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JUMO MAERA F27

Level probe

Application

Level and filling level measurement in¹

- water and sewage water management
- aggressive mediums, acids, lyes
- · in electroplating baths

Brief description

The JUMO MAERA F27 level probe is used for the continuous hydrostatic level measurement of liquids. Filling heights between 0.5 mWS and 16 mWS (water column) can be achieved in ventilated tanks

When the level probe is immersed into a liquid, a liquid column emerges above the probe. The liquid column increases as the probe is immersed deeper into the liquid and creates a hydrostatic pressure on the measuring system by the force of its weight. The measured pressure is transferred as a standard signal. The signal is linearly proportional to the rising liquid column.

The surrounding pressure is realized using a special cable with an integrated pressure equalization hose. Any variations in air pressure are therefore automatically compensated for and the surrounding pressure is taken into account. The installation can be performed in both indoor and outdoor areas.

A variant with integrated overvoltage protection is available for outdoor installations, which protects the level probe against damage in the event of lightning strikes in surrounding water. The version with a PTFE case is suitable for applications in aggressive mediums. With regard to the temperature-dependent density of a liquid, the medium temperature can be recorded with an integrated temperature sensor Pt100 during level measurement. This temperature value is then used to compensate.

Further information on our level probes from the JUMO MAERA series can be found in the brochure "Level probes – Hydrostatic level and level measurement" under Documentation.

Customer benefits

· process reliable

The capacitive ceramic measuring cell impresses with an overload resistance of up to 80 times. The measuring method ensures the highest requirements for resolution and reproducibility are met. The combination of a mechanically highly stress-resistant membrane with a stainless steel or PTFE case offers excellent chemical resistance against aggressive mediums. A reverse-polarity protection mechanism protects the measuring instrument against damage, ensuring maximum safety during startup.

· versatile and uncomplicated

The simultaneous measurement of level and temperature may be optionally achieved with a Pt100 temperature sensor. As the measuring range already starts from 50 mbar (0.5 mWS), even low level filling heights can be reliably monitored. A further temperature range of 80 K enables the use of many applications.



Type 404391/000..., Type 404391/022...

Special features

- level probe for continuous level measurement in liquids
- measuring ranges: 50 mbar to 1.6 bar (-20 to +60 °C)
- medium temperature: -20 to +60 °C
- · capacitive ceramic sensor
- accuracy: 0.2 % MSP² (linearity)
- ultra-precise measuring cell
- · excellent long-term stability
- membrane withstands high mechanical loading
- high chemical resistance
- high overload resistance (up to 80 times)
- integrated overvoltage protection for stainless steel version
- reverse-polarity protection mechanism
- optionally available with integrated temperature probe Pt100
- suitable for indoor and outdoor installations

These recommendations are based on many years of experience; however, in individual cases they may not be fully applicable. We would be happy to provide further information, including regarding additional applications.

MSP = measuring span

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Technical data

General information

Reference conditions	DIN 16086 and DIN EN 60770
Sensor system	Capacitive ceramic sensor
Mounting position	Vertical/hanging from the cable

Output

Analog output	
Current	4 to 20 mA, two-wire
Voltage	DC 0.5 to 4.5 V, three-wire, ratiometric 10 to 90 % of the voltage supply
Step response	
T ₉₀	≤ 10 ms
Burden	
Current	
4 to 20 mA, two-wire	$R_L \le (U_B-12 \text{ V}) \div 0.02 \text{ A } (\Omega)$
Voltage	
DC 0.5 to 4.5 V, three-wire	$R_L \ge 10 \text{ k}\Omega$

Mechanical features

Ensure the medium durability of the material!

