SevenCompact™

SevenCompact™

Intuitive and Clear

Powerful and Versatile

Increased pH Efficiency with SevenCompact™

Universal and Reliable Instruments

METTLER TOLEDO

More Efficient Everyday Work

Versatile and Universal

The SevenCompact™ series combines precise electrochemical measurement technologies with flexibility, innovative design and ease-of-use. It can be universally employed and continues the tradition of the Seven series from METTLER TOLEDO.

While the instruments encompass numerous measurement parameters and offer many options for data input and archiving, it is also possible to perform straightforward calibrations and measurements with a single keypress! At METTLER TOLEDO we understand that reproducibility and measurement performance are the highest priority. As a customer you can therefore rest assured that the SevenCompact™ series fulfils the highest quality standards and guarantees precise and reliable measurements.

Pharmaceutical Industry

The wealth of data archiving and input possibilities makes the SevenCompact™ series ideally suited for satisfying the stringent needs and GLP requirements of the pharmaceutical industry and testing labs.

Food & Beverage Industry

Only a single keypress is required to start a measurement which can be stored and printed automatically. This makes it great for quick and reliable analysis of many samples during the food production process.

Chemical Industry

Analysis parameters and sample characteristics cannot be more diverse than in pure chemical R&D. SevenCompact's flexibility makes it the perfect choice for pH, ion, redox and conductivity measurements.

Green plants rely on sunlight for photosynthesis and are universal in their distribution throughout the world.

Academia

For research groups and laboratory courses alike, the intuitive operation and versatility fulfils the needs of lab researchers and students.

Biotechnology

A perfect match for our micro pH and conductivity sensors, the SevenCompact™ series are well suited for obtaining precise and reliable results with the smallest samples and most precious solutions.

Cosmetics

Be it QA during production or QC of finished products and raw materials, the SevenCompact™ series stands up to demanding data input, measurement and archiving tasks.

Productive Work from the Start
Intuitive and Clear

The operation of the SevenCompact™ series is so intuitive that measurement can start immediately. The large and clear color display makes working with these instruments simply a pleasure.

The instruments' functionality has been designed to maximize the productivity of your lab work. Starting a measurement or calibration, toggling measurement modes or switching between the two different display layouts only requires a single keypress. Selecting the right settings in the menu is intuitive because the instrument speaks your language.

Large color display

The 4.3 inch high-resolution color display has large digits and well arranged icons making relevant information identifiable at a glance. The color and contrast can be adapted to your preferences and light conditions.

All parameters or the essentials – decide by a single keypress

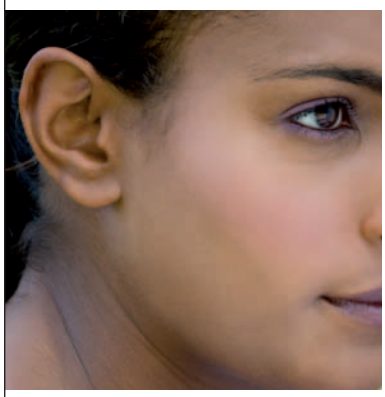
The instrument gives you the choice! In the normal screen layout, all available information is visible. By switching to the uFocus™ view you will not be distracted by information of less importance.

A new landmark for intuitive operation

Starting a measurement or calibration or toggling between measurement modes only requires a single keypress. For adjustment of settings, the Seven Compact™ offers menus with full sentences in 10 languages. No more cryptic expressions!

Dissection of a dandelion, showing the clear and structured arrangement of the seeds, which easily become airborne by the wind.

Viewing or also hearing – according to your preferences



An acoustic signal can be setup to announce warnings, button presses or end-point stability, allowing you to focus on other laboratory tasks while measurements or calibrations are running.

Perfect ergonomics and high productivity with uPlace™

uPlace™: the electrode arm can be operated with one hand, moving straight up and down bringing the electrode into the position where it works best for your sample. This allows for faster measurements and reduces the risk of the sample vessel tipping over and/or damage to the sensor!

Extensive Security Functions
Innovative and Reliable

SevenCompact™ comes with a wealth of security functions to support you during all phases of the calibration, measurement, data collection and archiving process. Its ingenious package makes the instrument suitable for routine measurements and professional measurements under stringent GLP-conditions alike.

