

Pressure

Innovative solutions for the toughest requirements





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Dear Reader,

Sensor technology is one of our core areas of expertise. This is particularly so for pressure-sensor technology. After all, we produce both the pressure sensors and the pressure electronics ourselves. Die hohe Qualität, die wir mit unseren Produkten dabei erzielen, sind das Ergebnis von über 40 Jahren Wissen, Erfahrung – und der Motivation, immer besser zu werden.

We attach just as much importance to new developments as we do to the continuous improvement of existing products. At the same time, we continuously streamline our production methods to ensure that we can stay competitive and flexible. As a universal supplier for all industrial sectors, JUMO develops standard devices and customized versions both in small and large quantities with the same diligence and commitment

Why is this diversity so important to us? Because we do not only want to be among the best in Germany but also in all other markets throughout the world. As a result, we make sure that all our products meet the current standards, directives, and laws.

This brochure provides an overview of JUMO's extensive range of products for pressure measurement technology. In addition, we would be happy to work with you to attain solutions that are tailored to your specific requirements. We look forward to hearing from you.

Further information about our products can be found at www.jumo.net using the specified type designation or data sheet number.



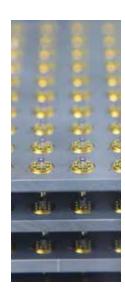








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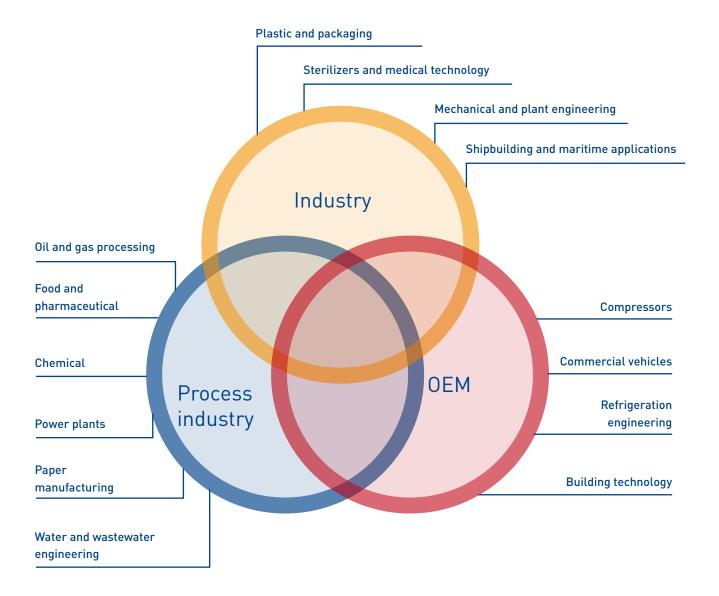


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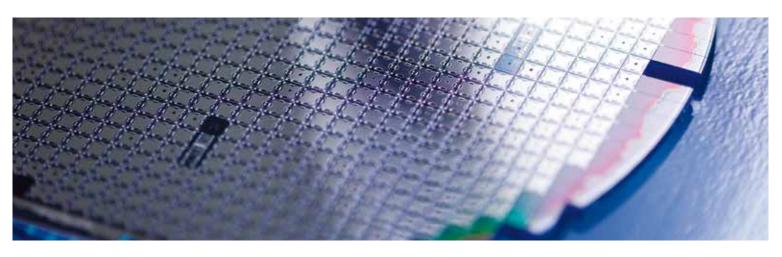


The industries



The right solution for every task: the wide range of our portfolio allows us to offer the perfect sensors for mechanical and plant engineering, the process industry, and the OEM sector.

In addition to the standard devices, JUMO offers individual customer-specific versions for special applications.





JUMO sensor and measuring system production



Working in a clean room for pressure sensors





Production: Ceramic pressure sensors

Quality through attention to detail

Our products set the benchmark for precision. This quality results from the extensive experience of our highly qualified staff as well as close cooperation with our customers in development and production. We are familiar with complex interrelationships and therefore see quality as a process to be continuously examined and improved. Starting with new product development based on internally manufactured sensors, we safeguard our manufacturing process with the very latest production lines and finally subject each device to a 100 % final inspection.

