



JUMO tecLine ClO₂ and O₃

Sensors for chlorine dioxide (ClO₂) and ozone (O₃), digital or analog

Description

These membrane-covered, amperometric sensors are used to measure the concentration of chlorine dioxide or ozone in aqueous solutions.

The sensor for chlorine dioxide can be used to measure chlorine dioxide from chlorite/chlorine and chlorite/hydrochloric acid plants. The sensor for ozone can be used to measure electrolytically generated ozone among other things.

The sensors are not suitable for detecting the absence of chlorine dioxide or ozone.

Depending on the type, the electronics integrated in the sensors provide an analog, temperature-compensated current signal (4 to 20 mA) or a digital Modbus RTU output signal.

The sensors can be connected directly to indicating devices/transmitters/controllers (see "Suitable indicating devices/transmitters/controllers ", Page 15). They supply the sensors with voltage and allow for easy calibration of the measuring system.

Areas of application

Measurement in...

- Drinking water
- Swimming pool water
- Service water
- Process water
- Cooling water

Special features

- 2-electrodes principle
- Easy calibration
- Integrated temperature compensation
- Proven measuring system
- Electrical connection analog or digital

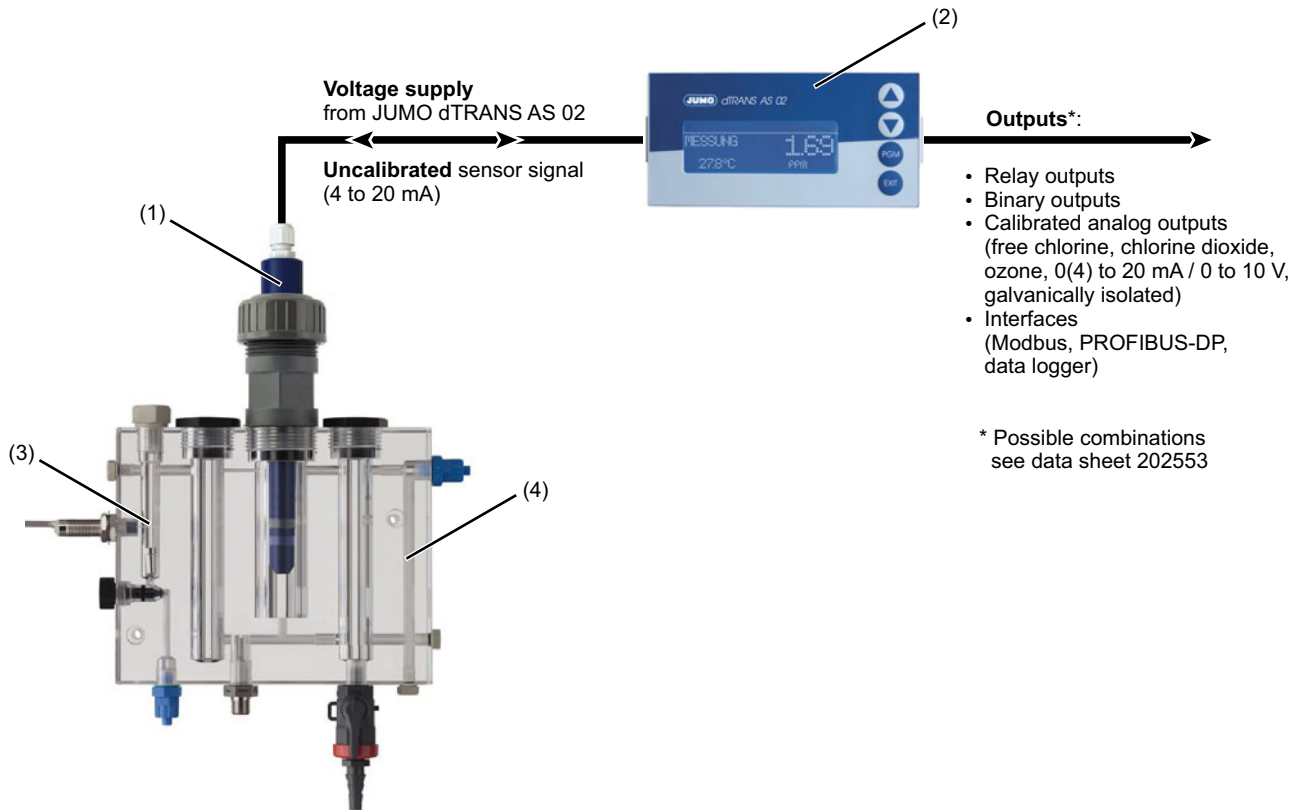
Type overview

Type	Description	Technical data
202634/45	ClO ₂ , output signal of 4 to 20 mA	see "Sensors for chlorine dioxide (ClO ₂) ", Page 4
202634/65	ClO ₂ , digital interface output signal	
202634/47	ClO ₂ , output signal 4 to 20 mA, chemical-resistant membrane	see "Sensors for chlorine dioxide (ClO ₂) with membranes that are insensitive to chemicals ", Page 6
202634/67	ClO ₂ , digital interface output signal, chemical-resistant membrane	
202634/50	O ₃ , output signal of 4 to 20 mA	see "Sensors for ozone (O ₃) ", Page 8
202634/60	O ₃ , digital interface output signal	
202634/52	O ₃ , output signal 4 to 20 mA, chemical-resistant membrane	see "Sensors for ozone (O ₃) with membranes that are insensitive to chemicals ", Page 10
202634/62	O ₃ , digital interface output signal, chemical-resistant membrane	



Type 202634/45... and type 202634/60...