The instrument's versatility is also reflected in its security package. Users requiring no or little GLP support can use the instrument conveniently without worrying about the security settings and possibilities. Still they benefit from those functionalities that reduce mistakes to a minimum, such as calibration support and Intelligent Sensor Management (ISM®). On the other hand, those that need full GLP support will have peace of mind when employing the full spectrum of security functionalities.

Routine / expert mode – suits the needs of any operator

SevenCompact™ has two operating modes. In routine mode deletion of data and changing of settings is blocked, turning the instrument into a reliable workhorse. The PIN protected expert mode allows authorized users to enjoy the full range of functions.

Professional calibration – makes calibrations so easy

The instruments provide calibration support on many levels, featuring pre-defined and user-defined buffer groups, a calibration reminder with optional sensor blocking and a pH sensor icon, which shows the quality of the latest electrode calibration.

A wealth of GLP functions – leaves nothing to coincidence

The instruments come with a package of GLP support functions such as PIN protection, GLP printout with all relevant information and measurement limit monitoring. A warning message appears should values fall below or exceed defined limits.

The thick spined leaves of Agave Parryi provide security against herbivores and allow it to survive under dry conditions.

Intelligent Sensor Management (ISM®) – security at its finest!

ISM® eliminates mistakes in the following ways:

Correct sensor identification:
Upon connection, the sensor is automatically identified. This prevents performing a measurement with the wrong sensor ID by mistake.

Current calibration:
The most recent sensor calibration is transferred to the meter on attachment and is selected for future measurements automatically. This offers the peace of mind that the correct calibration data is being used, regardless of which meter the sensor is connected to.

5 calibration data records:
The last five calibration data records are stored on the ISM® sensor which can be viewed or printed out at any time. You can monitor your sensors' performance over time and take action if needed, avoiding future surprises and increasing the uptime of your instrument.

Factory calibration:
The electrode certificate with the factory calibration details of an ISM® sensor is stored on the sensor and can be reviewed or printed anytime.

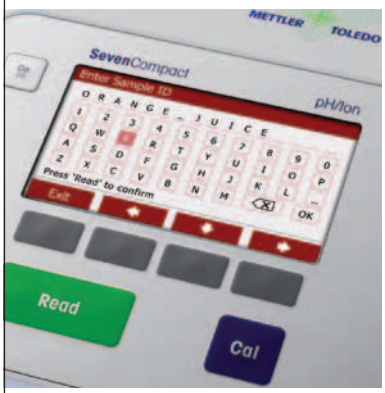
Temperature:
The maximum temperature an ISM® sensor is exposed to during a measurement is automatically monitored and can be recalled. This provides an insight into possible reasons for rapid ageing of your sensor.

Data Entry, Handling and Archiving
Versatile and Convenient

SevenCompact™ provides many supportive options through the complete cycle of data entry to archiving. Stand alone, the instrument already offers standard functionalities, but you can achieve higher efficiency and flexibility by connecting peripherals.

The instruments' options for data entry, handling and archiving are numerous and configurable to your needs. Data can be conveniently entered with the integrated keyboard, but connecting a barcode reader or external keyboard makes the process more efficient. Measurement and calibration data can be stored on the instrument, printed, exported to a USB stick or transferred to a PC with LabX direct software.

Flexible and convenient data input



The SevenCompact™ series offers three possibilities for entry of sample, user and sensor IDs. In addition to the integrated key board, you can also use a barcode reader or USB keyboard.

Efficient high sample throughput

Customers with high sample throughput can benefit from a well-thought-out feature to enter different sample IDs quickly. With the instrument in the resting state, scanning a barcode or typing on the keyboard immediately opens the sample entry screen and displays the new entry.

Large memory for storing data

SevenCompact™ offers a large 1000 data set memory which can be filtered for review, printed and USB-exported by memory number, measurement type and sample ID. This guarantees that you can quickly locate your measurement data.

The hexagonal wax cells of a honeycomb are used for storing honey and pollen and to raise their larvae.

Infinite data storage space with LabX direct

In case you need more storage space, when performing long interval measurements with many data points for example, we recommend the use of LabX direct software. This powerful software has no data storage restrictions and can display your measurements graphically.

