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smartCHEM-Ion3



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TPS Australia - Quality hand-made instruments since 1968.

smartCHEM-Ion3 Three Channel Specific Ion - pH-mV-Temperature Analyser



(smartCHEM-pH shown)

[Full size image](#)

Fully programmable for any Monovalent or Divalent Anion or Cation.

Simultaneous display of...

- ◆ **3 channels of Specific Ion, pH or mV**
- ◆ **Temperature**
- ◆ **Date & Time**

Automatic Stability Function

PIN Code Access

Programmable "Calibration Due" Alarm

240 x 64 dot graphic display with large digits, full text messages and backlight.

1200 reading memory with Automatic Datalogging.

RS232 computer interface port.

Automatic calibration.

Readout of probe condition for instant troubleshooting.

Fully waterproof design.

The **smartCHEM-Ion3** is a research grade Specific Ion/pH/mV meter with all the features expected in today's modern laboratories. It features 3 individual channels which can each be programmed for Specific Ions, pH or mV.

Datalogging

The **smartCHEM-Ion3** comes with a 1200 reading memory. Readings can be recorded manually, or automatically logged at preset intervals.

RS232 Serial Port Interface

The capabilities of the **smartCHEM-Ion3** have been expanded with the RS232 port, which is standard equipment (cable sold separately). All readings stored in memory can be downloaded to an RS232 printer or PC. The RS232 port also allows the **smartCHEM-Ion3** to log directly to the printer or PC. [WinTPS](#) Communication software for Windows 3.1 or 95, 98 & ME is available.

Automatic Stability Function (ASF)

ASF adds an extra level of versatility to the **smartCHEM-Ion3**. When ASF is activated, the **smartCHEM-Ion3** monitors all parameters that are currently in use. When ALL parameters become stable, the readings are frozen on the display. ASF is automatically activated with extra fine settings during calibration, to ensure the most accurate possible results for the user.

ASF can also be used during Manual and Automatic Datalogging. When used during Automatic Datalogging, the **smartCHEM-Ion3** will log until a stable end-point is reached for all parameters. then stop logging.

PIN Code Access

The Access Code system is provided for those users who need to ensure the integrity of recorded data, calibration settings and so forth. The Access Code function will prevent anyone who does not know the code from entering the menu system. Keys that are available during normal measurement, (Store, Print, Autolog and F1 to F5) are still available without the Access Code. This means that others are still able to carry out day-to-day work.

Easy to use

The **smartCHEM-Ion3** has a 240 x 64 dot graphic display. It features a user-friendly menu system, making the handbook virtually unnecessary. Full-text help and error messages are provided. All readings and messages are provided in large, bold characters.

Automatic Calibration

Where necessary, the user is able to define the standards to be used for calibration. For pH calibration, the **smartCHEM-Ion3** is programmed to automatically recognise the most popular buffers, making calibration a breeze. Any non-standard buffer value can be entered during calibration.

Karl Fischer Measurements

A polarisation output is provided for Karl Fischer moisture titrations.

Reliability and Service

The **smartCHEM-Ion3** is fully waterproof to IP65, so it is suitable for even the harshest laboratory or factory environments.

TPS has been manufacturing top quality, reliable instruments and electrodes since

Good Laboratory Practices

To comply with GLP guidelines, the date, time and results of the last calibration are stored in memory, along with the instrument's serial number. This data can be displayed or sent to the RS232 port. All readings stored in memory are stamped with the date and time. Warning of failed calibration is provided.

A calibration alarm can be programmed to whichever parameters the user chooses. The alarm can be set for Daily, Weekly, 2 Weekly or 4 Weekly. The calibration alarm can also be switched off.

1968. The TPS Quality System has been certified in accordance with the AS/NZS ISO 9001 standard. Our service is also of the highest standard. Spares and accessories are always held in stock, and our modern service facilities ensure a rapid turn-around for maintenance and repair work.

Specifications

Specific Ions

Ranges : Auto-ranging in units of ppM, ppK, % and Exponential Notation
 Resolution : User selectable for 3 significant digits, 2 significant digits or Auto-rounding
 Accuracy : +/-Least significant digit

pH

Ranges : 0.000 to 14.000 pH
 0.00 to 14.00 pH
 Resolution : 0.001 pH
 0.01 pH
 Accuracy : +/-0.002 pH
 +/-0.01 pH

Millivolts & Relative Millivolts

Range : 0 to +/-400.0 and 0 to +/-1500 mV (auto-ranging)
 Resolution : 0.1 mV

Recorder Output (optional)

Max 0 to 2000mV output for any one parameter at one time.
 Output impedance approx 1000 Ohms.
 Resolution approx 2 mV.

Clock

24 Hour Calendar clock.
 Displays date, month, year, hours, minutes, seconds.

Good Laboratory Practices

Date, time and value of last successful calibration for each parameter are stored. This information can be recalled or sent to the RS232 port at any time.

Calibration Alarm

Calibration Alarm can be activated for parameter of user's choice. Calibration Alarm can be set to Daily, Weekly, 2 Weekly or 4 Weekly.

Accuracy : 1 mV
 +/-0.15 mV
 +/-1 mV

Temperature

Range : -10.0 to 120.0 °C
 Resolution : 0.1 °C
 Accuracy : +/-0.2 °C

Temperature Compensation

0 to 100 °C, automatic or manual.

Calibration

Automatic calibration for all parameters.
 User can define standards where applicable.

Memory

1200 readings including date and time.

Automatic Datalogging

User-set for one reading every 2 to 90 seconds, minutes or hours.

RS232 Serial Port Output

1200, 9600, 19200 and 38400 Baud.
 8 Bits, No Parity, 1 Stop Bit,
 XON/XOFF Protocol

Display

240 x 64 dot graphic LCD with large, bold digits, user-friendly menu system and full-text help and error messages.

Enclosure

Tough, high impact ABS. Splash resistant one-piece lid.

Dimensions

240 x 180 x 105 mm

Mass

Instrument only : Approx 0.8 kg
 Full Kit : Approx 3.0 kg

Environment

Temperature : 5 to 45 °C
 Humidity : 0 to 90% R.H.

Power

12V DC via AC/DC adaptor.
 AC/DC adaptor to suit specified country is supplied.

Ordering Information

(Triple channel) **Part No**
 smartCHEM-Ion3 Ion/pH/mV-Temp...121164

Kit Includes

(Ion sensors sold separately.)

Temperature/ATC Sensor.....121248
 AC/DC Power Adaptor.....130037
 Manual.....130050

Please click the following links for further details on the TPS range of sensors...

[Specific Ion and Reference sensors](#)

[pH Sensors](#)

Options and Accessories

Computer Interface:

Serial cable for computer.....130041
 Serial to USB adaptor cable.....130087
WinTPS Software for Windows.....130086

Computer Interface:

Recorder Output & cable.....130028

Sensor Holder:

Flexible Sensor Holder.....130088

Redox (ORP) Sensors



[Download this Specification Sheet in PDF format.](#)



[Download the full colour smartCHEM Series Brochure \(1.76 MB PDF\).](#)



[Download the handbook for this instrument.](#)

Hint : Right click on a link, then select "Save Target As..." or "Save Link As..." to save the file to your own computer.

If you do not have Adobe Acrobat in your computer, a free Acrobat Reader can be downloaded by clicking on the following link.



TPS reserves the right to change any part of this specification without notice.

Version 1.0

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WP-90

smartCHEM-Ion

smartCHEM-Ion3

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