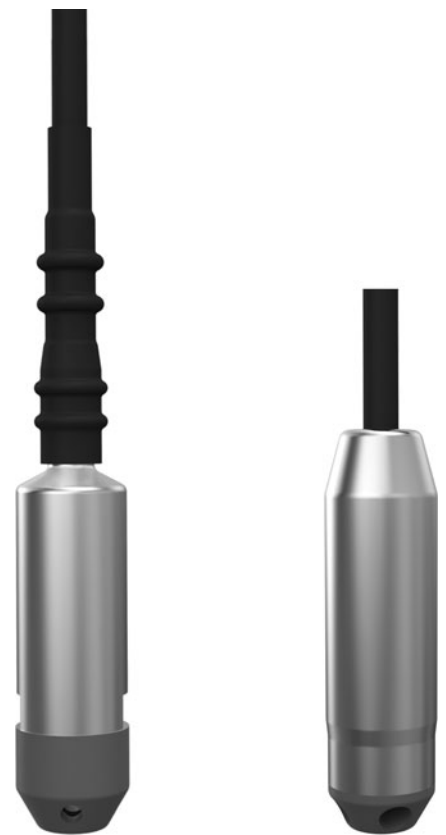


JUMO MAERA S29 SW

Titanium or stainless steel level probe



Installation Instructions



40439300T94Z002K000

V13.00/EN/00744209/2026-04-28

Further information and downloads



qr-404393-en.jumo.info

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1 About this documentation

1.1 Symbols



DANGER!

The signal word **"DANGER"** indicates an immediate danger.

Non-observance will lead to death or serious injury.

- ▶ The instructions in the warning notice must be observed and followed!
-



WARNING!

The signal word **"WARNING"** indicates an imminent danger.

Non-observance can lead to death or serious injury.

- ▶ The instructions in the warning notice must be observed and followed!
-



CAUTION!

The signal word **"CAUTION"** indicates an imminent danger.

Non-observance can lead to minor or moderate injury.

- ▶ The instructions in the warning notice must be observed and followed!
-

NOTICE!

The signal word **"NOTICE"** indicates possible damage to property.

Non-observance can lead to damage to devices, systems or the environment.

- ▶ Observe the instructions in the note for avoiding damage!
-



REFERENCE!

This symbol refers to **further information** in other sections, chapters, or other manuals.

2.1 Qualification of personnel

The personnel deployed must meet the following requirements in all phases of the product lifecycle:

- Trained electrical, mechanical, and plant engineering personnel.
- Members of personnel are familiar with this documentation and the safety information and warnings it contains.

3 Description



DANGER!

The declaration of conformity, the examination certificate (both found at the end of this operating manual), and the relevant regulations for sensors and supply units in potentially explosive areas must be observed!

The sensors must only be operated on intrinsically safe electrical circuits appropriate for the version.

- The admissible values can be found in the certificate.

The JUMO MAERA S29 SW level probe is used for the continuous hydrostatic level measurement in ventilated tanks. Measuring is carried out unaffected by electrical medium features or any foam formation.

Approvals are needed for particular ship building requirements (exclusively titanium) and explosion protection.

The level probe can be readily used in depths from as low as 1 mWS. The titanium version has been designed for application in liquids with media containing chlorides. These may be found in ship building, swimming pools, or water and sewage water management.

The cost-optimized level probe made of titanium or stainless steel with a front-flush membrane offers an alternative in highly viscous media. The screwable protective cap protects the membrane.

The level probe is equipped with a reverse-polarity protection mechanism, which prevents incorrect polarity during startup.

Another benefit to the measuring system is the extensive range of accessories for an optimum design.

Further information on our level probes from the JUMO MAERA series can be found in the brochure "Limit Level Measurement and Level Measurement" in the documentation.

Among other things, an optimum design for the measuring system is characterized by the use of a terminal box at the cable end. The **correct level probe** must be selected on site with regard to the measuring range, version, and specific measurement conditions prior to mounting, installation, and startup!

The specifications provided by the manufacturer are intended as suggestions only, except those relating to the test series. The decision is to be made by the operator!



CAUTION!

In order to prevent damage to the level probe and to safeguard the process, mounting, installation, and startup must only be performed by qualified personnel. Personnel must be familiar with country-specific regulations and be aware of applied standards and directives to prevent bodily injuries and material damage.

Qualified personnel must have read the operating manual, noted the nameplate, and understood both so that the instructions can be followed. Modifications and repairs must only be carried out if the operating manual permits it.

- Keep the operating manual at a location that is readily accessible to all users.

3.1 Nameplate

The name plate shown is an example and is located on the device.

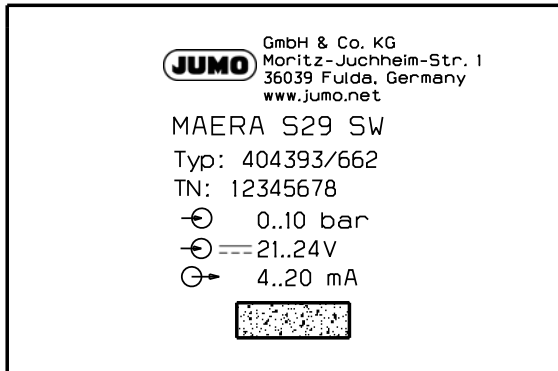


Fig. 3-1 Front view

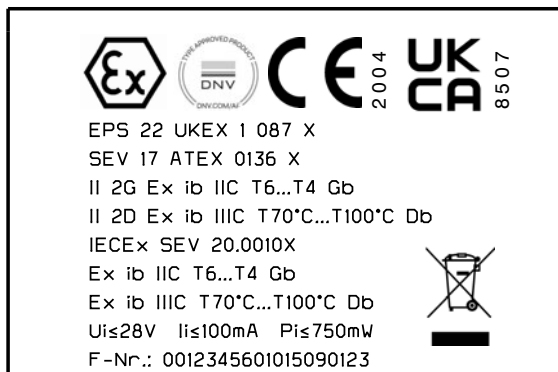


Fig. 3-2 Rear view

Date of manufacture

The date of manufacture (year and calendar week) of the device is encoded in the manufacturing number. The numbers 12 to 15 identify the year of manufacture and the calendar week.

3 Description

3.2 Approval marks and certificates

	Designation	ATEX
	Testing agency	Eurofins Electrosuisse Product Testing AG
	Certificate no.	SEV 17 ATEX 0136 X
	Inspection basis	EN 60079-0, EN 60079-11
	Valid for	Type 404393/362, Type 404393/662
	Designation	UKEX
	Testing agency	Bureau Veritas
	Certificate no.	EPS 22 UKEX 1 087 X
	Inspection basis	EN IEC 60079-0, EN 60079-11
	Valid for	Type 404393/.../085
	Designation	IECEx
	Testing agency	Eurofins Electrosuisse Product Testing AG
	Certificate no.	IECEx SEV 20.0010X
	Inspection basis	IEC 60079-0, IEC 60079-11
	Valid for	Type 404393/362, Type 404393/662
	Designation	DNV
	Testing agency	DNV
	Certificate no.	TAA00001TH
	Inspection basis	DNV GL CG-0339
	Valid for	Type 404393/062, Type 404393/662

Observe "Special conditions for safe use" in hazardous areas.

For the special conditions for use, observe the examination certificate.

3.3 Scope of delivery

Device in the ordered version
Installation instructions

4.1 Electrical data

Voltage Supply U_B For basic type extension 000 For basic type extension 062 For basic type extension 362 For basic type extension 662	The voltage peaks must not exceed the specified voltage supply values! DC 16 to 28 V (nominal 24 V) DC 21 to 24 V (nominal 24 V) DC 16 to 28 V (nominal 24 V) DC 21 to 24 V (nominal 24 V)
Reverse voltage protection	Yes
Max. current consumption	23 mA
Electrical circuit Requirement	SELV The device must be equipped with an electrical circuit that meets the requirements of EN 61010-1 with regard to „Limited-energy circuits“.

4.2 Inputs

4.2.1 Measuring range and accuracy

Measuring range	Accuracy at		Long-term stability ^a % MSP per year	Overload capacity	Burst pressure
	20 °C ^b % MSP ^d	10 to 50 °C ^c % MSP			
0 to 1 mH ₂ O	1.2	1.9	≤ 0.4	3	4
0 to 1.6 mH ₂ O	0.8	1.8		4.8	6.4
0 to 2.5 mH ₂ O	0.8	1.7	≤ 0.3	7.5	10
0 to 4 mH ₂ O	0.7	1.7		12	16
0 to 6 mH ₂ O	0.7	1.6	≤ 0.2	18	24
0 to 10 mH ₂ O	0.6	1.3		30	40
0 to 100 mbar relative pressure	1.2	1.9	≤ 0.4	0.3	0.4
0 to 160 mbar relative pressure	0.8	1.8		0.48	0.64
0 to 250 mbar relative pressure	0.8	1.7	≤ 0.3	0.75	1
0 to 400 mbar relative pressure	0.7	1.7		1.2	1.6
0 to 600 mbar relative/absolute pressure	0.7	1.6	≤ 0.2	1.8	2.4
0 to 1 bar relative/absolute pressure	0.6	1.3		3	4
0 to 1.6 bar relative/absolute pressure	0.5	1.3		4.8	6.4
0 to 2.5 bar relative/absolute pressure	0.5	1.2		7.5	10
0 to 4 bar sealed gauge/absolute pressure	0.5	1.2		12	16
0 to 6 bar sealed gauge/absolute pressure	0.5	1.2		18	24
0 to 10 bar sealed gauge/absolute pressure	0.5	1		30	40

^a Reference conditions EN 61298-1

^b Includes: linearity, hysteresis, repeatability, deviation from measuring range start (offset), and measuring range end

^c Includes: linearity, hysteresis, repeatability, deviation from measuring range start (offset) and measuring range end, thermal influences on measuring range start (offset), and measuring span

^d MSP = measuring span

4 Technical data

4.3 Output

Analog output Current Output 405	4 to 20 mA, 2-wire
Step response t_{90}	2 ms
Burden Current 4 to 20 mA, 2-wire	$R_L \leq (U_B - 16 \text{ V}) \div 0.022 \text{ A } (\Omega)$

4.4 Mechanical features

Ensure the medium durability of the material!