Example of the measuring point set-up



Additional indicating devices/controllers: "Suitable indicating devices/transmitters/controllers", Page 15

The following components are required to set up a measuring point for measuring chlorine dioxide or ozone:

- (1) Amperometric sensor, membrane-covered (output signal of 4 to 20 mA)
- (2) Transmitter/controller (JUMO dTRANS AS 02)
- (3) Flow monitor (optional extra, recommended)
- (4) Fitting for membrane-covered sensors (JUMO combination fitting 202811/10)

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Important information

Notes for all types

- Measuring is only possible in a suitable flow fitting (see accessories).
- The flow rate from the measurement medium must be at least 15 cm/s (0.5 l/min) in order for the sensor to work correctly. The minimum inflow can be guaranteed using the JUMO combination fitting or the JUMO individual fitting in connection with the JUMO flow monitor for disinfectant measurands (see accessories).
- For calibration, a test set is required to determine the chlorine dioxide or ozone content using the DPD method; corresponding photo- or colorimetric test sets are commercially available.
- To make sure the sensor works correctly, only one disinfectant should be used at a time.
- More information on the setup and use of amperometric sensors can be found in our brochure "Information on amperometric measurement of free chlorine, chlorine dioxide and ozone in water".

Notes for types 202634/45, /50 and /60

- The measuring water must be visually clean (drinking water or swimming pool water quality) and must not contain surfactants (ingredients consisting of detergents, cleaning agents and disinfectants) due to the hydrophobic membrane of the sensor.
A pre-filter must also be used, as required.

Notes for types 202634/47, /52 and /62

- These sensors with a chemical and surfactant-resistant membrane can also be used in soiled water that does not have drinking water or swimming pool water quality.

Notes for types 202634/45, /47, /50 and /52 (output signal of 4 to 20 mA)

- The slope of these sensors can vary depending on the manufacture and application by between 65 % and 150 % of the nominal slope. To determine the appropriate measuring range or appropriate sensor, it is therefore recommended that the concentration to be measured be multiplied by a factor of 1.5.

Example: concentration to be measured 1.6 ppm × factor 1.5 = 2.4 ppm => recommended sensor with measuring range of 5 ppm.

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Technical data

Sensors for chlorine dioxide (ClO₂)

Version with output signal 4 to 20 mA (type 202634/45)

Area of application	Swimming pool water, drinking water, service water and process water This must not contain any surfactants
Measuring principle	Membrane-covered, amperometric, two-electrode system with integrated electronic components
Membrane type	Hydrophobic PTFE membrane
Measuring cable connection	2-pole terminal connection (2 × 1 mm ²)
Voltage supply	U _B DC 12 to 30 V (galvanic isolation required)
Electromagnetic compatibility	According to EN 61326-1
Interference emission	Class B
Interference immunity	Industrial requirements
Output signal	4 to 20 mA
Burden/current consumption	≤ (U _B - 11 V) ÷ 0.02 A
Settling time	Approx 1 h for initial startup
Inflow speed	Approx. 15 cm/s (corresponds to a totalized flow rate of approx. 30 l/h when installed in the JUMO flow fitting (part no.: 00392611))
Measuring ranges	0.05 to 0.5 mg/l (ppm) 0.05 to 2 mg/l (ppm) 0,05 bis 5 mg/l (ppm) 0.05 to 10 mg/l (ppm)
Dissolution	
Measuring range 0.5 mg/l	0.001 mg/l
Measuring ranges 2, 5, 10 mg/l	0.01 mg/l
Slope drift	Approx. < -1 % per month under replicable conditions (25 °C, pH 7.2 in drinking water)
Response time t₉₀	Approx. 15 seconds
Operating temperature	Prerequisite: no ice crystals in the measurement medium
Measuring water	0 to 45 °C
Environment	0 to 55 °C
Temperature compensation	Automatic, using integrated temperature probe, avoid temperature jumps
pH value of area of application	pH 1 to pH 12
Zero point adjustment	Not required
Slope adjustment	On evaluation unit/controller using analytical determination
Disturbances	
Chlorine (Cl ₂)	Factor 0.35
Ozone (O ₃)	Factor 3
Pressure resistance	No pressure fluctuations admissible; pressure-free operation (atmospheric pressure) recommended
Absolute pressure	Max. 2 bar
Relative pressure	Max. 1 bar
Materials	Semi-permeable membrane, PVC-U
Dimensions	Dia. 25 mm, length 220 mm
Weight	Approx. 125 g

