Colo Science
Laboratory & Scientific Equipment

COLO.SCIENCE · TECHNICAL SPECIFICATION

PRODUCT PAGE | REQUEST QUOTE | MULTI-PARAMETER ANALYZERS | WATER QUALITY KNOWLEDGE

VIKING-M510T

Portable pH / Conductivity / ISE Multi-parameter Water Analyzer

VIKING-M510T Portable Multi-parameter Water Analyzer is a field-ready electrochemistry instrument for pH, conductivity, ion-selective electrode measurement and temperature measurement. It supports **pH, mV/ORP, pX, ISE, conductivity, resistivity, TDS, salinity and temperature** in one portable platform with a 4.3” color touchscreen, IP65 housing, rechargeable battery and GLP-oriented data storage.

PORTABLE ANALYZER | PH / MV / ORP | ISE / PX | EC CONDUCTIVITY | TDS / SALINITY | RESISTIVITY | TEMPERATURE | 4.3” TOUCHSCREEN | USB 2.0 | GLP 1000 GROUPS | IP65

Document type: **Technical Specification Sheet**
Product family: **Portable Electrochemistry / Water Quality Multi-parameter Analyzer**
Model: **VIKING-M510T** · SKU: **PRO5383**
Product page: **colo.si/product/viking-510t-portable-ph-conductometer-multi-parameter-water-analyzer/**
Format: **A4 landscape · COLO.Science TechSpec v2.4 with navigation links**

VIKING-M510T · portable pH / conductivity / ISE water analyzer · main unit

MODEL / SKU
VIKING-M510T
PRO5383

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VIKING-M510T · technical specification

Portable multi-parameter analyzer for pH, ISE, conductivity, ORP, pX, TDS, salinity, resistivity and temperature

PH -2.000 TO 20.000 | ISE 1.000E-9 TO 9.999E+9 | EC 0.000 MS/CM TO 3000 MS/CM | TEMP. -10 TO 135°C — Portable measurement workflow for laboratory, plant and field use

Product Overview

Application profile

Water quality: designed for pH, conductivity, salinity, TDS, ISE and ORP checks in water and process samples.

Field and laboratory use: portable IP65 format with touchscreen operation and rechargeable battery.

Ion measurement: supports ISE and pX work with direct and advanced addition methods for routine analysis.

Process and QA/QC: suitable for plant checks, environmental monitoring, incoming water control and routine lab measurement.

Design and handling advantage

Touchscreen workflow: 4.3” high-contrast color LCD touchscreen with backlight for fast parameter setup.

Calibration control: pH up to 8 points, EC up to 5 points and ISE up to 8 points depending on method.

Traceability: GLP data storage for up to 1000 groups with review, compare and recalculation functions.

Operator support: Auto-Read, Timed Read, Continuous Read and Auto-Hold endpoint functions reduce routine error.

Key features

Multi-parameter platform: pH, mV/ORP, pX, ISE, conductivity, resistivity, TDS, salinity and temperature.

pH performance: -2.000 to 20.000 pH range, selectable 0.1 / 0.01 / 0.001 pH resolution and ±0.002 pH accuracy.

Conductivity performance: 0.000 µS/cm to 3000 mS/cm range with ±0.5% FS accuracy.

Portable protection: IP65 housing, silicone protective case and carrying case for daily field operation.

Connectivity: USB 2.0 support for flash drive, PC and scanner connection.

Core technical summary

Parameter	Specification
Model	VIKING-M510T
SKU	PRO5383
Instrument type	Portable pH / conductivity / ISE multi-parameter water analyzer
Measured parameters	pH, mV/ORP, pX, ISE, EC, resistivity, TDS, salinity, temperature
Display	4.3” color high-contrast LCD touchscreen with backlight
Reading modes	Auto-Read, Timed Read and Continuous Read
Temperature compensation	Automatic / manual temperature compensation (ATC / MTC)
Data storage	GLP storage up to 1000 groups
Protection	IP65

PH ACCURACY
±0.002 pH

EC ACCURACY
±0.5% FS

DATA MEMORY
1000 groups

PROTECTION
IP65

pH / mV / ORP / pX / ISE Specifications

pH, mV, ORP and pX measurement

Parameter	Range / resolution / accuracy	Calibration / notes
pH range	-2.000 to 20.000 pH	Up to 8-point calibration
pH resolution	0.1 / 0.01 / 0.001 pH	Selectable resolution according to workflow
pH accuracy	±0.002 pH	Electrode diagnostics: slope and offset
Buffer groups	USA, NIST, MERK, JIS, GB, DIN	User-defined buffer supported
mV / ORP range	-2000.00 to 2000.00 mV	EH ORP mode supported
mV resolution	0.1 / 0.01 mV	Relative mV: 1 custom calibration point
mV accuracy	±0.1 mV or ±0.03%	For ORP and millivolt measurements
pX range	-2.000 to 20.000 pX	Up to 6-point calibration
pX resolution	0.1 / 0.01 / 0.001 pX	For ion-selective workflows
pX accuracy	±0.002 pX	Method-dependent performance

Reading and calibration workflow

Function	Technical note
Reading modes	Auto-Read Fast / Medium / Slow, Timed Read and Continuous Read.
Endpoint status	Reading / Stable / Locked prompts with Auto-Hold endpoint lock.
Management	User, calibration, electrode, method and log management.
Temperature compensation	Automatic and manual temperature compensation for supported parameters.