Process connection	
Material	Stainless steel 316 Ti
Sensor	
Material	Ceramic Al ₂ O ₃ (99.9 %)
Case	
Material	
Standard	Stainless steel 316 Ti
With basic type extension 022	PTFE
Seals	FPM, standard
	EPDM, NTS 917
Protective cap (658)	PVDF
Weight	200 g (without cable)
Diameter	
Stainless steel version	41 mm
PTFE version	50 mm

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Environmental conditions

Admissible temperatures	
Medium/environment	-20 to +60 °C
	The device must not freeze in the medium!
	A restriction may be required depending on the medium.
With basic type extension 022	0 to 40 °C
	The device must not freeze in the medium!
	A restriction may be required depending on the medium.
Storage	-20 to +100 °C, dry
Electromagnetic compatibility	
Interference emission ^a	Class B
Interference immunity ^b	Industrial requirements
Overvoltage protection ^c	Integrated overvoltage protection
	Rated leakage current: 1 kA
Protection type ^d	IP68, submersible to 16 m

^a According to EN 61326-2-3

Measuring range and accuracy

Case: stainless steel (standard)

Measuring range	Linearity ^a	Linearity ^a Accuracy at				Overload	Burst
		20 °Cc	0 to 40 °C ^d	-20 to +60 °C ^d	stability ^b	capability	pressure
bar	% MSP	% MSP	% MSP	% MSP	% MSP	bar	bar
					per year		
0 to 0.05 bar relative pressure	0.2	0.4	0.9	1.3	≤ 0.2	-0.3/4	150
0 to 0.1 bar relative pressure	0.2	0.4	0.9	1.3		-0.3/4	
0 to 0.16 bar relative pressure	0.2	0.4	0.9	1.3		5	
0 to 0.25 bar relative pressure	0.2	0.4	0.9	1.3		6	
0 to 0.4 bar relative pressure	0.2	0.4	0.9	1.3		6	
0 to 0.6 bar relative pressure	0.2	0.4	0.9	1.3		10	
0 to 1 bar relative pressure	0.2	0.4	0.4	0.6		10	
0 to 1.6 bar relative pressure	0.2	0.4	0.4	0.6		10	

Case: PTFE (basic type extension 022)

0.2	0.4	0.9	1.3	≤ 0.2	-0.3/2	150
0.2	0.4	0.9	1.3		-0.3/2	
0.2	0.4	0.9	1.3		2	
0.2	0.4	0.9	1.3		2	
0.2	0.4	0.9	1.3		2	
0.2	0.4	0.9	1.3		2	
0.2	0.4	0.4	0.6		2	
0.2	0.4	0.4	0.6		2	
	0.2 0.2 0.2 0.2 0.2 0.2	0.2 0.4 0.2 0.4 0.2 0.4 0.2 0.4 0.2 0.4 0.2 0.4 0.2 0.4	0.2 0.4 0.9 0.2 0.4 0.9 0.2 0.4 0.9 0.2 0.4 0.9 0.2 0.4 0.9 0.2 0.4 0.9 0.2 0.4 0.4	0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 0.6	0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 0.6	0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.9 1.3 0.2 0.4 0.6 2

a Linearity according to limit point setting

b According to EN 61326-1

c According to EN 61000-4-5

d According to EN 60529

b Reference conditions EN 61298-1

c Includes: linearity, hysteresis, repeatability, deviation of measuring range initial value and measuring range end value

d Includes: linearity, hysteresis, repeatability, deviation of measuring range initial value and measuring range end value, thermal effect on measuring range start and measuring span

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Auxiliary energy

Voltage supply U _B ^a	
4 to 20 mA, two-wire (output 405)	DC 12 to 30 V, nominal voltage DC 24 V
DC 0.5 to 4.5 V, three-wire (output 412)	DC 5 V

Residual ripple: the voltage peaks must not exceed or fall below the specified voltage supply values!

Reverse voltage protection	Yes (except output 412)
Max. current consumption	For DC 24 V ≤ 25 mA
	For DC 5 V \leq 2 mA
Electrical circuit	SELV
Requirements	The device must be equipped with an electrical circuit that meets the requirements of EN 61010-1 with regard to "Limited-energy circuits".

