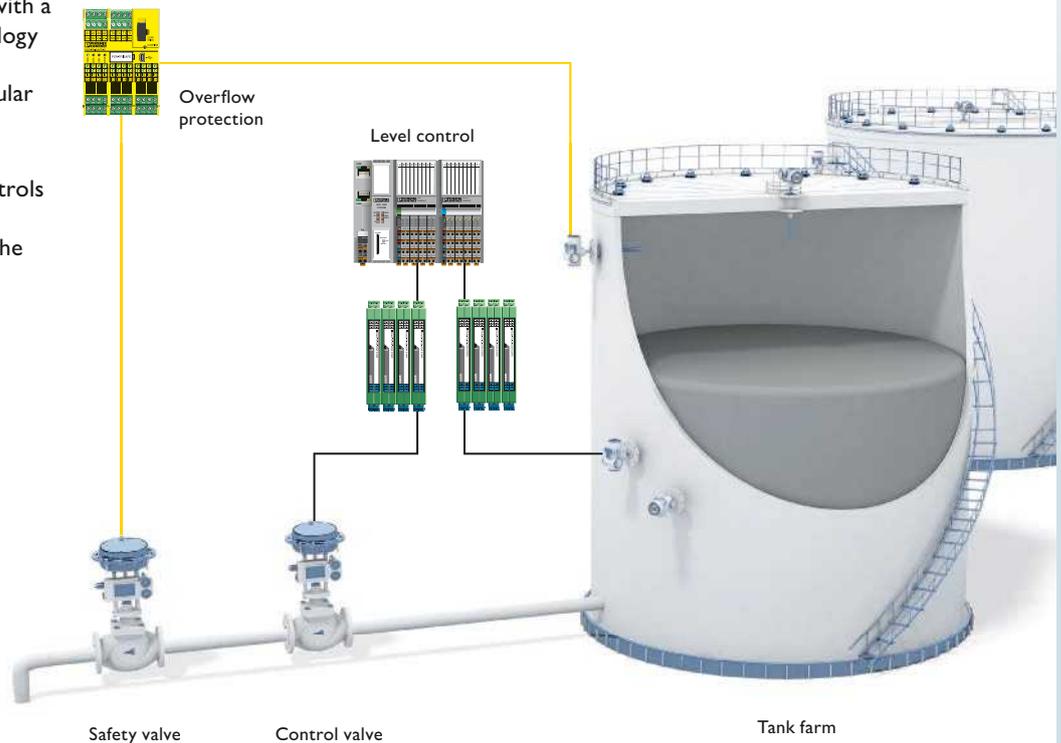
Level monitoring

For efficient tank farm management, you must monitor the filling levels, temperature, and pressure at all times. A system of different sensors, partially in the Ex area, records the corresponding measured values. We offer you the right package of control and communication technology in order to quickly transmit and process these signals and respond quickly.

Complete solutions for automated tank farm management

You create efficient level control with a wide range of SIL-certified technology products for functional safety, Ex i signal conditioners as well as modular control systems.

Overflow protection is installed parallel to level control which controls a safety valve in the event of an emergency and stops the flow of the conveyed material immediately.



Solutions for downstream

When it is necessary to convert oil or gas into derivatives, complex processes are necessary. Processes, where up to 10,000 signals accumulate that must be marshaled intelligently. Various different signal types, even from potentially explosive areas are acquired and made available to the process control system. At the same time, the main focus is on the absolute availability of the refinery. For this reason, large parts of the electrical equipment are set up redundantly.

Phoenix Contact offers innovative solutions for the downstream area, beginning with the Termination Carrier for efficient marshalling of signals up to redundant control systems for failsafe applications in the refinery.





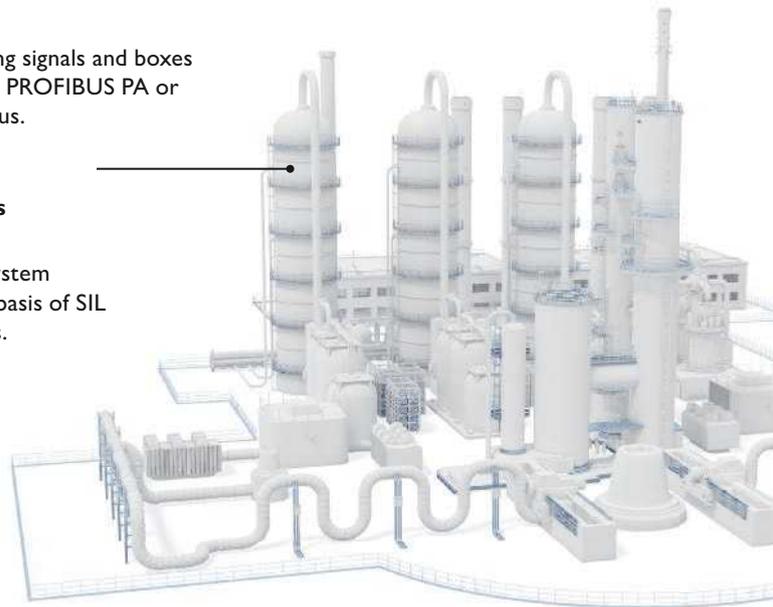
Overview: downstream

Refinery

Solutions for marshalling signals and boxes for field connection via PROFIBUS PA or FOUNDATION Fieldbus.

Networks in process engineering

Failsafe solutions for system networks, also on the basis of SIL and ATEX components.



Solutions for downstream

Refinery

System availability is the key factor when integrating fieldbus systems for automation in process control systems. This applies both to PROFIBUS PA and FOUNDATION Fieldbus. As a partner with experience in this sector, Phoenix Contact provides you with scalable solutions. Solutions that increase system availability by minimizing the results of an error in the segment. You can replace or extend signal conditioners during a running process without affecting the communication to the fieldbus node.

