


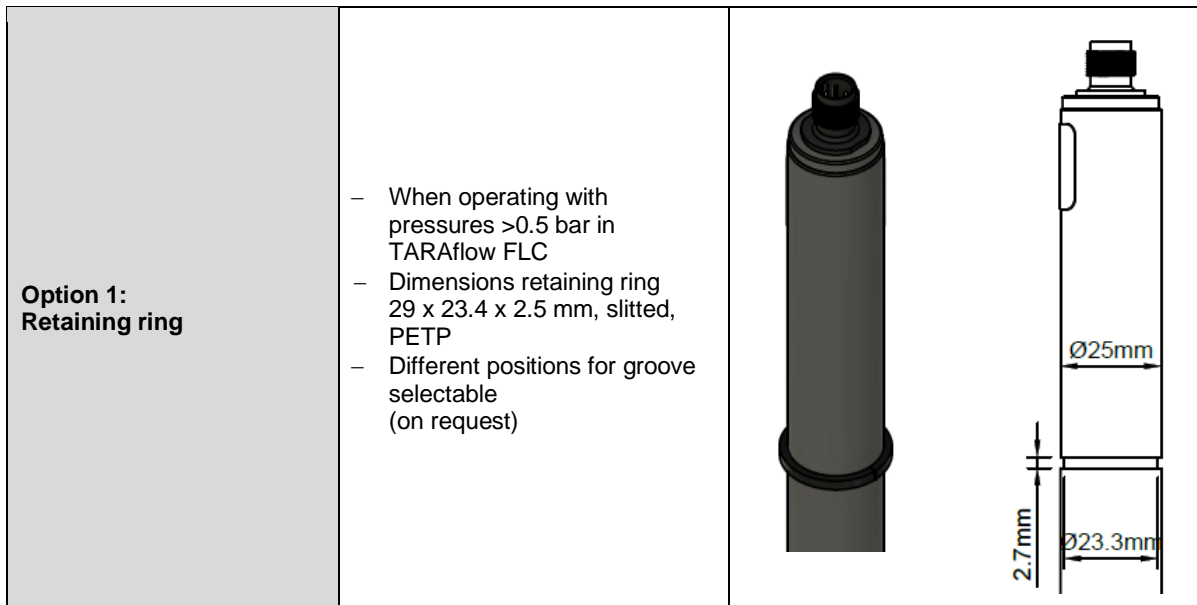


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|---|---|--|
|  | <h1>TARAline MST1</h1> | |
| indicator | Chlorite | |
| Application | Drinking water, swimming pool water, service water, process water. | |
| appropriate chlorine dioxide production methods | e. g. – Acid/chlorite-method – Chlorine/chlorite-method | |
| Measuring system | membrane covered, amperometric potentiostatic 3-electrode system | |
| electronic | <p>Analog version:</p> <ul style="list-style-type: none"> - voltage output - not galvanically isolated electronics - analog internal data processing - output signal: analog (analog-out/analog) <p>Digital version:</p> <ul style="list-style-type: none"> - electronic is completely galvanically isolated - digital internal data processing - output signal: analog (analog-out/digital) <li style="padding-left: 20px;">or <li style="padding-left: 20px;">digital (digital-out/digital) <p>mA-version:</p> <ul style="list-style-type: none"> - current output analog - not galvanically isolated electronics - output signal: analog (analog-out/analog) | |
| Working temperature | Measuring water temperature: 0 ... +40 °C (no ice crystals in the measuring water) | |
| | Ambient temperature: 0 ... +55 °C | |
| Temperature compensation | Automatically, by an integrated temperature sensor Max. change in temperature: 0.3 °C per minute, sudden temperature changes must be avoided | |
| max. allowed working pressure | Operation without retaining ring: <ul style="list-style-type: none"> – 0.5 bar – no pressure impulses and/or vibrations | |
| | Operation with retaining ring in TARAline FLC: <ul style="list-style-type: none"> – 5 bar, – no pressure impulses and/or vibrations (see option 1) | |
| Flow rate (Incoming flow velocity) | approx. 15-30 L/h (33 – 66 cm/s) in TARAline FLC | |
| pH-range | pH 6 – pH 9 | |
| Run-in time | First start-up approx. 24 h | |
| Response time | T ₉₀ : approx. 1 min | |
| Zero point adjustment | Normally not necessary | |
| calibration | At the device, by analytical determination of the chlorite concentration | |

