



CARUS EUROPE

PermaTest SCAN

Robotic Analyzer for KMnO_4 Measurements

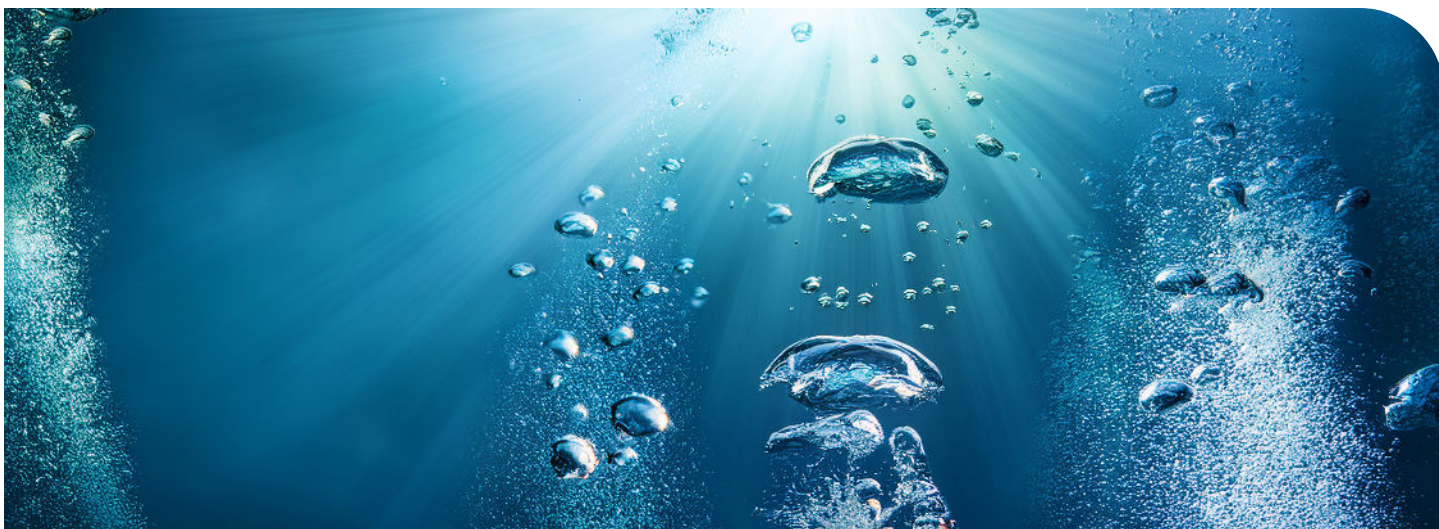
PermaTest is a compact, automatic system designed for measuring residual permanganate in aqueous solution for water treatment purposes, within the scope of use specified in these instructions. The instrument receives an input signal from the 201S-090 sensor. The measured value is displayed, in engineering units, on a screen and retransmitted — according to the selected range — through two galvanically isolated 4–20 mA proportional outputs.

TECHNICAL SPECIFICATIONS

Protection:	IP55
Dimensions:	655 x 630 x Depth 330 mm
Materials:	PP, PMMA, Aluminum
Measurement:	From MnO_4 sensor
Sampling:	Batch
Frequency:	Programmable
Streams:	2 streams (customer-selectable: pre-oxidation, sedimentation inlet, sedimentation outlet, filtration outlet)
Analysis Time:	30 seconds
Digital Input:	1 — Sampling completed via SL1 probe
Display:	4" Touch Screen (1/4 VGA), 32,000 color
Digital Outputs:	1 — General Alarm
Analog Outputs:	2 — Proportional to measurement, 4–20 mA; max load 500 ohm Galvanically isolated outputs — Range 0.00 to max 5.00 mg/L
Measuring Range:	0.000–5.000 ppm MnO_4
Power Supply:	100–230 Vac $\pm 10\%$, 50/60 Hz, 150 VA
Communication:	Ethernet — Modbus TCP-IP protocol
Temp. Limit:	0 – 40 °C
Weight:	5 kg

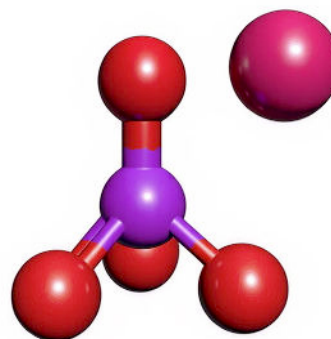
TECHNICAL SPECIFICATIONS MEASURING ELECTRODE

Body Material:	Glass
Sensor:	201S-090
Analysis Technique:	Electrochemical analysis with selective electrodes
Measuring Range:	0.00 – 5.00 ppm MnO_4
pH Range:	2 to 10
Sample	
Conductivity Range:	From 0 (ultrapure water) to seawater
Accuracy:	$\pm 1\%$ f.s.
Analog Outputs:	2 — Proportional to measurement, 4–20 mA; max load 500 ohm Galvanically isolated outputs — Range 0.00 to max 5.00 mg/L
Uncertainty:	$\pm 0.5\%$ full scale
Repeatability:	2%
Drift:	< 2% of value per m
Buffer Solution:	Added via peristaltic pump
Operating Pressure:	Free discharge
Response Time:	30 seconds rise time (90% of final value)
CE Compliance:	In accordance with Machinery Directive 2006/42/EC Complies with requirements of 93/68/EEC Electromagnetic compatibility; Low voltage



FEATURES

- Automatic control
- Easy calibration with known permanganate solutions
- Robust sensor
- 2 sampling and measuring streams
- Can operate with turbid water and water rich in manganese dioxide
- Wide operating range: can measure ultrapure water or seawater without requiring sensor recalibration
- Peristaltic sampling and reagent pumps with stepper motor
- Fast response time: 30 seconds
- Remote control capability via ethernet TCP-IP
- Case-type enclosure
- Electrical connections via connectors
- Alarms (all alarms are configured as remote alarms)



Carus Europe

Calle Rosal 4, 1-B | Oviedo, Spain 33009 | Tel +34.985.785.513 | Fax +34.985.785.510
caruseurope@carusllc.com

Carus Headquarters USA

315 Fifth Street | Peru, IL 61354 | Tel +1 (815) 223-1500 | 1(800) 435-6856 | Fax +1 (815) 224-6697
carusllc.com | salesmkt@carusllc.com

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