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Version with digital interface output signal (type 202634/65)

Area of application	Swimming pool water, drinking water, service water and process water This must not contain any surfactants
Measuring principle	Membrane-covered, amperometric, two-electrode system with integrated electronic components
Membrane type	Hydrophobic PTFE membrane
Measuring cable connection	5-pole flange connector, M12
Voltage supply	U _B DC 9 to 30 V (galvanically isolated in the sensor)
Electromagnetic compatibility	According to EN 61326-1
Interference emission	Class B
Interference immunity	Industrial requirements
Output signal	Modbus RTU
Burden/current consumption	56 to 20 mA
Settling time	Approx 1 h for initial startup
Inflow speed	Approx. 15 cm/s (corresponds to a totalized flow rate of approx. 30 l/h when installed in the JUMO flow fitting (part no.: 00392611))
Measuring ranges	0.05 to 2 mg/l (ppm) 0.05 to 20 mg/l (ppm)
Dissolution	
Measuring range 0.5 mg/l	0.001 mg/l
Measuring range 20 mg/l	0.01 mg/l
Slope drift	Approx. < -1 % per month under replicable conditions (25 °C, pH 7.2 in drinking water)
Response time t₉₀	Approx. 15 seconds
Operating temperature	Prerequisite: no ice crystals in the measurement medium
Measuring water	0 to 45 °C
Environment	0 to 55 °C
Temperature compensation	Automatic, using integrated temperature probe, avoid temperature jumps
pH value of area of application	pH 1 to pH 12
Zero point adjustment	Not required
Slope adjustment	On evaluation unit/controller using analytical determination
Disturbances	
Chlorine (Cl ₂)	Factor 0.35
Ozone (O ₃)	Factor 3
Pressure resistance	No pressure fluctuations admissible; pressure-free operation (atmospheric pressure) recommended
Absolute pressure	Max. 2 bar
Relative pressure	Max. 1 bar
Materials	Semi-permeable membrane, PVC-U
Dimensions	Dia. 25 mm, length 205 mm
Weight	Approx. 125 g

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Sensors for chlorine dioxide (ClO₂) with membranes that are insensitive to chemicals

Version with output signal 4 to 20 mA (type 202634/47)

Area of application	All types of water treatment (e.g. bottle washing machine, CIP plant, rinser), seawater, surfactants are tolerated
Measuring principle	Membrane-covered, amperometric, two-electrode system with integrated electronic components
Membrane type	The membrane is impervious to chemicals and surfactants
Measuring cable connection	2-pole terminal connection (2 × 1 mm ²)
Voltage supply	U _B DC 12 to 30 V (galvanic isolation required)
Electromagnetic compatibility	According to EN 61326-1
Interference emission	Class B
Interference immunity	Industrial requirements
Output signal	4 to 20 mA
Burden/current consumption	≤ (U _B - 11 V) ÷ 0.02 A
Settling time	Approx 1 h for initial startup
Inflow speed	Approx. 15 cm/s (corresponds to a totalized flow rate of approx. 30 l/h when installed in the JUMO flow fitting (part no.: 00392611))
Measuring ranges	0.05 to 2 mg/l (ppm) 0.05 to 5 mg/l (ppm) 0.05 to 10 mg/l (ppm)
Dissolution	
Measuring range 2 mg/l	0.001 mg/l
Measuring ranges 5, 10 mg/l	0.01 mg/l
Accuracy	After calibration under replicable conditions (25 °C, pH 7.2 in drinking water)
Measuring range 2 mg/l	< 1 % of the measuring range end value (with 0.4 and 1.6 mg/l)
Slope drift	Approx. < -1 % per month under replicable conditions (25 °C, pH 7.2 in drinking water)
Response time t₉₀	Approx. 60 s
Operating temperature	Prerequisite: no ice crystals in the measurement medium
Measuring water	0 to 50 °C
Environment	0 to 55 °C
Temperature compensation	Automatic, using integrated temperature probe, max. temperature change: 5 °C per hour, avoid temperature jumps
pH value of area of application	pH 1 to pH 12
Zero point adjustment	Not required
Slope adjustment	On evaluation unit/controller using analytical determination
Disturbances	
Chlorine (Cl ₂)	Factor 0.1
Ozone (O ₃)	Factor 25
Pressure resistance	No pressure fluctuations admissible; pressure-free operation (atmospheric pressure) recommended
Absolute pressure	Max. 2 bar
Relative pressure	Max. 1 bar
Materials	Elastomer membrane, PVC-U, stainless steel 1.4571
Dimensions	Dia. 25 mm, length 220 mm
Weight	Approx. 125 g