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|  | <h1>TARAline MST1</h1> | |
| <p>Cross sensitivities/ interferences</p> | <p>Mn²⁺, Nitrite, Fe²⁺ No interference to Chlorine dioxide, Chlorine und Chlorate</p> <p>Corrosion inhibitors can lead to measuring errors. Stabilisers for water hardness can lead to measuring errors.</p> | |
| <p>Absence of the disinfectant</p> | <p>Max. 24 h</p> | |
| <p>Connection</p> | <p>mV version: 5-pole M12, plug-on flange Modbus version: 5-pole M12, plug-on flange 4-20 mA version: 2-pole terminal or 5-pole M12, plug-on flange</p> | |
| <p>max. length of sensor cable (depending on internal signal processing)</p> | <p>analog</p> | <p>< 30 m</p> |
| | <p>digital</p> | <p>> 30 m are permissible Maximum cable length depends on application</p> |
| <p>Protection type</p> | <p>5-pole M12 plug-on flange: IP68 2-pole terminal with mA-hood: IP65</p> | |
| <p>material</p> | <p>Microporous hydrophilic membrane, PVC, PEEK, stainless steel</p> | |
| <p>Size</p> | <p>diameter: approx. 25 mm Length: mV version approx. 190 mm (analog signal processing) approx.. 205 mm (digital signal processing) Modbus version approx. 205 mm 4-20 mA version approx. 220 mm (2-pole-terminal) approx. 190 mm (5-pole-M12)</p> | |
| <p>Transport</p> | <p>+5 ... +50 °C (Sensor, electrolyte, membrane cap)</p> | |
| <p>storage</p> | <p>Sensor: dry and without electrolyte no limit at +5 ... +40 °C</p> | |
| | <p>Electrolyte: in original bottle protected from sunlight at +5 ... +35 °C min. 1 year or until specified EXP-Date</p> | |
| | <p>Membrane cap: in original packing no limit at +5 ... +40 °C (used membrane caps can not be stored)</p> | |
| <p>maintenance</p> | <p>Regularly control of the measuring signal, min. once a week The following specifications depend on the water quality: Change of the membrane cap: once a year Change of the electrolyte: every 3 - 6 months</p> | |
|  | <p>EMC tested RoHS compliant</p> | |



Spare Parts


| Type | Membrane cap | Electrolyte | Emery | O-ring |
|--------------|-------------------------|-------------------------------------|----------------------|--------------------------------|
| For all MST1 | M48.2 Art. no. 11047 | EMST1/GEL, 100 ml Art. no. 11202 | S2 Art. no. 11906 | 14 x 1.8 NBR Art. no. 11806 |

(Subject to technical changes!)

Technical Data

1. MST1 (analog output, analog internal signal processing)

A potential-free electrical connection is necessary as the sensor electronic is not equipped with a galvanical isolation.

|  | Measuring range in ppm | resolution in ppm | Output Output resistance | Nominal slope (at pH 7.2) in mV/ppm | Voltage supply | Connection |
|---|-------------------------------|--------------------------|-----------------------------|---|-----------------------|---|
| MST1H-M12 | 0.005...2.000 * | 0.001 | 0...-2000 mV 1 kΩ | -1000 | ±5 - ±15 VDC 10 mA | 5-pole M12 plug-on flange Function of wires: PIN1: measuring signal PIN2: +U PIN3: -U PIN4: signal GND PIN5: n. c. |
| MST1N-M12 | 0.05...2.00 * | 0.01 | | -100 | | |
| MST1HUp-M12 | 0.005...2.000 * | 0.001 | 0...+2000 mV 1 kΩ | +1000 | 10 - 30 VDC 10 mA | 5-pole M12 plug-on flange Function of wires: PIN1: measuring signal PIN2: +U PIN3: power GND PIN4: signal GND PIN5: n. c. |
| MST1Up-M12 | 0.05...2.00 * | 0.01 | | +100 | | |


* concentration tested and approved up to 2 ppm

(Subject to technical changes!)

