



OMNIS Titrator

PEOPLE
YOU
CAN
TRUST

 **Metrohm**

OMNIS – titration on a whole new level

The OMNIS Titrator is the heart of the modular OMNIS Titration Platform. Dosing with a resolution of 100,000 steps for higher precision, an optimized titration algorithm for faster results, fully digital sensors with a lower signal/noise ratio and a unique, patented system for faster and safer reagent exchange – the OMNIS Titrator is the new benchmark in titration.

SCALE UP PERFORMANCE AS YOU NEED

Instead of buying another instrument, simply expand your OMNIS Titrator when you need to. You can connect and control up to four additional burets and eight additional measuring inputs with your OMNIS Titrator! Likewise, you can always license additional measuring modes so you can also perform, e.g., photometric, conductometric, volumetric Karl Fischer, or thermometric titrations with your OMNIS Titrator!

Licensing model for the OMNIS Titrator – start from a dedicated license package and add additional capabilities whenever you need them.

License Package	Thermometric Titrator	Conductometric Titrator	Basic Titrator	Potentiometric Titrator	Advanced Titrator	Professional Titrator
Measuring / Titration Mode						
U / T / pH Measurement	✓	✓	✓	✓	✓	✓
Ion Measurement	opt.	opt.	✓	opt.	✓	✓
Conductivity Measurement	opt.	✓	opt.	opt.	opt.	opt.
Titration with external buret	opt.	opt.	✓	opt.	✓	✓
Liquid Handling	✓	✓	✓	✓	✓	✓
Fix-endpoint Titration (SET)	opt.	opt.	✓*	✓*	✓	✓
Monotonic Titration (MET)	opt.	✓	opt.	✓	✓	✓
Dynamic Titration (DET)	opt.	opt.	opt.	✓	✓	✓
Volumetric Karl Fischer Titration (KFT)	opt.	opt.	opt.	opt.	opt.	opt.
Coulometric Karl Fischer Titration (KFC)**	opt.	opt.	opt.	opt.	opt.	opt.
Thermometric Titration	✓	opt.	opt.	opt.	opt.	opt.
STAT Titration	opt.	opt.	opt.	opt.	opt.	opt.
Bromine Index (BRC)**	opt.	opt.	opt.	opt.	opt.	opt.
Manual Titration (MAT)	opt.	opt.	opt.	opt.	opt.	opt.
Two parallel titrations	opt.	opt.	opt.	opt.	opt.	n/a
Five parallel titrations	opt.	opt.	opt.	opt.	opt.	✓

opt. = optional, * Fix-endoint titration without conditioning, ** requires OMNIS Coulometer Module

NO RISK OF CONTACT WITH REAGENTS

Simply connect the OMNIS Liquid Adapter to the reagent bottle – that’s how safe and easy it is to exchange reagents is with OMNIS! This patented system eliminates the risk of coming into contact with toxic reagents.

OMNIS BURET DRIVE AND CYLINDER UNIT

Achieve superior accuracy of results due to dosing with a resolution of 100,000 steps. The OMNIS cylinder unit with four dosing ports offers more Liquid Handling options and a fully automated rinsing of the glass cylinder.

FULLY DIGITAL SENSORS

The «dTrode» electrode family offers maximum performance with maximum traceability. The fully digital electrodes convince with a lower signal/noise ratio which leads to faster titration and better reproducibility. Thanks to integrated data chip all sensor and calibration information is stored on the sensor and recorded with every titration.

TWO STIRRING OPTIONS

Depending on the application a magnetic or propeller stirrer can be chosen – for both, the stirring speed can not only be defined in the software, but also manually at the push of a button at the front of the titrator.



With OMNIS, titration is safer and smarter than ever



Safer – the OMNIS Liquid Adapter

Exchanging reagents always poses a certain risk because accidental contact with hazardous liquids cannot be excluded entirely. To minimize this risk, we developed the OMNIS Liquid Adapter. This feature provides for a safe and simple connection of the reagent bottle to your OMNIS Titrator and prevents any risk of accidental contact with the liquid in the bottle when changing the reagent.

Once the OMNIS Liquid Adapter and the reagent bottle are connected, OMNIS identifies the reagent and transfers this information to the software for complete traceability of your analysis. This feature is based on RFID technology and prevents user errors.



Maximum safety for your Karl Fischer Titration

No other KF titration system offers you the same level of user safety. Karl Fischer titration with OMNIS is also more convenient than with any other comparable solution as hardly any manual steps are required from the user:

- Once you have injected the sample, the titration starts automatically
- After the measurement, the titrated sample is disposed of automatically
- Finally, the titration cell is automatically prepared for the next determination

Automatic titration start

The OMNIS KF Titrator reduces the risk of human error to almost zero as it starts the titration automatically after the sample addition – no further manual steps required.

New KF titration cell

The OMNIS KF Titration cell with screw-cap closure guarantees an air-tight closure and a comfortable exchange of the titration vessel.

OMNIS Solvent Module

For contact-free exchange of the solvent (at the push of a button or automatically) after the titration.



The OMNIS Titration System – modular by design

A TYPICAL UPGRADE PATH COULD LOOK LIKE THIS:

1

Start with the OMNIS Titrator with magnetic stirrer and Measuring Module analog for Karl Fischer titration.

