



SevenMulti™
Benchtop Instruments

pH, ISFET

Conductivity

ORP/Redox

Ion Concentration

Simple and Accurate Measurements
For Results at your Fingertips

METTLER TOLEDO

Comfortable Laboratory Work with Seven Simple and Accurate Measurements

- Intuitive pH, conductivity and ion measurements with maximum accuracy
- Comprehensive range of automation solutions and accessories
- Qualification and maintenance services are the perfect complement

A high-performance package for everyday lab work

SevenMulti™ is the perfect choice for applications where maximum measurement accuracy is required. The dual-channel instrument supports the measurement of two electrochemical parameters simultaneously and can be expanded by additional modules. It meets the latest requirements for quality control, data management and legal GLP regulations. The self-explanatory user interface allows intuitive operation at all stages.

Modularity

SevenMulti™ offers the highest possible degree of flexibility. You can expand the instrument at any time with new measurement parameters.



SevenMulti™

Peripheral options

These range from printers, sample changers and barcode readers to software for automated data collection with the capability to integrate data into laboratory information management systems (LIMS).



SevenMulti™ – for a wide range of accurate measuring solutions

- Professional dual-channel instrument
- pH, conductivity, ISFET and ions – with modular expansion capability
- Full GLP support



7 good reasons for SevenMulti™

- Ease of use
- High measurement accuracy
- Fast result evaluation
- Easy-to-read display screen
- Automation expansion capability
- Comprehensive range of accessories
- Complementary qualification and maintenance services



SevenMulti™

Maximum Precision and Flexibility

- Modular system for pH, conductivity, ion concentration and ISFET
- Efficiency enhanced by a variety of automation options
- Cutting edge data management with 1,000 GLP measurement data records, 400 GLP calibration data records and 40 methods
- Built-in time and date function



SevenMulti™ – For modular expansion at any time

The ingenious concept of this instrument is based on ultra-precise measurement technology, and includes a multitude of additional options and an intuitive, easy-to-use control interface. Measuring capabilities can be extended at any time by the use of additional small and manageable expansion units. Thanks to the large, backlit display screen, you can see all the important information at a glance, even in dual-channel mode. The RS232 and USB interfaces enable SevenMulti™ to be integrated easily into LIMS. The pH meter is the result of a cleverly devised system specially designed to meet the laboratory challenges of today and tomorrow.

SevenMulti™ – a host of functions to merit the name

Read

Reproducible measurements

A choice of automatic, manual or scheduled end point recognition and three selectable stability criteria enable fast and yet accurate recording of measured values with reproducible results.

Cal

Professional calibration

- Up to 9 calibration points with a choice of linear or segmented algorithm
- Multipoint conductivity calibration
- Automatic buffer recognition within the 8 predefined pH buffer groups
- Automatic recognition of 5 predefined conductivity standards
- User-definable buffers and standards including temperature dependencies

i

Help is always at hand

Context-sensitive help texts support you while operating the instrument. In routine mode, operation is made even easier by the exclusive display of settings specific to the current sample.

Data

Secure data management

SevenMulti™ guarantees the very fast access to current results and calibration data. Saving, logging in, retrieval and PIN-protected deletion of measurement and calibration data have never been easier.

ID

GLP excellence

SevenMulti™ makes it easy to record and print sample, user and sensor IDs of up to 12 characters, even with the barcode reader. The date and time are recorded automatically.

Printers

The SevenMulti™ is able to operate with a selection of METTLER TOLEDO printers, e.g. LC-P45, RS-P42 and RS-P25, RS-P26 and RS-P28. These printers are also compatible with other instruments from METTLER TOLEDO.

Automatic detection

SevenMulti™ detects your chosen expansion units automatically. Switching between individual parameters in dual-channel mode is fast and simple.

Clear text menus and ease of operation

The high-resolution, backlit display screen presents all your important information, whether in single- or dual-channel mode. The instrument is intuitive and easy to use.



Monitored sensors

Electrode test

A built-in pH electrode test verifies the slope, offset, drift and response time of your electrode without altering your current calibration.

Calibration reminder

This useful function reminds you that a calibration is due after a user-defined time interval. In addition, it is possible to block the instrument from taking measurements once this period has expired until the next calibration has successfully been performed.



