

Proxitron

SENSORS MADE IN GERMANY



Proxitron sensors.
Available throughout the world.
Intelligent, reliable and individual.
Made in Germany.

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We have **extreme conditions*** under control



* cold, heat, dirt, vibration, water, vacuum, pressure, steam

Superlative object detection

Proxitron sensors operate reliably and accurately despite aggressive environments. Try it!

Sensor technology at the highest level

Solutions entirely tailored to you



Proxitron sensors:
High quality. Precise. Robust.
Reliable. Assured.

Solutions made in Germany

We are a traditional company, globally active in the field of sensor technology with over 40 years of experience. We develop and manufacture our product solutions exclusively at our site in Germany. „Made in Germany“ quality is a matter of course for us. Only in this way do we guarantee you the highest standards, which satisfy even the most fastidious demands. Your challenge is our motivation, your utmost satisfaction is our demand. We therefore also customise our approved and tested serial products if required. Be it a prototype, custom model or serial product: We realise your requirements for you. Through collaboration, competence and solution orientation.

We take time for you

We place emphasis on personal service by our specialists. According to our experience, an on-site inspection and the trained eye of our employees are both recommended and expedient in formulating solutions. This is naturally free of charge and non-binding. If we know the precise environment of a sensor then we can offer you optimum solutions, provide you with comprehensive consultancy and guarantee you the best possible service at the highest level.

Team work

Success is the result of successful collaboration - across all levels. We therefore involve you from the outset. This close cooperation facilitates timely reactions to sudden changes within the processes. You therefore benefit at all times from our requirement-orientated solutions - even if you change the prerequisites

at short notice or encounter unexpected challenges. This collaborative partnership therefore promotes not only mutual trust and shared commercial success, but also the development of innovations. Mutual learning is the essence of this cooperation and it drives both you and us forwards.

Certified quality

We are ISO-certified. We never compromise when it comes to quality. We place the highest value on quality in the selection of the material, the design and manufacture of our products. This consistent focus ensures the exceptionally high reliability and longevity of our Proxitron products - even if sensors are exposed to the most extreme conditions.

Available throughout the world

We offer you a network of sales partners, who are available to you throughout the world. In Proxitron you have a dependable partner at your side, to provide you with customer-orientated, timely and expert advice - today, tomorrow and in the future.



Proxitron sensors overcome every challenge

Powerful sensors - also in extreme environments



For over 40 years Proxitron has been equipping a wide range of industries and environments with Proxitron sensors, providing advice on the right sensor selection and support across all the requisite stages. We are familiar with almost every sector - including yours. Our many years of expertise in the field of sensor technology enable us to realistically appraise all applications and determine the optimum Proxitron product solution for your area. „Made in Germany“ is not simply a promise for us, it is a principle. We leave nothing to chance in the selection of the material, the design and manufacture of our products. This focus on quality ensures the exceptionally high reliability and longevity of our Proxitron products - even when the sen-

sors are exposed to extreme conditions and environments.

Keeps cool when it gets hot

In addition to a comprehensive portfolio of standard sensors, Proxitron offers a broad spectrum of high temperature sensors for a range of application areas. This includes in particular our high temperature proximity switches, which operate in ambient temperatures of up to 250 degrees Celsius, our light barriers with a range of up to 2500 metres at an ambient temperature of 200 degrees Celsius and our infrared sensors, which withstand far more extreme conditions and environments. Furthermore, we offer you IP69K-compliant devices and sensors with increased and high switching

distances, right through to our chemically-resistant sensors. With our area sensors you can monitor, control and manage processes up to 1000 millimetres in width - and all this with just a single device! Contact us. We will be happy to advise you - any time.

Anywhere you need us

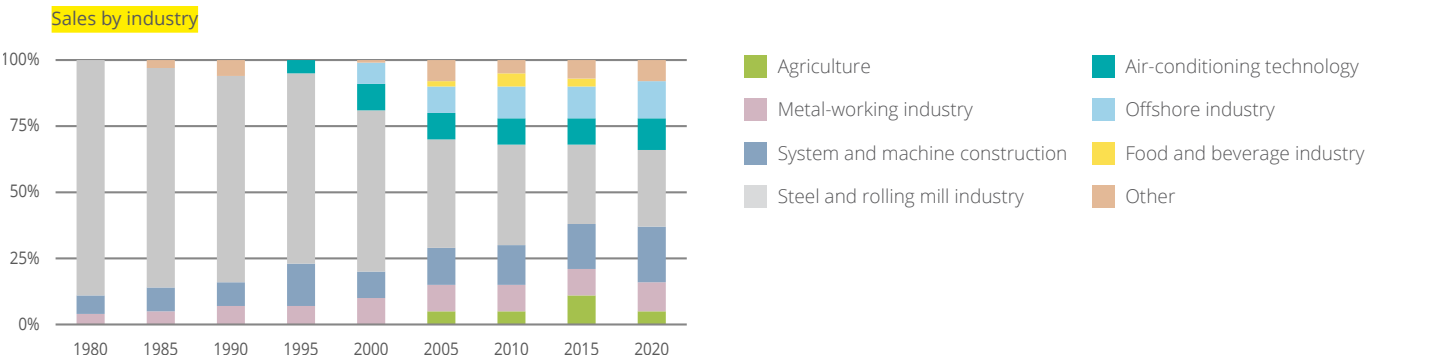
Across all industries, dedicated and reliable