2

Add the OMNIS Solvent Module for more comfort and safer solvent handling.

3

Upgrade your OMNIS Titrator with an additional Measuring Module Digital and a Dosing Module with magnetic stirrer for a potentiometric pH titration.

4

For a further titrations, connect an OMNIS Titration Module with magnetic stirrer and a measuring module for further applications.

OMNIS COULOMETER MODULE

- For Coulometric Karl Fischer titration with automatic titration start
- For Bromine Index according to ASTM D1492-21



OMNIS ROD STIRRER

- Connection to OMNIS Titrator and Sample Robot
- Various stirring propellers for different beaker dimensions



OMNIS CYLINDER UNIT

- Optional volumes: 2, 5, 10, 20 and 50 mL
- Special version available for extended lifetime when used with strongly crystallizing reagents



MODULARITY ON A WHOLE NEW LEVEL

OMNIS allows you to consolidate your titration applications on one platform. OMNIS features various customization and automation options and ensures efficient and safe titrations. Instead of buying another instrument, you can customize your titration system with additional OMNIS Titration Modules and OMNIS Dosing Modules to perform up to five parallel titrations. You can connect and control up to four additional burets and eight additional measuring inputs with your OMNIS Titrator!

OMNIS TITRATOR

- The main unit of every OMNIS Titration system
- With or without magnetic stirrer / titration stand
- two slots for measuring interfaces
- Connects up to four OMNIS Titration or Dosing Modules or Rod Stirrers in total
- Modular license packages for titration modes

OMNIS SOLVENT MODULE

- Manual or software controlled solvent handling for e.g., Karl-Fischer Titration
- Programable control buttons for more user comfort

OMNIS DOSING MODULE

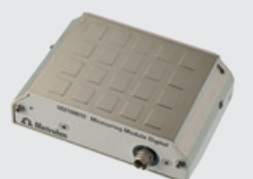
- Expands your OMNIS Titration System with additional buret and titration stand
- With or without magnetic stirrer / titration stand

OMNIS TITRATION MODULE

- Expands your OMNIS Titrator with additional buret, titration stand and measuring interfaces
- With or without magnetic stirrer / titration stand
- Two additional slots for measuring interfaces

MEASURING MODULE

- Measuring interfaces for OMNIS Titrator and OMNIS Titration Module
- Measuring Module Digital for intelligent electrodes dTrodes and dThermoprobes
- Measuring Module Analog for analog electrodes or KF Titration
- Measuring Module Conductivity for conductivity measurement / titration



TECHNICAL SPECIFICATIONS

Measuring and Titration Modes (modular)	MEAS for pH / U / T measurement MEAS CONC for direct ion measurement STDADD for ion measurement using standard addition MEAS COND for conductivity measurement DET for dynamic equivalence-point titration MET for monotonic equivalence-point titration SET for titration to a preset endpoint with automatic conditioning KFT for volumetric Karl Fischer titration with automatic titration start after sample addition KFC for coulometric Karl Fischer Titration with an OMNIS Coulometer Module MET COND for conductometric titration TET for thermometric titration STAT for STAT titration in the pH or U mode BRC for Bromine Index according to ASTM D1492-21 with an OMNIS Coulometer Module MAT for Manual Titration with the Manual Dosing command
Dosing elements	1 integrated dosing drive with 100,000 dosing steps per cylinder volume
Attachment of max. four additional OMNIS modules	OMNIS Titration Module OMNIS Dosing Module OMNIS Coulometer Module OMNIS Solvent Module
Maximum number of parallel titrations per OMNIS Titrator	5
Intelligent cylinder units with integrated data chip	Yes, available volumes: 2, 5, 10, 20, or 50 mL
OMNIS Liquid Adapter with 3S Technology for contact-free reagent exchange	Yes
Digital electrodes «dTrodes»	Yes
Stirrers	Magnetic or Rod Stirrer
Measuring interfaces	Maximum 10 measuring interfaces Up to two measuring interfaces digital, analog or conductivity per OMNIS Titrator or OMNIS Titration Module
Measuring range U / resolution	$\pm 2.400 \text{ mV} / 1.56 \text{ } \mu\text{V}$
Measuring range T / resolution	$-150 \text{ }^{\circ}\text{C}$ to $+250 \text{ }^{\circ}\text{C} / 0.002 \text{ }^{\circ}\text{C}$ (Pt1000)
Polarization current	$-200.0 \text{ } \mu\text{A}$ to $+200.0 \text{ } \mu\text{A}$ (in $0.5 \text{ } \mu\text{A}$ steps)
Measuring range Conductivity / resolution	$0.1 \text{ } \mu\text{S}$ – $1,000 \text{ mS} / 4$ significant digits
Measuring interval	100 mS
Differential amplifier	With OMNIS Measuring Module Analog
Automation options	OMNIS Sample Robot S, M, or L for up to 175 samples and 4 parallel titrations
Fixed endpoint evaluation	Maximum 9 fixed endpoints
Break point evaluation (photometry)	Yes
Operation	Software (via LAN / Ethernet connection)
Dialog languages	English, Chinese, German, Japanese, French, Spanish, Korean, Portuguese
Attachment of barcode reader, third-party devices	Via computer / RS232
Balance connection	RS232 / Ethernet
Report options	PDF / print