Security has priority

PIN-protected

Instrument operation and general system settings such as the date and time can be protected by PIN.

Monitoring limit values

You can define your own limit values. If the actual values fall below or exceed the limit values, a warning appears on the display and on the GLP printout.

Standardized methods

Up to 40 defined user methods store all measurement-related settings so that all users can be confident they are using the same settings.

Compliance with USP/EP regulations

SevenMulti™ has a special mode for use with conductivity measurements to ensure USP and EP compliance (United States/European Pharmacopoeia).

Seven – Unrivalled Flexibility

Multifunctionality Overview

Overview of functions and equipment		SevenMulti™ models				
		S40	S50	S80	S47	S70
Parameters	pH measurement	•	•	•	•	
	mV measurement	•	•	•	•	
	Relative mV	•	•	•	•	
	Ion concentration (mol/L, mmol/L, %, ppm, mg/L)		•	•		
	Conductivity				•	•
	TDS (total dissolved solids)				•	•
	Specific resistance				•	•
	Salinity				•	•
Measurement	Choice of measured value acquisition	•	•	•	•	•
	Choice of stability criteria (fast, normal, strict)	•	•	•	•	
	Choice of pH decimal places (X.XXX, X.XX, X.X)	•	•	•	•	
	ATC or MTC	•	•	•	•	•
	Serial measurements in user-defined time interval	•	•	•	•	•
	Incremental methods for ion measurements		•	•		
Calibration	Calibration points	5	9	9	5	5
	Predefined pH buffer groups/conductivity standards	8	8	8	8/6	6
	User-defined buffer group/standard	1	1	1	1	1
	Automatic pH buffer/standard recognition	•	•	•	•	•
	Reminder function for calibration	•	•	•	•	•
	pH electrode test	•	•	•	•	
Conductivity	Special USP/EP mode				•	•
	Choice of reference temperature (20 °C or 25 °C)				•	•
	Linear or non-linear temperature compensation				•	•
	Procedure for automatic α -coefficient determination				•	•
	Input and display of cell constant				•	•
Communication	LabX® direct PC software (included as standard equipment with SevenMulti™)	•	•	•	•	•
	RS232 interface	•	•	•	•	•
	Optional TTL or USB communication modules	•	•	•	•	•
	Special analogue output				•	•
	Choice of print formats (short, standard, GLP)	•	•	•	•	•
	Automation with Rondolino sample changer	•	•	•	•	•
	Automation with barcode reader	•	•	•	•	•
	LIMS compatibility	•	•	•	•	•
Safety	Full GLP support	•	•	•	•	•
	Time and date	•	•	•	•	•
	Input of sample ID, sensor ID and SN, username	•	•	•	•	•
	ID input with barcode reader or alphanumeric keypad	•	•	•	•	•
	User-defined alarm limits	•	•	•	•	•
	PIN protection (instrument login/system settings/data deletion)	•	•	•	•	•
	Routine/expert mode	•	•	•	•	•
	Context-sensitive help function	•	•	•	•	•
Security	Data storage (1,000 measurements, 400 calibrations, 40 methods)	•	•	•	•	•
	Extensive filter functions	•	•	•	•	•
	Multilingual menu-guided operation	•	•	•	•	•
	Backlit display	•	•	•	•	•
	Instrument self-test	•	•	•	•	•
	Expandable to function as dual-channel instrument	•	•	Dual-channel		•

Comparison of functions within the SevenMulti™ product line

		SevenMulti™				
		S40	S50	S80	S47	S70
pH	Measuring range	-2.000 ... 20.000				-
	Accuracy	+/-0.002				-
Conduc-tivity	Measuring range	-	-	-	0.001 µS/cm ... 1000 mS/cm	-
	Accuracy	-	-	-	+/-0.5%	-
Ions	Measuring range	-	1.00E ⁻⁹ to 9.99E ⁺⁹		-	-
	Accuracy	-	+/-0.5%		-	-
Dual-channel measurement		-	-	•	•	-
Expandable to function as dual-channel instrument		•	•	Dual-channel instrument		•
Calibration	Calibration points	5	9	9	5	5
	User-defined buffer group/standard	•	•	•	•	•
	pH electrode test	•	•	•	•	-
	Manual cell constant entry	-	-	-	•	•
Choice of end point format		Automatic / Manual / Scheduled				
Choice of stability criteria (fast, normal, strict)		•	•	•	•	-
Incremental methods for ion measurements		-	•	•	-	-
ATC or MTC		•	•	•	•	•
System and security	Time and date	•	•	•	•	•
	RS232 interface	•	•	•	•	•
	Choice of print formats	Short / Standard / GLP				
	Data storage	1000 measurements / 400 calibrations / 40 methods				
	PIN protection	Instrument login / System settings / Data deletion				
	Multilingual**	English / German / French / Spanish / Italian				
	User ID, sample ID, sensor ID	Yes				