Flexibility

JUMO develops, tests, and manufactures new products or customer-specific versions internally. Our high degree

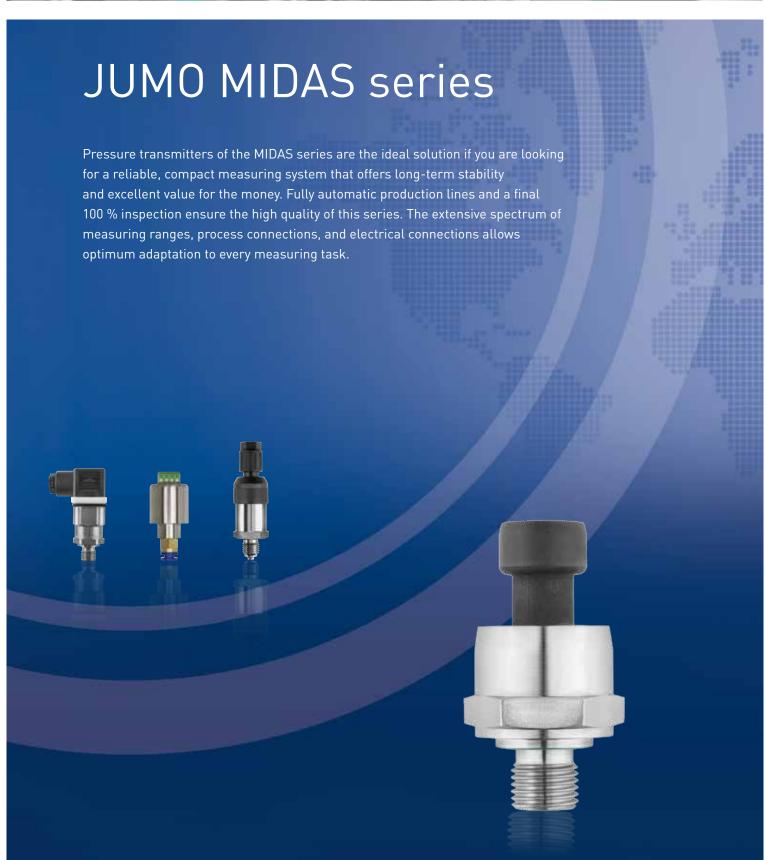
of vertical integration enables the protection of the quality process and leads to increased flexibility, enabling us to give special consideration to customer requirements and application-orientated conditions.

Diversity and expertise

Even the sensor itself – the basis of any pressure measuring device - can be individually adapted to your applications and requirements. You can choose between different measuring systems such as silicon piezoresistive, metal thin film, ceramic thick film, or ceramic capacitive as well as additional selection criteria such as size and materials.

Our sensors are available in various configuration levels as modules or in complete devices.

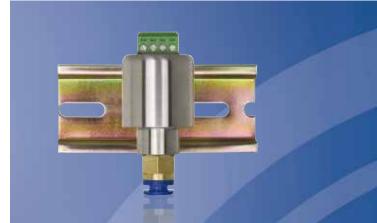




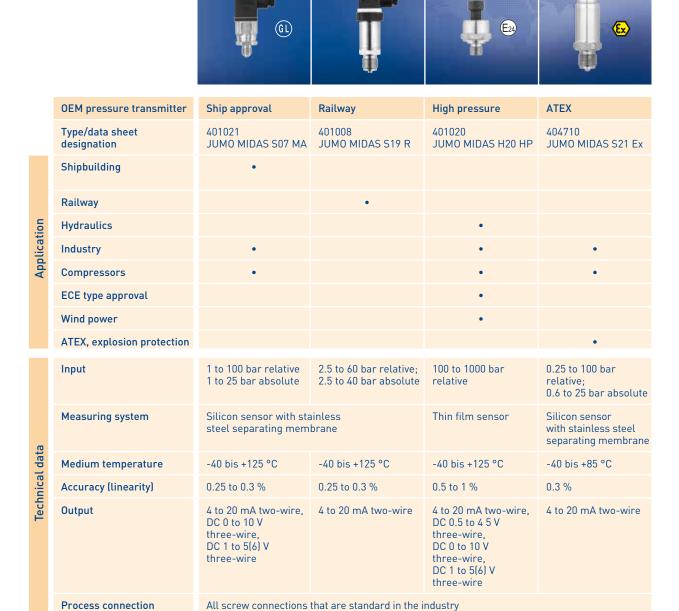
OEM pressure transmitter series JUMO MIDAS