	Titanium	Stainless steel	Stainless steel with mounted protective cage
Material			
Protective cap	PVC	PVC	-
Process connection	Titanium grade 2	Stainless steel 316 L	Stainless steel 316 L
Measuring membranes	Titanium grade 2	Stainless steel 316 L	Stainless steel 316 L
Case	Titanium grade 2	Stainless steel 316 L	Stainless steel 316 L
Shrink tubing	Polyolefin	-	-
Mass (without cable)	109 g	200 g	1700 g (max. freely suspended cable 100 m)
Diameter	27 mm	27 mm	95 mm

Cable

	6-core, shielded cable with integrated pressure compensation hose, AWG 24 with ferrules	3-core, remote cable with integrated pressure compensation hose, AWG 24 with ferrules
Material		
Outer sheath	FEP	PUR
Compensation hose	PA	PA
Color	Black	Black
Outer diameter	Approx. 8.4 mm	Approx. 7.5 mm
Conductor cross section	0.25 mm ²	0.25 mm ²
Bending radius		
Moving	min. 140 mm	min. 75 mm
Fixed	min. 70 mm	min. 37.5 mm
Tensile force	4000 N	880 N
Mass	≈ 90 g/m	Approx. 60 g/m
Admissible temperatures	-10 to +70 °C	-10 to +70 °C
UV resistance	Yes, according to DIN ISO 4892-2	Yes, according to DIN ISO 4892-2

4.5 Environmental influences

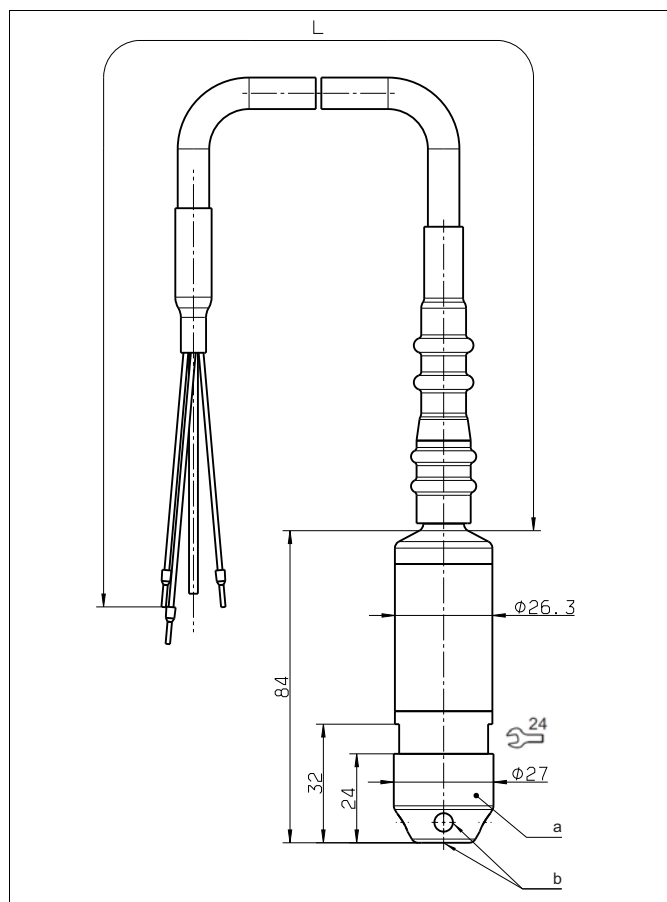
Reference conditions	DIN 16086, DIN 61298	
Admissible temperatures Medium	-10 to +60 °C The level probe must not freeze in the medium! A restriction may be required depending on the medium.	
	Ignition protection type Gb	
	Temperature class	Ambient temperature T_A
	T4	-40 to +85 °C
	T5	-40 to +70 °C
	T6	-40 to +55 °C
	Ignition protection type Db	
	Temperature class	Ambient temperature T_A
	T100 °C	-40 to +85 °C
	T85 °C	-40 to +70 °C
	T70 °C	-40 to +55 °C
Storage	-25 to +70 °C, dry	
Electromagnetic Compatibility (EC)	DIN EN 61326-2-3:2022	
Interference emission	Class B ^a	
Interference immunity	Industrial requirements	
Protection type	IP68, DIN EN 60529	
Measuring principle	Piezoresistive sensor with separating membrane	
Pressure transfer medium	Synthetic oil	
Admissible load changes	> 10 million, 0 to 100 % measuring range	
Mounting position	Vertical/hanging from the cable	

^a The product is suitable for industrial use as well as for households and small businesses.

4 Technical data

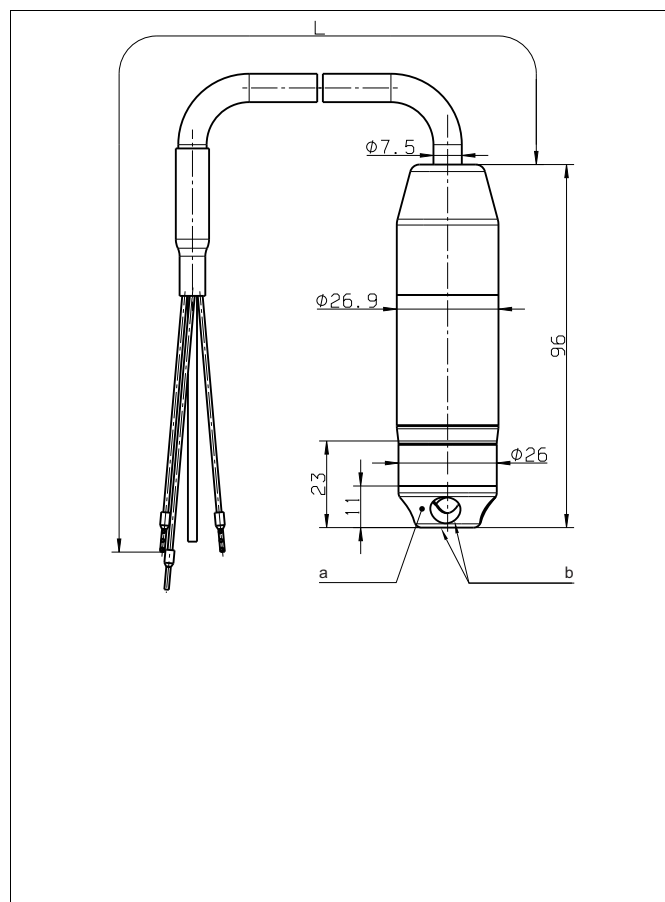
4.6 Dimensions

Titanium



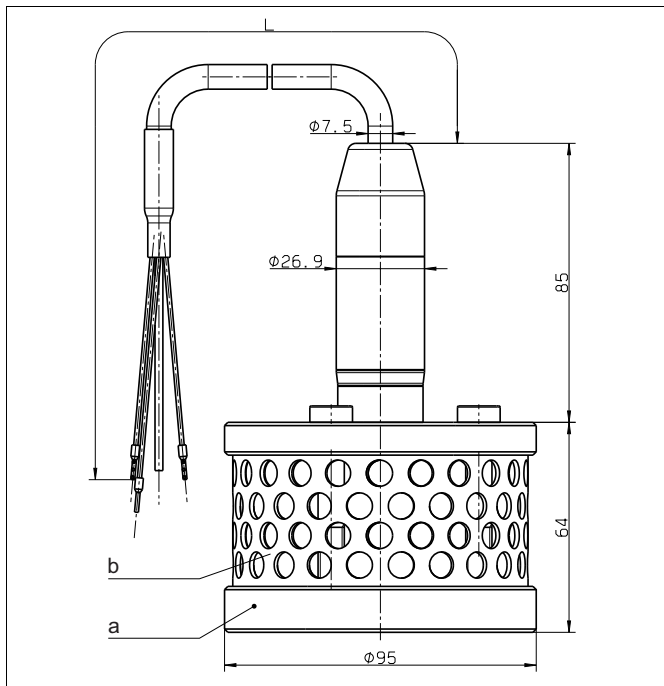
- L Cable length according to customer preference
- a Protective cap
- b 5 bore holes for every $\phi 5$ mm

Stainless steel



- L Cable length according to customer preference
- a Protective cap
- b 5 bore holes for every $\phi 5$ mm

Stainless steel with mounted cage



- L Cable length according to customer preference
- a Protective cage
- b Perforated metal grid $\text{Ø } 8 \text{ mm}$

The stainless steel version with mounted protective cage is designed for difficult level measurements where sludge, turbulence or currents may be present (e.g. pumping stations, wastewater lifting stations).