Your advantages:

- Maximum availability in the event of an error, thanks to hot-swappable components
- Quick installation, thanks to the ready-to-mount, prewired field connection boxes
- Space-saving marshalling of many signals, due to wiring solutions such as Termination Carriers



Junction boxes

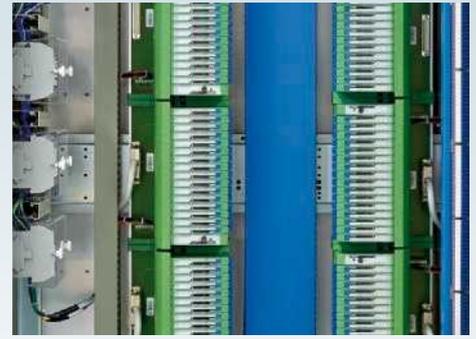
Junction boxes are our ready-to-install control boxes for realizing a variety of connections at field level.

Junction boxes are either prefabricated and can be specifically adjusted by you or are fully equipped with all signal conditioners and completely wired. They are also suitable for use in the Ex area.



Solutions for PROFIBUS PA and FOUNDATION Fieldbus

You will find ready-wired solutions for reliable and seamless communication via FOUNDATION Fieldbus or PROFIBUS PA. This allows you to save time during installation and ensures availability of the system, thanks to the hot-swap capability of the components. Versions with 24 V DC distribution are also available for 4-wire fieldbus devices.



Termination Carrier

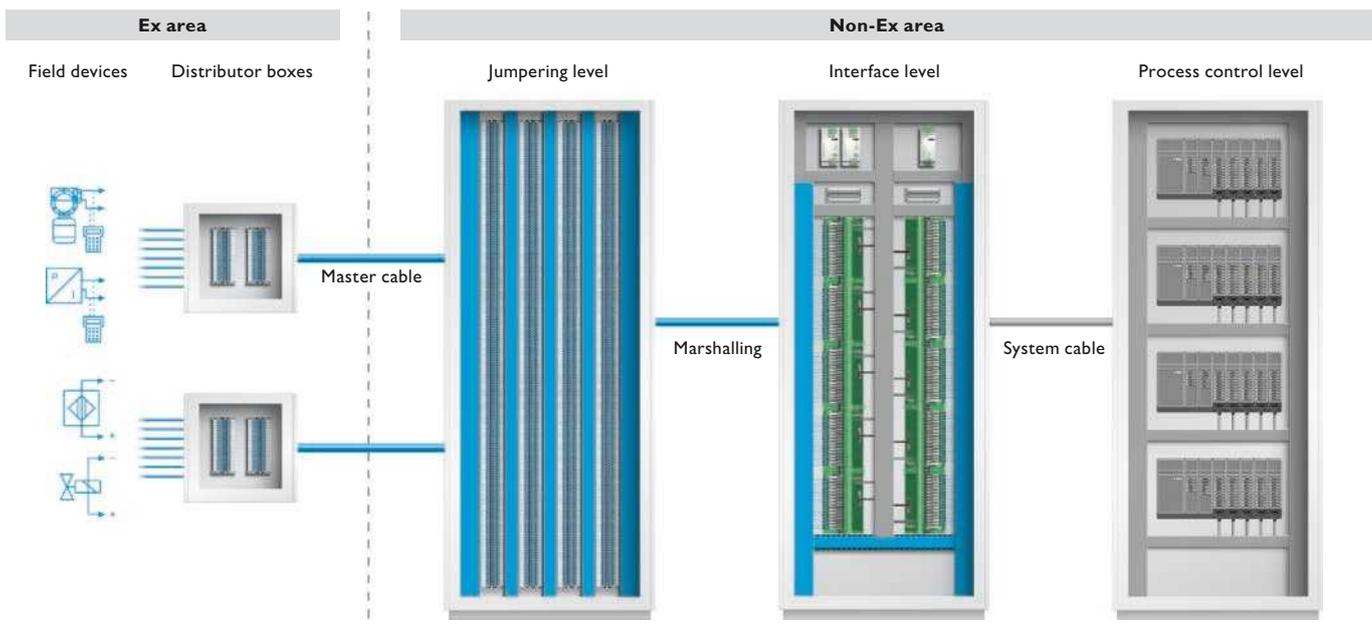
Up to 10,000 signals accumulate in process technology systems. This increases the demand for efficient options for fast and error-free marshalling.

Termination Carriers from Phoenix Contact are the right wiring solution for space-saving and manageable connection of a large number of signals to the process control system.

Marshalling setup for intrinsically safe signals

Our products reduce the number of control cabinets by increasing the signal and packing density. With our solutions for signal marshalling from the Ex area, to cross marshalling with Interface modules,

through to I/O cards of the DCS, everything remains manageable and you save space. Innovative marking solutions, even for the ex area, round off the package.



Solutions for downstream

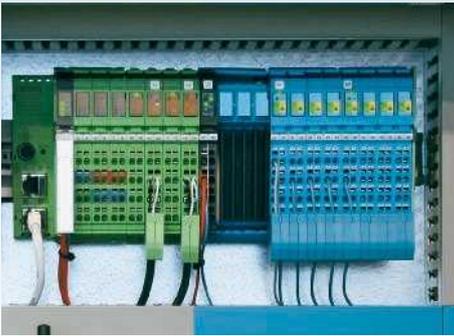
Networks in process engineering

In process engineering systems, the result depends on a continual control process. It is important to monitor every part of the process exactly and ensure seamless and failsafe data transmission from the sensor to the control center.

Phoenix Contact stands for quality between the control level and the field. Reliable acquisition, transmission, conversion, connection, disconnection, amplification, and switching of analog, binary or digital signals. Redundantly designed network solutions ensure that this information is always available at the right place.

Your advantages:

- Redundant and failsafe communication networks from the sensor to the control center
- One contact person for solutions with SIL and ATEX-certified components
- Uninterruptible power supply with redundant power supply unit



Intrinsically safe I/O systems

With the help of a wide range of control and I/O systems, you design a tailored automation solution for your process engineering system.

