



# Drinking Water Monitoring

READY-TO-USE SYSTEMS FOR MONITORING OF QUALITY RELEVANT PARAMETERS IN DRINKING WATER



a xylem brand

# Single-parameter - Systems

## Single-parameter Systems

- Single-parameter systems for measurement of pH/ORP, D.O., conductivity, free and total chlorine
- Convenient pre-mounted panel for quick installation (chlorine only)
- Low cost of ownership with no reagent consumption
- Accuracy through integrated PID control function

### Transmitter

- Integrated data logger
- 2 current outputs, 2 relays, Modbus
- Stable aluminium housing

### Electrode with flow-through armature

- Specially designed flow-through vessel for each parameter guarantees reliable measurement results

### Flow control monitoring (optional)

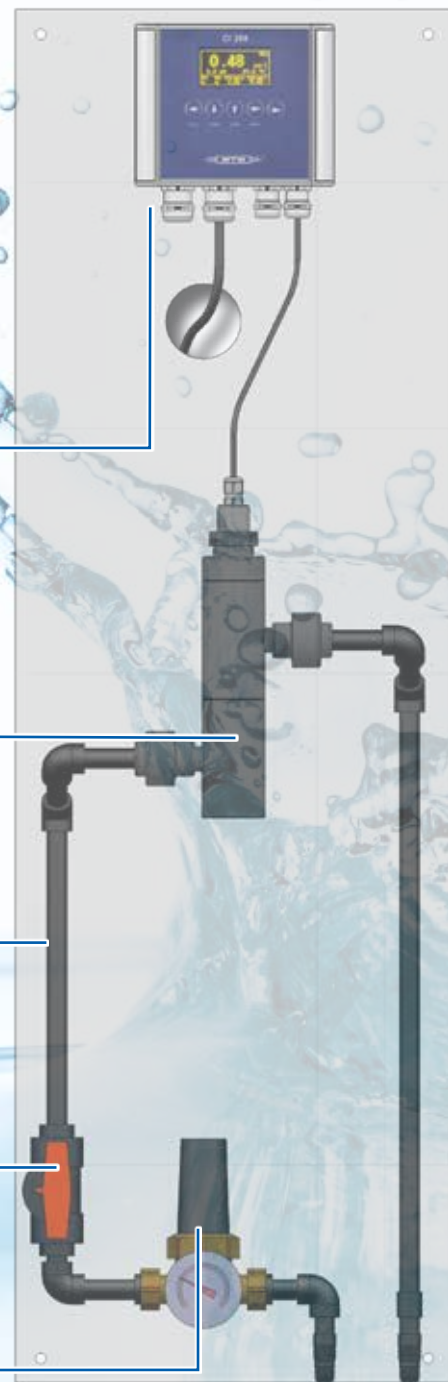
- Continuous flow monitoring
- Flow is shown on the display and can be transmitted via Modbus

### Dosing valve

- Flow adjustment

### Pressure reducer

- 0... 16 bar





pH  
ORP

### pH 298

Analog transmitter to directly connect analog pH/ORP electrodes

- Available as NTC or Pt1000 or Pt100 version
- With integrated PID control function
- For specific drinking water electrodes SenTix® ML 70 (ORP)



D.O.

### Oxi 298

Analog transmitter to directly connect analog oxygen sensors

- Available as NTC or Pt1000 version
- Wide measuring range (0 ... 20 mg/l)
- For drinking water sensor Oxi ML 41



Cond

### LF 298

Analog transmitter to directly connect analog conductivity sensors

- Available as NTC or Pt1000 version
- Numerous measuring ranges (0 ... 500 mS/cm)
- For drinking water sensor LR ML