The additional weight reduces effects on the output signal with strongly moving media.

4 Technical data

4.7 Identifying the device version

4.7.1 Order details

(1) Basic type	
404393	JUMO MAERA S29 SW – Level probe made of titanium or stainless steel
(2) Basic type extension	
000	None
062	Shipbuilding approval (only available in titanium version)
362	Explosion protection
662	Shipbuilding approval and explosion protection, intrinsically safe, Ex i (only available in titanium version)
(3) Input	
302	0 to 1.6 mH ₂ O
303	0 to 2.5 mH ₂ O
304	0 to 4 mH ₂ O
305	0 to 6 mH ₂ O
306	0 to 10 mH ₂ O
414	0 to 100 mbar relative pressure
415	0 to 160 mbar relative pressure
417	0 to 250 mbar relative pressure
424	0 to 400 mbar relative pressure
419	0 to 600 mbar relative pressure
454	0 to 1 bar relative pressure
455	0 bar to 1.6 bar relative pressure
456	0 to 2.5 bar relative pressure
535	0 to 4 bar sealed gauge
536	0 to 6 bar sealed gauge
537	0 to 10 bar sealed gauge
487	0 bar to 0.6 bar absolute pressure
488	0 to 1 bar absolute pressure
489	0 to 1.6 bar absolute pressure
490	0 to 2.5 bar absolute pressure
491	0 to 4 bar absolute pressure
492	0 to 6 bar absolute pressure
493	0 to 10 bar absolute pressure
997	Special measuring range for sealed gauge
998	Special measuring range for absolute pressure ^a
999	Special measuring range for relative pressure ^a
(4) Output	
405	4 to 20 mA, 2-wire
(5) Process connection	
759	Mounted protection cage Ø 95 mm ^b
770	Front-flush process connection with protective cap
(6) Process connection material	
20	CrNi (stainless steel) (only available with PUR cable)
60	Ti (titanium) (only available with FEP cable)

4 Technical data

(7) Electrical connection	
16	Cable shielded, fixed, PUR, black, UV-resistant (only available in stainless steel version)
25	Cable shielded, fixed, FEP, black, UV-resistant (only available in titanium version)
(8) Connecting cable length^c	
002	2 m
005	5 m
010	10 m
020	20 m
030	30 m
040	40 m
050	50 m
060	60 m
070	70 m
080	80 m
090	90 m
100	100 m
(9) Extra codes	
000	None
085	UKEX approval

^a The special measuring range is specified in plain text.

^b Only available in conjunction with process connection material 20.

^c Other cable length available on request.

	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)
Order code		/		-		-		-		-		-		-		/	
Order example	404393	/	000	-	417	-	405	-	770	-	60	-	25	-	005	/	000

4 Technical data

4.7.2 Accessories

Without DNV approval

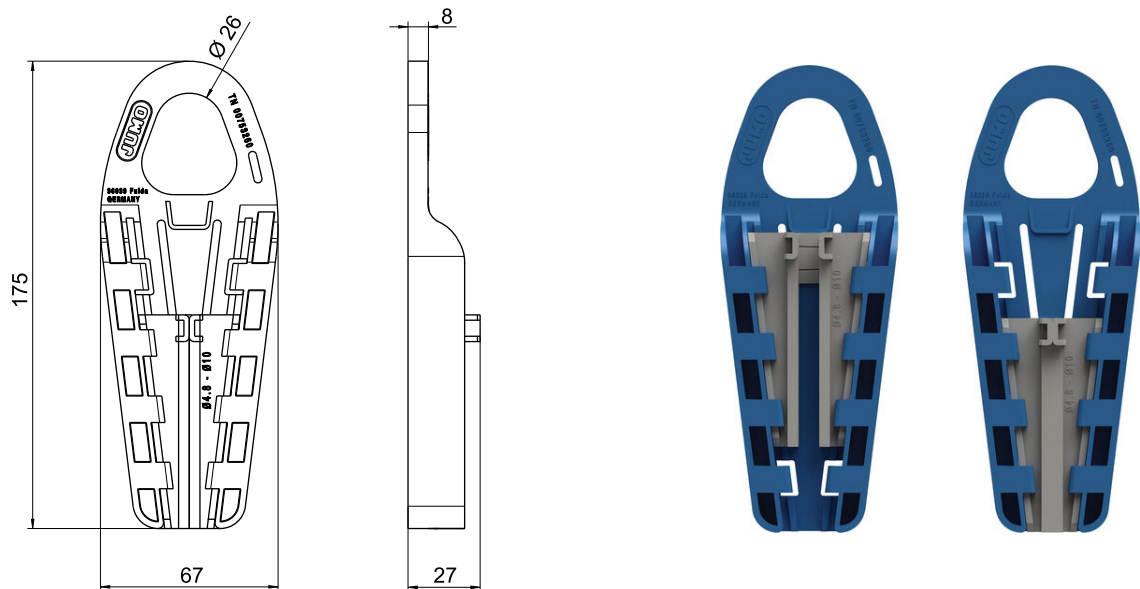
Cable clamp

The wire holder, part no. 00753260, holds the probe in the liquid at a defined depth and provides strain relief. Use of the wire holder ensures that the cable is not deformed in an unacceptable manner.

The wire holder is compatible with all JUMO level probes.

The clamping range is 4.8 to 10 mm. The maximum tensile strength is 390 N.

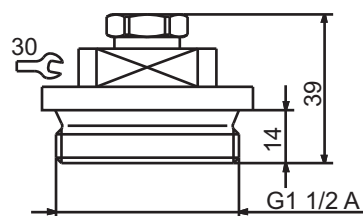
The cable clamp is made of UV-resistant, corrosion-free and fiberglass-reinforced polyamide. The central elongated holes are provided for optional, application-dependent fixation of the cable to prevent the clamping jaws from sliding upwards. The side elongated hole is provided for fixing additional cable length.



1. Push the gray clamping jaws firmly shut and check the desired clamping function.

Sealing screw

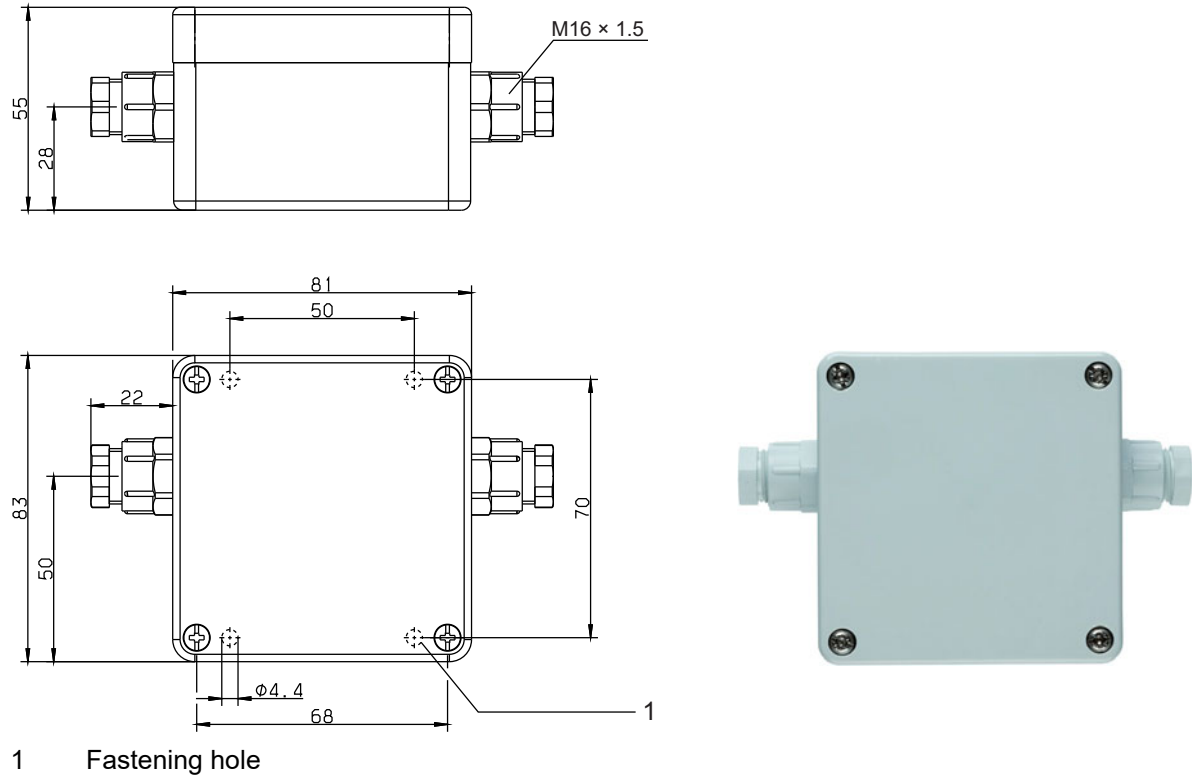
For closed containers or water wells with a well head, the cable should be guided through a sealing screw, part no. 00333329 and secured. The sealing screw is made up of a G 1 1/2" thread and is used to route the cable.