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Version with digital interface output signal (type 202634/67)

Area of application	All types of water treatment (e.g. bottle washing machine, CIP plant, rinser), seawater, surfactants are tolerated
Measuring principle	Membrane-covered, amperometric, two-electrode system with integrated electronic components
Membrane type	The membrane is impervious to chemicals and surfactants
Measuring cable connection	5-pole flange connector, M12
Voltage supply	U _B DC 9 to 30 V (galvanically isolated in the sensor)
Electromagnetic compatibility	According to EN 61326-1
Interference emission	Class B
Interference immunity	Industrial requirements
Output signal	Modbus RTU
Burden/current consumption	56 to 20 mA
Settling time	Approx 1 h for initial startup
Inflow speed	Approx. 15 cm/s (corresponds to a totalized flow rate of approx. 30 l/h when installed in the JUMO flow fitting (part no.: 00392611))
Measuring ranges	0.05 to 2 mg/l (ppm) 0.05 to 20 mg/l (ppm)
Dissolution	
Measuring range 2 mg/l	0.001 mg/l
Measuring range 20 mg/l	0.01 mg/l
Accuracy	After calibration under replicable conditions (25 °C, pH 7.2 in drinking water)
Measuring range 2 mg/l	< 1 % of the measuring range end value (with 0.4 und 1.6 mg/l)
Measuring range 20 mg/l	< 0.1 % of the measuring range end value (with 1.5 mg/l)
Slope drift	Approx. < -1 % per month under replicable conditions (25 °C, pH 7.2 in drinking water)
Response time t_{90}	Approx. 60 s
Operating temperature	Prerequisite: no ice crystals in the measurement medium
Measuring water	0 to 50 °C
Environment	0 to 55 °C
Temperature compensation	Automatic, using integrated temperature probe, max. temperature change: 5 °C per hour, avoid temperature jumps
pH value of area of application	pH 1 to pH 12
Zero point adjustment	Not required
Slope adjustment	On evaluation unit/controller using analytical determination
Disturbances	
Chlorine (Cl ₂)	Factor 0.1
Ozone (O ₃)	Factor 25
Pressure resistance	No pressure fluctuations admissible; pressure-free operation (atmospheric pressure) recommended
Absolute pressure	Max. 2 bar
Relative pressure	Max. 1 bar
Materials	Elastomer membrane, PVC-U, stainless steel 1.4571
Dimensions	Dia. 25 mm, length 205 mm
Weight	Approx. 125 g

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Sensors for ozone (O₃)

Version with output signal 4 to 20 mA (type 202634/50)

Area of application	Swimming pool water, drinking water, service water and process water This must not contain any surfactants
Measuring principle	Membrane-covered, amperometric, two-electrode system with integrated electronic components
Membrane type	Hydrophobic PTFE membrane
Measuring cable connection	2-pole terminal connection (2 × 1 mm ²)
Voltage supply	U _B DC 12 to 30 V (galvanic isolation required)
Electromagnetic compatibility Interference emission Interference immunity	According to EN 61326-1 Class B Industrial requirements
Output signal	4 to 20 mA
Burden/current consumption	≤ (U _B - 11 V) ÷ 0.02 A
Settling time	Approx 1 h for initial startup
Inflow speed	Approx. 15 cm/s (corresponds to a totalized flow rate of approx. 30 l/h when installed in the JUMO flow fitting (part no.: 00392611))
Measuring ranges	0.005 to 0.5 mg/l (ppm) 0.005 to 2 mg/l (ppm) 0.05 to 10 mg/l (ppm) 0.05 to 20 mg/l (ppm)
Dissolution Measuring ranges 0.5, 2 mg/l Measuring ranges 10, 20 mg/l	0.001 mg/l 0.01 mg/l
Slope drift	Approx. < -1 % per month under replicable conditions (25 °C, pH 7.2 in drinking water)
Response time t₉₀	Approx. 15 seconds
Operating temperature Measuring water Environment	Prerequisite: no ice crystals in the measurement medium 0 to 45 °C 0 to 55 °C
Temperature compensation	Automatic, using integrated temperature probe, avoid temperature jumps
Zero point adjustment	Not required
Slope adjustment	On evaluation unit/controller using analytical determination
pH value of area of application	pH 2 to pH 11
Disturbances Chlorine (Cl ₂) Chlorine dioxide (ClO ₂)	Factor 0.03 Factor 0.7
Pressure resistance Absolute pressure Relative pressure	No pressure fluctuations admissible; pressure-free operation (atmospheric pressure) recommended. Max. 2 bar Max. 1 bar
Materials	Semi-permeable membrane, PVC-U
Dimensions	Dia. 25 mm, length 220 mm
Weight	Approx. 125 g

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Version with digital interface output signal (type 202634/60)