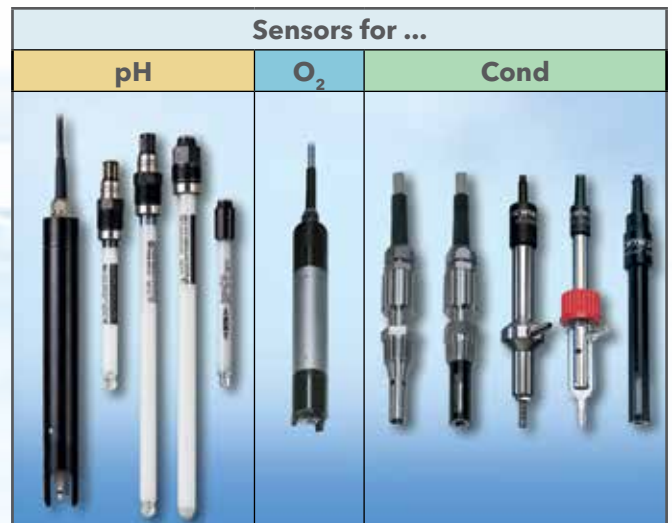
Cl

### CI 298

Analog transmitter to directly connect analog chlorine electrodes

- For free and total chlorine
- No reagent consumption
- For drinking water electrodes FMCL (N) and TCML N

Further applications			
Application	pH	O <sub>2</sub>	Cond
Research & Development (technical center)	●	●	●
Electroplating	●		●
Pure & Ultrapure Water			●
Textile production & Dyeing processes	●		●
Paper & Cellulose industry	●	●	
Landfill & Seepage Waters	●		●
Wastewater Treatment	●	●	●
Aquaculture	●	●	
Swimming Pools & Thermal Baths	●		●