For complete instrument specifications, see pages 8 to 9.

* RS-P26 and RS-P28 printers have a built-in time and date function that enables the time and date to be included on the printout.

** SevenMulti™ is also available as SevenMulti™ Asia, which supports Chinese, Japanese, Russian and English.

Common peripherals



Peripherals connection

The SevenMulti™ product line features an RS232 interface as standard and a communication module with USB connection is optionally available. You can therefore connect a printer or computer to the SevenMulti™ at any time.

Multiple modes of versatility

The METTLER TOLEDO electrode holder comes as standard with the SevenMulti™ and can be used either freestanding or attached to the left or right of the instrument. This makes it ideal for both left- and right-handed personnel and allows it to be adapted to the space available in the laboratory.



The right electrode for each application

The kit versions of SevenMulti™ contain the InLab® Expert Pro or InLab® Routine Pro pH electrodes and the InLab®731 conductivity cell. You will find more information about these and other sensors from METTLER TOLEDO on page 11.



SevenMulti™ in 5 Models

Numerous Functions and Specifications

SevenMulti™ S47

Dual-channel pH and conductivity measurement

- Combines all the functions of S40 and S70
- Easy-to-read dual-channel measurement thanks to large display screen
- Supportive, context-sensitive help menu



SevenMulti™ S47	Measuring range	Resolution	Accuracy
pH	-2.000 ... 19.999	0.001, 0.01, 0.1	±0.002
mV (rel. mV)	-1999 ... 1999	0.1	±0.1
Temperature	-30.0 ... 130.0 °C	0.1 °C	±0.1 °C
Conductivity	0.001 µS/cm ... 1000 mS/cm	0.001 ... 1	±0.5%
Temperature	-30.0 ... 130.0 °C	0.1 °C	±0.1 °C
TDS	0.01 mg/L ... 1000 g/L	0.01 ... 1	±0.5%
Specific resistance	0.00 ... 20.00 MQcm		
Salinity	0.00 ... 80.00 ppt		
Sensor inputs	BNC, 2 mm ref., cinch/RCA (NTC), 4 mm banana (PT1000), mini DIN		
Interfaces	RS232 (connection to printer or PC), titrator output		
Power supply	Mains connection (9 V, DC)		
Size / weight	190 x 240 x 65 mm / 1100 g		
Package size / weight	370 x 320 x 165 mm / 4.2 kg		

Order info	Description and sensors	Order no.
S47 (instrument)	Includes instrument, electrode holder, protective cover, operating instructions, declaration of conformity and test certificate, LabX® direct pH software for PC	51302813
S47-K (kit)	As S47, but also with InLab® Expert Pro and InLab®731, pH and conductivity determination instructions and two calibration sachets pH 4.01, 7.00 and 9.21 (or 10.00) and 1413 µS/cm and 12.88 mS/cm respectively	51302814
S47-KS (kit)	As S47-K, but with InLab® Routine Pro instead of InLab® Expert Pro	51302865
S47-USP/EP (kit)	As S47, but also with: InLab® Pure Pro "3-In-1" pH electrode, MultiPin cable, conductivity probe InLab®741, pH and conductivity determination instructions, buffer sachets (2 each ; 4.01, 7.00 and 9.21 (or 10.00)), conductivity standard sachets (2 each ; 1413 µS/cm and 12.88 mS/cm)	51302869

SevenMulti™ S80

Premium dual-channel ion meter

- Supports simultaneous dual-channel measurement pH/ions or ions/ions
- Comprehensive range of electrodes and accessories
- Expandable: Rondolino sample changer, printer and barcode reader