We have been active for many years not only in the steel and rolling mill industry, but also in other industry sectors. We also dedicate ourselves to becoming familiar with your processes, aligning ourselves with the specifications applicable to your specific business field. We are your experts when it comes to solutions for sensors. With Proxitron you can be confident of accessing professional consultancy and broad-based product solutions, which offer you the flexibility essential for your requirements. Utilise our experience and convince yourself of our functional products and our complementary accessories.

Dedication and passion

As our customer, you enjoy numerous advantages: Not only our technical know-how, our reputation and our expertise in the field of sensor technology, but also the competent support provided by our specialist personnel. Working together with you we develop solutions, support you in everyday production challenges and in the application of our sensors from Proxitron. The primary focus here lies on installation, reliable function and uninterrupted operational procedures.





INDUCTIVE SENSORS:
Wear-free. Teach-in.
High temperature resistant.
High switching distances.
Chemical resistance.
Moisture resistance.
Insensitive to contamination.

The good nose among proximity switches

Inductive sensors for contactless detection of metal objects



Machine construction



Agriculture



Steel industry

What is an inductive proximity switch?

Powerful sensor with sensitivity: Inductive proximity switches are superbly well suited for the contactless detection of metal objects. A metal object situated in the sensor range of the proximity switch influences its electromagnetic field and in doing so generates a switching signal. This allows the assured and wearfree detection of the positions of metal objects and machine parts. The major advantage of the inductive proximity switch: its insensitivity to water and dirt. Our Proxi-Teach technology offers safe operation under all conditions. Our sensors with extremely high switching distances enable metal detection even where conventional standard sensors fail.

Where are inductive proximity switches used?

Inductive proximity switches from Proxitron are often used in steel production and metal-working industries when “things get hot” and chemical resistance is required. In addition to a broad selection of industrial standard solutions, we offer variants aligned with more complex conditions as well as tailored individual solutions. Our many years of experience in the field of sensor technology also make it possible to overcome complicated challenges, detect and solve potential problems in advance. We therefore offer you the optimum solution for almost every application area.

Special sensors for difficult tasks

- PROXI Polar^{-c}** Sensors for temperatures from -40 °C
- PROXI Heat^{+c}** Sensors for temperatures up to +120 °C
- PROXI HT^{+c}** Sensors for temperatures up to +250 °C
- PROXI PTFE** Sensors for aggressive environment
- PROXI Plus** Sensors with extended sensitivity

Example application areas

Steel production, rolling mills, metal forming, plant and machine construction, automotive industry, food processing, packaging industry, agriculture, mobility, train technology

Special features

- insensitive to contamination and wear-free
- chemical and moisture resistance
- vibration, shake and shock-proof
- high switching distances
- large selection of construction types
- various operating voltages
- short circuit-proof and reverse polarity protection
- extremely high protection class >IP69K
- broad selection of different connection and cable variants



The expert when it comes to distances

Path and distance measurement of metallic objects



Offshore plant



Metal barrel production



Can production

What is an inductive analogue sensor?

The measurement-taker among sensors: Inductive analogue sensors are the evolution of the inductive proximity switch and enable the measurement of a distance or position change rather than the simple detection of metal objects. Proxitron analogue sensors generate electromagnetic fields, which are influenced by metals. The more metal in the sensor area, the greater the influence. This enables determination of the distance or position between the sensor and the object. Proxitron analogue sensors are put to use in areas where optical distance sensors are overstrained by the influence of water and dirt.

What task do analogue sensors perform?