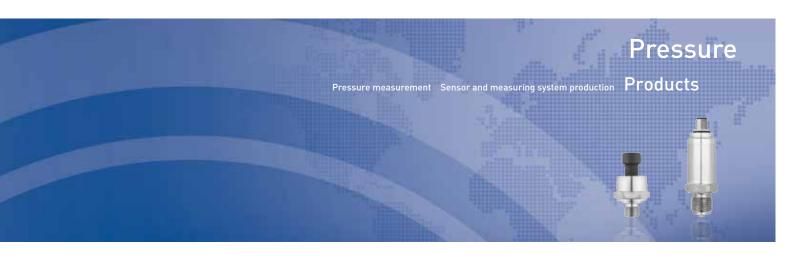




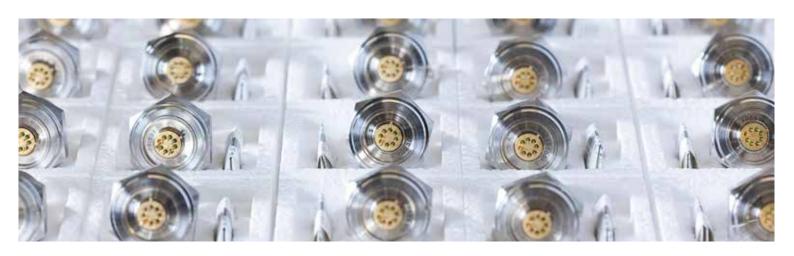


OEM pressure transmitter series JUMO MIDAS









JUMO dTRANS p30 series

Our JUMO dTRANS p30 series impresses with its flexibility. Its universal use is reflected in the large selection of measuring ranges, process connections, and electrical connections. The front-flush, sealless measuring system and the high temperature variant for use in media with temperatures of up to 200 °C allow this series to meet the requirements of hygienic applications. This flexible series also has a variation with explosion protection so that virtually all application areas are covered.





Process pressure transmitter series JUMO dTRANS p30

	Pressure transmitter	Standard	High temperature	Gases	EX version	Small ranges
	Type/data sheet designation	404366 JUMO dTRANS p30	402050 JUMO dTRANS p31	402051 JUMO dTRANS p32	404753 JUMO dTRANS p33	404327 JUMO dTRANS ceramic
	Biogas plants	•				•
	Chemical industry	•	•			•
	Compressed air control	•		•		
_	Food and pharma industry	•	•		•	•
Application	HVAC technology	•		•		
	Industry, universal	•			•	
	Laboratory technology	•		•		
	Medical technology	•	•			•
	Clean room technology			•		
	Sterilization/ autoclaving		•			
	Input	250 mbar to 600 bar relative, absolute	1 to 60 bar relative, absolute	40 to 600 mbar relative	250 mbar to 600 bar relative, absolute	50 mbar to 1 bar relative
	Medium temperature	-30 bis +120 °C	-30 bis +200 °C	-30 bis +120 °C	-40 bis +200 °C	-20 bis +80 °C
Technical data	Accuracy (linearity)	0.2 to 0.5 %		0.5 %		0.2 %
	Output	4 to 20 mA two-wire, 0(4) to 20 mA three-wire, DC 0.5 to 4.5 V three-wire, DC 0 to 10 V three-wire, DC 1 to 5(6) V three-wire			4 to 20 mA two-wire	4 to 20 mA two-wire, DC 0.5 to 4.5 V three-wire
	Process connection	Thread, hygienic connections, JUMO PEKA, pressure separator		Thread, hose connection	Thread	Thread, hygienic connections