You process a large number of signals from the Ex area. In addition, it is possible to integrate modules for functional safety and cover areas where IECEx and ATEX apply.

Redundant networks

Regardless of which transmission medium you use in your process: we have the right network components in order for you to set up a failsafe communication solution, with RSTP (Rapid Spanning Tree Protocol) or MRP (Media Redundancy Protocol). The basis for these are the high-performance Gigabit switches, modems, controllers, and media converters.

Redundant power supplies

If the energy supply to system parts or even individual components is briefly interrupted, this can lead to long and costly production failures as a result of long shutdown or startup times of processes.

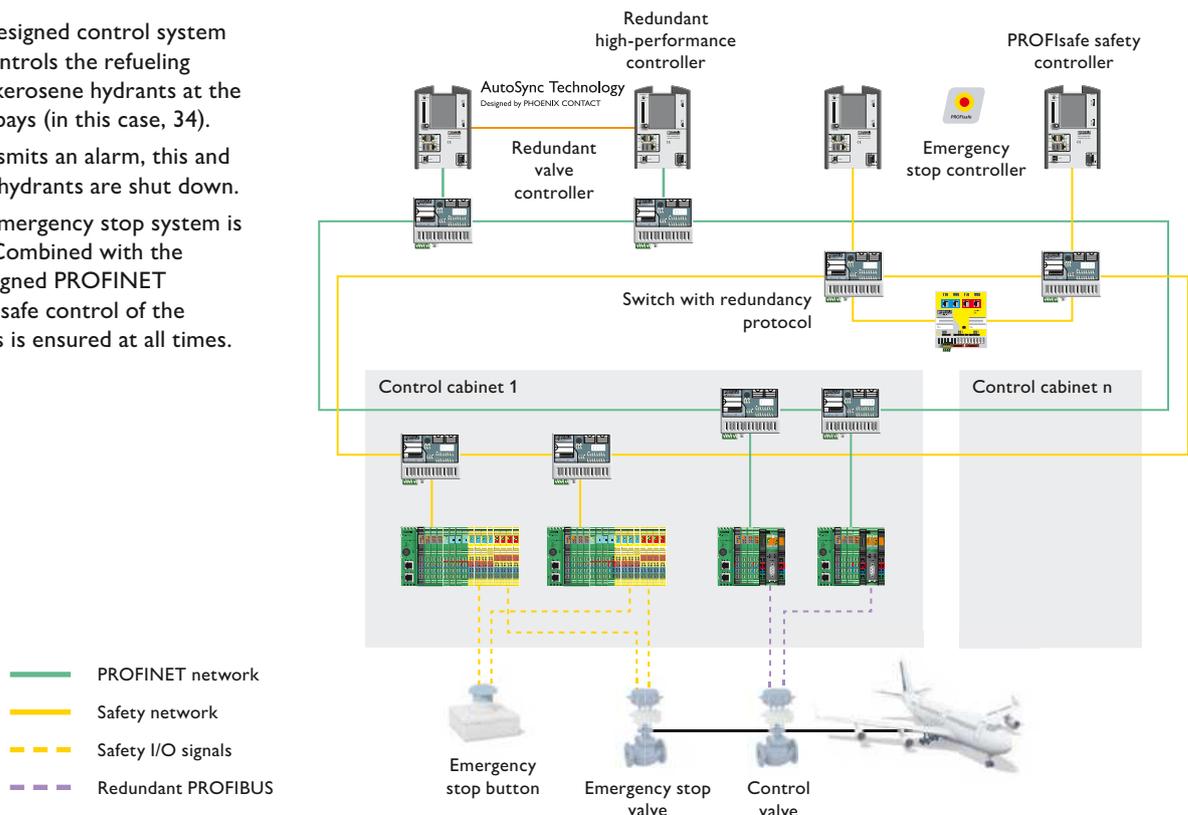
Phoenix Contact offers you consistently redundant auxiliary voltage supplies from the mains to every load.

Redundant control of airfield refueling

A redundantly designed control system monitors and controls the refueling process via PIT kerosene hydrants at the aircraft parking bays (in this case, 34).

If a hydrant transmits an alarm, this and the neighboring hydrants are shut down.

The intelligent emergency stop system is SIL 2-certified. Combined with the redundantly designed PROFINET communication, safe control of the refueling process is ensured at all times.



Solutions for offshore

Marine-typical certification is indispensable on ships in the offshore area such as FPSOs (Floating Production Storage and Offloading Unit) or platform suppliers. Absolute failsafe reliability is also important since expensive ships must always be in operation in order not to interrupt oil or gas production.

Life-support systems on ships, so-called essential services such as drives or fire protection are designed redundantly in order to ensure 24/7 safe functioning. Phoenix Contact provides tested and reliable solutions for virtually all automation tasks in the offshore field.





Overview: offshore

FPSO and platform suppliers

Automation solutions for essential services: from the sprinkler system to alarms and monitoring.



Drilling platform

Failsafe solutions with Ex-i components for automation tasks on the drilling platform.

Solutions for offshore

Drilling platform

Drilling platforms combine maritime requirements with technological requirements for the Ex area. Automation systems must be able to process signals from the Ex area and be certified according to GL, DNV or ABS. This makes demands on the systematic design of a solution as well as the robustness of the components used.

The long-standing experience in the offshore field and the wide range of maritime and Ex-i technology makes Phoenix Contact an expert for high-performance solutions on the drilling platform.



Your advantages:

- Reliable protection against surge voltages with a wide range of arrester solutions
- Efficient motor management for energy generation, thanks to I/O systems for CAN bus
- Failsafe fire extinguisher systems with redundant automation systems



Power generation

Monitor the energy requirement on the platform and switch additional diesel generators as required. With a modular control and I/O system and CAN connection, power management can be used to supply need based energy on the platform. The modular design of the system allows extension of the solution at any time.

