



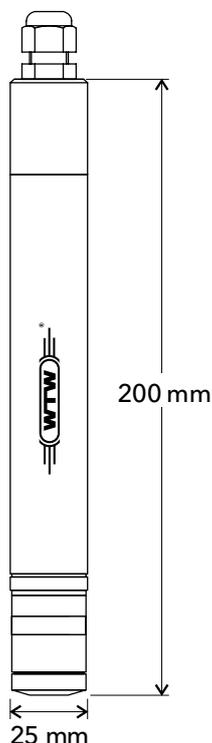
Analog chlorine sensors

For free and total chlorine

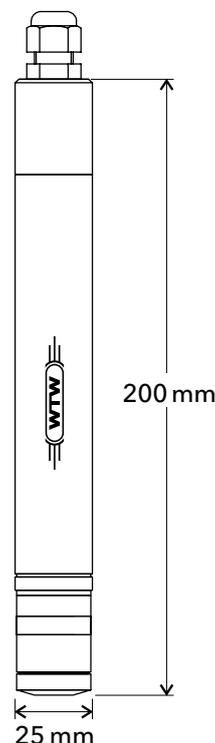
The electrochemical WTW chlorine sensors can be applied for measurements in swimming pools and drinking water. Directly connectable to the controller CI 298.

We would like to inform you about the application range on our website

FCML 412 N



TCML N

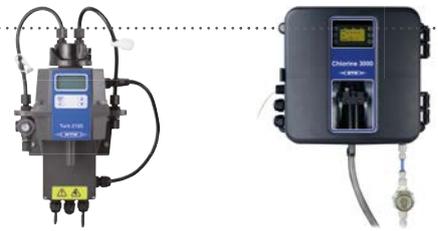


Technical Data

Model	FCML 412 N	TCML N
Measuring principle	Amperometric	
Measured value	Free chlorine	Total chlorine
Measuring Range	0.01 ... 2.00 mg/l Cl ₂	0.01 ... 2.00 mg/l Cl ₂
Response time	t ₉₀ Approx. 120 s	
Minimum flow rate	Recommended minimum flow rate in flow-through vessel D-CL: > 30 l/h	
Temperature Measurement	0 ... 45 °C	
Temperature Compensation	Automatically via integrated sensor	
pH range	4 ... 9	4 ... 12
Polarization time	Approx. 1 hour after new installation or change of electrolyte	
Calibration method	1-point-calibration (according to DPD method as reference)	
Pressure Resistance	3 bar	
Electrical Connection	2-wire-connection	
Certifications	CE	
Mechanical	Shaft: PVC Membrane cap: PVC Working electrode: Gold Reference electrode: Ag/AgCl Cable connection: Polyamid Protection rate: IP64	
Weight	Approx. 0.5 kg	
Warranty	2 years on defects in quality according to § 10 terms of conditions	

Model	Description	Order No.
FCML 412 N	Chlorine electrode according to electrochemical principle, suitable for measurements of free chlorine in drinking water and swimming pools. Measuring range: 0-2 mg/l, pH range 4-9, independent from pH value. Please order cable separately.	201187
TCML N	Chlorine electrode according to electrochemical principle, suitable for measurements of total chlorine in drinking water and swimming pools. Measuring range: 0-2 mg/l. Please order cable separately.	201192

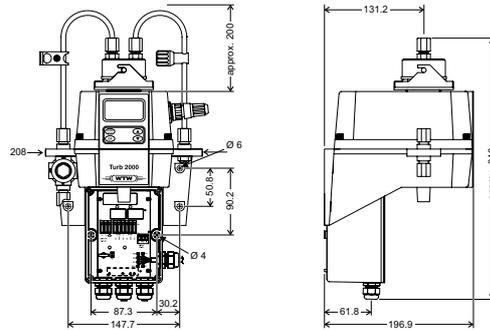
Drinking Water Analyzer



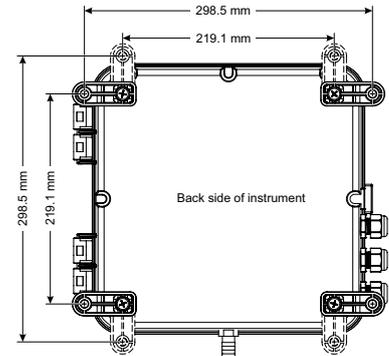
The analyzers for turbidity, free and total chlorine work according to standard procedures and thus yield reliable values across a large measuring range!