Our teach technology enables simple adjustment of the measurement range, linearisation or a reversal of the output signal. Using the serial RS485 interface it is possible to individually query and evaluate multiple sensors in BUS operation. Almost all types of our inductive proximity switches are also available with an analogue output. For more demanding challenges we offer you variants with increased heat resistance or special housings, which are capable of withstanding severe demands posed by

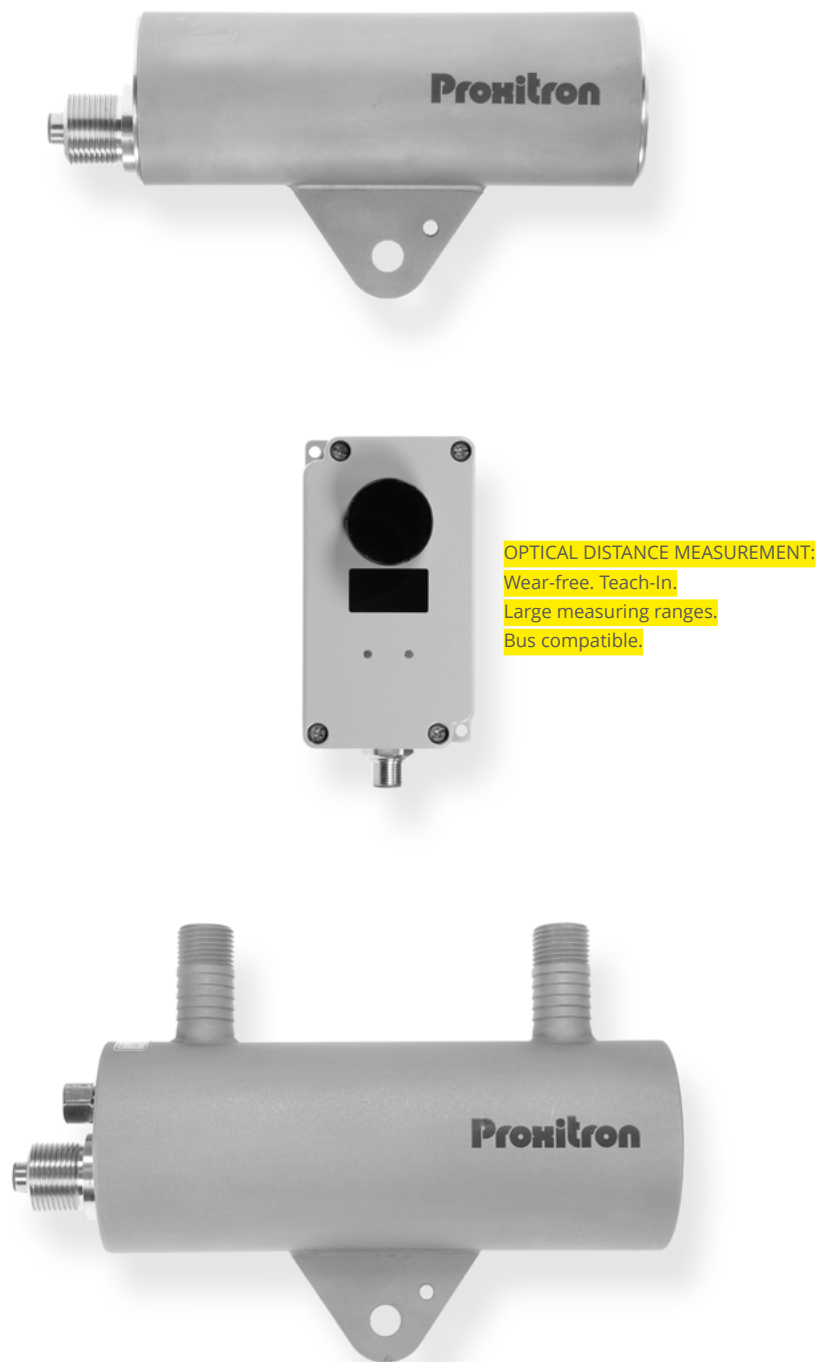
aggressive chemical substances. Proxitron analogue sensors are used in applications where seamless operation is essential. Our many years of experience enable your analyses where more complex challenges apply, and facilitate the design of more practical solutions.

Example application areas

Energy management and wind power, rail engineering, rotating furnaces, wire processing, motor construction, metal forming, system and machine construction, wine-growing, agriculture, automotive industry

Special features

- insensitive to contamination
- wear and maintenance-free
- moisture resistant
- adjustable measuring range and linearisation
- also for higher ambient temperatures
- large selection of construction types
- various analogue outputs
- extremely high protection class > IP69K
- BUS-capable



The guardian of spatial capacity

Optical distance measurement or area monitoring on cold and hot surfaces



What is an optical distance sensor?