Surge protection

The high towers of a drilling platform including the derrick are at risk from lightning strikes. The complex technology for driving the drilling pipe must be protected against damage from surge voltages at all times. Phoenix Contact offers high-performance solutions for surge protection on the basis of POWERTRAB and FLASHTRAB arrester devices.

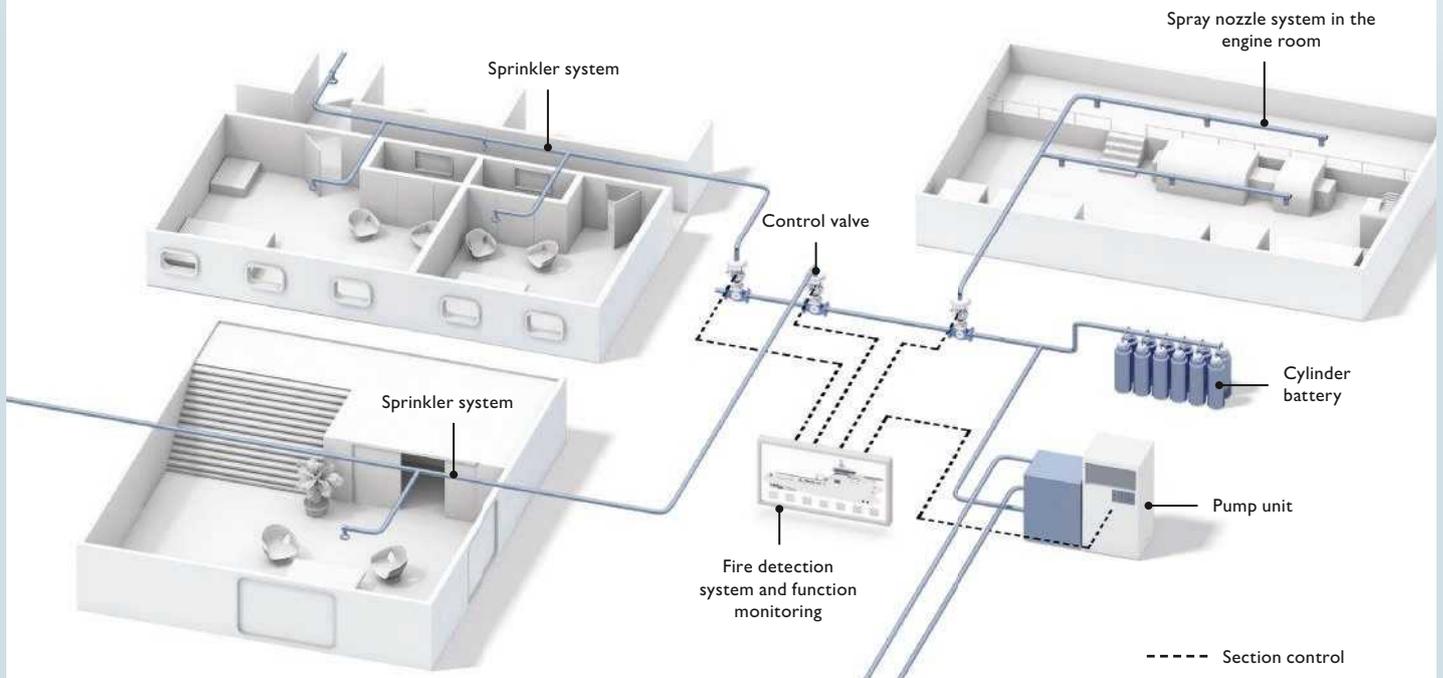
Fire-extinguishing system

With a redundantly designed automation solution consisting of a control and monitoring system, you always have an eye on the function of the fire-extinguishing system. With flow monitors, you are able to precisely check that all lines are supplied with water. This allows a fast response in the case of emergency.

Redundant system design for essential services

Failsafe reliability is ensured with two controllers, upon which a software redundancy application is installed. The pump unit controls the water supply.

Connection to the platform network for system-wide alarms is possible at any time via numerous interfaces.



Solutions for offshore

FPSO and platform suppliers

Efficient automation can be a decisive competitive factor for cost-intensive oil production with FSPOs. The trend is for remote maintenance of ship systems and less technical personnel with an increase in the size of ships. At the same time, maritime certificates and protocols such as SAE J1939, NMEA 2000, RS-323/485, GL or ABS are important. The hardware must be able to withstand the harsh conditions and specific functions include the hundred percent dimming capability of the displays. Phoenix Contact is your experienced partner for reliable automation solutions above and below deck.

Your advantages:

- High-performance and failsafe heave compensation, thanks to redundant control solutions
- Increased safety on board with seamless integration of gas detectors
- Flexible operating and monitoring solutions, thanks to IPCs, HMIs, and visualization solutions for shipbuilding



Solutions for heave compensation

With an automation solution based on applicative system redundancy, you make sure that the heave compensation always ensures the correct position of the ship. For example, when dynamic positioning is no longer sufficient due to high seas.

Secure communication in the network is ensured with MGUARD security routers and VPN technology.

Gas detection

Particularly in the Oil and Gas industry, various gases are a risk for people and machines. A solution from Phoenix Contact allows seamless integration of gas sniffers into your communication system. This ensures immediate alarms and countermeasures in the event of emergency, thanks to the redundant design.