Hardcopy or data export to keep your results

Because creating a hardcopy is one of the safest ways of archiving your data, SevenCompact™ supports various METTLER TOLEDO printers. Another option is to export your data to a USB stick as a .txt file for storage or processing.

Total flexibility with data processing

Upon endpointing SevenCompact™ allows multiple archiving options: the data can be stored, printed or transferred to LabX direct. Any combination of these three options is possible giving you total flexibitily.

Instruments with Protection at all Levels
Complete and Contemporary

To maximize their lifetime, the instruments have been designed to withstand dust and spills of aqueous solutions. Environmental protection is also ensured as the materials, electronic components and packaging have been specifically selected for this purpose.

Although great care is taken in the laboratory, accidental spills cannot always be prevented; therefore it is good to know that your SevenCompact™ instrument is well-protected. When not in use the instrument is encapsulated by rubber caps and a protective cover, providing a barrier against dust and water.

IP54 rating – water and dust resistance

The SevenCompact™ instruments have been designed to withstand spills on the housing and connections. Not only does this provide perfect protection, but it also allows for easy cleaning with a damp cloth.

Extra protection for the connectors

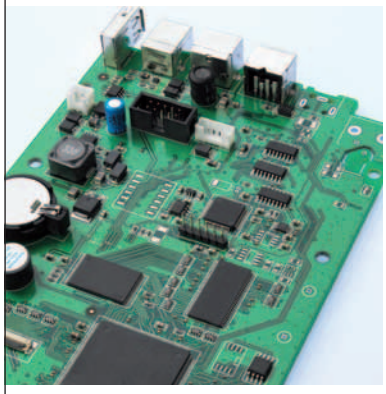
For extra protection rubber caps cover the connectors, which are the most vulnerable points of the instrument, keeping water and dust out. The caps are connected on one side of the housing, so there is no risk of losing them!

Transparent cover – an extra barrier

The protective cover is part of the standard delivery and can be left on the instrument during operation without affecting the key press functionalities. It also provides an extra barrier when the meter is not in use.

Close-up of a butterfly pupa, which has a hard protective coating and uses camouflage to evade potential predators.

Environmentally friendly electronics



At METTLER TOLEDO we care strongly about the environment. The power supply has the highest Energy Star rating which means energy loss and heat generation are particularly low. All of our components are RoHS compliant so they are free of hazardous, banned substances.

Green packaging

The packaging used for the SevenCompact™ instruments is specifically selected with the environment in mind. It consists of reclycable cardboard and is manufactured without the use of chlorine bleaching agents.

Comprehensive Service and Support
Elaborate and Tailored

With comprehensive service offerings from METTLER TOLEDO you can maintain the performance and maximize the uptime of your instruments. At the same time you can be free of concerns around compliance issues during quality audits. Enjoy the peace of mind.

Service – flexible and customized possibilities

Regular technical inspections ensure that the instrument continues to function reliably and error-free, maximizing its uptime. With our wide range of services we can find a flexible solution for every need.

Cost-efficient and fast support

Fast support without the necessity of a service visit or spending hours on the phone is now possible. Just export the instrument settings to a USB-stick and send them via e-mail to a readily available support team.

Compliance made easy

A calibration performed with certified tools demonstrates proper functioning and ensures conformity with manufacturer's specifications. With the calibration certificate, ensure your next audit is satisfying and gain peace-of-mind on compliance issues.

Purple sea fan, showing the tentacles of each polyp that the organism uses for filtering plankton from the water.

Effortless IQ/OQ

Instrument qualification is often mandatory. Proof of professional installation and commissioning is required by several regulations and quality standards. We serve with simple and fully compliant initial qualification services.

IQ/OQ Package – compliance without doubts

We offer an initial qualification package IPac consisting of Installation Qualification (IQ) and Operational Qualification (OQ):

Installation Qualification:
professional installation recorded in the IPac documentation. All tasks are carried out according to the SOP.

Operational Qualification:
functional tests that ensure proper operation of the instrument according to the manufacturer specifications. The results are documented in the IPac.