2. MST1 (analog output, digital internal signal processing)

analog-out / digital

- The power supply is galvanically isolated inside of the sensor.
- The output signal is galvanically isolated too, that means potential-free.


|  | Measuring range in ppm | Resolution in ppm | Output Output resistance | Nominal slope in mV/ppm | Power supply | Connection |
|---|-------------------------------|--------------------------|--|--------------------------------|-------------------------------------|---|
| MST1H-An-M12 | 0.005...2.000 * | 0.001 | analog 0...-2 V (max. -2.5 V) 1 kΩ | -1000 | 9-30 VDC approx. 20-56 mA | 5-pole M12 plug-on flange Function of wires: PIN1: measuring signal PIN2: +U PIN3: power GND PIN4: signal GND PIN5: n. c. |
| MST1N-An-M12 | 0.05...2.00 * | 0.01 | | -100 | | |
| MST1H-Ap-M12 | 0.005...2.000 * | 0.001 | analog 0...+2 V (max. +2.5 V) 1 kΩ | +1000 | | |
| MST1N-Ap-M12 | 0.05...2.00 * | 0.01 | | +100 | | |

* concentration tested and approved up to 2 ppm

(Subject to technical changes!)

3. MST1 (digital output, digital internal signal processing)

- The power supply is galvanically isolated inside of the sensor.
- The output signal is galvanically isolated too, that means potential-free.

|  | Measuring range in ppm | Resolution in ppm | Output Output resistance | Power supply | Connection |
|---|---------------------------|----------------------|---|------------------|---|
| MST1H-M0c | 0.005...2.000 * | 0.001 | Modbus RTU | 9-30 VDC | 5-pole M12 plug-on flange |
| MST1N-M0c | 0.05...2.00 * | 0.01 | There are no terminating resistors in the sensor. | approx. 20-56 mA | Function of wires: PIN1: reserved PIN2: +U PIN3: power GND PIN4: RS485B PIN5: RS485A |


* concentration tested and approved up to 2 ppm

(Subject to technical changes!)

4. MST1 4-20 mA (analog output, analog internal signal processing)

A potential-free electrical connection is necessary as the sensor electronic is not equipped with a galvanical isolation.


4.1 Electrical connection: 2 pole terminal clamp

|  | Measuring range in ppm | Resolution in ppm | Output Output resistance | Nominal slope (at pH 7.2) in mA/ppm | Voltage supply | Connection |
|---|---------------------------|----------------------|-----------------------------|---|--|---|
| MST1MA2 | 0.005...2.000 * | 0.001 | 4...20 mA uncalibrated | 8.0 | 12...30 VDC | 2-pole terminal (2 x 1 mm ²) |
| MST1MA20 | 0.05...2.00 * | 0.01 | | 0.8 | R _L 50Ω...R _L 900Ω | Recommended: Round cable ∅ 4 mm 2 x 0.34 mm ² |

* concentration tested and approved up to 2 ppm

(Subject to technical changes!)

4.2 Electrical connection: 5 pole M12 plug-on flange

|  | Measuring range in ppm | resolution in ppm | Output Output resistance | Nominal slope (at pH 7.2) in mA/ppm | Voltage supply | Connection |
|---|--------------------------------------|---------------------------------|---------------------------------|---|---|---|
| MST1MA2-M12 | 0.005...2.000 * | 0.001 | 4...20 mA uncalibrated | 8.0 | 12...30 VDC R _L 50Ω...R _L 900Ω | 5-pole M12 plug-on flange |
| MST1MA20-M12 | 0.05...2.00 * | 0.01 | | 0.8 | | Function of wires: PIN1: n. c. PIN2: +U PIN3: -U PIN4: n. c. PIN5: n. c. |

* concentration tested and approved up to 2 ppm

(Subject to technical changes!)