ISE concentration measurement

Parameter	Specification	Notes
ISE range	1.000e-9 to 9.999e+9	Concentration measurement by selected ion method
ISE resolution	Up to 4 significant digits	Displayed according to concentration range
ISE accuracy	±0.3%	Method and electrode dependent
ISE calibration	Up to 8 points	Supports routine and advanced calibration curves
Units	mol/L, mmol/L, g/L, mg/L, µg/L, ppm, ppb	Selectable concentration units
Methods	Direct, Standard Addition, Sample Addition, GRAN	Built-in ion measurement methods
Built-in ions	F–, Cl–, Br–, I–, NO_3–, BF_4–, NH_4^+, K^+, Na^+, Ca^{2+}, Cu^{2+}, Pb^{2+} and Ag^+; user-defined methods supported.	

Electrode and method note

pH electrode: BNC / Q9 pH input for the delivered electrode configuration.

ISE workflow: select the ion electrode, ionic strength adjustment and calibration points according to the target sample matrix.

ORP workflow: confirm whether direct mV, relative mV or EH ORP reporting is required before defining the method.

PH CALIBRATION	ISE CALIBRATION	PX CALIBRATION
Up to 8 points	**Up to 8 points**	**Up to 6 points**

Technical values are provided for product selection and orientation. Final electrode type, calibration method, ion method and accessory configuration should be confirmed through the official COLO.Science quotation or manufacturer-confirmed offer.

Conductivity / Resistivity / TDS / Salinity / System Specifications

Conductivity-related parameters

Parameter	Range / resolution / accuracy	Calibration / notes
Conductivity	0.000 µS/cm to 3000 mS/cm	Up to 5-point calibration
EC resolution	Minimum 0.001 µS/cm; varies by range	Auto-ranging display
EC accuracy	±0.5% FS	Full-scale accuracy
EC standards	10 µS/cm, 84 µS/cm, 500 µS/cm, 1413 µS/cm, 12.88 mS/cm, 146.5 µS/cm, 1408 µS/cm, 12.85 mS/cm, 111.3 mS/cm.	
Resistivity	5.00 Ω·cm to 100.0 MΩ·cm	Minimum 0.01 Ω·cm; ±0.5% FS
Reference temperature	5 / 10 / 15 / 18 / 20 / 25°C	Selectable reference temperature
TDS	0.000 ppm to 1000 ppt	Minimum 0.001 ppm; ±0.5% FS
TDS factor	Settable	Configure according to reporting method
Salinity	0.0 to 80.0 ppt	0.1 ppt resolution; ±1 ppt accuracy
Temperature compensation	None / linear / pure water	For conductivity-related calculations

Temperature, inputs and system

Parameter	Specification
Temperature range	-10 to 135°C / 14 to 275°F
Temperature resolution	0.1
Temperature accuracy	±0.1°C
Temperature units	°C / °F
pH input	BNC (Q9)
EC + temperature input	5-pin aviation connector for EC + temperature probe configuration
USB output	USB 2.0 for flash drive, PC and scanner connection
Auto shutdown	300 / 600 / 1200 / 1800 / 3600 s or Off
Power supply	Rechargeable Li battery; AC adapter 100–240 V input, DC 5 V output
Dimensions / weight	90 × 255 × 40 mm; approx. 500 g

VIKING-M510T · carrying case and typical portable measurement accessories

Typical standard delivery

3-in-1 pH composite electrode: supplied for routine pH and temperature measurement workflows.

EC electrode: supplied for conductivity, resistivity, TDS and salinity measurements.

Buffer and standard solutions: NIST pH 4.01 / 7.00 / 10.01 and 1413 µS/cm EC standard, 50 mL each.

Accessories: electrode holder, silicone rubber case, wristbands, touch pen and carrying case.

Configuration note — accessories must be confirmed

The final electrode set, calibration standards, cable connectors and optional accessories should be confirmed for the exact delivery. Different sample matrices may require different pH, ISE or conductivity electrode configurations.

📌 Selection and Use Notes

For water quality

Routine pH / EC: define sample range, calibration buffers, EC standards and reporting units before purchase.

Salinity / TDS: confirm conversion factor, reference temperature and temperature compensation approach.

For ISE work

Ion method: choose direct, standard addition, sample addition or GRAN according to sample matrix.

Electrode set: select the correct ion-selective electrode and ionic strength adjustment procedure.

For field workflows

Portability: IP65 housing, carrying case and rechargeable battery support plant and outdoor measurements.

Traceability: use GLP storage, user/method management and data review for routine QC records.

MANUFACTURER AND SUPPORT

COLO Lab Experts
Polje ob Sotli 4, SI-3255, Slovenia

Selection guidance: Send the required parameters, sample matrix, expected measuring range, calibration method, electrode type and field/laboratory use case. COLO.Science can help confirm the correct VIKING-M510T configuration and accessory set for your measurement workflow.

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VIKING-M510T product page

COLO.SCIENCE · VIKING-M510T PORTABLE MULTI-PARAMETER ANALYZER SUPPORT

Need help selecting the correct pH, ISE and conductivity configuration?

Send the sample matrix, required parameters, expected ranges, electrode configuration and calibration standards. COLO.Science can help confirm whether VIKING-M510T is the correct portable analyzer for your water quality, environmental, plant or QA/QC workflow.

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