JUMO Wtrans p

The JUMO Wtrans p is a system for wireless acquisition of pressure measured values using state-of-the-art wireless technology. Universally applicable sensors for measured value acquisition on moving and fixed locations open up entirely new possibilities for measured value recording. The measured value is first transmitted wirelessly to the receiver of the Wtrans system from where it is forwarded to measurement and control technology equipment such as controllers, automation systems, displays, or recording devices.

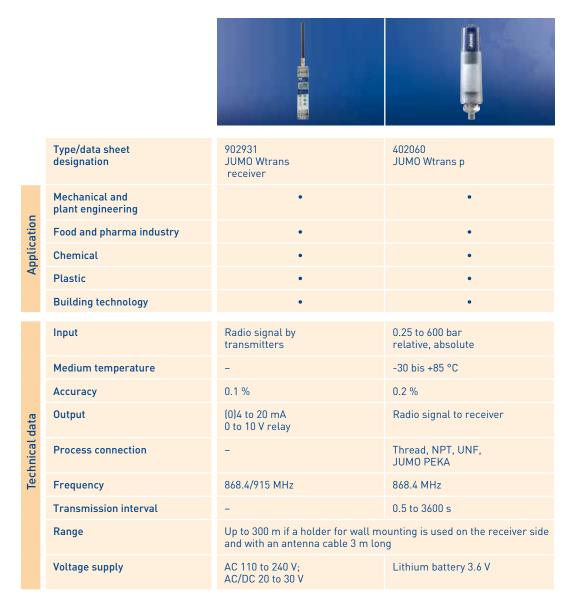
In Europe, the system uses radio frequency 868.4 MHz. In the USA, Canada, Australia, New Zealand, and elsewhere radio frequency 915 MHz is used. These frequencies are generally impervious to external interference influences and are also best suited to use in harsh industrial environments.

The devices work particularly well in mobile, rotating, or even stationary applications – wherever it is too difficult to lay cables and interference-free transmission is required.

Up to 16 transmitters can be connected to each receiver in any combination.



JUMO Wtrans p - pressure transmitter with wireless measured value transmission





JUMO DELOS series

Reduced costs due to measuring range scaling: the DELOS series allows various measuring tasks to be performed with one device. Configuration is performed directly at the device or by using a convenient setup program. A large, illuminated LCD display shows the setting parameters during configuration as well as the current measured value and switching contact status during operation. For enhanced legibility the device can be turned $\pm 160^{\circ}$ and the display can be rotated 180° when installed overhead. Its easy-to-clean design and front-flush sealless measuring system make the DELOS series suitable for hygienic applications as well.







Precision pressure transmitter with switching contact and display



	Precision transmitter	Pressure, level	High pressure	
	Type/data sheet designation	405052 JUMO DELOS SI	405054 JUMO DELOS HP	
	Food and pharma industry	•		
	CIP/SIP systems	•		
	Mechanical and plant engineering	•	•	
Application	Refrigeration and air conditioning system construction	•		
A	Hydraulic units		•	
	Special features	Programmable, switching output, measuring range scaling 1:4, se- lectable measuring unit, housing and process connection made of stainless steel (316L)	Programmable, switching output, measuring range scaling 1:4, selectable measuring unit, housing and process connection made of stainless steel	
	Input	400 mbar to 60 bar relative, absolute	160 to 600 bar relative	
	Medium temperature	-25 bis +200 °C	-25 bis +100 °C	
ata	Ambient temperature	-25 bis +75 °C		
cal d	Accuracy (linearity)	0.1 to 0.15 %	0.1 %	
Technical data	Output	1x PNP switching output, 2x PNP switching output, 1x PNP switching output, and 1x analog output) (either: 0(4) to 20 mA, 0 to 10 V)		
	Process connection	Thread, hygienic connections, pressure separators, JUMO PEKA	Thread	



JUMO dTRANS p02/p20 series

The highest precision with simple operation – that is what the programmable pressure transmitter from JUMO offers you.