Electrical connection

6-wire, shielded cable with integrated pressure compensation hose, AWG 24 with ferrules

PE, PUR, FEP ^a
PA
Black
Pebble gray
Approx. 8.4 mm
0.25 mm ²
160 mm
120 mm
It is vital to take into account that if the protective hose is kinked or pinched, this will prevent ambient pressure compensation.
Up to 400 N
Approx. 115 g/m
Approx. 90 g/m
-40 to +70 °C (depending on the medium)
PE and PUR cable according to VDE 0207, test method EN 60811 part 2-1, section 8
FEP cable according to DIN ISO 4892-2

Depending on the version ordered

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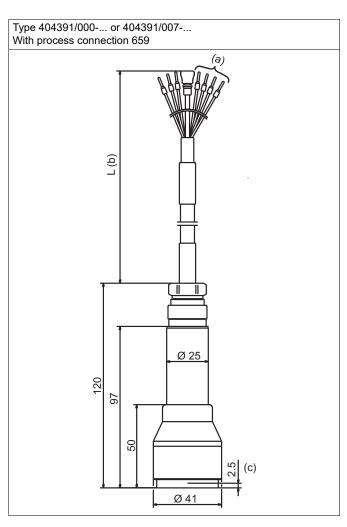
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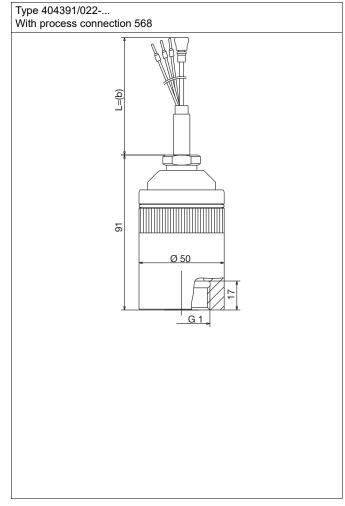


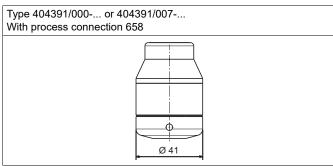
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Dimensions







- (a) Only with basic type extension 007 (integrated temperature probe Pt100)
- (b) Cable length according to customer preference
- (c) Measurement to the surface of sensor

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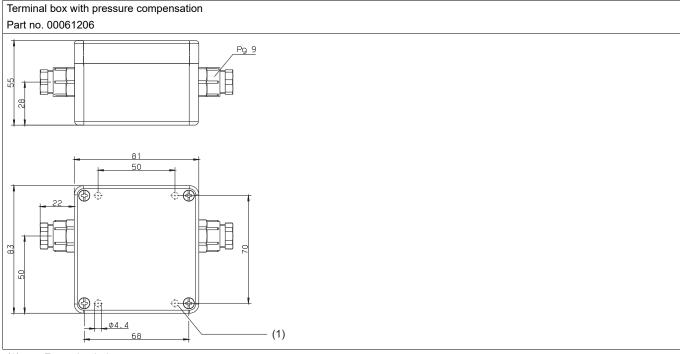
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Accessory dimensions



(1) Fastening hole





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Connection diagram

The connection diagram in the data sheet provides preliminary information about the connection options. For the electrical connection only use the installation instructions or the operating manual. The knowledge and the correct technical execution of the safety information/instructions contained in these documents are mandatory for installation, electrical connection, startup, and for safety during operation.

Connection		Terminal assignment
		Cable ^a
4 to 20 mA, two-wire (output 405)		
Voltage supply DC 12 to 30 V Rated voltage supply DC 24 V	U _{B/S} + ^b 0 V/S-	White Gray
DC 0.5 to 4.5 V, ratiometric (output 412)		
Voltage supply DC 5 V Rated voltage supply DC 5 V	U _B 0 V/S- S+	White Gray Yellow
Shielding	II.	
Caution: Ground the device! Ground all connected devices (such as pumps and valves) to the same potential!		Black
Integrated temperature probe (with basic type extension 007) ^c		
pk bn gn ye		Pink (pk) Brown (bn) Green (gn) Yellow (ye)

For cable specifications, see installation instructions B 401015.4, chapter 6 "Installation and mounting".

b The voltage peaks must not exceed or fall below the specified voltage supply value!

^c Level probes in free-field applications without integrated overvoltage protection must be protected against electrical discharge. In addition, it is recommended that external overvoltage protection is used upstream and downstream of the display or processing unit.