Terminal case with pressure compensation element

The terminal case, part no. 00061206, is used for secure installation of the level probe cable. The end of the pressure equalization hose is always protected from deposits and condensation (IP65). The remaining distribution can be performed with a standard cable without a pressure equalization hose.

The terminal case should be mounted as close as possible to the medium surface whilst still outside the medium to ensure the system is implemented cost-effectively and in the best possible way.



Pressure compensation filter for cable

The pressure compensation filter, part no. 00382632, is a breathable filter that ensures aeration and exhaust-air ventilation without moisture penetration. It is fitted at the end of the special cable.

4 Technical data

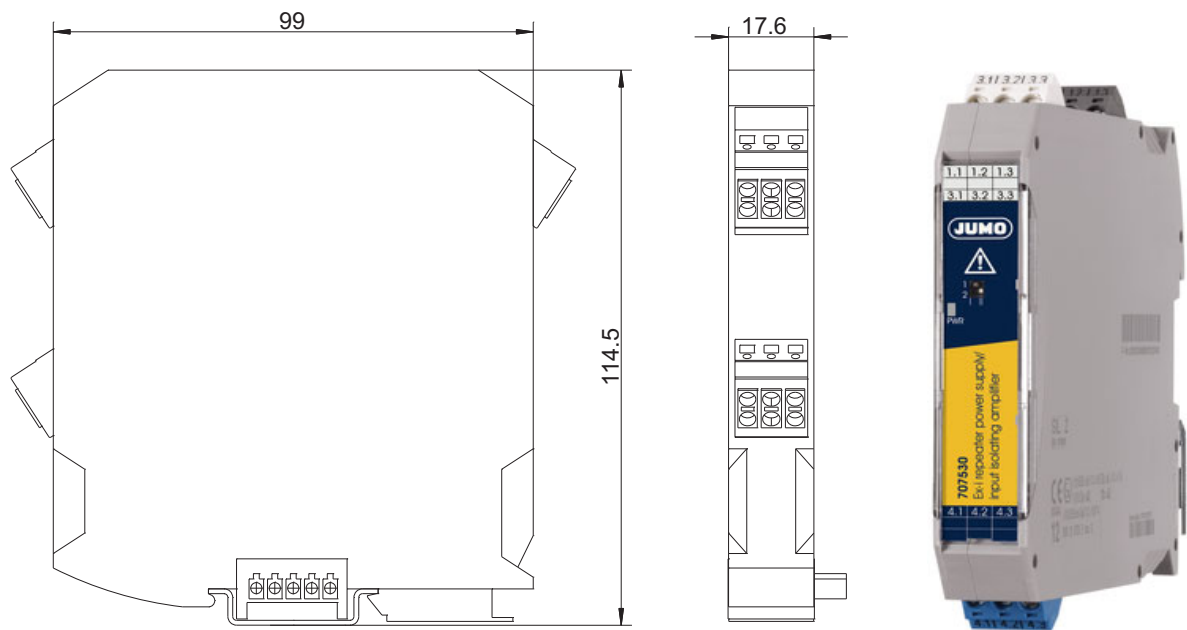
Ex-i repeater power supply/input isolating amplifier

The Ex-i repeater power supply/input isolating amplifier, part no. 00577948, is designed for operating intrinsically safe transmitters (Ex-i) and mA current sources installed in potentially explosive (Ex) areas. Two-wire transmitters are supplied with energy and analog 0/4 to 20 mA measured values are transmitted from the Ex-area to the non-Ex-area.

The output of the module can be operated actively or passively.

⇒ [Operating Manual 707530](#)

⇒ [Safety Manual 7075030](#)



4.7.3 Storage

NOTICE!

Damage to the device due to improper storage.

- ▶ Store the device in a dry and dust-free environment.
 - ▶ Observe the storage temperature of the device.
-

5 Installation and mounting



CAUTION!

Generally speaking, the technical data in the operating and installation instructions must be observed.

During operation of the level probe, it should be ensured in particular that the admissible medium temperature is neither too low nor too high, and that the level probe does not freeze in the medium. In addition, the admissible pressure must not be exceeded.

NOTICE!

Measurement inaccuracies or device failure due to temperature fluctuations.

- Observe the admissible medium temperature range.



DANGER!

The installation and the operation of the level probe must be carried out in accordance with this operating manual and the applicable regulations and standards.

The supply and output of the level probe must lie in the zone which is not intrinsically safe.

The sensor circuit can be routed to zone 1 in accordance with device group II.

The resulting label is called:

- Ex II 2G Ex ib IIC T6...T4 Gb
- Ex II 2D Ex ib IIIC T70°C...100°C Db
- Ex IECEx Ex ib IIC T6...T4 Gb
- Ex IECEx Ex ib IIIC T70°C...T100°C Db

For the maximum permissible temperatures see Technical data.

⇒ "Environmental influences ", Page 11

- When installing and operating the level probe, ensure that no electrostatic charging can take place. The membrane of the level probe must not be damaged!
The pressure to be measured must not exceed the admissible overpressure of the level probe even at pressure peaks.



DANGER!

The relevant regulations must be observed during electrical connection:

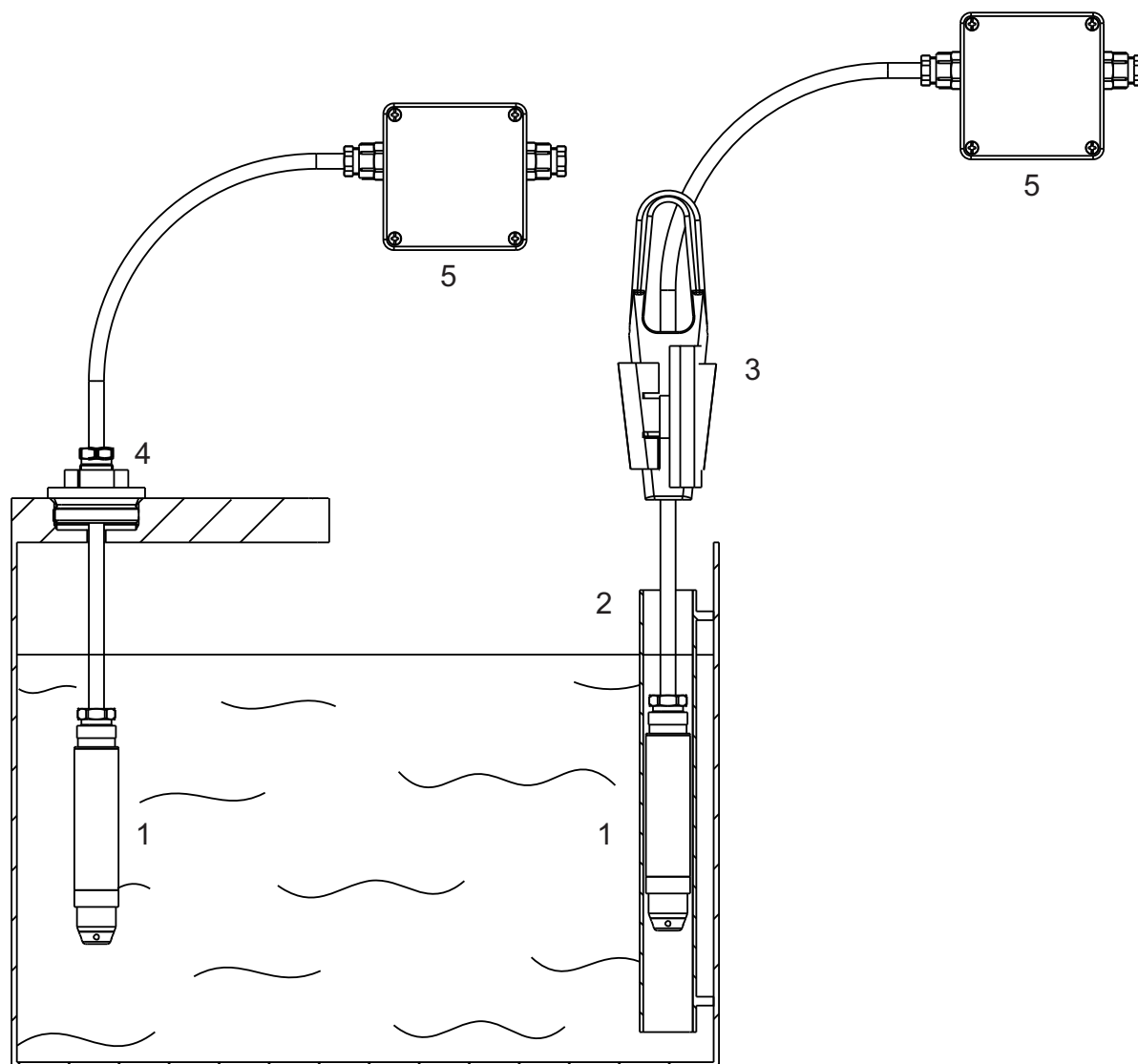
- Regulation for the installation of electrical plants in potentially explosive areas
- EU type examination certificate

- The electrical connection must only be carried out by qualified personnel!
The voltage supply must be intrinsically safe and must not exceed the following maximum values:
U_i: DC 28 V
I_i: 100 mA
P_i: 750 mW
Effective inner inductivity L: negligibly small
Effective inner capacity C: ≤ 10.4 nF
Depending on the cable length (L), the following values must be added to the inner capacity or inner inductivity of the probe:
Effective inner capacity: FEP cable 0.192 nF/m * L, PUR cable 0.22 nF/m * L
Effective inner inductivity: FEP cable 0.22 µH/m * L, PUR cable 1.09 µH/m * L
In intrinsically safe electrical circuits, only intrinsically safe, certified measuring devices may be used!