SevenMulti™ S80	Measuring range	Resolution	Accuracy
Concentration	1.00E ⁻⁹ ... 9.99E ⁺⁹	± last signifi.digit	± 0.5 %
pH	-2.000 ... 19.999	0.001, 0.01, 0.1	± 0.002
mV (rel. mV)	-1999 ... 1999	0.1	± 0.1
Temperature	-30.0 ... 130.0 °C	0.1 °C	± 0.1 °C
Sensor inputs	2 each of: BNC, 2 mm ref., cinch/RCA (NTC), 4 mm banana (PT1000)		
Interfaces	RS232 (connection to printer or PC)		
Power supply	Mains connection (9 V, DC)		
Size / weight	190 x 240 x 65 mm / 1125 g		
Package size / weight	370 x 320 x 165 mm / 4.2 kg		

Order info	Description and sensors	Order no.
S80 (instrument)	Includes instrument, electrode holder, protective cover, operating instructions, declaration of conformity and test certificate, LabX® direct pH software for PC	51302811
S80-K (kit)	As S80, but also with InLab® Expert Pro, ion-specific measurement instructions and 2 buffer sachets for pH 4.01, 7.00 and 9.21 (or 10.00) respectively	51302812
S80-KS (kit)	As S80-K, but with InLab® Routine Pro instead of InLab® Expert Pro	51302866

SevenMulti™ S40

Professional pH meter

- Compatible with Rondolino sample changer, printer and barcode reader
- Outstanding data management capabilities with 1,000 GLP data records
- Choice of stability criteria



SevenMulti™ S40	Measuring range	Resolution	Accuracy
pH	-2.000 ... 19.999	0.001, 0.01, 0.1	±0.002
mV (rel. mV)	-1999 ... 1999	0.1	±0.1
Temperature	-30.0 ... 130.0 °C	0.1 °C	±0.1 °C
Sensor inputs	BNC, 2 mm ref., cinch/RCA (NTC), 4 mm banana (PT1000)		
Interfaces	RS232 (connection to printer or PC)		
Power supply	Mains connection (9 V, DC)		
Size / weight	190 x 240 x 65 mm / 1065 g		
Package size / weight	370 x 320 x 165 mm / 4.1 kg		

Order info	Description and sensors	Order no.
S40 (instrument)	Includes instrument, empty expansion unit, electrode holder, protective cover, operating instructions, declaration of conformity and test certificate, LabX® direct pH software for PC	51302807
S40-K (kit)	As S40, but also with InLab® Expert Pro, pH determination instructions and 2 buffer sachets for pH 4.01, 7.00 and 9.21 (or 10.00) respectively	51302808
S40-KS (kit)	As S40-K, but with InLab® Routine Pro instead of InLab® Expert Pro	51302864

SevenMulti™ S50

Single-channel ion meter

- Choice of 26 preprogrammed electrode types
- Incremental methods for ion measurements
- Up to 9 calibration points
- Choice of stability criteria



SevenMulti™ S50	Measuring range	Resolution	Accuracy
Concentration	1.00E ⁻⁹ ... 9.99E ⁺⁹	± last signifi. digit	± 0.5%
pH	-2.000 ... 19.999	0.001, 0.01, 0.1	± 0.002
mV (rel. mV)	-1999 ... 1999	0.1	± 0.1
Temperature	-30.0 ... 130.0 °C	0.1 °C	± 0.1 °C
Sensor inputs	BNC, 2 mm ref., cinch/RCA (NTC), 4 mm banana (PT1000)		
Interfaces	RS232 (connection to printer or PC)		
Power supply	Mains connection (9 V, DC)		
Size / weight	190 x 240 x 65 mm / 1065 g		
Package size / weight	370 x 320 x 165 mm / 4.1 kg		

Order info	Description and sensors	Order no.
S50 (instrument)	Includes instrument, empty expansion unit, electrode holder, protective cover, operating instructions, declaration of conformity and test certificate, LabX® direct pH software for PC	51302867
S50-K (kit)	As S50, but also with InLab® Expert Pro, ion-specific measurement instructions and 2 buffer sachets for pH 4.01, 7.00 and 9.21 (or 10.00) respectively	51302868

SevenMulti™ S70

Luxury conductivity meter

- Programmable, customer-defined calibration standards including temperature table
- USP/EP mode: compliance with the latest guidelines for the highest grades of ultrapure water
- Free choice of 6 commercially available or user-defined calibration standards