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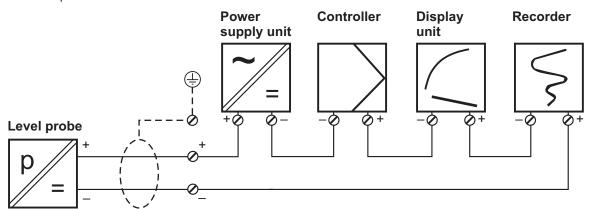


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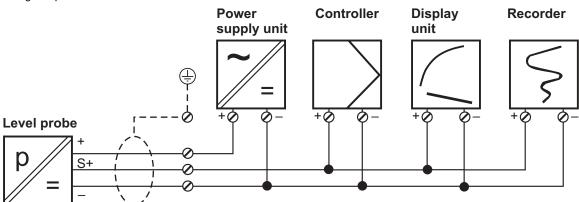
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Connection example

Current output



Voltage output



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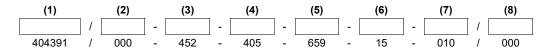
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Order details

404391 JUMO MAERA F27 – Level probe with ceramic measuring cell (2) Basic type extension 000 None 007 With integrated temperature probe Pt100 ^a 022 With case made of plastic PTFE ^b 999 Special version (3) Input 412 0 to 50 mbar relative pressure 414 0 to 100 mbar relative pressure 415 0 to 160 mbar relative pressure 416 0 to 250 mbar relative pressure 417 0 to 600 mbar relative pressure 418 0 to 160 mbar relative pressure 451 0 to 400 mbar relative pressure 452 0 to 400 mbar relative pressure 453 0 to 600 mbar relative pressure 454 0 to 1 bar relative pressure 455 0 to 1.6 bar relative pressure 456 0 to 1.6 bar relative pressure 457 0 to 1.6 bar relative pressure 458 0 to 5.0 to 1.5 bar relative pressure 459 Special measuring range (4) Output 405 4 to 20 mA, two-wire 412 0.5 to 4.5 V, three-wire (5) Process connection 568 G I inside ⁶ 658 Connection open at the bottom (6) Electrical connection type PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 70 Cable length of the connecting cable 569 Special length (7) Cable length of the connecting cable 569 Special length (8) Extra codes 000 None 501 With EPDM seal		(1)	Basic type
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007 With integrated temperature probe Pt100 ^a 022 With case made of plastic PTFE ^b 999 Special version (3) Input 412 0 to 50 mbar relative pressure 414 0 to 100 mbar relative pressure 415 0 to 160 mbar relative pressure 416 0 to 250 mbar relative pressure 417 0 to 100 mbar relative pressure 418 0 to 250 mbar relative pressure 419 0 to 100 mbar relative pressure 410 0 to 100 mbar relative pressure 410 0 to 100 mbar relative pressure 411 0 to 100 mbar relative pressure 412 0 to 10 bar relative pressure 413 0 to 600 mbar relative pressure 414 0 to 1 bar relative pressure 415 0 to 1.6 bar relative pressure 416 0 to 1.0 bar relative pressure 417 0 to 1.0 bar relative pressure 418 0 to 1.0 bar relative pressure 419 Special measuring range (4) Output 410 1 to 20 mA, two-wire 412 0.5 to 4.5 V, three-wire (5) Process connection 568 G 1 inside ^c 588 Connection closed at the bottom 659 Connection open at the bottom 659 Connection open at the bottom 659 Connection open at the bottom 650 Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 15 PELD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 70 Cable length of the connecting cable 50 5 5 m 50 10 10 m		(2)	Basic type extension
O22 With case made of plastic PTFE ^b	000		None
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1	022		With case made of plastic PTFE ^b
412	999		Special version
414 0 to 100 mbar relative pressure 415 0 to 160 mbar relative pressure 451 0 to 250 mbar relative pressure 452 0 to 400 mbar relative pressure 453 0 to 600 mbar relative pressure 454 0 to 1 bar relative pressure 455 0 to 1.6 bar relative pressure 456 0 to 1.6 bar relative pressure 457 0 to 1.6 bar relative pressure 458 0 to 1.6 bar relative pressure 459 Special measuring range 410 Output 410 4 to 20 mA, two-wire 411 0.5 to 4.5 V, three-wire 61 Process connection 62 G 1 inside 6 638 Connection closed at the bottom 659 Connection open at the bottom 650 Connection open at the bottom 650 Connection open at the bottom 651 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 650 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 651 PE-LD cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) 652 Cable length of the connecting cable 653 0 Did 10 m 654 Cable length of the connecting cable 655 Cable length of the connecting cable 656 Cable length of the connecting cable 657 Cable length of the connecting cable 658 Catting ring fitting (preparation for protection tube) ^d		(3)	Input
415 0 to 160 mbar relative pressure 451 0 to 250 mbar relative pressure 452 0 to 400 mbar relative pressure 453 0 to 600 mbar relative pressure 454 0 to 1 bar relative pressure 455 0 to 1.6 bar relative pressure 455 0 to 1.6 bar relative pressure 455 0 to 1.6 bar relative pressure 999 Special measuring range (4) Output 405 4 to 20 mA, two-wire 412 0.5 to 4.5 V, three-wire (5) Process connection 568 G 1 inside ^c 658 Connection closed at the bottom 659 Connection open at the bottom (6) Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 15 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	412		0 to 50 mbar relative pressure
451 0 to 250 mbar relative pressure 452 0 to 400 mbar relative pressure 453 0 to 600 mbar relative pressure 454 0 to 1 bar relative pressure 455 0 to 1.6 bar relative pressure 455 0 to 1.6 bar relative pressure 455 0 to 1.6 bar relative pressure 456 0 to 1.6 bar relative pressure 457 0 to 1.6 bar relative pressure 458 0 to 1.6 bar relative pressure 459 Special measuring range 40 Output 405 4 to 20 mA, two-wire 410 0.5 to 4.5 V, three-wire 411 0.5 to 4.5 V, three-wire 412 0.5 to 4.5 V, three-wire 415 Process connection 458 Connection closed at the bottom 459 Connection closed at the bottom 450 Connection open at the bottom 450 Connection open at the bottom 450 Connection open at the bottom 451 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 451 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 452 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) 453 TEP cable ength of the connecting cable 454 Output 455 Sm 457 Ocable length of the connecting cable 457 Cable length of the connecting cable 458 Cutting ring fitting (preparation for protection tube) ^d	414		0 to 100 mbar relative pressure