5 Installation and mounting

Total capacity/inductivity in accordance of the cable length (L) for selected cable lengths (examples):

Cable length [m]	FEP cable		PUR cable	
	Li [μ H]	Ci [nF]	Li [μ H]	Ci [nF]
2	0.44	10.784	2.18	10.84
5	1.1	11.360	5.45	11.5
10	2.2	12.320	10.9	12.6
20	4.4	14.240	21.8	14.8
50	11	20.000	54.5	21.4
100	22	29.600	109	32.4



5 Installation and mounting



CAUTION!

Electrocution

- ▶ The electrical connection must only be carried out by qualified personnel.
- ▶ Install the device in a currentless condition.

NOTICE!

For setup/operation, the regulations according to the German Hazardous Substances Ordinance and the German Ordinance of Industrial Safety and Health (for the relevant device version), as well as this operating manual, are binding. The maximum admissible ambient temperature of 50 °C must always be observed for the level probe.

NOTICE!

Damage to the membrane due to incorrect handling.

Damage to the diaphragm can lead to measuring errors or medium leakage.

- ▶ Do not touch the membrane.
- ▶ Do not insert any objects into the drilled hole of the pressure connection.
- ▶ Do not direct a pressure jet at the membrane.

The level probe must be grounded. To prevent electrolysis, the shielding of the level probe should be set to the same potential as the other devices found in the medium (pumps, agitators etc.).

Level probes in free-field applications without integrated overvoltage protection must be protected against electrical discharge.

It is recommended to use an external overvoltage protection before and after the display/evaluation unit.

Cable assembly

The special cable for the level probe must be fitted such that the pressure compensation in the cable assembly is not crushed.

The cable end must terminate in a dry room or in a suitable terminal case so that no moisture can penetrate.

A terminal case with a pressure compensation element is recommended for use.

The terminal case should be mounted as close as possible to the surface of the medium while still outside the medium.

In addition, the cable should not be routed through damp conditions.

For variations in media, a guide tube should be used that prevents measuring errors in flow caused by sideways movement and by the level probe hitting the walls of the container.

5 Installation and mounting

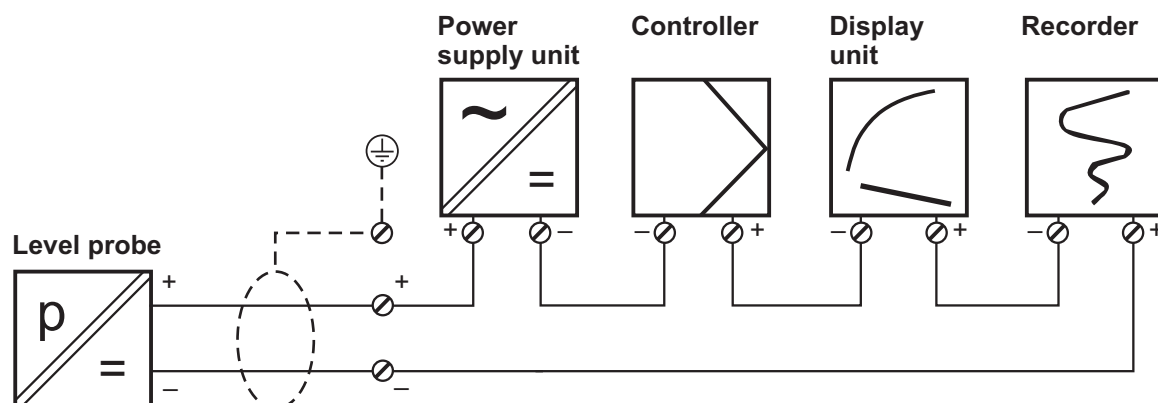
5.1 Connection diagram

Connection		Terminal assignment	
			
Cable		FEP (electrical connection 25)	PUR (electrical connection 16)
4 to 20 mA, 2-wire			
Rated voltage supply DC 24 V	$U_B/S+^a$ 0 V/S-	White Gray	White Brown
Shielding			
Caution: Ground the device! Ground all connected devices (such as pumps and valves) to the same potential!		Black	Black

^a The voltage peaks must not exceed or fall below the specified voltage supply values!

Connection example

Current output



6 Troubleshooting

Error messages	Possible causes	Troubleshooting
No measuring and/or output signal.	Voltage supply is too low.	Check the voltage supply. ⇒ chapter 4 "Technical data", Page 9
	Open circuit, incorrect connection.	Check the connecting cables. ⇒ chapter 4 "Technical data", Page 9
	Mechanical, thermal, or chemical damage of the level probe.	Send the device with the fault description and declaration of decontamination to the suppliers. ⇒ "Returns ", Page 25
Constant output signal even with changes in pressure.	Measuring system destroyed by excess pressure.	Send the device with the fault description and declaration of decontamination to the suppliers. ⇒ "Returns ", Page 25
	Output signal is distorted as a result of excess pressure due to current limiting.	Check the voltage supply. ⇒ chapter 4 "Technical data", Page 9
Output signal is too high.	Measuring range selected is too small.	Send the device with the fault description and declaration of decontamination to the suppliers. ⇒ "Returns ", Page 25
	Electrics are faulty.	
	Voltage supply is too high.	
Output signal is too low.	For current output signal: Burden is too high.	Change the burden. ⇒ chapter 4 "Technical data", Page 9
	Voltage supply is too low.	Change the voltage supply. ⇒ chapter 4 "Technical data", Page 9
	Membrane damaged by mechanical influences, an aggressive medium, or corrosion, for example.	Send the device with the fault description and declaration of decontamination to the suppliers. ⇒ "Returns ", Page 25
Varying zero point signal.	Medium and/or ambient temperature is too high or too low.	Send the device with the fault description and declaration of decontamination to the suppliers. ⇒ "Returns ", Page 25
	Membrane contaminated.	Carefully clean the membrane using for example a soft brush or sponge with a non-aggressive cleaning agent. ⇒ chapter 4 "Technical data", Page 9
	Membrane damaged by mechanical influences, an aggressive medium, or corrosion, for example.	Send the device with the fault description and declaration of decontamination to the suppliers.
	Moisture entered the device.	⇒ "Maintenance and cleaning ", Page 24
Characteristic line of the output signal is not linear.	Device altered by inadmissible operating conditions (such as excess pressure).	Send the device with the fault description and declaration of decontamination to the suppliers. ⇒ "Returns ", Page 25

7 Maintenance and cleaning

The regulations applicable to the maintenance/repair/test must be adhered to.

During maintenance, and depending on the version, the parts upon which the ignition protection type depends must be checked in particular.

The filter integrated in the terminal case with the pressure compensation element must always be kept free from pollutants.



WARNING!

Personal injury due to electric shock.

- ▶ The device may only be dismantled by qualified personnel when the system is in a safe, pressure- and voltage-free condition.
-



WARNING!

Personal injury due to leaked media.

Measuring material residues on the dismantled product can damage persons, the environment and equipment.

- ▶ Take adequate precautions.
-

NOTICE!

Damage to the device due to incorrect cleaning.

- ▶ Do not damage the device, especially the wetted parts.
 - ▶ Cleaning agent must not attack the surface and seals.
-

8.1 Returns

Procedure:

1. The [supplementary sheet for product returns](#) must first be completed correctly and signed. Then enclose it with the shipping documents and attach it to the packaging, ideally on the outside.
2. Use the original packaging or a suitably secure container for sending the device.

8.2 Disposal



- Do not dispose of the device or replaced parts in the trash after use.
- Delete programs and data stored on the device.
- Remove batteries, if any, if this can be done without damaging the device.
- Dispose of the device and the packaging material in a responsible and environmentally friendly manner.
- Observe the country-specific laws and regulations for waste treatment and disposal.

In accordance with Directive 2012/19/EU on Waste from Electrical and Electronic Equipment, manufacturers are obliged to offer the option of returning waste equipment. Request the return from the manufacturer.

8 Shutdown

JUMO GmbH & Co. KG

Moritz-Juchheim-Straße 1
36039 Fulda, Germany

Tel.: +49 661 6003-0
Fax: +49 661 6003-500

E-Mail: mail@jumo.net
Internet: www.jumo.net



**MORE THAN SENSORS
AND AUTOMATION**

EU-Konformitätserklärung

EU declaration of conformity / Déclaration UE de conformité

Dokument-Nr.

Document No. / Document n°.

CE 605

Hersteller

Manufacturer / Etabli par

JUMO GmbH & Co. KG

Anschrift

Address / Adresse

Moritz-Juchheim-Straße 1, 36039 Fulda, Germany

Produkt

Product / Produit

Name

Name / Nom

Typ

Type / Type

Typenblatt-Nr.

Data sheet no. / N°

Document

d'identification

JUMO MAERA S29 SW

404393

404393

Produktbeschreibung

Product description / Description du produit

Elektronische Pegelsonde.

Wir erklären in alleiniger Verantwortung, dass das bezeichnete Produkt die Anforderungen der Europäischen Richtlinien erfüllt.

We hereby declare in sole responsibility that the designated product fulfills the requirements of the European Directives.