Area of application	Swimming pool water, drinking water, service water and process water This must not contain any surfactants
Measuring principle	Membrane-covered, amperometric, two-electrode system with integrated electronic components
Membrane type	Hydrophobic PTFE membrane
Measuring cable connection	5-pole flange connector, M12
Voltage supply	U _B DC 9 to 30 V (galvanically isolated in the sensor)
Electromagnetic compatibility Interference emission Interference immunity	According to EN 61326-1 Class B Industrial requirements
Output signal	Modbus RTU
Burden/current consumption	56 to 20 mA
Settling time	Approx 1 h for initial startup
Inflow speed	Approx. 15 cm/s (corresponds to a totalized flow rate of approx. 30 l/h when installed in the JUMO flow fitting (part no.: 00392611))
Measuring ranges	0.005 to 2 mg/l (ppm) 0.05 to 10 mg/l (ppm)
Dissolution Measuring range 2 mg/l Measuring range 10 mg/l	0.001 mg/l 0.01 mg/l
Slope drift	Approx. < -1 % per month under replicable conditions (25 °C, pH 7.2 in drinking water)
Response time t₉₀	Approx. 15 seconds
Operating temperature Measuring water Environment	Prerequisite: no ice crystals in the measurement medium 0 to 45 °C 0 to 55 °C
Temperature compensation	Automatic, using integrated temperature probe, avoid temperature jumps
Zero point adjustment	Not required
Slope adjustment	On evaluation unit/controller using analytical determination
pH value of area of application Disturbances Chlorine (Cl ₂) Chlorine dioxide (ClO ₂)	pH 2 to pH 11 Factor 0.03 Factor 0.7
Pressure resistance Absolute pressure Relative pressure	No pressure fluctuations admissible; pressure-free operation (atmospheric pressure) recommended. Max. 2 bar Max. 1 bar
Materials	Semi-permeable membrane, PVC-U
Dimensions	Dia. 25 mm, length 205 mm
Weight	Approx. 125 g

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Sensors for ozone (O₃) with membranes that are insensitive to chemicals

Version with output signal 4 to 20 mA (type 202634/52)

Area of application	All types of water treatment (e.g. bottle washing machine, CIP plant, rinser, tap water, seawater) Surfactants are tolerated
Measuring principle	Membrane-covered, amperometric, two-electrode system with integrated electronic components
Membrane type	The membrane is impervious to chemicals and surfactants
Measuring cable connection	2-pole terminal connection (2 × 1 mm ²)
Voltage supply	U _B DC 12 to 30 V (galvanic isolation required)
Electromagnetic compatibility	According to EN 61326-1
Interference emission	Class B
Interference immunity	Industrial requirements
Output signal	4 to 20 mA
Burden/current consumption	≤ (U _B - 11 V) ÷ 0.02 A
Settling time	Approx 1 h for initial startup
Inflow speed	Approx. 15 cm/s (corresponds to a totalized flow rate of approx. 30 l/h when installed in the JUMO flow fitting (part no.: 00392611))
Measuring ranges	0.05 to 2 mg/l (ppm) 0.05 to 10 mg/l (ppm)
Dissolution	
Measuring range 2 mg/l	0.001 mg/l
Measuring range 10 mg/l	0.01 mg/l
Accuracy	After calibration under replicable conditions (25 °C, pH 7.2 in drinking water)
Measuring range 2 mg/l	< 1 % of the measuring range end value (with 0.4 mg/l)
	< 3 % of the measuring range end value (with 1.6 mg/l)
Measuring range 10 mg/l	< 1 % of the measuring range end value (with 4 mg/l)
Response time t₉₀	Approx. 8 min
Operating temperature	Prerequisite: no ice crystals in the measurement medium
Measuring water	0 to 50 °C
Environment	0 to 55 °C
Temperature compensation	Automatic, using integrated temperature probe, avoid temperature jumps
pH value of area of application	pH 4 to pH 9
Zero point adjustment	Not required
Slope adjustment	On evaluation unit/controller using analytical determination
Disturbances	
Chlorine (Cl ₂)	Factor 0.015
Chlorine dioxide (ClO ₂)	Factor 0.06
Pressure resistance	No pressure fluctuations admissible; pressure-free operation (atmospheric pressure) recommended
Absolute pressure	Max. 2 bar
Relative pressure	Max. 1 bar
Protection type	IP65
Materials	Elastomer membrane, PVC-U, stainless steel 1.4571
Dimensions	Dia. 25 mm, length 220 mm
Weight	Approx. 125 g

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Version with digital interface output signal (type 202634/62)