452 0 to 400 mbar relative pressure 453 0 to 600 mbar relative pressure 454 0 to 1 har relative pressure 455 0 to 1.6 bar relative pressure 499 Special measuring range (4) Output 405 4 to 20 mA, two-wire 412 0.5 to 4.5 V, three-wire (5) Process connection 568 G 1 inside ^c 658 Connection closed at the bottom (6) Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 25 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 999 Special length (8) Extra codes 000 None Cutting ring fitting (preparation for protection tube) ^d	415		0 to 160 mbar relative pressure
453 0 to 600 mbar relative pressure 454 0 to 1 bar relative pressure 455 0 to 1.6 bar relative pressure 999 Special measuring range (4) Output 405 4 to 20 mA, two-wire 412 0.5 to 4.5 V, three-wire (5) Process connection 568 G 1 inside ^c 658 Connection closed at the bottom 669 Connection open at the bottom (6) Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 75 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	451		0 to 250 mbar relative pressure
454 0 to 1 bar relative pressure 455 0 to 1.6 bar relative pressure 999 Special measuring range (4) Output 405 4 to 20 mA, two-wire 412 0.5 to 4.5 V, three-wire (5) Process connection 568 G 1 inside ^o 658 Connection closed at the bottom 659 Connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 15 PE-LD cable, as suitable for use in water (lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) 7 Cable length of the connecting cable 005 5 m 010 10 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	452		0 to 400 mbar relative pressure
455 0 to 1.6 bar relative pressure 999 Special measuring range (4) Output 405 4 to 20 mA, two-wire 412 0.5 to 4.5 V, three-wire (5) Process connection 568 G 1 inside [©] 658 Connection closed at the bottom 669 Connection open at the bottom (6) Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 15 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 25 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None Cutting ring fitting (preparation for protection tube) ^d	453		0 to 600 mbar relative pressure
999 Special measuring range (4) Output 405 4 to 20 mA, two-wire 412 0.5 to 4.5 V, three-wire (5) Process connection 568 G 1 inside ^c 659 Connection closed at the bottom (6) Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 15 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 25 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 m 999 Special length (8) Extra codes 000 None Cutting ring fitting (preparation for protection tube) ^d	454		0 to 1 bar relative pressure
(4) Output 405	455		0 to 1.6 bar relative pressure
405 4 to 20 mA, two-wire 412 0.5 to 4.5 V, three-wire (5) Process connection 568 G 1 inside ^c 658 Connection closed at the bottom 659 Connection open at the bottom (6) Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 15 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 25 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	999		Special measuring range
412 0.5 to 4.5 V, three-wire (5) Process connection 568 G 1 inside ^c 658 Connection closed at the bottom 659 Connection open at the bottom (6) Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 15 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 25 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d		(4)	Output
(5) Process connection 568	405		4 to 20 mA, two-wire
568 G 1 inside ^c 658 Connection closed at the bottom 659 Connection open at the bottom (6) Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 15 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 25 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	412		0.5 to 4.5 V, three-wire
Connection closed at the bottom (6) Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 15 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 25 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d		(5)	Process connection
Connection open at the bottom (6) Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 15 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 25 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	568		G 1 inside ^c
(6) Electrical connection type 14 PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) 15 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 25 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	658		Connection closed at the bottom
PUR cable, as suitable for use in water (lake, water well, and mine water), as well as coolant and lubricant (UV-resistant) PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	659		Connection open at the bottom
sistant) 15 PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant) 25 FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d		(6)	Electrical connection type
FEP cable as suitable for use in water (sea, lake, water well, and mine water), and in different oils, fuels, and solvents (UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	14		
(UV-resistant) (7) Cable length of the connecting cable 005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	15		PE-LD cable, as suitable for use in water (lake, water well, mine water, UV-resistant)
005 5 m 010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	25		
010 10 m 100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d		(7)	Cable length of the connecting cable
100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	005		5 m
100 100 m 999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	010		10 m
999 Special length (8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d			
(8) Extra codes 000 None 593 Cutting ring fitting (preparation for protection tube) ^d	100		100 m
000 None 593 Cutting ring fitting (preparation for protection tube) ^d	999		Special length
593 Cutting ring fitting (preparation for protection tube) ^d		(8)	Extra codes
	000		None
917 With EPDM seal	593		Cutting ring fitting (preparation for protection tube) ^d
	917		With EPDM seal