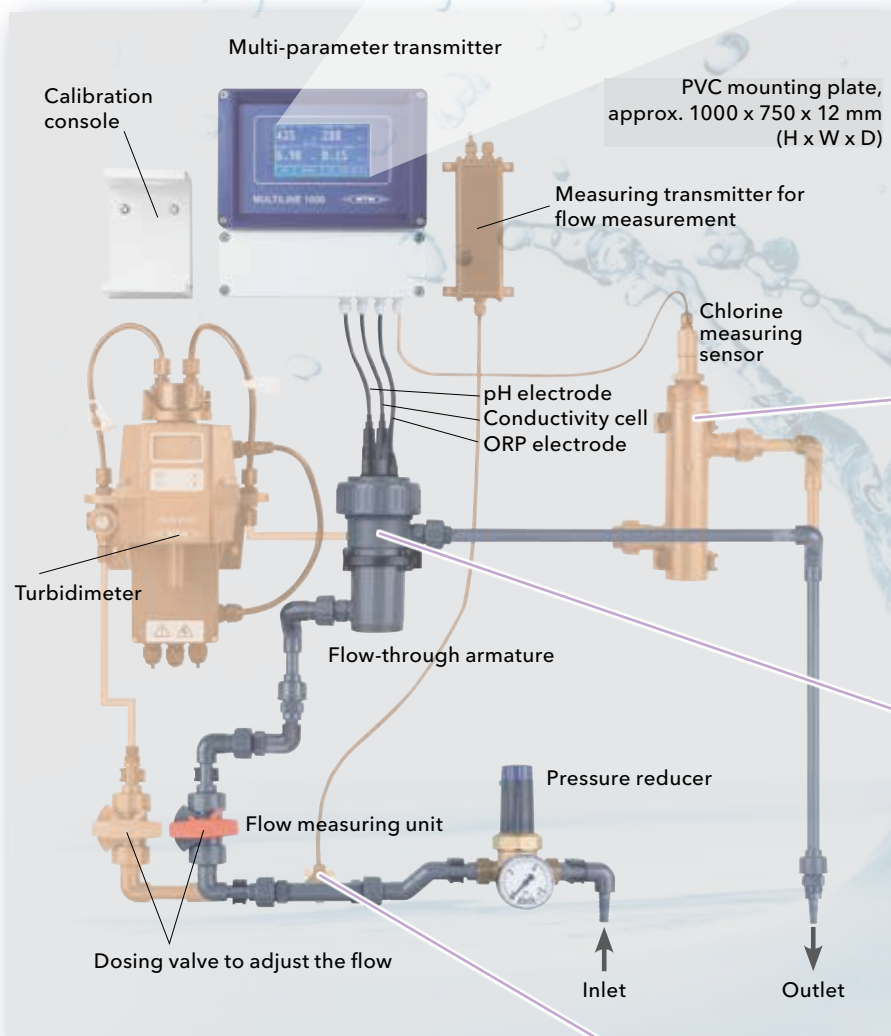




# Multi-parameter System

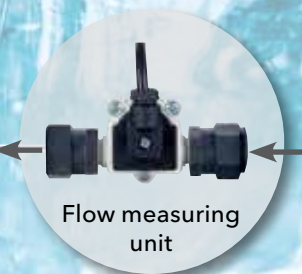
## MULTILINE 1000

- Multi-parameter system for measurement of pH/ORP, D.O. conductivity, turbidity, free and total chlorine
- Intuitive menu navigation
- Excellent cost/performance ratio
- No chemical consumables needed



## Constant flow: flow measurement

The flow measurement is used to control the optimal incident flow for continuous operation.



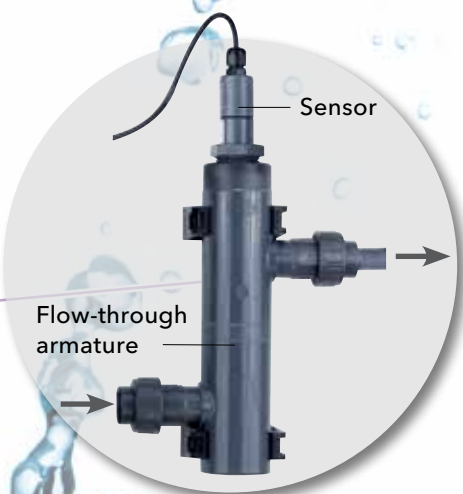
## Everything at a glance: MULTILINE 1000

With up to 6 individually configurable measuring channels, the MULTILINE 1000 terminal is a very flexible measuring system for drinking water analysis. The system is pre-assembled on a wall mounting panel for immediate use. Just connect the power and sample flow - and it's ready to go.

- Digital interface (RS 232/RS 422/RS 485)
- 4 x 0/4 ... 20mA outputs
- 4 x potential-free relays for limit value/alarm function (timer function programmable)
- Metal housing, protection class IP 65
- Large backlit display with touch screen

### Pre-mounted

The MULTILINE 1000 is the only complete system to offer convenient measuring and display of up to six parameters with one single terminal. It is very easy to operate thanks to a touchscreen and a intuitive menu. The monitoring system comes pre-mounted on a panel and is ready to use.



Cl

### Correctly dosed: chlorine measurements

For disinfection monitoring, three amperometric type chlorine electrodes are available.

- **Free chlorine:** The FCML 412 N is suitable for measurements with changing pH values (pH 4 ... 9, pH compensation integrated in the sensor)
- **Free chlorine:** The FCML 68 is suitable for measurements with a relatively constant pH value of approximately pH 7\*).
- For **total chlorine**, the TCML N is available.

All measuring cells are supplied with the D-Cl flow-through armature.

\*) If the pH value is measured simultaneously, the measured value can be pH-compensated via the MULTILINE 1000.

pH

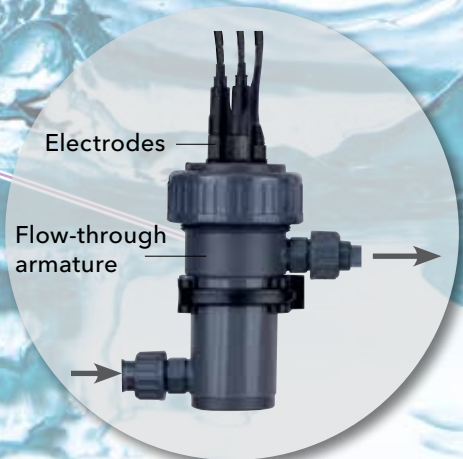
Cond

ORP

### High precision measurement: pH, Cond, ORP

The flow-through armature has three slots for 13.5 screw threads. Integrated in the screw coupling, all three built-in sensors can be removed together and thus be rapidly and easily calibrated or serviced with the aid of the calibration console.