Area of application	All types of water treatment (e.g. bottle washing machine, CIP plant, rinser, tap water, seawater) Surfactants are tolerated
Measuring principle	Membrane-covered, amperometric, two-electrode system with integrated electronic components
Membrane type	The membrane is impervious to chemicals and surfactants
Measuring cable connection	5-pole flange connector, M12
Voltage supply	U _B DC 9 to 30 V (galvanically isolated in the sensor)
Electromagnetic compatibility	According to EN 61326-1
Interference emission	Class B
Interference immunity	Industrial requirements
Output signal	Modbus RTU
Burden/current consumption	56 to 20 mA
Settling time	Approx 1 h for initial startup
Inflow speed	Approx. 15 cm/s (corresponds to a totalized flow rate of approx. 30 l/h when installed in the JUMO flow fitting (part no.: 00392611))
Measuring ranges	0.05 to 2 mg/l (ppm) 0.05 to 10 mg/l (ppm)
Dissolution	
Measuring range 2 mg/l	0.001 mg/l
Measuring range 10 mg/l	0.01 mg/l
Accuracy	After calibration under replicable conditions (25 °C, pH 7.2 in drinking water)
Measuring range 2 mg/l	< 1 % of the measuring range end value (with 0.4 mg/l) < 3 % of the measuring range end value (with 1.6 mg/l)
Measuring range 10 mg/l	< 1 % of the measuring range end value (with 4 mg/l)
Response time t_{90}	Approx. 8 min
Operating temperature	Prerequisite: no ice crystals in the measurement medium
Measuring water	0 to 50 °C
Environment	0 to 55 °C
Temperature compensation	Automatic, using integrated temperature probe, avoid temperature jumps
pH value of area of application	pH 4 to pH 9
Zero point adjustment	Not required
Slope adjustment	On evaluation unit/controller using analytical determination
Disturbances	
Chlorine (Cl ₂)	Factor 0.015
Chlorine dioxide (ClO ₂)	Factor 0.06
Pressure resistance	No pressure fluctuations admissible; pressure-free operation (atmospheric pressure) recommended
Absolute pressure	Max. 2 bar
Relative pressure	Max. 1 bar
Protection type	IP68
Materials	Elastomer membrane, PVC-U, stainless steel 1.4571
Dimensions	Dia. 25 mm, length 205 mm
Weight	Approx. 125 g

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**All sensors****Maintenance, storage, and transport**

Maintenance	
Inspection of the measuring signal	Regularly, at least once a week
Replacement of the membrane cap	Once a year (depending on the quality of the water)
Replacement of the electrolyte	Every 3 to 6 months
Storage	
Sensor	Can be stored indefinitely in a frost-free and dry place, without electrolyte and between +5 and 40 °C
Membrane cap	Can be stored indefinitely in the original packaging at +5 to 40 °C Used membrane caps cannot be stored!
Electrolyte	At least 1 year at +5 to 35 °C, or up to the specified expiry date (in original bottle, away from sunlight)
Transport	+5 to 50 °C (sensor, membrane cap, electrolyte)

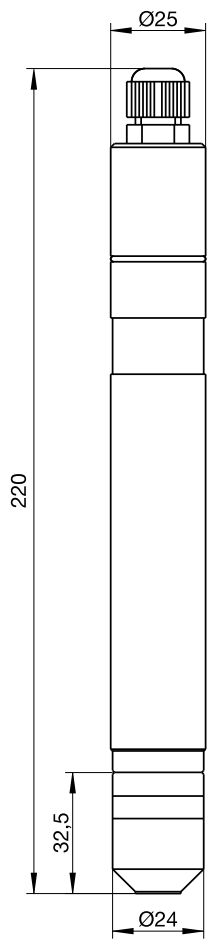
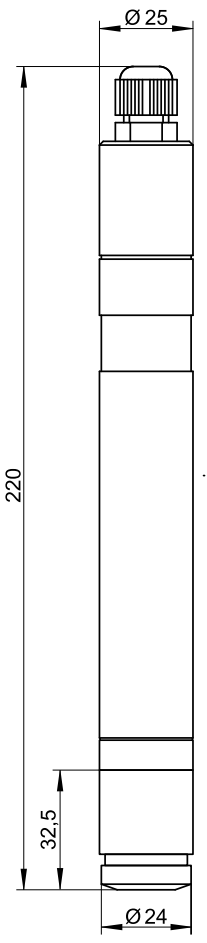
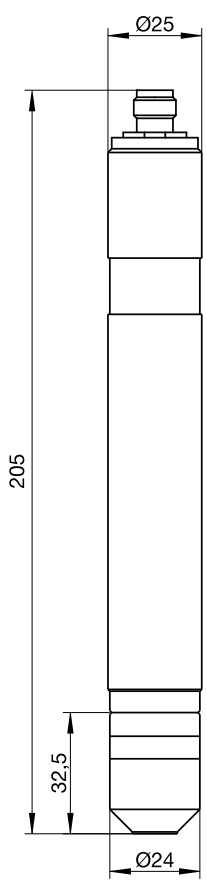
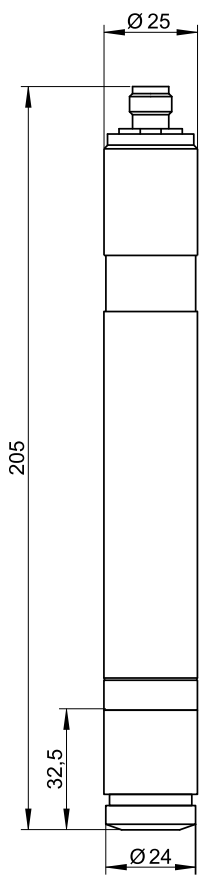
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Dimensions