Nous déclarons sous notre seule responsabilité que le produit remplit les Directives Européennes.

Dokument-Nr.

Document No. / Document n°.

CE 605

EU-Konformitätserklärung

Seite: 1 von 5

JUMO GmbH & Co. KG

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MORE THAN SENSORS
AND AUTOMATION

1. Richtlinie

Directive / Directive

Name EMC 2014/30/EU

Name / Nom

Konformitätsbewertungsverfahren Mod. A

Conformity assessment procedure /

Procédure d'évaluation de la conformité

Datum der Erstanbringung des CE-Zeichens auf dem Produkt 2015

Date of first application of the CE mark to the product /

Date de 1ère application du sigle sur le produit

Angewendete Normen/Spezifikationen

Standards/Specifications applied / Normes/Spécifications appliquées

Referenz

Reference / Référence

Ausgabe

Edition / Édition

Bemerkung

Comment / Remarque

EN 61326-1

2013

EN 61326-2-3

2013

EN 61326-1

2021

EN 61326-2-3

2021

Gültig für Typ

Valid for Type / Valable pour le type

404393/...

2. Richtlinie

Directive / Directive

Name ATEX 2014/34/EU

Name / Nom

Konformitätsbewertungsverfahren Mod. B+D

Conformity assessment procedure /

Procédure d'évaluation de la conformité

Datum der Erstanbringung des CE-Zeichens auf dem Produkt 2017

Date of first application of the CE mark to the product /

Date de 1ère application du sigle sur le produit

Dokument-Nr.

Document No. / Document n°.

CE 605

EU-Konformitätserklärung

Seite: 2 von 5

JUMO GmbH & Co. KG

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Internet: www.jumo.net



**MORE THAN SENSORS
AND AUTOMATION**

Gültig für Typ

Valid for Type / Valable pour le type

404393/362-...

404393/662-...

2.1 EU-Baumusterprüfbescheinigung

EU type examination certificate / Certificat d'examen de type UE

Zertifikatsnummer

SEV 17 ATEX 0136 X

Certificate number / Numéro de certificat

Notifizierte Stelle

Eurofins Electric & Electronic Product Testing
AG, Luppmenstrasse 3, 8320 Fehrltdorf,
Switzerland

Notified Body / Organisme notifié

Angewendete Normen/Spezifikationen

Standards/Specifications applied / Normes/Spécifications appliquées

Referenz**Ausgabe****Bemerkung**

Reference / Référence

Edition / Édition

Comment / Remarque

EN 60079-0

2018

EN 60079-11

2012

Qualitätssicherung bezogen auf den Produktionsprozess

Quality assurance of the production process / L'assurance de la qualité de la production

Zertifikatsnummer

Available on request

Certificate number / Numéro de certificat

Notifizierte Stelle

BUREAU VERITAS Consumer Products
Services Germany GmbH, Wilhelm-Hennemann-
Straße 8, 19061 Schwerin, Germany

Notified Body / Organisme notifié

Kennnummer

2004

Identification no. / N° d'identification

Dokument-Nr.

Document No. / Document n°.

CE 605

EU-Konformitätserklärung

Seite: 3 von 5

JUMO GmbH & Co. KG

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**MORE THAN SENSORS
AND AUTOMATION**

3. Richtlinie

Directive / Directive

Name

RoHS 2011/65/EU

Name / Nom

Konformitätsbewertungsverfahren

Mod. A

Conformity assessment procedure /

Procédure d'évaluation de la conformité

Datum der Erstanbringung des CE-Zeichens auf dem Produkt

Date of first application of the CE mark to the product /

Date de 1ère application du sigle sur le produit

Angewendete Normen/Spezifikationen

Standards/Specifications applied / Normes/Spécifications appliquées

Referenz

Reference / Référence

Ausgabe

Edition / Édition

Bemerkung

Comment / Remarque

VDK Umweltrelevante Aspekte V1
bei der Produktentwicklung und
-gestaltung

Gültig für Typ

Valid for Type / Valable pour le type

404393/...

JUMO GmbH & Co. KG

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Fax: +49 661 6003-500

E-Mail: mail@jumo.net
Internet: www.jumo.net



**MORE THAN SENSORS
AND AUTOMATION**

Aussteller

Issued by / Etabli par

Ort, Datum

Place, date / Lieu, date

Rechtsverbindliche Unterschriften

Legally binding signatures /

Signatures juridiquement valable

JUMO GmbH & Co. KG

Fulda, 2026-04-20

Bereichsleiter Globale Entwicklung
ppa. Harald Schöppner

ppa. Harald Schöppner

Geschäftsführer
Dimitrios Charisiadis

ppa. Dimitrios Charisiadis



(1) **EU-Type Examination Certificate**

- (2) Equipment or protective system intended for use in potentially explosive atmospheres - **Directive 2014/34/EU**
- (3) Certificate number: **SEV 17 ATEX 0136 X**
- (4) Product: Level probe, Type: JUMO MAERA S29 SW
- (5) Manufacturer: JUMO GmbH & Co. KG
- (6) Address: Moritz-Juchheim-Strasse 1, 36039 Fulda, Germany
- (7) The equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) Eurofins, notified body No. 1258, in accordance with article 17 of Directive 2014/34/EU of the European parliament and of the council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in confidential report no
- (9) Compliance with the essential health and safety requirements has been assured by compliance with:
- EN 60079-11:2012**
EN IEC 60079-0:2018
- Except in respect of those requirements listed at item 18 of the schedule.
- (10) If the sign «X» is placed after the certificate number, it indicates that the product is subjected to special conditions for safe use specified in the schedule to this certificate. The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.
- (11) This EU type examination certificate relates only to design and construction of the specified product. Further requirements of this directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- (12) The marking of the product shall include the following:

 II 2G Ex ib IIC T6...T4 Gb
II 2D Ex ib IIIC T70 °C ...T100 °C Db

Eurofins Electric & Electronic Product Testing AG
Notified Body ATEX

Martin Plüss
Product Certification



www.eurofins.ch

Fehraltorf, 2023-01-18

Issue: 4

Page 1 of 4

T8a_V01



(13)

Appendix

(14)

EU-Type Examination Certificate no. SEV 17 ATEX 0136 X

(15) **Description of product**

The level probe JUMO MAERA S29 SW made of stainless steel or titanium serves for converting a physical measured quantity (pressure) into a standardised electrical signal (current signal 4 .. 20 mA). It is intended for use within potentially explosive areas.
The intrinsically safe circuit is connected with a non-detachable cable.

Measuring and supply circuit with the type of protection intrinsic safety

Ex ib IIC

Ex ib IIIC

Only for connection to a certified intrinsically safe circuit.

Maximum values for electrical connection with non-detachable cable titanium type with FEP-cable (404393/***-***-***-60-25-***):

$U_i \leq 28 \text{ V}$

$I_i \leq 100 \text{ mA}$

$P_i \leq 750 \text{ mW}$

$C_i \leq 10.4 \text{ nF} + 0.192 \text{ nF/m} \cdot \text{cable length}$

$L_i \leq 0.22 \text{ uH/m} \cdot \text{cable length}$

Maximum values for electrical connection with non-detachable cable stainless steel type with PUR-cable (404393/***-***-***-20-16-***):

$U_i \leq 28 \text{ V}$

$I_i \leq 100 \text{ mA}$

$P_i \leq 750 \text{ mW}$

$C_i \leq 10.4 \text{ nF} + 0.22 \text{ nF/m} \cdot \text{cable length}$

$L_i \leq 1.09 \text{ uH/m} \cdot \text{cable length}$

Classification of installation and use..... : Stationary

Ingress protection

IP68

Rated ambient temperature range (°C) : Equipment protection level Gb

Ambient temperature:

T4: -40 °C to +85 °C

T5: -40 °C to +70 °C

T6: -40 °C to +55 °C

Equipment protection level Db

maximum surface temperature:

T100 °C: -40 °C to +85 °C

T85 °C: -40 °C to +70 °C

T70 °C: -40 °C to +55 °C

Rated ambient temperature range (°C) for Ex Components : N/A

Type designation:

Example of type designation 404393/000 - 417 - 405 - 770 - 60 - 25 - 005 / 000
 (1) (2) (3) (4) (5) (6) (7) (8) (9)

(1) Basic type

404393 JUMO MAERA S29 SW

(2)* Basic type extension

000 None
 062 Shipbuilding approval (only available in titanium version [process connection material 60])
 362 Explosion protection
 662 Shipbuilding approval and explosion protection (only available in titanium version [process connection material 60])
 999 Special version

(3)* Input

301 0 to 1 mH₂O
 302 0 to 1.6 mH₂O
 303 0 to 2.5 mH₂O
 304 0 to 4 mH₂O
 305 0 to 6 mH₂O
 306 0 to 10 mH₂O
 414 0 to 100 mbar relative pressure
 415 0 to 160 mbar relative pressure
 417 0 to 250 mbar relative pressure
 424 0 to 400 mbar relative pressure
 419 0 to 600 mbar relative pressure
 454 0 to 1 bar relative pressure
 455 0 to 1,6 bar relative pressure
 456 0 to 2,5 bar relative pressure
 535 0 to 4 bar sealed gauge
 536 0 to 6 bar sealed gauge
 537 0 to 10 bar sealed gauge
 487 0 to 0,6 bar absolute pressure
 488 0 to 1 bar absolute pressure
 489 0 to 1,6 bar absolute pressure
 490 0 to 2,5 bar absolute pressure
 491 0 to 4 bar absolute pressure
 492 0 to 6 bar absolute pressure
 493 0 to 10 bar absolute pressure
 997 Special measuring range for sealed gauge
 998 Special measuring range for absolute pressure
 999 Special measuring range for relative pressure

(4) Output

405 4 to 20 mA, 2-wire

(5)* Process connection

759 Mounted protection cage D95 mm
 770 Front-flush process connection with protective cap

(6) Process connection material

20 Stainless steel (only available with PUR cable)
 60 Titanium (only available with FEP cable)



(7) Electrical connection type

- 16 PUR cable, black, shielded (only available in stainless steel version [process connection material 20])
- 25 FEP cable, black, shielded, UV-resistant (only available in titanium version [process connection material 60])

(8)* Length of connecting cable

- 002 2 m
- 005 5 m
- 010 10 m
- 015 15 m
- 020 20 m
- 030 30 m
- 040 40 m
- 050 50 m
- 060 60 m
- 070 70 m
- 080 80 m
- 090 90 m
- 100 100 m

(9)* Extra codes

- 000 None

*) The numerical type keys can be extended with values not named here in the sense of the basic test. These extensions have no effect on the explosion protection and general safety.