System suitability test:
the final part of initial qualification based on an instrument & sensor specific test. It confirms the proper operation of the equipment by performing a standard measurement (either pH or conductivity). The recommended procedures can also be used for further routine checks.

The user also benefits from the IQ/OQ services. Basic user familiarization offered in the IPac gets them up to the speed with efficient and immediate operation of the instrument.

Connectivity and Peripheral Options
Manifold and Convenient

SevenCompact™ is a powerful instrument in stand alone mode, but with peripherals from METTLER TOLEDO its possibilities are greatly increased. Our focus is easy operation, ensuring that installing and using peripherals is as easy as it can be.

Various interfaces on the instrument allow you to connect peripherals simultaneously according to your needs, supporting your workflow in the best possible way. We offer a large selection of sensors so you will always find one that suits your application. Using our high-quality sensors and certified buffers and standards for calibration allows you to rest assured that the results obtained are of the highest accuracy.

Plug and play USB interfaces

SevenCompact™ has a USB A and USB B interface, allowing connection of a barcode reader or keyboard, a USB stick or a PC with LabX direct software. Recognition of a USB device is visually indicated by the appearance of the respective icon on the display.

Convenient printing possibilities

METTLER TOLEDO printers with RS232 interface are supported. Customers requiring the maximum level of efficiency and convenience are recommended to use the RS-P25, RS-P26 and RS-P28 series of printers. These are automatically detected and the baud-rate settings immediately adjusted.

Useful magnetic stirrer

The optional magnetic stirrer from METTLER TOLEDO is controlled and powered by the instrument. Stirring can be performed both before and during measurement and the stir speed can be adjusted in the menu settings to reflect the viscosity of the sample or sample vessel size.

SevenCompact™ pH/Ion Meter S220
Flexible and Powerful

The SevenCompact™ S220 pH/Ion meter is not just an ordinary pH meter, it can also measure ORP and ion-concentration in various units. Switching modes before, during or after measurement is easy requiring just a single keypress.

Pressing a single button – READ or CAL – starts a measurement or calibration, with three options for endpointing. With a timed endpoint the analysis endpoints after a pre-defined time interval. It can also be endpointed manually or the instrument can automatically endpoint according to one of three stability criterion: fast, normal or strict.

pH calibration support

Eight different pre-defined pH buffer groups are available giving you a high degree of flexibility. It is also possible to create your own buffer group. After calibration, the sensor icon shows you at a glance the quality of the calibration.

Ion measurements – flexible sensor choice

With SevenCompact™ S220 it is possible to use our perfectION™ Series of combined Ion Selective Electrodes as well as our collection of half-cells. For measurements with half-cell sensors a reference electrode connection is present.

Full ion support

The eight most commonly used ion types are pre-programmed to make the settings as convenient as possible. For others, you can enter generic ions with different ionic charges to ensure that the slope is calculated correctly.

Specifications for SevenCompact™ pH/Ion meter S220

	Measuring range	Resolution	Accuracy
pH	-2.000 … 20.000	0.001 / 0.01 / 0.1	± 0.002
mV*	-2000.0 … 2000.0	0.1 / 1	± 0.2
Ion concentration**	$1.00E^{-9}$ … $9.99E^{+9}$	± last signifi. digit	± 0.5%
Temperature***	-30.0 … 130.0 °C	0.1 °C	± 0.1 °C

Calibration	Max. 5 points, 8 pre-defined and 1 user-defined buffer group
System	Date / time, PIN-protection, 10 languages
Data storage	1000 measurements
Data export	USB stick, LabX direct PC software
Measurement limits	User-definable with warning message
ID entry	User ID, Sample ID, Sensor ID, Sensor Serial Number
ISM®	Intelligent Sensor Management supported

* Instrument can also measure rel. mV
** Ion concentration supports units mmol/L, mol/L, ppm, mg/L, % and pX
*** Temperature display choice between °C and °F. ATC temperature range is -5,0 ... 130,0 °C