SevenMulti™ S70	Measuring range	Resolution	Accuracy
Conductivity	0.001 µS/cm ... 1000 mS/cm	0.001 ... 1	±0.5%
Temperature	-30.0 ... 130.0 °C	0.1 °C	±0.1 °C
TDS	0.01 mg/L to 1000 g/L	0.01 ... 1	±0.5%
Specific resistance	0.00 ... 20.00 MΩcm		
Salinity	0.00 ... 80.00 ppt		
Sensor inputs	Mini DIN		
Interfaces	RS232 (connection to printer or PC), titrator output		
Power supply	Mains connection (9 V, DC)		
Size / weight	190 x 240 x 65 mm / 1040 g		
Package size / weight	370 x 320 x 165 mm / 4.1 kg		

Order info	Description and sensors	Order no.
S70 (instrument)	Includes instrument, empty expansion unit, electrode holder, protective cover, operating instructions, declaration of conformity and test certificate, LabX® direct pH software for PC	51302809
S70-K (kit)	As S70, but also with InLab®731, conductivity determination instructions and 2 1413 µS/cm and 12.88 mS/cm calibration sachets respectively	51302810

Accessories and Service

The Finishing Touches

SevenMulti™ – expandable at any time

Boost the strength of your instruments. By selecting accessories from the list below you can create a tailor-made solution for your most frequent applications.

Buffers & standards

Solutions	Order no.
pH 4.01 buffer solution in side-sealed sachet, 30 x 20 mL	51302069
pH 7.00 buffer solution in side-sealed sachet, 30 x 20 mL	51302047
pH 9.21 buffer solution in side-sealed sachet, 30 x 20 mL	51302070
pH 10.01 buffer solution in side-sealed sachet, 30 x 20 mL	51302079
Rainbow I (3 x 10 sachets of 20 mL, 4.01/7.00/9.21)	51302068
Rainbow II (3 x 10 sachets of 20 mL, 4.01/7.00/10.01)	51302080
pH 2.00 buffer solution, colorless, 6 x 250 mL	51350016
pH 4.01 buffer solution, red, 6 x 250 mL	51350018
pH 7.00 buffer solution, green, 6 x 250 mL	51350020
pH 9.21 buffer solution, blue, 6 x 250 mL	51350022
pH 10.01 buffer solution, colorless, 6 x 250 mL	51350024
pH 11.00 buffer solution, colorless, 6 x 250 mL	51350026
1,413 µS/cm standard conduct. solution, 30 x 20 mL	51302049
12.88 mS/cm standard conduct. solution, 30 x 20 mL	51302050
10 µS/cm standard conductivity solution, 250 mL	51300169
84 µS/cm standard conductivity solution, 250 mL	51302153
500 µS/cm standard conductivity solution, 250 mL	51300170
1,413 µS/cm standard conduct. solution, 250 mL	51350092
12.88 mS/cm standard conduct. solution, 250 mL	51350094
General accessories	Order no.
Plastic sample bottle (50 mL)	51300240
Guide to pH measurement	51300058
Guide to conductivity and dissolved oxygen	51724715
Guide to ion-selective measurements	51300201
RS-P25 printer	11124300
RS-P26 printer	11124303
RS-P28 printer	11124304
RS232 cable (included in printer's delivery)	51302125

SevenMulti™

Accessories for SevenMulti™	Order no.
Modules	
pH/mV expansion unit	51302821
Conductivity expansion unit	51302822
Ion/pH expansion unit	51302823
ISFET expansion unit	51302824
TTL communication module	51302825
USB communication module	51302826
Empty expansion unit	51302874
Other accessories	
SevenMulti™ protective cover	51302819
Electrode holder assembly	51302820
pH PC software	51302876
Mains adapter	51302950