(16) Specific conditions of use

For details concerning the admissible ambient temperatures and temperature classes please refer to the user's manual.
The probe with titanium enclosure must be installed protected against impact and friction.

(17) Essential health and safety requirements

In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
None	

(18) Drawings and Documents

See test report "Manufacturer's Documents"



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx SEV 20.0010X	Page 1 of 6	Certificate history:
Status:	Current	Issue No: 3	Issue 2 (2023-01-18)
Date of Issue:	2023-04-27		Issue 1 (2020-07-13)
			Issue 0 (2020-06-17)
Applicant:	JUMO GmbH & Co. KG Moritz-Juchheim-Strasse 1 36039 Fulda Germany		
Equipment:	Level Probe, Type: JUMO MAERA S29 SW		
Optional accessory:	---		
Type of Protection:	ib		
Marking:	Ex ib IIC T6...T4 Gb Ex ib IIIC T70 °C...T100 °C Db		



Approved for issue on behalf of the IECEx
Certification Body:

Thomas Köhntopp

Position:

Manager Product Certification

Signature:
(for printed version)

Date:
(for printed version)

2023-04-27

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

Eurofins Electric & Electronic Product Testing AG
Luppenstrasse 3
8320 FEHRALTORF
Switzerland





IECEX Certificate of Conformity

Certificate No.: **IECEX SEV 20.0010X**

Page 2 of 6

Date of issue: 2023-04-27

Issue No: 3

Manufacturer: **JUMO GmbH & Co. KG**
Moritz-Juchheim-Strasse 1
36039 Fulda
Germany

Manufacturing
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[CH/SEV/ExTR20.0014/02](#)

Quality Assessment Report:

[DE/EPS/QAR23.0003/00](#)





IECEx Certificate of Conformity

Certificate No.: **IECEx SEV 20.0010X**

Page 3 of 6

Date of issue: 2023-04-27

Issue No: 3

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The level probe JUMO MAERA S29 SW made of stainless steel or titanium serves for converting a physical measured quantity (pressure) into a standardised electrical signal (current signal 4 .. 20 mA). It is intended for use within potentially explosive areas. The intrinsically safe circuit is connected with a non-detachable cable.

Measuring and supply circuit with the type of protection intrinsic safety

Ex ib IIC
Ex ib IIIC

Only for connection to a certified intrinsically safe circuit.

Maximum values for electrical connection with non-detachable cable titanium type with FEP-cable (404393/**-**-**-60-25-**):

$U_i \leq 28 \text{ V}$
 $I_i \leq 100 \text{ mA}$
 $P_i \leq 750 \text{ mW}$
 $C_i \leq 10.4 \text{ nF} + 0.192 \text{ nF/m} \cdot \text{cable length}$
 $L_i \leq 0.22 \text{ uH/m} \cdot \text{cable length}$

Maximum values for electrical connection with non-detachable cable stainless steel type with PUR-cable (404393/**-**-**-20-16-**):

$U_i \leq 28 \text{ V}$
 $I_i \leq 100 \text{ mA}$
 $P_i \leq 750 \text{ mW}$
 $C_i \leq 10.4 \text{ nF} + 0.22 \text{ nF/m} \cdot \text{cable length}$
 $L_i \leq 1.09 \text{ uH/m} \cdot \text{cable length}$

Classification of installation and use:	Stationary
Ingress protection:	IP68
Rated ambient temperature range (°C):	Equipment protection level Gb Ambient temperature: T4: -40 °C to +85 °C T5: -40 °C to +70 °C T6: -40 °C to +55 °C Equipment protection level Db maximum surface temperature: T100 °C: -40 °C to +85 °C T85 °C: -40 °C to +70 °C T70 °C: -40 °C to +55 °C
Rated ambient temperature range (°C) for Ex Components:	N/A

SPECIFIC CONDITIONS OF USE: YES as shown below:

- For details concerning the admissible ambient temperatures and temperature classes please refer to the user's manual.
- The probe with titanium enclosure must be installed protected against impact and friction.



IECEX Certificate of Conformity

Certificate No.: **IECEX SEV 20.0010X**

Page 4 of 6

Date of issue: 2023-04-27

Issue No: 3

Equipment (continued):

Type designation:

Example of type designation 404393/000 - 417 - 405 - 770 - 60 - 25 - 005 / 000

(1) (2) (3) (4) (5) (6) (7) (8) (9)

(1) Basic type

404393 JUMO MAERA S29 SW

(2)* Basic type extension

000 None approval

062 Shipbuilding approval (only available in titanium version [process connection material 60])

362 Explosion protection

662 Shipbuilding approval and explosion protection (only available in titanium version [process connection material 60])

999 Special version

(3)* Input

301 0 to 1 mH₂O

302 0 to 1.6 mH₂O

303 0 to 2.5 mH₂O

304 0 to 4 mH₂O

305 0 to 6 mH₂O

306 0 to 10 mH₂O

414 0 to 100 mbar relative pressure

415 0 to 160 mbar relative pressure

417 0 to 250 mbar relative pressure

424 0 to 400 mbar relative pressure

419 0 to 600 mbar relative pressure

454 0 to 1 bar relative pressure

455 0 to 1,6 bar relative pressure

456 0 to 2,5 bar relative pressure

535 0 to 4 bar sealed gauge

536 0 to 6 bar sealed gauge

537 0 to 10 bar sealed gauge

487 0 to 0,6 bar absolute pressure

488 0 to 1 bar absolute pressure

489 0 to 1,6 bar absolute pressure

490 0 to 2,5 bar absolute pressure

491 0 to 4 bar absolute pressure

492 0 to 6 bar absolute pressure

493 0 to 10 bar absolute pressure

997 Special measuring range for sealed gauge

998 Special measuring range for absolute pressure

999 Special measuring range for relative pressure

(4) Input

405 4 to 20 mA, 2-wire

(5)* Process connection

759 Mounted protection cage D95 mm

770 Front-flush process connection with protective cap

(6) Process connection material

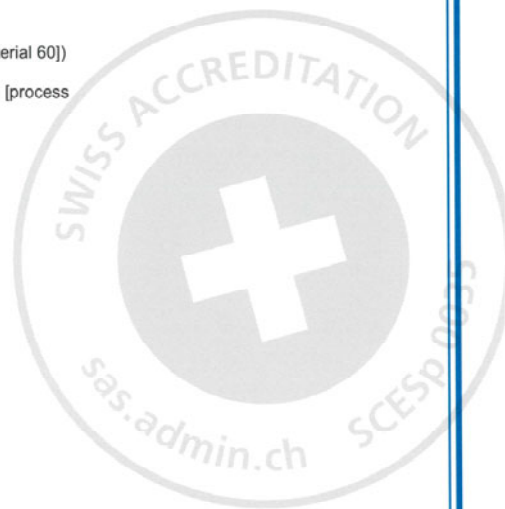
20 Stainless steel (only available with PUR cable)

60 Titanium (only available with FEP cable)

(7) Electrical connection type

16 PUR cable, black, shielded (only available in stainless steel version [process connection material 20])

25 FEP cable, black, shielded, UV-resistant (only available in titanium version [process connection material 60])





IECEx Certificate of Conformity

Certificate No.: IECEx SEV 20.0010X

Page 5 of 6

Date of issue: 2023-04-27

Issue No: 3

(8)* Length of connecting cable

002 2 m
005 5 m
010 10 m
015 15 m
020 20 m
030 30 m
040 40 m
050 50 m
060 60 m
070 70 m
080 80 m
090 90 m
100 100 m

(9)* Extra codes

000 None

*) The numerical type keys can be extended with values not named here in the sense of the basic test. These extensions have no effect on the explosion protection and general safety.





IECEX Certificate of Conformity

Certificate No.: IECEx SEV 20.0010X

Page 6 of 6

Date of issue: 2023-04-27

Issue No: 3

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Change of ExCB for quality system. Link to QAR updated.