Types 202634/45 and /50	Types 202634/47 and /52	Types 202634/60 and /65	Types 202634/62 and /67
			

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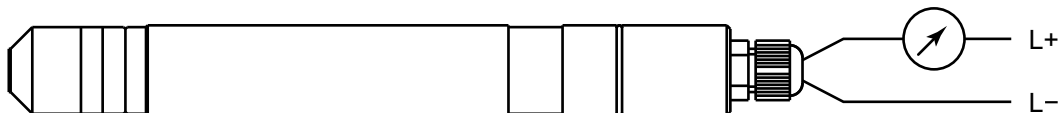
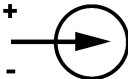

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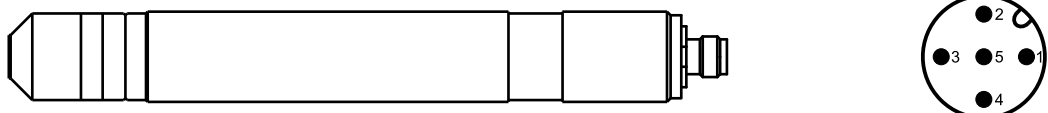


Electrical connection

Types 202634/45, /47, /50 and /52

		
Function		Screw terminals
Voltage supply DC 12 to 30 V		1 L+ 2 L-
Two-wire output of 4 to 20 mA, load-independent current of 4 to 20 mA in voltage supply		1 L+ 2 L-

Types 202634/60, /62, /65 and /67

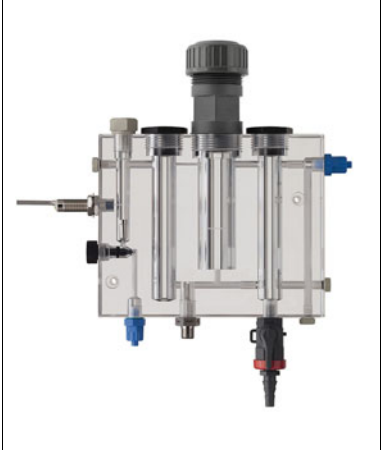
	
Function	Pin on M12 flange connector
not connected	1
+24 V voltage supply from transmitter/controller	2
GND	3
RS 485 B (RxD/TxD-)	4
RS 485 A (RxD/TxD+)	5

Accessories

Combination fitting type 202811/10

The combination fitting is intended to hold several electrochemical sensors. It is typically used for monitoring the disinfection of drinking and swimming pool water as well as slightly polluted process and cooling water. Thanks to its compact design type, the fitting allows for the space-saving consolidation of several sensors and is usually operated in a bypass or downstream of a tap in the main line. The sensors are easy to see thanks to the fitting's crystal-clear design, and thus can be visually inspected for pollutants.

In the maximum version, the following can be installed: 2 sensors with Pg 13.5 thread (e.g. for pH value and redox), 1 sensor dia. 25 mm for checking disinfection, as well as a temperature probe with thread M14 x 1.5. Furthermore, the inflow of the measuring water contains flow monitoring with an inductive proximity sensor for monitoring the inflow of the sensor for checking disinfection. A ground pin can also be installed to discharge any electrostatic charges.



Flow monitor type 202811/20

The flow monitor is integrated in the measuring water supply, in line with the disinfection sensor, and monitors the required minimum flow speed to the sensor.

It consists of a flow unit, a needle valve insert for flow control, and an inductive proximity sensor, the contact of which can control a binary input of a controller (for example JUMO AQUIS 500 AS/RS). If the inflow is too low, the controller is moved to the "HOLD" status. This helps to avoid incorrect dosages.



Flow fitting type 202811/30

The flow fitting is intended to hold an individual membrane-covered sensor. The fitting is generally mounted in the bypass and, thanks to its special design type, provides the correct inflow for the sensor. The flow monitor type 202811/20 is recommended as an extension for monitoring the minimum inflow speed of a sensor.

The standard ground rod of the fitting enables the discharge of undesired electrical and electrostatic voltage potentials, which occur in complex plants and can distort the measured values.