Regardless of whether distance measurement, field monitoring or level measurement: Optical distance measurement sensors are true all-rounders when it comes to the distance measurement of different materials. The sensor generates a light signal which is reflected by the surface of an object. According to the object distance or position with respect to the sensor, more than one output signals provide information on the material position. Non-conductive materials, such as wood, plastics or ceramics, as well as metals can be detected in a safe way. The more reflective the object is, the higher the ability of the Proxitron distance sensor to detect it.

Its unbeatable advantage: it detects objects also at very high temperatures, up to 1300 °C, and also under extreme ambient conditions. This enables for example the level monitoring of liquid metals, or the positioning of vehicles in outdoor environment, even in bad weather.

Where are optical distance sensors used?

Proxitron offers a wide range of optical distance sensors for diverse fields of application in industry and research. These include versions with high accuracy or for elevated ambient tem-

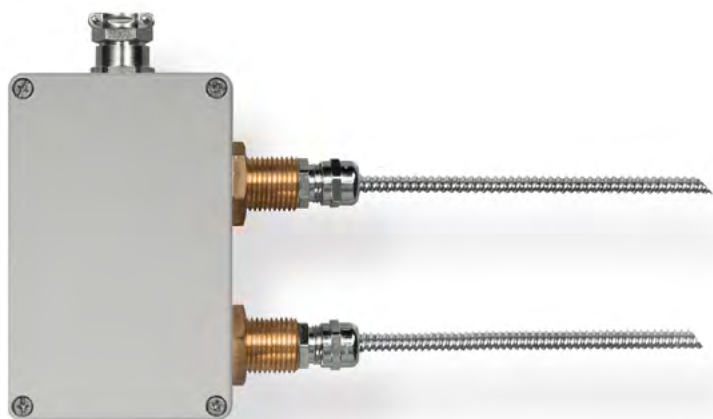
peratures. In addition, we offer sensors for field monitoring with teach-in technology, which allows quick adaptation to different operating conditions. A selection of housing materials, connection options and accessories rounds off our product range. Proxitron examines your specific application and works out an ideal sensor solution for your needs.

Example application areas

Metal processing, port and warehouse logistics, traffic and mobility, packaging industry, waste management, railway technology, plastics industry, building automation, research.

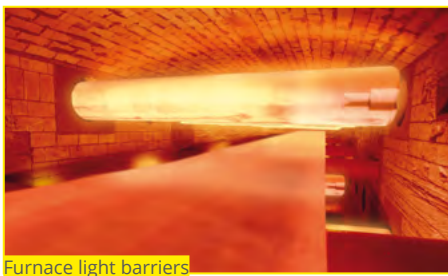
Special features

- universally applicable and wear-free
- up to 250 m range
- accuracy up to +/- 1 mm possible
- can be used at ambient temperatures up to 200 °C
- several designs, also for outdoor applications
- different working principles available
- suitable for hot or cold objects
- large selection of output variants



The master among detectives

Light barriers for material tracking and object detection with an extremely high range



Furnace light barriers



Vehicle manufacturing



Cold strip coils

What is a light barrier?

A clever „little fellow“: A light barrier sends a light signal that is registered by a receiver. If the light signal is interrupted by an object, a switching signal is generated. Light barriers are therefore ideal for detecting hot and cold objects. Proxitron light barriers are insensitive to interference light and infrared radiation from other heat sources and therefore detect objects reliably - also in furnaces. The high switching speed facilitates assured monitoring even with extremely rapid processes, with response times of up to one millisecond.

What task do light barriers perform?

Light barriers from Proxitron exhibit extremely high ranges and are therefore highly suited for use in harsh environments. Be it vapour, water, dust or dirt - Proxitron light barriers set new benchmarks when it comes to operating assurance and functional reserves. Their robust construction guarantees assured operation under extreme conditions such as vibration, radiant heat and high temperatures. Depending on requirements, Proxitron offers through-beam light barriers, retro-reflective sensors and diffuse sensors. In addition to the standard version in a stainless steel housing with integrated electronics, we also

offer special variants with a cooling jacket housing for ambient temperatures of up to 200 degrees Celsius. Light barriers with separate evaluation, fiber optic cables and separate optics are even able to withstand ambient temperatures of up to 600 degrees Celsius.

Example application areas

Hot and cold rolling, pipe production, raw steel production, sheet metal processing, pressing, steel industry, system and machine construction, automotive industry, forging, hot deformation, furnace construction

Special features

- extremely high range
- high functional reserves
- insensitive to contamination
- shock and vibration-proof
- wear and maintenance-free
- extremely fast response characteristics
- for ambient temperatures up to + 600 °C
- large selection of construction types and connection variants
- complete accessory range



INFRARED SENSORS:
Shock and vibration-proof.
Extremely robust.
Temperature resistant.
Wear and maintenance-free.