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More than **sensors + automation**

UK Declaration of Conformity

Document No. UK 58
Manufacturer JUMO GmbH & Co. KG
Address Moritz-Juchheim-Straße 1, 36039 Fulda, Germany

Product Name	Type	Data sheet no.
JUMO MAERA S29 SW	404393	404393

Product description
Titanium level probe.

We hereby declare in sole responsibility that the designated product fulfills the requirements of the statutory instruments.

1. Statutory instrument

Name	Electromagnetic Compatibility Regulations 2016 No. 1091
Conformity assessment procedure	Mod. A
Date of first application of the UKCA mark to the product	2021

Standards/Specifications applied

Reference	Edition	Comment
EN 61326-1	2013	
EN 61326-2-3	2013	

Valid for Type
404393/...

Document No.

UK 58

UK Declaration of Conformity

Seite: 1 von 3

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Fax: +49 661 6003-500

E-Mail: mail@jumo.net
Internet: www.jumo.net



More than **sensors + automation**

2. Statutory instrument

Name The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 No. 3032

Conformity assessment procedure Mod. A

Date of first application of the UKCA mark to the product 2021

Standards/Specifications applied

Reference	Edition	Comment
[VDK] Umweltrelevante Aspekte V1 bei der Produktentwicklung und -gestaltung		

Valid for Type

404393/...

3. Statutory instrument

Name The Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016 No. 1107

Conformity assessment procedure Mod. B+D

Date of first application of the UKCA mark to the product 2023

Standards/Specifications applied

Reference	Edition	Comment
EN 60079-0	2018	
EN 60079-11	2012	

Valid for Type

404393/362-...
404393/662-...

Document No.

UK 58

UK Declaration of Conformity

Seite: 2 von 3

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Internet: www.jumo.net



More than **sensors + automation**

3.1 Type examination certificate

Certificate number

EPS 22 UKEX 1 087 X

Designated body

Bureau Veritas Consumer Products Services
United Kingdom Limited, 31 Kingsland Grange,
Woolston, Warrington, Cheshire, WA1 4RW

Quality assurance of the production process

Certificate number

Available on request.

Designated body

Bureau Veritas Consumer Products Services
United Kingdom Limited, 31 Kingsland Grange,
Woolston, Warrington, Cheshire, WA1 4RW

Identification no.

8507

Issued by

JUMO GmbH & Co. KG

Place, date

Fulda, 2023-08-03

Legally binding signatures

Director of Global Sales
Markus Belmer

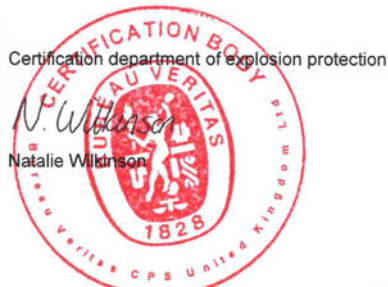
Head of Quality Department
Harald Gienger



UK - Type Examination Certificate

- (1)
- (2) Equipment and protective systems intended for use in potentially explosive atmospheres –
UKSI 2016:1107 (as amended)
- (3) UK - Type Examination Certificate Number
- EPS 22 UKEX 1 087 X**
- Revision 0**
- (4) Equipment: Level Probe JUMO MAERA S29 SW
- (5) Manufacturer: JUMO GmbH & Co. KG
- (6) Address: Moritz-Juchheim-Straße 1
36039 Fulda
Germany
- (7) This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.
- (8) Bureau Veritas Consumer Products Services United Kingdom Limited, approved body No. 8507 in accordance with UKSI 2016:1107 (as amended) Part 4, certifies that this equipment has been found to comply with the essential health and safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Schedule 1 of UKSI 2016:1107 (as amended). The examination and test results are recorded in the confidential documentation under the reference number 22TH0287.
- (9) Compliance with the essential health and safety requirements has been assured by compliance with:
- EN IEC 60079-0:2018** **EN 60079-11:2012**
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the annex to this certificate.
- (11) This UK - Type Examination Certificate relates only to the design and construction of the specified equipment in accordance with UKSI 2016:1107 (as amended). Further requirements apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.
- (12) The marking of the equipment shall include the following:

 II 2G Ex ib IIC T4...T6 Gb
II 2D Ex ib IIIC T70°C...T100°C Db



Warrington, 31-07-2023

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(13)

Annex

(14) UK - Type Examination Certificate EPS 22 UKEX 1 087 X

Revision 0

(15) Description of equipment:

The level probe JUMO MAERA S29 SW made of stainless steel or titanium serves for converting a physical measured quantity (pressure) into a standardized electrical signal (current signal 4 .. 20 mA). It is intended for use within potentially explosive areas.

The intrinsically safe circuit is connected with a non-detachable cable.

Measuring and supply circuit with the type of protection intrinsic safety

Ex ib IIC

Ex ib IIIC

Only for connection to a certified intrinsically safe circuit.

Rating:

Input and supply circuits:

Maximum values for electrical connection with non-detachable cable titanium type with FEP-cable (404393/***-***-***-60-25-***):

$U_i \leq 28 \text{ V}$

$I_i \leq 100 \text{ mA}$

$P_i \leq 750 \text{ mW}$

$C_i \leq 10.4 \text{ nF} + 0.192 \text{ nF/m} \cdot \text{cable length}$

$L_i \leq 0.22 \text{ uH/m} \cdot \text{cable length}$

Maximum values for electrical connection with non-detachable cable stainless steel type with PUR-cable (404393/***-***-***-20-16-***):

$U_i \leq 28 \text{ V}$

$I_i \leq 100 \text{ mA}$

$P_i \leq 750 \text{ mW}$

$C_i \leq 10.4 \text{ nF} + 0.188 \text{ nF/m} \cdot \text{cable length}$

$L_i \leq 1.09 \text{ uH/m} \cdot \text{cable length}$

Type designation:

Example of type designation 404393/000 - 417 - 405 - 770 - 60 - 25 - 005 / 000
(1) (2) (3) (4) (5) (6) (7) (8) (9)

(1) Basic type

404393 JUMO MAERA S29 SW

(2)* Basic type extension

000 None approval

062 Shipbuilding approval (only available in titanium version [process connection material 60])

362 Explosion protection

662 Shipbuilding approval and explosion protection (only available in titanium version [process connection material 60])

999 Special version

(3)* Input

301 0 to 1 mH₂O

302 0 to 1.6 mH₂O

303 0 to 2.5 mH₂O

304 0 to 4 mH₂O

305 0 to 6 mH₂O

306 0 to 10 mH₂O

414 0 to 100 mbar relative pressure

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415	0 to 160 mbar relative pressure
417	0 to 250 mbar relative pressure
424	0 to 400 mbar relative pressure
419	0 to 600 mbar relative pressure
454	0 to 1 bar relative pressure
455	0 to 1,6 bar relative pressure
456	0 to 2,5 bar relative pressure
535	0 to 4 bar sealed gauge
536	0 to 6 bar sealed gauge
537	0 to 10 bar sealed gauge
487	0 to 0,6 bar absolute pressure
488	0 to 1 bar absolute pressure
489	0 to 1,6 bar absolute pressure
490	0 to 2,5 bar absolute pressure
491	0 to 4 bar absolute pressure
492	0 to 6 bar absolute pressure
493	0 to 10 bar absolute pressure
997	Special measuring range for sealed gauge
998	Special measuring range for absolute pressure
999	Special measuring range for relative pressure

(4) Input

405	4 to 20 mA, 2-wire
-----	--------------------

(5)* Process connection

770	Front-flush process connection with protective cap
-----	--

(6) Process connection material

20	Stainless steel (only available with PUR cable)
60	Titanium (only available with FEP cable)

(7) Electrical connection type

16	PUR cable, black, shielded (only available in stainless steel version [process connection material 20])
25	FEP cable, black, shielded, UV-resistant (only available in titanium version [process connection material 60])

(8)* Length of connecting cable

002	2 m
005	5 m
010	10 m
015	15 m
020	20 m
030	30 m
040	40 m
050	50 m
060	60 m
070	70 m
080	80 m
090	90 m
100	100 m

(9)* Extra codes

000	None
-----	------

*) The numerical type keys can be extended with values not named here in the sense of the basic test. These extensions have no effect on the explosion protection and general safety.

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Revision 0

(16) Reference number: 22TH0287

(17) Special conditions for safe use:

For details concerning the admissible ambient temperatures and temperature classes please refer to the user's manual.

The probe with titanium enclosure must be installed protected against impact and friction.

(18) Essential health and safety requirements:

Met by compliance with standards.

Certification department of explosion protection

Warrington, 31-07-2023



Natalie Wilkinson

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		产品中有害物质的名称及含量 China EEP Hazardous Substances Information						
产品组别 Product group: 404393								
部件名称 Component Name		铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	
外壳 Housing (Gehäuse)		○	○	○	○	○	○	
过程连接 Process connection (Prozessanschluss)		○	○	○	○	○	○	
螺母 Nuts (Mutter)		○	○	○	○	○	○	
螺栓 Screw (Schraube)		○	○	○	○	○	○	
本表格依据SJ/T 11364的规定编制。 This table is prepared in accordance with the provisions SJ/T 11364. ○：表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572规定的限量要求以下。 Indicate the hazardous substances in all homogeneous materials' for the part is below the limit of the GB/T 26572. x：表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572规定的限量要求。 Indicate the hazardous substances in at least one homogeneous materials' of the part is exceeded the limit of the GB/T 26572.								



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