We would like to inform you about the application range on our website

Turb 2000



Chlorine 3000



Technical Data

Model	TURB 2000	TURB 2020	TURB 2100	TURB 2120	TURB 2110	Chlorine 3000
Measuring principle	Scattered light measurement					Colorimetric
Measuring range	0 ... 1000 NTU				0 ... 10 NTU	0 ... 10 mg/l
Resolution	Selectable up to 0.0001					0.01 mg/l
Accuracy	± 2 % of the measured value or ± 0.02 NTU below 40 NTU (the higher value), ± 5 % of the measured value above 40 NTU					± 0.03 mg/l or 5 % (up to 6 mg/l; the higher value)
Sampling temperature	+ 1 ... + 50 °C					+ 5 ... + 40 °C
Cleaning	–	Ultrasonic	–	Ultrasonic	–	–
Calibration	Manual with standards					Calibration free (but possible if required by authorities)
Outputs	RS 485 or 4 ... 20 mA					RS 485 and 4 ... 20 mA
Ambient conditions	Operational temperature: + 1 ... + 50 °C					Operational temperature: + 5 ... + 40 °C
	Not recommended for outdoor use. Altitude up to 2000 meters. Up to 95 % RH (non-condensing)					
Electrical connection	100 ... 240 VAC, 47 ... 63 Hz					
Mechanics	Wetted materials: Nylon, borosilicate glass, silicon, polypropylene, stainless steel Housing: Designed for IP 66 / NEMA 4X					Wetted materials: PVC, borosilicate glass, Reslyn (FFKM), Viton® (FKM), Polypropylene, stainless steel, acetal, Nitrile, Noryl®, Nylon Housing: Designed to meet IP 66 / NEMA 4X
Weight	2.5 kg					2.5 kg (5.5 lbs.), without reagents
Warranty	1 year on defects in quality according to § 10 terms of conditions					

Model	Description	Order No.
TURB 2000	Online turbidity meter, with white light and integrated bubble trap; nephelometric measurement specified according to US EPA 180.1, 110-240 VAC	600020
TURB 2020	Like TURB 2000, but with ultrasonic cleaning	600025
TURB 2100	Online turbidity meter, with infrared light and integrated bubble trap; nephelometric measurement specified according to US EPA 180.1, 110-240 VAC	600030
TURB 2110 Set	Online turbidity meter with low measuring range and standards, with infrared light and bubble trap, nephelometric measurement, specified according to US EPA 180.1, 110-240 VAC	600032
TURB 2110	Online turbidity meter with low measuring range, with infrared light; nephelometric measurement specified according to US EPA 180.1, 110-240 VAC	600033
TURB 2120	Like TURB 2100, but with ultrasonic cleaning	600035
Chlorine 3000	Online analyzer for the photometric measurement of free or total chlorine according to the DPD method (US EPA)	860150

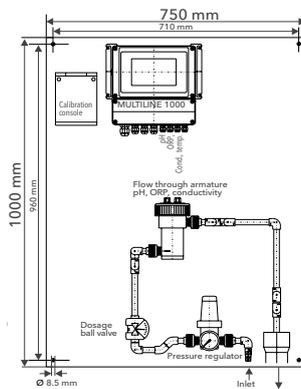
Drinking water panels



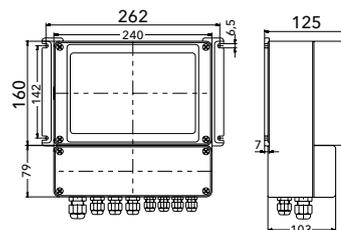
The premounted drinking water panels for multi-parameter or chlorine are user-friendly and deliver reliable measuring values

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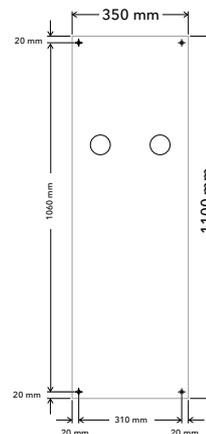
Basic equipment of the drinking water panel 8X-yyyyy



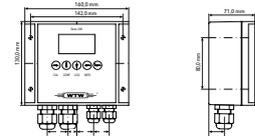
MULTILINE 1000



CL 298/P (Flow)



CL 298



Technical Data

Model	MULTILINE 1000 (Controller for panel 8X-yyyyy)	CL 298/P (Flow)
Measuring range	pH/ORP	pH: 0.00...14.00; -2000...+2000 mV
	Conductivity	0...100 mS/cm, automatic range selection, adjustable
	Chlorine	0.00...2.00 mg/l
Resolution	pH/ORP	pH: 0.01; 1 mV
	Conductivity	Depending on range 0.1 µS/cm...0.1 mS/cm
	Chlorine	0.01 mg/l
Flow measurement (optional)	Flow measurement via impeller	Flow detection (yes/no)
Temperature measurement*)		
	pH/ORP	Additional TFK 5000 (Pt1000), -10...+100 °C
	Conductivity	Integrated (Pt 1000), -5...+80 °C
	Chlorine	Integrated (Pt 1000), 0...+45 °C
Temperature compensation	Automatically via temperature measurement of the sensor or manual input	
Outputs	Relays	4
	Analog Outputs	4 x 0(4) ... 20 mA
	Digital	Modbus / RS485
Display	Touch screen, 240 x 128 pixel, back-lighted	OLED (128 x 64 pixel)
Data logger	Integrated with real-time clock for 50,000 records	Integrated with real-time clock for 4,000 records
Electric supply	115 / 230 V AC; 48 ... 63 Hz	100 ... 240 V AC
Ambient temperature	-10 °C ... +55 °C (-14 ... 131 °F)	
Mechanics	Housing: Aluminium; IP 65	Housing: Cast aluminium; IP 65
	Panel: PVC rigid foam, white; 1000 x 750 x 13 mm (HxWxD)	Panel: PVC rigid foam, white; 1100 x 350 x 13 mm (HxWxD)
Weight	Controller: 5 kg; Panel: 35 kg (incl. Turb 2000)	Controller: 1.4 kg; Panel: 10 kg
Warranty	Controllers: 3 years on defects in quality according to § 10 terms of conditions	