Suitable indicating devices/transmitters/controllers

Type	Features	Suitable sensors
JUMO AQUIS 500 AS	Single-channel (4 to 20 mA) indicating device/controller, additional temperature input, binary input, up to two analog and switching outputs	Types 202634/45, /47, /50 and /52 (output signal of 4 to 20 mA)
JUMO AQUIS 500 RS	Single-channel (Modbus RTU) indicating device/controller, additional temperature input, binary input, up to two analog and switching outputs	Types 202634/60, /62, /65 and /67 (digital interface)
JUMO dTRANS AS 02	Modular multichannel transmitter/controller for standard signals, PROFIBUS-DP, RS422/485, data logger using optional boards	Types 202634/45, /47, /50 and /52 (output signal of 4 to 20 mA)
JUMO AQUIS touch S/P	Modular multichannel measuring devices for liquid analysis with integrated controller and paperless recorder, USB host, USB device, Modbus, PROFIBUS-DP and Ethernet using optional boards	All types 202634

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Order details

(1) Basic type	
202634	JUMO tecLine ClO ₂ + O ₃
	Sensors for chlorine dioxide and ozone
(2) Basic type extension	
45	Sensor for chlorine dioxide, output signal 4 to 20 mA
47	Sensor for chlorine dioxide, output signal 4 to 20 mA, insensitive to chemicals and surfactants
50	Sensor for ozone, output signal 4 to 20 mA
52	Sensor for ozone, output signal 4 to 20 mA, insensitive to chemicals and surfactants
60	Sensor for ozone, digital output signal
62	Sensor for ozone, digital output signal, insensitive to chemicals and surfactants
65	Sensor for chlorine dioxide, digital output signal
67	Sensor for chlorine dioxide, digital output signal, insensitive to chemicals and surfactants
(3) Measuring range^a	
10	0 to 0.5 mg/l (ppm)
20	0 to 2 mg/l (ppm)
25	0 to 5 mg/l (ppm)
35	0 to 10 mg/l (ppm)
37	0 to 20 mg/l (ppm)

^a Other measuring ranges upon request.

Order code	(1)	/	(2)	-	(3)
Order example	202634	/	45	-	20

Important information:

The order code is not modular. When placing orders, if possible please select the items listed under "**Stock versions**". We must check the technical feasibility of and approve freely chosen combinations of individual code parts.

Scope of delivery

Types 202634/45, /47, /50 and /52	Two-wire sensor, incl. membrane cap, electrolyte, special abrasive paper for cathode cleaning and operating manual
Types 202634/60, /62, /65 and /67	Modbus RTU sensor, incl. membrane cap, electrolyte, special abrasive paper for cathode cleaning and operating manual

Stock versions

(Delivery within 3 working days after receipt of order)

Type	Part no.
202634/50-20 (ozone, 4 to 20 mA, 0 to 2 mg/l)	00392202

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Accessories

Fittings

Designation	Part no.
Combination fitting for mounting several electrochemical sensors ^a	00607325
Individual fitting for mounting a membrane-covered sensor	00392611
Mounting bracket for individual fitting	00455706
Flow monitor for monitoring the minimum inflow ^b	00605507

^a With integrated flow monitor, mini ball valve included.

^b For flow monitoring in connection with the individual fitting.

Spare part sets and electrolytes

Designation	Part no.
Spare part set for 202634/45, /50, /60 and /65 (1 x membrane cap, fine abrasive paper)	00392331
Spare part set for 202634/47 and /67 (1 x membrane cap, fine abrasive paper)	00753804
Spare part set for 202634/52 and /62 (1 x membrane cap, fine abrasive paper)	00762731
Special electrolyte for 202634/45, /47, /65, and /67 (100 ml)	00392332
Special electrolyte for 202634/50, /52, /60, and /62 (100 ml)	00392333

Accessories for sensors with a digital interface

Designation	Part no.
JUMO digiLine hub ^a	00646871
JUMO power supply unit for JUMO digiLine hub ^a	00661597
1.5 m connecting cable, 5-pole M12 connector, A-coded on the ferrules	00638333
5 m connecting cable, 5-pole M12 connector, A-coded on the ferrules	00638337
10 m connecting cable, 5-pole M12 connector, A-coded on the ferrules	00638341

^a When connecting multiple sensors with a digital interface (type 20263x) to the JUMO AQUIS touch S/P, the JUMO digiLine hub and an external power supply (e.g. part no. 00661597) are required. For further accessories see data sheet 202705.

Suitable transmitters/controllers

Designation	Part no.
JUMO AQUIS 500 AS ^a , type 202568/20-888-888-310-310-23/000 (for further versions, please refer to data sheet 202568)	00528718
JUMO AQUIS 500 RS ^b , type 202569/20-654-888-888-310-310-23/000 (for further versions, please refer to data sheet 202569)	00602275
JUMO dTRANS AS 02 ^a , type: 202553/01-8-01-4-0-00-23/000 (for further versions, please refer to data sheet 202553)	00550842
JUMO AQUIS touch S/P ^c	Refer to data sheets 202580/81



^a Only for sensors with an output signal of 4 to 20 mA (types 202634/45, /47, /50, and /52).

^b Only for sensors with digital interface (types 202634/60, /62, /65, and /67).

^c For all types of sensor 202634.