a Only with output 405, not with basic type extension 022.

Order code
Order example



^b Only with process connection 568.

^c Only with basic type extension 022.

d Only with basic type extensions 000 or 007.

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Data Sheet 404391

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Accessories

Item	Description	Part no.
Terminal box with pressure compensation element	The terminal box is used for secure installation of the level probe cable. The end of the pressure equalization hose is always protected from precipitate and condensation (IP65). The remaining distribution can be performed with a cable without a pressure equalization hose.	00061206
	The terminal case should be mounted as close as possible to the medium surface while still outside the medium to ensure the system is implemented cost-effectively and in the best possible way.	
Cable clamp	The cable clamp holds the probe in the liquid at a defined depth and provides strain relief. Use of the cable clamp ensures that the cable is not deformed in an unacceptable manner.	00061389
// \	The cable clamp is compatible with all JUMO level probes.	
	The clamping range is 5.5 mm to 10.5 mm. The maximum tensile strength is 2.5 kN. The case is made of hot-dip galvanized steel sheet. The clamping jaws and guide clips are made of glass fiber reinforced polyamide. A stainless steel variant is also available upon request.	
Sealing screw	For closed containers or water wells with a well head, the cable should be guided through and fastened by a sealing screw.	00333329
	The sealing screw is made up of a G 1 1/2" thread and is used to route the cable.	
Pressure compensation filter for cable	The pressure compensation filter is a breathable filter that ensures aeration and exhaust-air ventilation without moisture penetrating. It is fitted at the end of the special cable.	00382632