The professional in high temperature ranges

Infrared sensors for the detection of hot objects, also over great distances



What is an infrared sensor?

One that stays cool when things get hot: Infrared sensors detect hot objects anywhere that conventional proximity switches fail due to high ambient temperatures. The infrared radiation emitted from hot materials is registered by an optical system at the sensor. If the infrared radiation exceeds an individually set threshold, a switching signal is generated. The advantage: Reaction times of up to half a millisecond - also when detecting hot objects over great distances. Proxitron infrared sensors are extremely robust and maintenance-free. Our infrared sensors with optics from temperature resistant glass are therefore able to withstand harsh influences such as water vapor, dust, vibrations, radiant heat and high temperatures.

What task does an infrared sensor perform?

Proxitron offers a wide range of infrared sensors. This allows us to produce multiple viewing angles, response temperatures and installation positions for you. In addition to the standard version with integrated electronics, which is available with a cooling jacket housing for ambient temperatures of up to 200 degrees Celsius, Proxitron also offers versions with separate evaluation, fiber optic cables and optical systems that are able to withstand

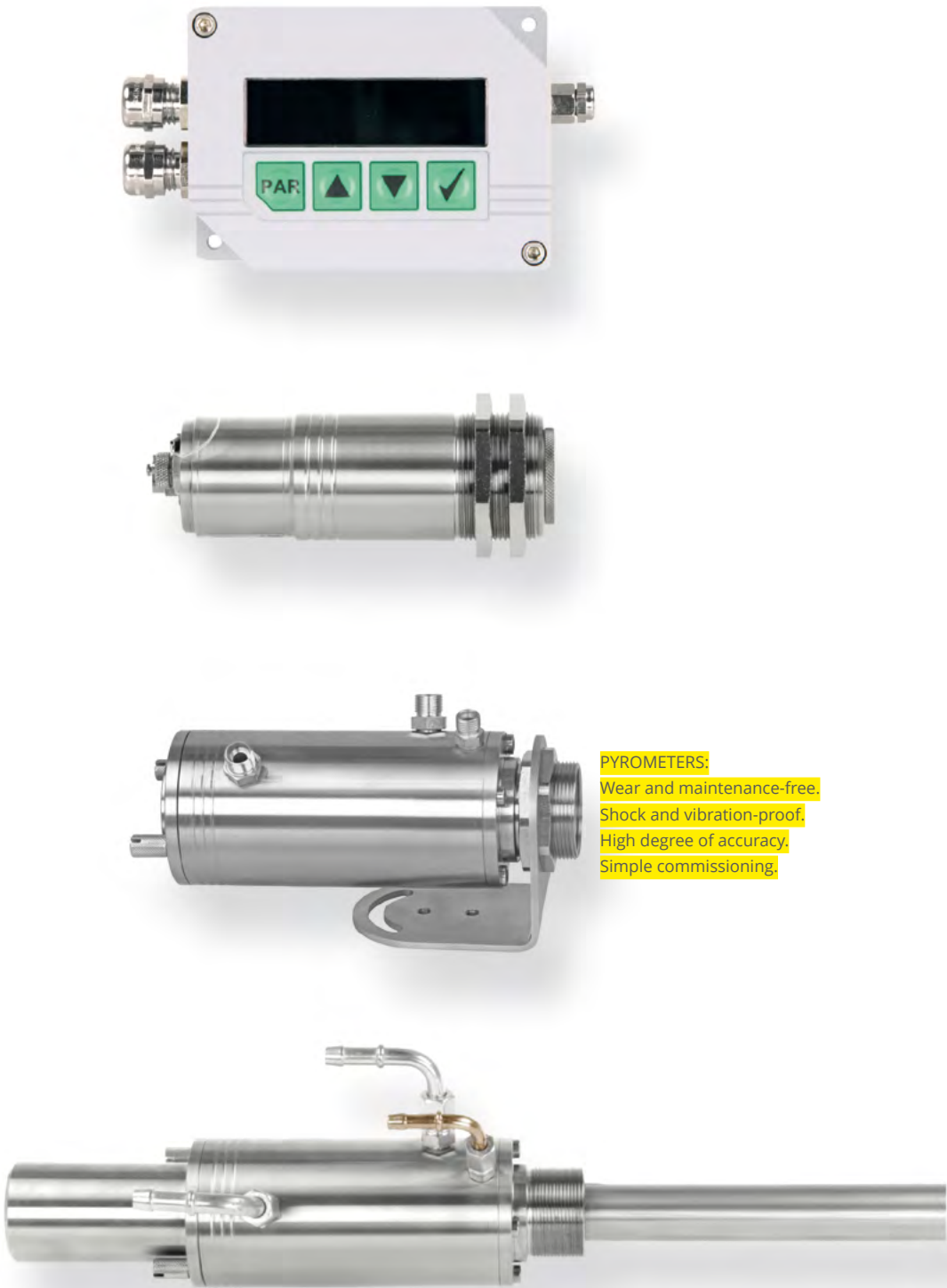
up to 600 degrees Celsius. An optional air connection cleans and protects the optical system in case of contamination. We employ our many years of experience with infrared sensors in meeting with your requirements - we are therefore happy to take on your toughest challenges.