- **SenTix® ML70 combination electrode**  
pH combination electrode optimized for drinking water, with gel electrolyte and S7 plug connector
- **LR ML conductivity cell**  
Very robust synthetic two electrode cell with a large measuring range of 0.1 to 20 mS
- **SenTix® ML ORP combination electrode**  
ORP combination electrode for exact ORP measurement



# Technical Data

	Single-parameter system - panel (chlorine only)	Pre-assembled multi-parameter panel
<b>Dimensions (H x W x D)</b>	approx. 1100 x 350 x 13 mm	approx. 1000 x 750 x 13 mm
<b>Temperature</b>	operation 0 °C ... + 40 °C, storage 0 °C ... + 40 °C	operation 0 °C ... + 40 °C, storage 0 °C ... + 40 °C
<b>Allowable overpressure</b>	before dosing valve (inlet): 0 ... 10 bar, after dosing valve 0 ... 6 bar, according to sensor	before dosing valve (inlet): 0 ... 10 bar, after dosing valve 0 ... 6 bar, according to sensor
<b>Flow control</b>	flow-through measurement (optional), minimum 30 l/h (0.5 l/min)	flow-through measurement (optional), minimum 30 l/h (0.5 l/min)
<b>Outlet</b>	sfixed pipe joint (DN 10), pressureless	gravity flow to spout, Ø 40 mm PVC pipe



D7.03

Analog transmitters (pH 298, Oxi 298, LF 298, Cl 298)				
Model, Parameter	pH 298 (pH/ORP)	Oxi 298 (D.O.)	LF 298 (Conductivity)	Cl 298 (Chlorine, electrochemically)
<b>Measuring range</b>	-2 ... 16 pH -2000 ... +2000 mV	0 ... 20 mg/l 0 ... 200 %	0 ... 500 mS/cm, different ranges can be set	0 ... 2 mg/l
<b>Temperature measurement<sup>*)</sup></b>	-10 ... 130 °C NTC or Pt1000 or Pt100	-10 ... 130 °C NTC or Pt1000	-10 ... 130 °C NTC or Pt1000	-10 ... 130 °C Pt1000
<b>Temperature compensation</b>	automatically via temperature measurement of the sensor or manual input			
<b>Relay outputs</b>	2 x changeover contact, max. 250 VAC / 5 A			
<b>Analog outputs</b>	2 x 0(4) ... 20 mA			
<b>Digital interface</b>	Modbus / RS485			
<b>Display</b>	OLED (128 x 64 pixel)			
<b>Data logger</b>	Integrated with real-time clock for 4000 records			
<b>Ambient temperature</b>	-10 ... 55 °C			
<b>Protection class</b>	IP 65			
<b>Dimensions, housing, weight</b>	160 x 130 x 70 mm (W x H x D), aluminium housing for wall mounting, 2 kg			
<b>Warranty</b>	2 years			



D3.01

Multi-parameter transmitter MULTILINE 1000				
Parameter	pH/ORP	D.O.	Conductivity	Chlorine
<b>Measuring range</b>	0.00 ... 14.00 pH -2000 ... +2000 mV	0.00 ... 20.00 mg/l / 0.0 ... 200.0 % O <sub>2</sub>	0 ... 100 mS/cm, automatic range selection, adjustable	0.00 ... 2.00 mg/l
<b>Resolution</b>	0,01	0,01 mg/l / 0,1%	depending on range 0.1 µS/cm ... 0.1 mS/cm	0,01 mg/l
<b>Temperature measurement<sup>*)</sup></b>	additional TFK 5000 (Pt1000), -10 ... +100 °C	integrated (Pt 1000), 0 ... +80 °C	integrated (Pt 1000), -5 ... +80 °C	integrated (Pt 1000), 0 ... +45 °C
<b>Temperature compensation</b>	automatic via connected temperature sensor or by manual input	automatic	linear with adjustable temperature coefficient or non-linear	automatic, integrated in sensor
<b>Contact outputs</b>	4 programmable relays (threshold, hysteresis), 250V, switching current 5A, Ohm resistive load 150W			
<b>Analog outputs</b>	4 programmable current outputs, 0/4 ... 20mA, galvanically separated, recorder range and recorder adjustable via software, optional PID controller			
<b>Digital interface</b>	RS 485/232 or 422 (Modbus)			
<b>Temperature range</b>	transmitter only: operation -10 ... +55 °C (-13 ... +131 °F), storage -25 ... +65 °C (-13 ... +149 °F)			
<b>Protection class</b>	IP 65			
<b>Dimensions, weights</b>	transmitter only: 139x240x125 mm, approx. 1.5 kg			
<b>Warranty</b>	2 years			



D7.03  
D7.04

\*) Please note: Tolerated sensor operation temperature may vary significantly.