You will find the optimum solution to all your tasks whether it involves pressure, differential pressure, level, or flow. We provide an extensive selection of process connections and special approvals.



Convenient operation with minimal effort

JUMO setup program for the HART® interface





Parameterizing a device with the setup program

Recording measured values

JUMO dTRANS p02

Process pressure transmitter Type 404385



JUMO dTRANS p20

Process pressure transmitter Type 403025



Startup in just a few easy steps

You can perform startup quickly and easily with the rotary knob or the membrane keys.

The devices are also easy to operate at any time in an Exarea. And you do not even have to open the housing to do it.

A few essential device features:

- Clear LCD display as a standard feature
- High accuracy and stability
- Low temperature drift
- Reduced stockkeeping due to variable setting on the device
- High temperature range
- Sturdy aluminum or stainless steel case

Our setup programs offer numerous functions for operation via interface:

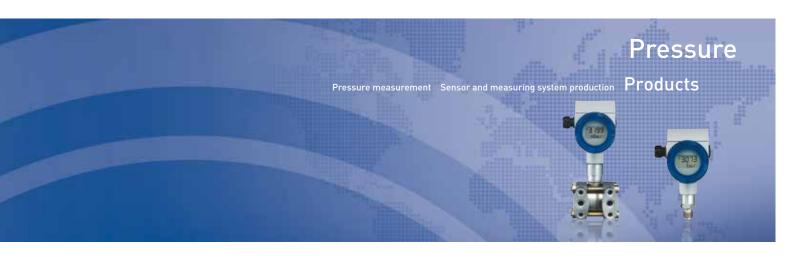
- Convenient parameterization for all device parameters
- Saving or printing parameters for project documentation
- Actual values and device status are displayed clearly
- Monitoring and documentation of measured pressure values and sensor temperature for a prolonged period
- All status messages are displayed in plain text





Process pressure transmitter series JUMO dTRANS p02





Process pressure transmitter series JUMO dTRANS p20





JUMO differential pressure transmitter

Our differential pressure transmitters are the ideal solution for measuring absolute pressure, differential pressure, flow, and level. Their versatility and simple operation makes them suitable for less critical applications as well as for use in Ex-areas.



JUMO differential pressure transmitter

			Y Y Y			
	Type/data sheet designation	402005 Multi-range pressure and differential pres- sure transmitter	404304 Pressure and differential pressure transmitter	401050 JUMO MIDAS DP 10	404382 JUMO dTRANS p02 DELTA	403022/403023 JUMO dTRANS p20 DELTA
	Ex d					•
	Ex ia				•	•
	Gas	•	•	•	•	•
	Liquid			•	•	•
	Heating, air condition- ing technology	•	•	•	•	•
Application	Filter monitoring	•	•	•	•	•
olica	Pump control			•		
Apı	Differential pressure	•	•	•	•	•
	Flow		•		•	•
	Level				•	•
	Special features	Measuring range adjustable, with LCD display as an option	With switching contacts, very small measuring ranges, adjustable, with LCD display as an option	For liquid and gaseous media	Maximum precision, programmable, aluminum case	Maximum precision, programmable, stainless steel case
	Input (min./max.)	2.5 to 100 mbar DP, relative	0.50 to 1200 mbar DP, relative	0.4 to 16 bar DP, relative	12 mbar to 25 bar DP, relative	1 mbar to 100 bar DP, relative
	Medium temperature	-10 bis +50 °C	-10 bis +50 °C	-15 bis +100 °C	-40 bis +120 °C	-40 bis +110 °C
cal data	Accuracy (linearity)	2 %	1 %	0.5 %	0.1 %	0.07 %
Technical	Output	(0)4 to 20 mA three-wire, DC 0 to 10 V three-wire	4 to 20 mA two-wire, 0 to 20 mA three- wire, DC 0 to 10 V three-wire	4 to 20 mA two-wire, DC 0 to 10 V three- wire, DC 0.5 to 4.5 V three-wire	4 to 20 mA two-wire, HART®	
	Process connection	Hose connection	Thread, hose connection	G 1/8" internal thread, stainless steel socket, com- pression fitting	2x1/4-18 NPT, pressure separator	