Example application areas

Wire processing, hot rolling, pipe production, steel industry, glass production, foundries, system and machine construction, sheet metal processing, automotive industry, forging, pressing

Special features

- shock and vibration-proof
- extremely fast response characteristics
- adjustable response time
- for ambient temperatures up to + 600 °C
- response temperature from 100 to 1000 °C
- large selection of designs and optics
- bus-capable
- stainless steel housing
- complete accessory range



The thermometer for extreme conditions

Pyrometers for the contactless measurement of temperatures from - 40 °C up to 2500 °C



What are pyrometers?

Proxitron pyrometers enable contactless temperature measurement by detecting infrared radiation from objects. This radiation is guided into a sensor element where it is converted into an electrical signal. Pyrometers measure the temperature of metals, plastics, paper, glass, asphalt and liquids for example. A range of sensor elements are available to you for almost every requirement - tailored to specific material characteristics.

What task do pyrometers perform?

In industrial fields pyrometers measure the temperature - also in areas where a object is difficult to access - accurately to within one degree Celsius. Proxitron sensors can be individually adjusted and evaluated with software or parameterisation device. We also offer you special pyrometers, which always deliver reliable values even with highly fluctuating objects. Our pyrometers are outstanding due to their robust and maintenance-free design - enjoying many years of fault-free operation.

How reliable are pyrometers?

The standard version with integrated electronics can be protected against ambient temperatures of up to 200 degrees Celsius

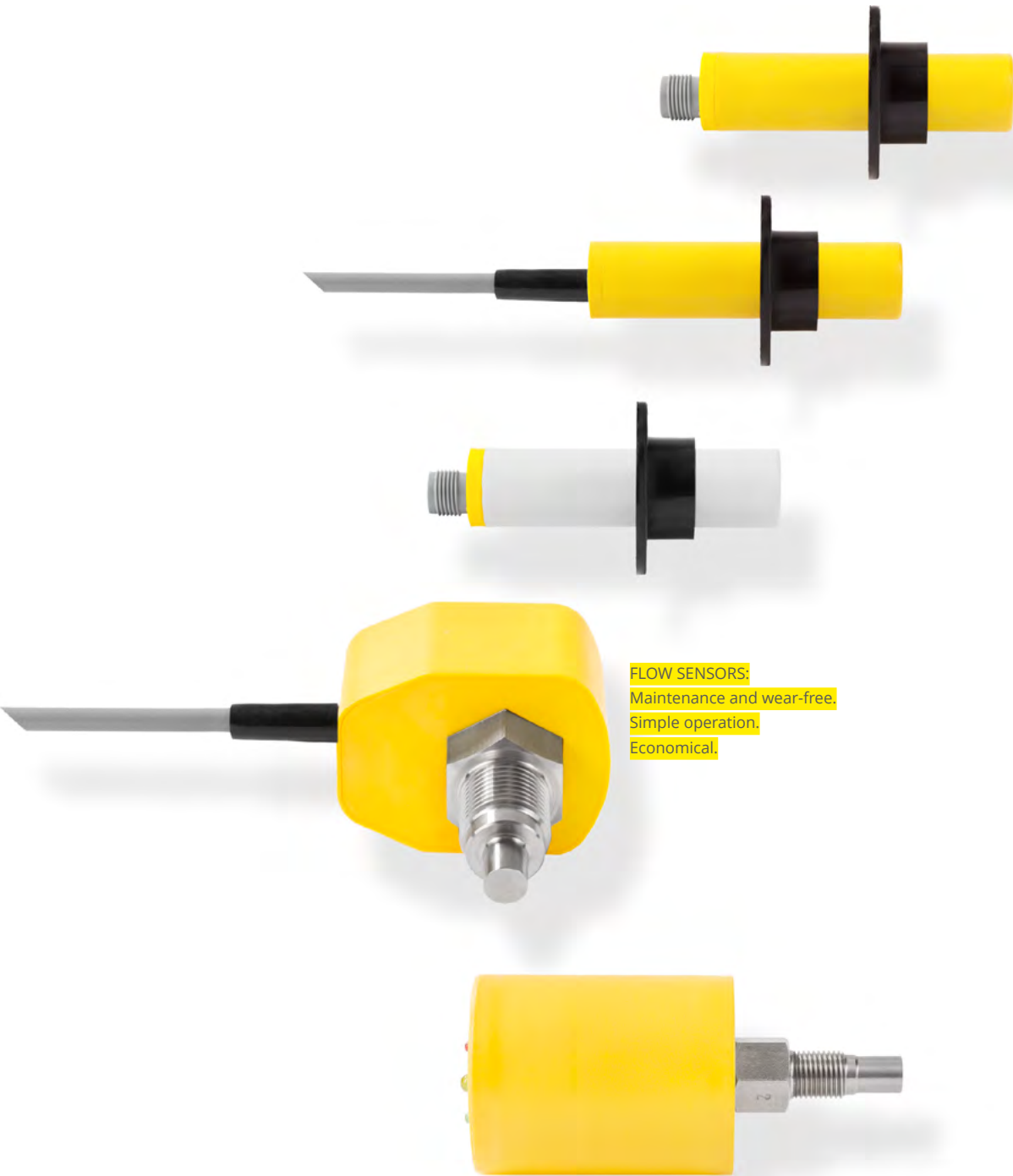
with the aid of a cooling jacket housing. This enables reliable use, both with high temperatures and with cramped installation conditions. We also offer a diverse range of accessories, for example user-friendly software for measured data acquisition, in order to optimally align the pyrometer with your specific application. We shall be happy to advise you.