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

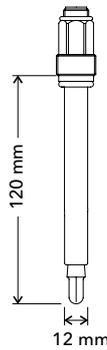
Model	Description	Order No.
MULTILINE 1000 230VAC	Multi-parameter monitor to connect up to any 16 sensors, power supply 230 VAC	480200
Drinking water panel	Ready-to-use panel to measure pH, ORP, Cond, Chlorine and Turbidity (Turb 2000); X: with or without flow; yyyy: coding dependent on parameter selection; details see price list or drinking water flyer	8X-yyyyy
CL 298/P - 230 VAC	Ready to operate measuring panel to measure free or total chlorine, analog monitor 2 current outputs and MODBUS interface, with automatic temperature compensation (Pt1000), 230 VAC	801260
CL 298/P Flow - 230 VAC	Like the CL 298/P, but with FlowControl to monitor the flow volume	801261

Drinking water sensors

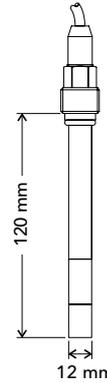
For measurement of pH/ORP, D.O. and conductivity at drinking water monitoring. Sensor can directly be connected to the series 298 or to the MULTILINE 1000.

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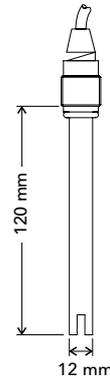
SenTix® ML 70/ORP



Oxi ML 41



LR ML



Technical Data

Model	SenTix® ML 70	SenTix® ML ORP	Oxi ML 41	LR ML
Measuring principle	Potentiometric	Potentiometric	Amperometric	Conductometric
Measured value	pH	ORP	Dissolved Oxygen	Conductivity
Measuring Range	pH 0 ... 14		0 ... 20 mg/L O ₂ 0 ... 200 % air saturation	100 µS/cm ... 20 mS/cm
Cell constant	-	-	-	1.0 cm ⁻¹ ± 20 %
Response time (at 25 °C)	-	-	t ₉₀ (90 % of the final value display after) < 30 s	-
Temperature Measurement	-	-	Platinum measurement resistor Pt 1000	Platinum measurement resistor Pt 1000
Temperature Compensation	-	-	Automatic	Automatic
Application temperature	0 ... 80 °C	0 ... 80 °C	-5 ... 45 °C	-5 ... 80 °C
Pressure Resistance	Max. 6 bar	Max. 6 bar	Max. 3 bar	Max. 6 bar
Electrical Connection	S7 industrial screw plug connection; Screw-in connection PG 13.5 on the plug head connector for installation	S7 industrial screw plug connection; Screw-in connection PG 13.5 on the plug head connector for installation	1 m multi-wire, screened fixed cable without plug, twistable PG 13.5 screw coupling at the shaft	1 m multi-wire, screened fixed cable without plug, twistable PG 13.5 screw coupling at the shaft
Certifications	CE	CE	CE	CE
Mechanical	Shaft Glass Connection head: Plastic (ABS) Sealing: Silicone Protection Rate: IP68	Shaft Glass membrane Metal electrode: Platinum rounded end Ø 6 mm Connection head: Plastic (ABS) Sealing: Silicone Protection Rate: IP68	ABS, stainless steel 1.4571, polysulphone, silicone Protection Rate: IP64	Shaft Plastic (PSU) Electrodes: Special graphite Connection head: Plastic (ABS) Sealing: Silicone Protection Rate: IP64
Weight	Approx. 0.1 kg	Approx. 0.1 kg	Approx. 0.2 kg	Approx. 0.1 kg
Warranty	½ year on defects in quality according to § 10 terms of conditions			2 years on defects in quality according to § 10 terms of conditions

Model	Description	Order No.
SenTix® ML 70	pH combination electrode with gel electrolyte, S7 plug head, glass-shaft; PG 13.5 screw thread	104100
SenTix® ML ORP	ORP combination electrode with gel electrolyte, S7 plug head, glass-shaft; PG 13.5 screw thread	104150
Oxi ML 41	Electrochemical D.O. sensor with 1 m (3.3 ft) fixed cable for measuring and controlling oxygen in drinking water. Use with transmitter MULTILINE 1000 or Oxi 4000. Range: 0-20 mg/l or 0 - 200 %, temperature range: -5-45 °C, with temperature sensor Pt 1000; open cable ends.	201931
LR ML	Conductivity cell, with 1 m fixed cable, 2 graphite electrodes; - 5-80 °C; range 100 µS/cm - 20 mS/cm; temperature measurement with Pt 1000, PG 13.5 screw thread	301150