JUMO CANtrans series for CANopen systems





JUMO pressure sensors with IO-Link

Long plant downtimes now belong to the past. The new JUMO pressure sensors with IO-Link use the integrated diagnostic function to better plan the availability or the exchange of sensors. In addition, time-consuming parameterizations when changing sensors are eliminated as the necessary data is transferred from the superordinate system.







Sensors that have a say!

Ihre Nutzen - auf den Punkt gebracht:

- Optimization of the production process through communication down to the lowest field level
- Reduction of mounting and startup times
- Increase of plant efficiency due to maximum transparency down to the sensor level
- Reduction of maintenance and service costs with simultaneous increase in plant availability
- High degree of process reliability due to long operating life and great accuracy
- Flexible use through compact design type and a variety of process connections

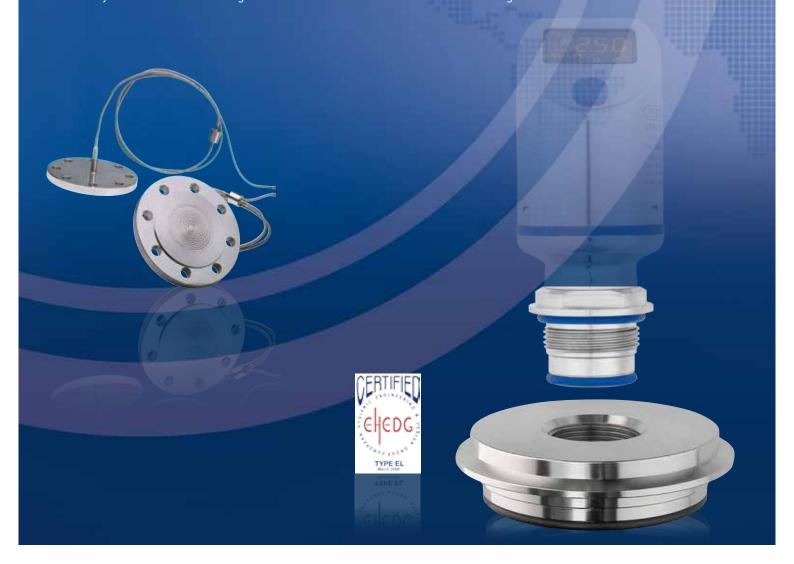


	Description	JUMO dTRANS p35 Pressure sensor
	Type/data sheet	402058
Application	Features	Fastest data transfer rate: COM 3, clearly assignable due to IODD
Appli	Areas of application	Food industry, mechanical and plant engineering, packaging industry, process automation
	Input	400 mbar to 600 bar relative, absolute
	Medium temperature	-25 bis +125 °C
	Ambient temperature	-40 bis +85 °C
ata	Output	IO-Link device V 1.1 (downward compatible to IO-Link V 1.0); 2 outputs for switch operation (SIO mode; SIO = standard IO)
ical d	Data transfer rate	COM 3 (230.4 kBaud)
Technical data	Process connection	Market-based screw connections and hygienic process connections
	Protection type	IP65/67
	Cycle time	2 ms
	Approvals	EHEDG for process connection JUMO PEKA
	Special features	Compact design type



JUMO PEKA and pressure separators

To protect the pressure sensor and therefore safeguard the process, pressure separators – either with or without capillary lines – can be used as a connection between the measuring device and the medium. Among other applications they are used to protect against aggressive media (for material durability) or for medium temperatures over 200 °C. For hygienic applications, not only pressure separators (which can achieve the lowest roughness depths) are available but also the JUMO PEKA system. It has been designed and certified in accordance with EHEDG guidelines.