Example application areas

Raw steel production, sheet metal processing, hot rolling, road building, baked goods production, plastic processing, glass production, paper processing, steel industry, system and machine construction, automotive industry, foundries, forging

Special features

- shock and vibration-proof, wear and maintenance-free
- high degree of accuracy
- simple to commission and fast response characteristics
- emissivity and measuring range adjustable
- large selection of optics and sensor systems
- analogue output, stainless steel housing
- complete accessory range



FLOW SENSORS:
Maintenance and wear-free.
Simple operation.
Economical.

Sensitive to liquid and gaseous movements

Flow sensors for reliable monitoring of flow processes



Air-conditioning and climate engineering



Chemical industry



Water management

What are flow sensors?

Flow sensors from Proxitron monitor the flow speed of liquid or gaseous media and in doing so enable simple and effective flow process control. The basis is the calorimetric principle: Similar to the cooling effect experienced by the index finger in the wind, this principle utilises surface cooling caused by a passing flow of medium. The flow sensor surface is heated to a defined temperature. If this is exposed to a flow then the sensor is cooled down. The stronger the flow, the greater the cooling effect. Depending on the design, a flow sensor therefore measures the flow speed and delivers the resultant data to you.

What task do flow sensors perform?

Proxitron flow sensors are suitable for use in environments with high contamination levels. They are used for example in areas where aggressive chemical atmospheres prevail. Versions are available for monitoring gaseous and liquid media. Flow sensors for gases in compact plastic housings can be installed in existing exhaust air systems or ventilation systems. Flow sensors for liquids are equipped with stainless steel process connections in all conventional pipe thread sizes. With Proxitron flow sensors, limit value monitoring and flow measurements are available to

you at the touch of a button. The advantages for you: Applications in numerous different industry fields, sensor-compatible accessories, which also enable pressure-resistant installation. Proxitron flow sensors are the most powerful and efficient solution for flow monitoring.

Example application areas

Coolant circuits, air-conditioning and building services engineering, extraction systems, lubricant injection, pump control, filter monitoring, bearing cooling, electroplating, waste water treatment plants, offshore, shipbuilding, food industry, wood and paper processing, biogas plants, IT data processing centres, nuclear research, combined heat and power plants.