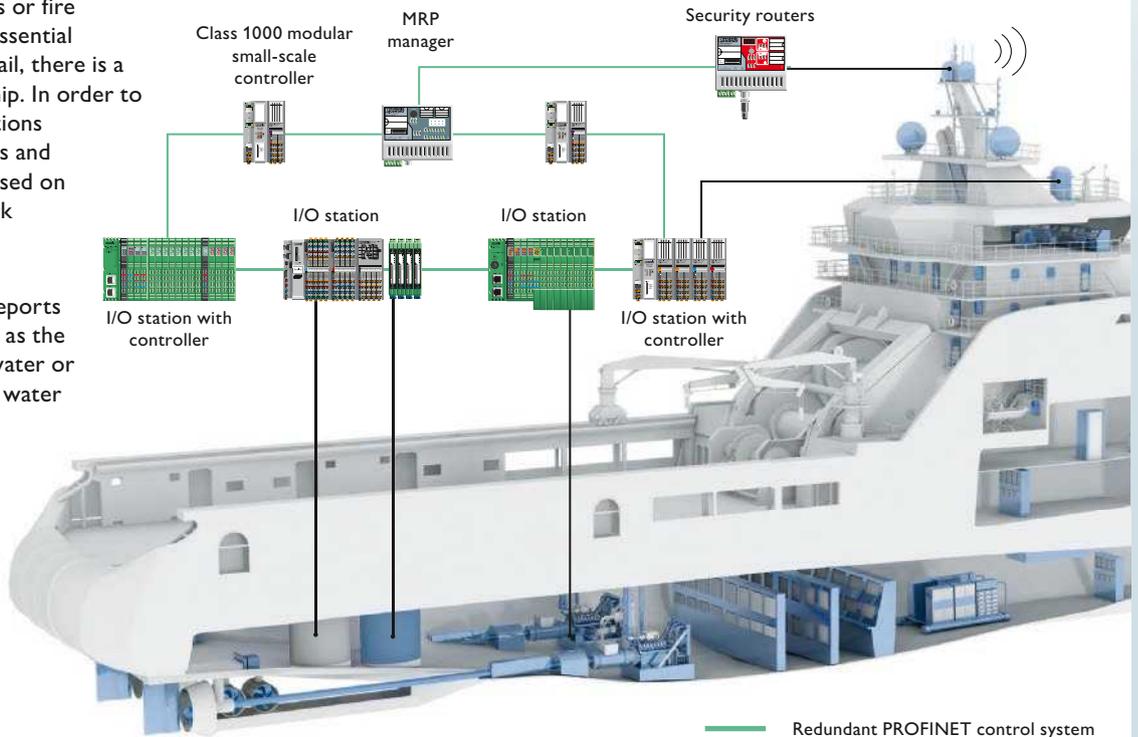
Redundant multi-client visualization

With our operation and monitoring solutions, you ensure that the right information is available at the right place. For this purpose, the clients access a redundantly set up server. You determine the access rights on a central industrial PC as well as which subsets each client should have. The basis for this is hardware and software especially tailored to shipbuilding.

Redundant alarms and monitoring

Systems such as ship's engines, energy generation, rudder systems or fire detection are part of the essential services on board. If they fail, there is a risk to the crew and the ship. In order to be notified of critical situations promptly, redundant alarms and monitoring are installed based on robust control and network technology.

In addition to the essential services, the system also reports on general conditions such as the filling levels of the ballast water or fuel tanks and the drinking water supply.