Description and order information for SevenCompact™ pH/Ion meter S220

Order info	Description and sensors	Order no.
S220-Basic (instrument)	Includes instrument, electrode holder, protective cover, operating instructions, quick guide, declaration of conformity and test certificate	30019028
S220-Kit (kit)	As S220-Basic, but also with InLab® Expert Pro-ISM, guide to pH measurements and 2 buffer sachets for pH 4.01, 7.00, 9.21 and 10.00.	30019029
S220-Bio (kit)	As S220-Kit but with InLab® Routine Pro-ISM cable kit instead of InLab® Expert Pro-ISM	30019031
S220-U (kit)	As S220-Kit but with InLab® Versatile Pro instead of InLab® Expert Pro-ISM	30019032

Temperature – an important parameter

SevenCompact™ S220 supports both NTC30kΩ and Pt1000 temperature sensors, with the option of automatic detection or manual selection. Three options for temperature capture exist: an integrated temperature sensor in the electrode, an external temperature sensor or setting the temperature manually.

SevenCompact™ Conductivity Meter
Powerful and Versatile

The SevenCompact™ S230 conductivity meter is the perfect choice for a wide range of applications. Not only does it measure conductivity but also various other parameters such as salinity, resistivity, total dissolved solids and conductivity ash.

The instruments are ideally suitable for routine conductivity measurements and special applications alike. Calibrations are possible by manual input of the cell constant or by using a standard solution. For measurements you have the choice between two reference temperatures and four different temperature compensation options: linear, non-linear, off and pure water.

Bioethanol

By default the instrument uses standard conductivity units but it also supports special units required for bioethanol analysis meaning unit interconversion and recalculation is no longer necessary. The InLab® 725, a special 2-cell platinum sensor is also available for this application.

Sugar analysis – the right package for this application

The SevenCompact™ S230 is ideally suited for sugar analysis. It has a special parameter for Conductivity Ash, which can be measured in accordance with two official ICUMSA regulations for refined sugar or raw sugar and molasses.

Pure water – high accuracy for low conductivity

Low conductivity measurement requires special attention. When measuring pure or ultra-pure water there are several sources of potential error such as carbon dioxide from air and temperature inaccuracy. Our digital conductivity cell InLab® Trace, with high temperature accuracy and optional flowthrough cell now provides the perfect solution.

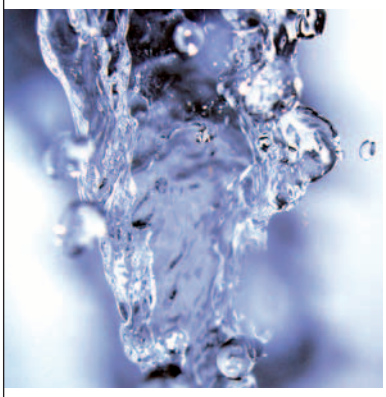
Specifications for SevenCompact™ Conductivity meter S230

	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

Calibration	13 pre-defined or 1 user-defined standard
Cell constant	Determined via calibration or entered manually
Temperature compensation	Linear, non-linear, off, pure- water – reference temperature 20 °C or 25 °C
System	Date / time, PIN-protection, 10 languages
Data storage	1000 measurements
Data export	USB-stick, LabX direct PC software
Measurement limits	User-definable with warning message
ID entry	User ID, Sample ID, Sensor ID, Sensor Serial Number
ISM®	Intelligent Sensor Management supported

* Instrument can also measure rel. mV
** Ion concentration supports units mmol/L, mol/L, ppm, mg/L, % and pX
*** Temperature display choice between °C and °F. ATC temperature range is -5,0 ... 130,0 °C

Temperature compensation for pure water



For pure water we offer a special temperature compensation mode to increase the reliability of your readings. For USP/EP measurements you can also switch the temperature compensation off to comply with the regulations.

Description and order information for SevenCompact™ Conductivity

Order info	Description and sensors	Order no.
S230-Basic (instrument)	Includes instrument, electrode holder, protective cover, operating instructions, quick guide, declaration of conformity and test certificate	30019033
S230-Kit (kit)	As S230-Basic, but also with InLab® 731-ISM, guide to conductivity measurements and 2 calibration sachets for 1413 µS/cm and 12.88 mS/cm	30019034
S230-USP/EP (kit)	As S230-Kit but with InLab® 741-ISM instead of InLab® 731-ISM, and without 12.88 mS/cm calibration sachets	30019035

METTLER TOLEDO and Seven
– Extra Value for Everyday Lab-Work...

...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.

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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