JUMO PEKA and pressure separators



JUMO PEKA

The process connection JUMO PEKA allows the measuring device (for different physical measuring values or electrolytic conductivity) to be connected to an application-specific process connection adapter (clamp, VARIVENT®, aseptic, or orbital welding socket). Based on an easy-to-clean design without cavities, the modular adapter system is specifically tailored to the requirements of hygienic processes. The rigid adaptor with rotatable adapter allows alignment of the measuring device and protects the flush-mounted O-ring from damage during installation. The thread allows the measuring device to be installed and removed unlimited times which simplifies mounting, cleaning, and repair work.

Pressure separator

Pressure separators, as extended process connections, protect the measuring device and its sensor from difficult ambient conditions such as media that is contaminated, highly viscous, thickening (curdling), highly corrosive, toxic, and hot. Pressure separators can also be used for installation points that are difficult to access. In such cases, the pressure is transmitted to the sensor via a capillary line (capillary) filled with filling oil.

JUMO offers two basic designs: membrane and inline pressure separators. The numerous combination possibilities with regard to membrane material (stainless steel, titanium, PTFE, etc.) and filling oil (silicone oil, high-temperature oil, vegetable oil, etc.) also make them suitable for hygienic applications.



Services & Support

It is the quality of our products that is responsible for such a high level of customer satisfaction. But our reliable after-sales service and comprehensive support are also valued. Let us introduce you to the key services we provide for our innovative JUMO products. You can count on them – anytime, anywhere.

JUMO Services & Support – so that it all comes together!

Manufacturing Service



Are you looking for a competitive and efficient system or component supplier? Regardless of whether you seek electronic modules or perfectly fitting sensors – either for small batches or mass production – we are happy to be your partner. From development to production we can provide all the stages from a single source. In close cooperation with your business our experienced experts search for the optimum solution for your application and incorporate all engineering tasks. Then JUMO manufactures the product for you.

As a result you profit from state-of-the-art manufacturing technologies and our uncompromising quality management systems.

Customer-specific sensor technology

- Development of temperature probes, pressure transmitters, conductivity sensors, or pH and redox electrodes according to your requirements
- A large number of testing facilities
- Incorporation of the qualifications into application
- Material management
- Mechanical testing
- Thermal test



Electronic modules

- Development
- Design
- Test concept
- Material management
- Production
- Logistics and distribution
- After-sales service

Metal technology

- Toolmaking
- Punching and forming technology
- Flexible sheet metal machining
- Production of floats
- Welding, jointing, and assembly technology
- Surface treatment technology
- Quality management for materials







Information & Training



Would you like to increase the process quality in your company or optimize a plant? Then use the offers available on the JUMO website and benefit from the know-how of a globally respected manufacturer. For example, under the menu item "Services and Support" you will find a broad range of seminars. Videos are available under the keyword "E-Learning" about topics specific to measurement and control technology. Under "Literature" you can learn valuable tips for beginners and professionals. And, of course, you can also download the current version of any JUMO software or technical documentation for both newer and older products.

Product Service



We have an efficient distribution network on all continents available to all of our customers so that we can offer professional support for everything concerning our product portfolio. Our team of professional JUMO employees is near you ready to help with consultations, product selection, engineering, or optimum use of our products. Even after our devices are commissioned you can count on us. Our telephone support line is available to give you answers quickly. If a malfunction needs to be repaired on site our Express Repair Service and our 24-hour replacement part service are available to you. That provides peace of mind.

Maintenance & Calibration



Our maintenance service helps you to maintain optimum availability of your devices and plants. This prevents malfunctions and downtime. Together with the responsible parties at your company we develop a future-oriented maintenance concept and are happy to create all required reports, documentation, and protocols. Because we know how important precise measurement and control results are for your processes we naturally also professionally calibrate your JUMO devices – on site at your company or in our accredited DAkkS calibration laboratory for temperature. We record the results for you in a calibration certificate according to EN 10 204.



www.jumo.net