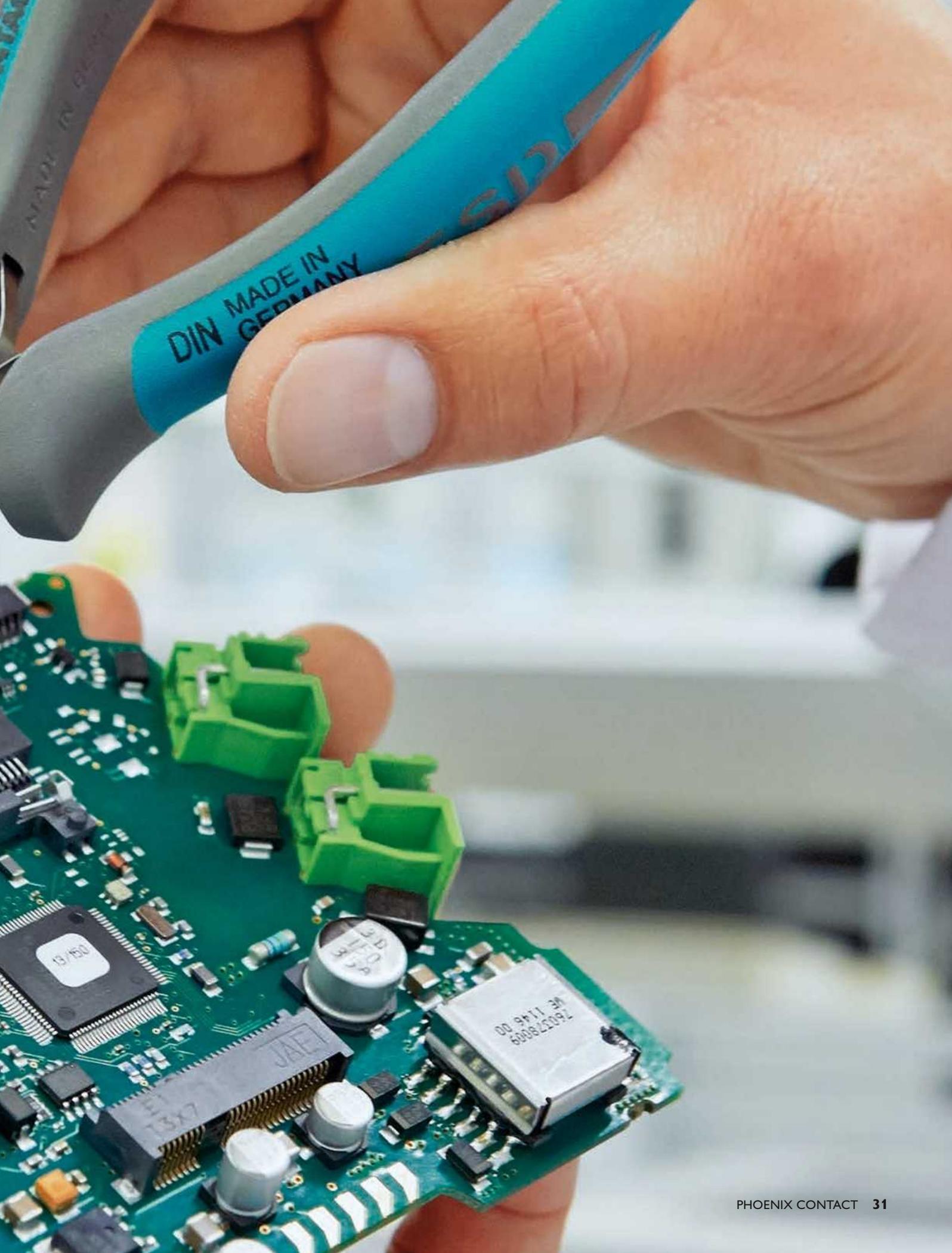


Quality is no coincidence

It is only possible to ensure the quality of the entire product by keeping an eye on the smallest details. For this reason, we not only manufacture our screws ourselves, but also develop tailor-made software and offer engineering services from industrial professionals.

This allows us to secure our commercial and technological independence and gives us the freedom to develop new industrial solutions. You benefit from this because we are able to offer you pre-assembled control cabinet solutions. These are specially tailored to your industry and have all necessary certification and approvals. “Made by Phoenix Contact” means: the best quality in every product, in every discussion, for the entire solution.



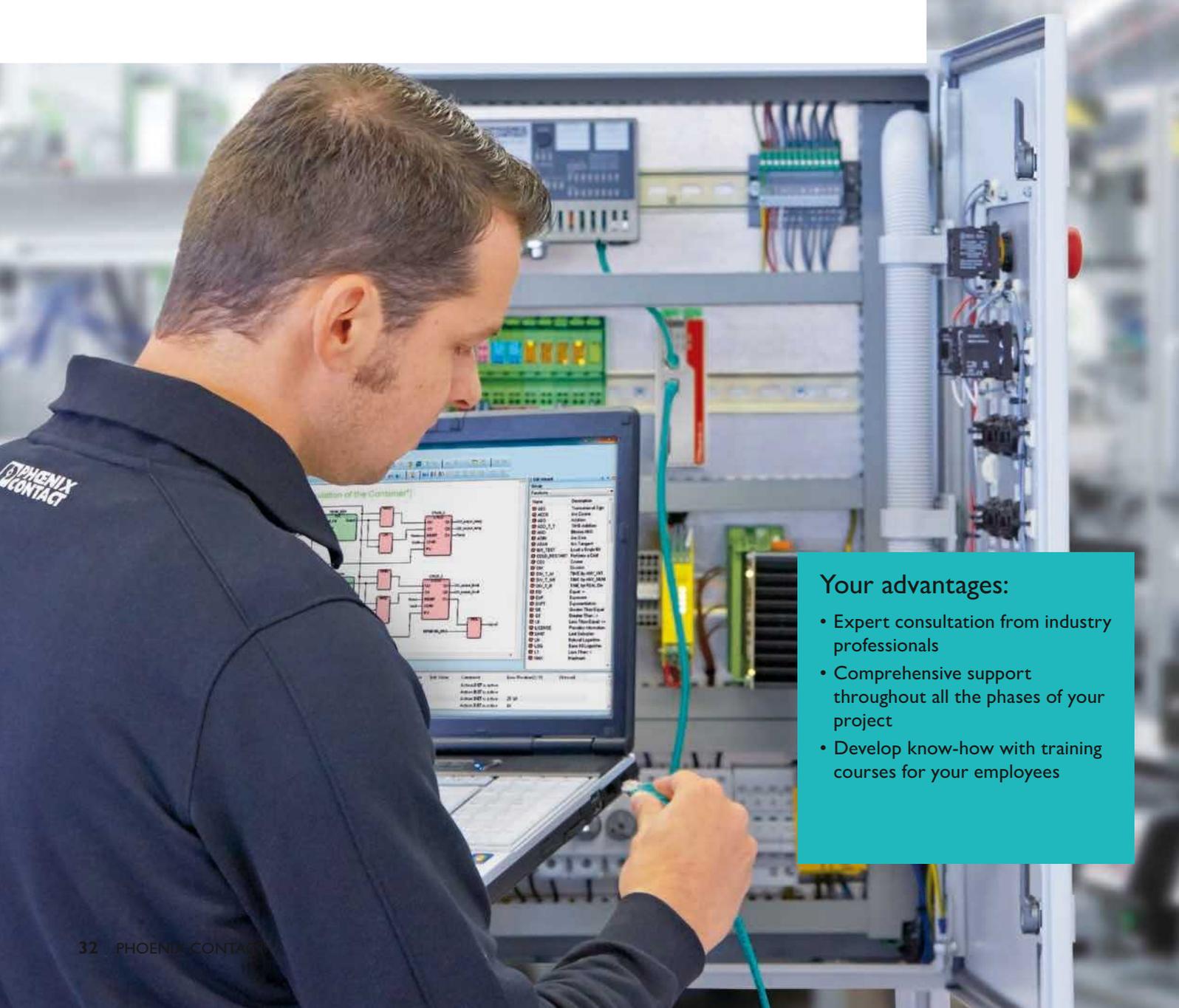


Quality is no coincidence

Engineering and control cabinet solutions

We set the highest standards for your industry solution: everything is tested and certified from the prewired and preprogrammed control cabinet solution through to the engineering service. Our industry experts advise you during every phase of your project cycle, and if required, take over the engineering of your system.

Phoenix Contact components are tested intensively in the independent and accredited Phoenix Testlab. Control cabinet solutions are designed and engineered according to the required standards and directives. This allows you to be sure that our finished solution products meet the highest requirements.



Your advantages:

- Expert consultation from industry professionals
- Comprehensive support throughout all the phases of your project
- Develop know-how with training courses for your employees



Engineering

Based on the typical phases of an oil and gas project, we provide support by working with you at each stage. Simply give us an outline of the application you would like to implement and we will provide you with a technical concept that includes suitable hardware and software:

- Configuration
- Programming
- Visualization
- Coaching

Control cabinet solutions

We develop control cabinet solutions together with our customers, which depending on the requirement, are ready-to-use or prewired so that you are able to carry out final installation.