Special features

- simple commissioning
- compact design and simple operation
- AC and DC operating voltage
- different switch output variants
- various analogue outputs
- diverse stainless steel process connections
- chemically resistant fully plastic housing

Everything under control

Our Proxitron accessories range

In addition to our wide range of sensors, we naturally offer you complementary accessories tailored to your individual requirements. Be it for fastening, adjustment or monitoring - we offer everything from a single source. When it comes to installation you have a choice of various mounting stands, brackets through to rubber-metal buffers, cooling plates, clips and a selection of mounting flanges. Furthermore, we also offer the right cables, cable lengths and BUS couplers for your Proxitron sensors, to ensure rapid and seamless connection every time. We naturally

also supply all the required accessories for our optical sensors, such as fiber optic cable (in various lengths), reflectors, a range of optics and adjustment aids. This also applies to our pyrometers. In addition to the standard accessories we are also able to make customer-specific adjustments at any time. So that you always have everything under control! Simply ask about our Proxitron accessories range. We shall be happy to assist and provide all the necessary information.



INSTALLATION
Swivel stand, bracket, clip, mounting flange, cooling plate, rubber-metal buffer



ACCESSORIES FOR OPTICAL SENSOR
Fiber optic cable, reflectors, optics, tubus, targeting light, protective glass, pyrometer accessories



CONNECTION
Cable, connector, bus coupler



MISCELLANEOUS
Sensor test box, software, spare parts



Innovation is the engine that drives our success

Finger constantly on the pulse



Stability and stress tests in the climate cabinet are essential for the optimisation and assurance of product quality.

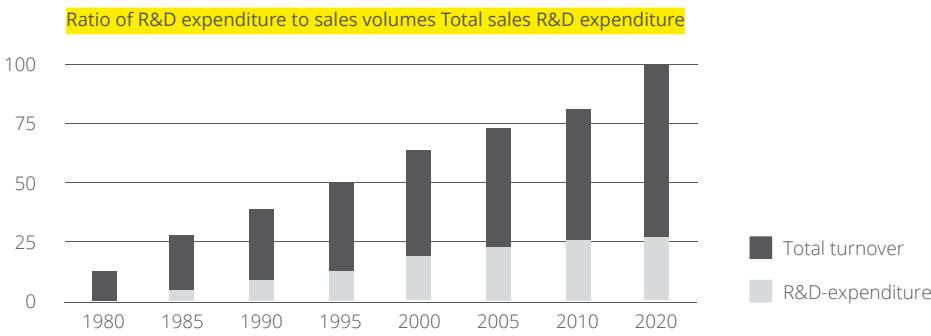
Innovations have always been the decisive element of our business strategy. We are convinced that research and development is a vital investment in the future - in order to remain competitive and flexible at all times. We grow by facing the new demands constantly posed by our customers. We work passionately on developing solutions - irrespective of how challenging these might be. Since our

company was founded in 1979 we have been constantly developing the expertise of Proxitron - this establishes the vital closeness that we enjoy with our customers.

Exchange

Dialogue stimulates exchange - this exchange in turn creates innovation. Over recent decades we have succeeded in

becoming proven experts in the field of sensor technology. Working together with our customers, we develop practical solutions that reflect the latest technical requirements. This process is constantly ongoing. Ultimately, we wish to make only the best possible solutions available to our customers. We research and develop in order to offer you top class products in the future too. For example our innova-



tive Proxi-Teach® technology, with which the sensor can be adjusted to the environment that influences the sensor, at the touch of a button, whilst the switching distance can be aligned with the maximum permissible value.

Investments with a future

Pronounced research and development naturally also requires investment. Without it, the development of innovations, optimizations and alignments would not be conceivable in our field of business. At Proxitron we therefore regularly invest in the further development of our product solutions. Decisive for us here are the material quality, manageability, functionality, service life and sustainability of our products. We place particular value here on responsible interaction with nature and our environment. We work daily on optimising the characteristics of our products for the future, finding and testing new solution approaches. Convince yourself of our high quality solutions. We shall be delighted to inform you of new Proxitron products and innovations in the field of sensor technology.

Know-how and manpower

What use is the best technology without employees who know it inside out? At Proxitron we therefore also invest in our staff. Ultimately, with us you enjoy



Modern test instruments support development.

not only first-class solutions in sensor technology but also the superb service provided by our trained personnel. Every single employee is encouraged and challenged according to his qualifications. Internal and external training and further development are part of everyday working life for us. It is important to us that you not only get the feeling you have competent employees at your side - you should also experience our employees demonstrating their know-how, you should sense that everyone is an expert on hand to support and advise you. We therefore consider investments - also in our employees - to be particularly im-

portant. They are part of our company's mission statement. We naturally also endeavour to secure young talent. Through intensive cooperation with engineering and management colleges and universities we keep our finger on the pulse and look to shape the future - together, with extensive know-how, creative and innovative solutions.





Manufacturer
customizing Teach-In
Made in Germany
Accessories extreme conditions
reliable individual development
variable cable lengths **sensor** worldwide
longevity across all industries
high temperature
robust

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