Electrodes & cables

Electrodes and accessories	Order no.
pH electrodes	
InLab® Routine	51343050
InLab® Routine Pro	51343054
InLab® Power Pro	51343111
InLab® Expert Pro	51343101
InLab® Expert NTC30	51343104
InLab® Easy	51343010
InLab® Basics BNC	51343020
InLab® Science	51343070
InLab® Micro	51343160
InLab® Semi-Micro	51343165
InLab® Solids	51343153
InLab® Solids Pro	51343154
S7-BNC cable, 1.2 m	52300004
MultiPin™ BNC/RCA (cinch), 1.2 m	52300009
Redox electrodes	
InLab® Redox	51343200
InLab® Redox Pro	51343202
Conductivity sensor	
InLab®731	51344020
InLab®741	51344024
SevenMulti™ DL series cable (conductivity)	51302258

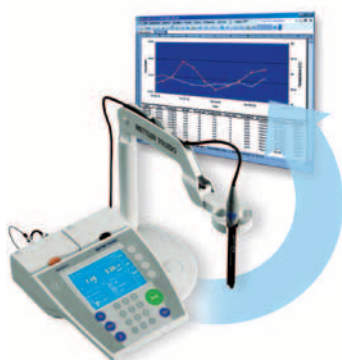


Seven service – so your instruments always measure accurately

Regular checks increase the accuracy of your instruments and extend the lifetime by many years. METTLER TOLEDO can provide all required services – tailored to your needs – for all Seven instruments. This ensures that your instrument continues to function reliably and without errors. All instruments are delivered with a signed factory certificate.

Choose from our wide range of services.

For more information on service, see www.mt.com/ServiceXXL



PC Software – LabX® direct pH

The user-friendly PC software archives your results quickly and reliably. It enables user-defined transfer of data from SevenMulti™ to an open application such as MS Excel®. If required, the values can automatically be displayed graphically in the delivered MS Excel® templates.

LabX® direct pH is a standard feature of SevenMulti™ and makes data transfer so much easier.



You will find our full range of pH electrodes in a separate electrodes brochure (order no. 51724332).

pH electrodes for SevenMulti kits

pH electrodes

- The robust InLab® Expert Pro is the standard kit electrode, e.g. included in the kit S40-K. Thanks to the XEROLYT® polymer electrolyte, it features open reference connections making it universally usable, even for complex samples such as emulsions. InLab® Expert Pro requires very little maintenance.
- InLab® Routine Pro is a conventional glass electrode with replenishable electrolyte, ARGENTHAL™ reference system and silver-ion trap. The large pH membrane and the liquid KCl electrolyte enable fast and precise measurements, particularly practical for routine measurements of unproblematic samples. InLab® Routine Pro is included in the KS kits and is the ideal choice for experienced laboratory personnel.

Conductivity sensors

- InLab®731 is based on a 4-pole graphite cell and is suitable for a variety of applications in aqueous samples with a conductivity greater than 10 µS/cm. It is the standard kit sensor, included, for example, in the kit S47-K. Sample carry-over is minimized thanks to its open design.
- For precise measurements in the low conductivity range, e.g. pure water, the InLab®741 2-pole steel sensor (available separately or in the S47-USP/EP kit) is recommended.

All kit sensors – pH and conductivity – feature an integrated temperature sensor for automatic temperature compensation (ATC).

METTLER TOLEDO and Seven

— Extra Value for Everyday Lab-Work...

...with Universal Bench Meters

The SevenCompact™ product line is our newest member of the Seven series. These single channel bench instruments are truly universal and can be used for routine and professional measurements alike. They are documented in a separate brochure with order number 30019036.



...with Corresponding Sensors

METTLER TOLEDO combines 60 years of experience of INGOLD in the production of electrochemical sensors with the innovative electronics of the Seven series.

The complete METTLER TOLEDO portfolio is documented in a separate brochure with the order number 51724332.



...and for Use in the Field

The METTLER TOLEDO Seven range provides models for use in the lab as well as portable models for use in the field and in factories. The portable SevenGo™ and SevenGo Duo™ instruments are documented in a separate brochure with order number 51725122.



www.mt.com

For more information

Mettler-Toledo AG, Analytical
CH-8603 Schwerzenbach, Switzerland
Tel. +41 44 806 77 11
Fax +41 44 806 72 40

Subject to technical changes
© 07/2011 Mettler-Toledo AG
Printed in Switzerland, 51725133A
Marketing pH Lab / MarCom Analytical



Quality certificate. Development, production and testing according to ISO 9001.



Environmental management system according to ISO 14001.



"European conformity". The CE conformity mark provides you with the assurance that our products comply with the EU directives.