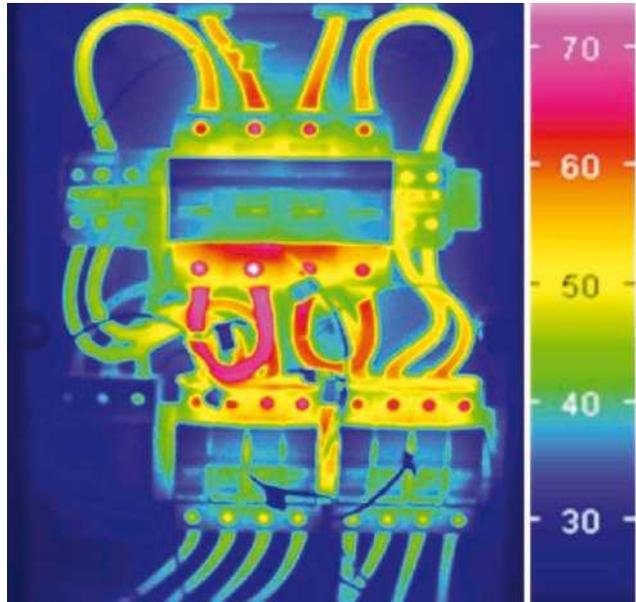
This allows specific industry solutions from a partner network made up of proven control cabinet manufacturers that meet the highest requirements.

At the same time, the quality is ensured at every step of development. A process-oriented, integrated management system based on international standards DIN EN ISO 9001 and 14001 ensures: legislation and standards such as EU directives 2002/96/EC (WEEE) and 2002/95/EC (RoHS) as well as customer specifications are taken into account during product manufacturing.

Quality from planning to production

During preliminary development clarification, all divisions work closely with customers. After clarification and the construction phase, the prototype undergoes specific testing. The knowledge gained is integrated into product optimization.

As part of project processing, we support you during development of solutions: from initial planning and configuration to layout and construction up to evaluation and testing of the specified standards. We also provide the documentation and EPLAN-based circuit diagrams. After that, production planning and control follows and, if necessary, series production.



Quality is no coincidence

Services for functional safety

In addition to components for functional safety, we support you with individual services for safe operation in process engineering systems. Irrespective of the product, our industry professionals help with planning and implementation of the safety lifecycle according to EN 61511 as well as PLT safety equipment. Furthermore, it is possible that the integration of machines into process systems requires the implementation of the Machinery Directive. We offer you support with our services according to EN 13849.



Your advantages:

- Comprehensive support from industry professionals
- Flexible help during all project phases
- Time savings, thanks to outsourcing
- Expertise, thanks to employee qualification



Consultation

We advise you during planning and implementation of your system.

- Design of the safety lifecycle
- Design of PLT safety equipment
- Interfaces: pressure devices, machines, ATEX, EMC, low-voltage directive
- Design proof of concept tests

Engineering

To certify the safety integrity, we determine the SIL of the safety functions based on your technical documentation. This must be sufficiently robust to withstand random errors.

In the case of requirements according to the Machinery Directive, we implement the safety lifecycle into the entire process.

Seminars

Basics of functional safety in process technology

- Requirements
- Risk identification and analysis
- SIL determination

Application of EN 61511

- Safety lifecycle
- Functional safety management
- Safety function design
- Software development
- Verification and validation

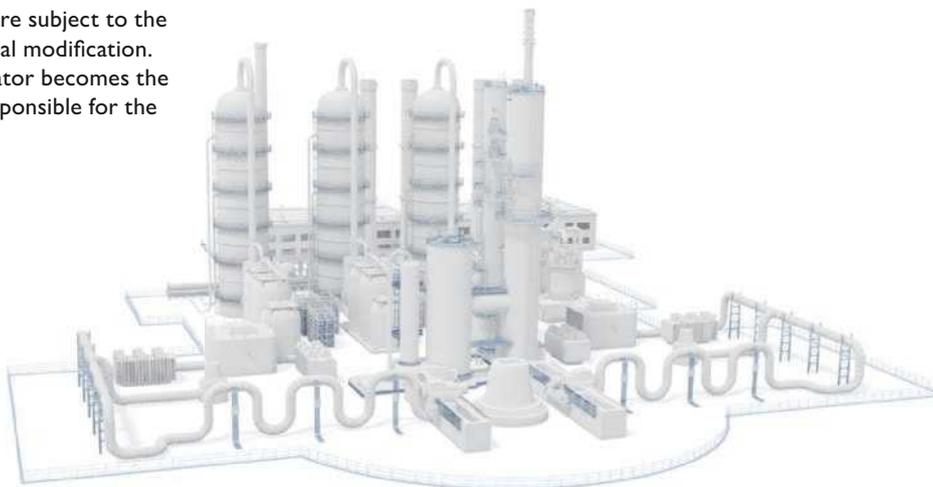
Integration of machines in process engineering systems

There are often interfaces between the requirements on the process industry and machine safety: for example, in process engineering systems, machines are used for packing transporting containers.

We support you in complying with the specific requirements of machine safety and securing interfaces for the safety areas.

Machinery Directive usage range

Chaining of these machines can lead to a set of machines. Modifications to machines and systems are subject to the definition of the essential modification. In these cases, an operator becomes the manufacturer and is responsible for the conformity assessment.



SRS

PFDA_{avg}

RRF

IEC 61511

FMEDA

BPCS

SIS

IEC 61508

PHA

HAZOP

SIL

SIF

LOPA

Quality is no coincidence

Service and support

Phoenix Contact helps you implement your oil or gas projects even more quickly and efficiently. Regardless of whether you operate, plan, produce or maintain systems – Our services provide professional support that is tailored to your requirements during all phases. This includes an excellent telephone and online service as well as industrial professionals on site. Numerous seminars at Phoenix Contact headquarters or at your company premises are available for training your employees. We always provide expert consultation on all aspects of your products and solutions during and after sale.