# Order Information Drinking Water Systems

<b>MULTILINE 1000</b> Drinking water monitoring system with flow measurement, pressure controller, dosing valve, pre-mounted on water repellent panel. DN 10 joints with:	
MULTILINE 1000 Controller/Terminal, 240 VAC	8T
MULTILINE 1000 Controller/Terminal, additionally with flow measurement, 240 VAC	8F
<b>Configurable parameters/inputs</b>	
Conductivity measurement with integrated temperature sensor (LR ML) (input module, two electrodes conductivity cell (0.1 ... 20 mS/cm), connection cable)	1
pH measurement (SenTix® ML 70) (input module, pH electrode for drinking water (pH 0 ... 14), connection cable)	1
ORP measurement (SenTix® ML ORP) (input module, ORP electrode, connection cable)	1
<b>Chlorine measurement (amperometric)</b>	
Option 1.) Free chlorine amperometric, little pH dependent (pH 4 ... 9) (FCML 412 N) input module, sensor (0 ... 2 mg/l), flow-through armature, cable	1
Option 2.) Chlorine total amperometric (TC ML N) input module, sensor (0 ... 2 mg/l), flow-through armature, cable	3
<b>Independent measured parameter, turbidity (4 options) with own display</b>	
Option 1.) Turb PLUS 2020 Turbidity analyzer with white light (US EPA 180.1)	2
Option 2.) Turb PLUS 2120 Turbidity analyzer with infrared light (ISO EN DIN 7027)	4

Your order no.:\*) 

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\*) If an option is required, please enter the relevant number in the cell. If the option is not required, enter "0".

# Order Information Single-parameter Systems

## Single-parameter systems: Analog transmitters

Model	Description	Order No.
pH 298 NTC	Analog transmitter to measure pH/ORP, 230V and NTC	191230
pH 298 Pt100	Analog transmitter to measure pH/ORP, 230V and Pt100	191232
pH 298 Pt1000	Analog transmitter to measure pH/ORP, 230V and Pt1000	191234
Oxi 298 NTC	Analog transmitter to measure dissolved oxygen, 230V and NTC	291230
Oxi 298 Pt1000	Analog transmitter to measure dissolved oxygen, 230V and Pt1000	291234
LF 298 NTC	Analog transmitter to measure conductivity, 230V and NTC	391230
LF 298 Pt1000	Analog transmitter to measure conductivity, 230V and Pt1000	391234
I 298 Pt1000	Analog transmitter to measure chlorine, 230V and Pt1000	801254
Cl 298/P - 230 VAC	Single-parameter panel to measure free or total chlorine	801260
Cl 298/P Flow - 230 VAC	Single-parameter panel to measure free or total chlorine, with FlowControl	801261

## Chlorine analyzer and turbidity meter

Model	Description	Order No..
Chlorine 3017M	Chlorine Analyzer to monitor Free and Total Chlorine	860151
Turb PLUS 2020	Turb PLUS 2020 Turbidity analyzer with white light (US EPA 180.1)	600026
Turb PLUS 2120	Turb PLUS 2120 Turbidity analyzer with infrared light (ISO EN DIN 7027)	600036
Turb PLUS 2120Set	Turb PLUS 2120 Set Turb PLUS 2120 including external bubble trap	600037

## More Products



Further information can be found on the Flyer 999321US or in the [Internet](#).



Further information can be found on the Flyer 999319US or in the [Internet](#).



Further information can be found in the [Internet](#).



# Xylem | 'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to [www.xylem.com](http://www.xylem.com)



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