Hotline:

- Expert consultation from industry professionals
- Comprehensive support throughout all the phases of your project
- Develop know-how with training courses for your employees



Services

Based on the typical phases of an Oil and Gas project, we provide support by working with you at each stage. Simply give us an outline of the application you would like to implement and we will provide you with a technical concept that includes suitable hardware and software:

- Configuration
- Programming
- Visualization
- Coaching

Training and workshops

Thanks to intensive contact with our customers and years of on-site experience, we have developed a qualification concept whereby we can specify employee qualifications in order to meet your individual requirements. We offer you the appropriate service depending on the project phase, target group, and prior knowledge.

After sales

Our service teams stand out, thanks to their focused expertise, years of practical experience, and maximum degree of flexibility.

Our service network is available to you during installation, startup, and operation even in the most remote regions of the world through a free system hotline with 24 h product support. In the event of an emergency, we can provide you with replacement parts outside of office hours.

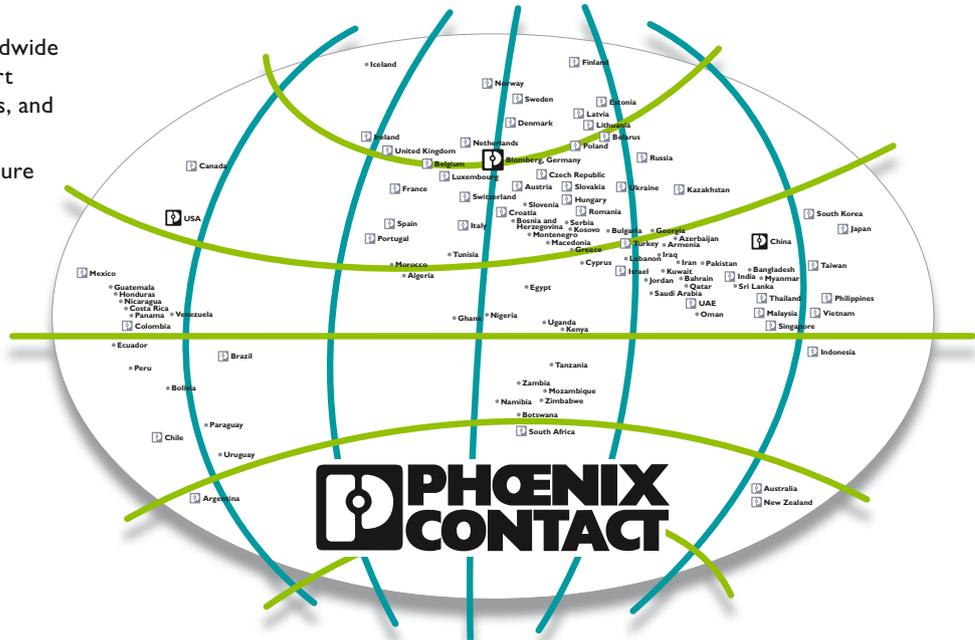
Phone: + 49 5281 9-462888

Local expertise

Phoenix Contact supports you worldwide with professional service and support with all aspects of products, services, and solutions.

Depending on requirements, we ensure fast replacement of products or support you in the event of problems by switching to your system.

Our experts are familiar with the regional conditions and specific challenges of your industry. We are happy to support you all over the world with a finely-meshed network of automation experts. Come and talk to us.



Quality is no coincidence

Inspiring Industry Solutions, thanks to excellent products

Phoenix Contact offers innovative solutions for automation of all processes surrounding oil and gas production, transport and processing. The basis for a solution is the wide range of connection and automation technology. Intelligently combined, these products become systems for a variety of functions such as control, remote monitoring or measuring values. Inspiring industry solutions are created, thanks to industrial know-how, longstanding experience, and consideration of special requirements.



Excellent products

Innovative systems

Excellent products



Wireless data communication

Whether pipeline valves or tank farms – with wireless technology, you network your systems easily and reliably even over large distances. For example, with Radioline wireless modules.



Industrial communication technology

Record signals from Ex areas and transmit them via wireless or cable or via standardized protocols such as HART or WirelessHART.



Measurement and control technology

For all aspects of signal acquisition in potentially explosive areas, we offer a comprehensive range of signal conditioners such as compact MACX EX modules.



Controllers

Modular small-scale controllers for manageable automation, at production sites through to high-performance controllers for redundant applications in the downstream area.



Power supplies

Find uninterruptible power supplies and redundancy modules for maximum availability of your processes in the field of oil and gas processing.



Fieldbus components

You save costs with ready-wired control cabinets for field connection via PROFIBUS PA or FOUNDATION Fieldbus. You will also find additional fieldbus systems on our homepage.



I/O systems

Everywhere signals need to be recorded and output, our I/O systems are the right solution: modular or in block format, for the control cabinet or the field, for the Ex area and safety.



Inspiring
Industry Solutions



Surge protection

From the exposed derrick on the oil platform through to the pipeline for overland transport – we offer reliable arrester devices for protection against damage from surge voltages.

Passion for your Industry

Each industry places particular demands on system automation. In our dedicated industry teams, we focus on these challenges with technical know-how and passion, and together with our customers we develop tailor-made turn-key solutions. Excellent products are at the heart of

our solutions. Cleverly combined to create innovative systems and supplemented by industry-specific features, they ultimately become industry solutions of proven Phoenix Contact quality.



Excellent products



Innovative systems



Inspiring Industry Solutions

phoenixcontact.com

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstraße 8
32825 Blomberg, Germany
Phone: +49 52 35 3-00
Fax: +49 52 35 3-4 12 00
E-mail: info@phoenixcontact.com
phoenixcontact.com