

## PRODUCT INFORMATION

PROCESS ANALYSIS  
SODIUM ANALYSER  
POLYMETRON 9240



# Na<sup>+</sup>

## POLYMETRON 9240: Multi-channel sodium monitoring

- **Optimum electrode response time for increased accuracy and maximum asset protection**
- **No requirement for hazardous chemicals**
- **Low maintenance**
- **Increased operating life of the electrode**

### **Maximum asset protection with minimal maintenance**

The easy to install POLYMETRON 9240 sodium analyser integrates one to four channels to optimise rinsing sequences. Set up is managed through the readily accessible controller that has clear messages guiding the user through menus and sub menus. The 9240 analyser uses an auto-adapted rinsing sequence with a cycle time of 10 or more minutes.

### **Optimise operation and response time**

To maintain optimum response time, even in systems of continuous low sodium concentration, the analyser POLYMETRON 9240 provides automatic electrode reactivation. Reactivation uses non-hazardous chemicals and eliminates the need for manual reactivation or electrode etching.



**LANGE**

# Multi-channel sodium monitoring for high purity waters

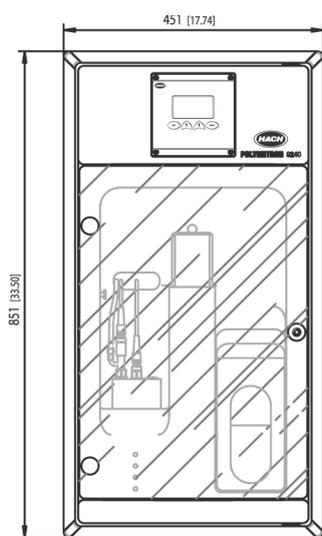
## Increase confidence in accuracy

Fully automatic calibration of the POLYMETRON 9240 multi-channel is based on the “known addition” technique that avoids risk of contamination or human error. The system follows a multiple calibration step cycle to eliminate user variability and possible sample contamination. A convenient grab sample feature allows the use of standards to check operation or measurement of a one-off process sample to reduce laboratory time. Unlike other analysers, a manual sample (250 mL) can be introduced without disconnecting any tubes. After sampling, the analyser automatically returns to on-line monitoring.

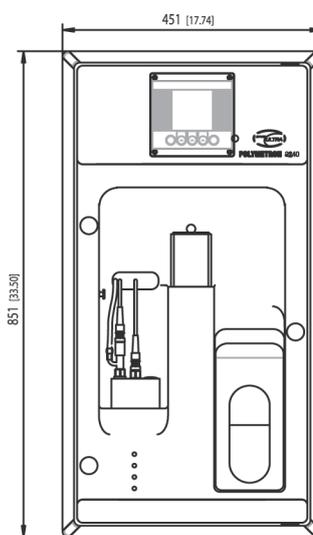
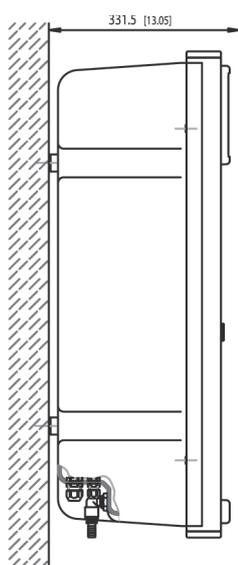
## Low maintenance

Maintenance of the 9240 analyser includes replenishment of reagents (typically every 100 days) and annual replacement of reagent tubing and the sodium electrode. Clear step-by-step instructions are given to simplify maintenance operations such as instrument startup, long-term standby, and reagent replenishment.

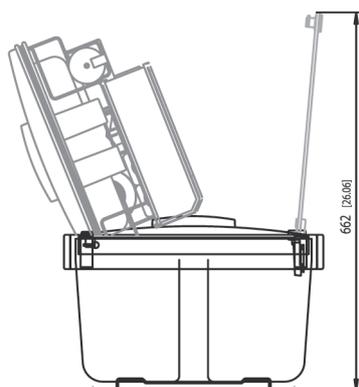
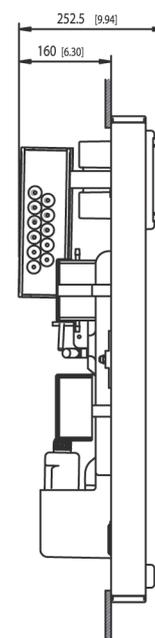
Place the POLYMETRON 9240 multi-channel Sodium Analyser close to the sample point to minimise the response time. The sample should be homogenous, representative and free of particles. The location should be dry, dust-free, and without a corrosive atmosphere or subject to liquid spills.



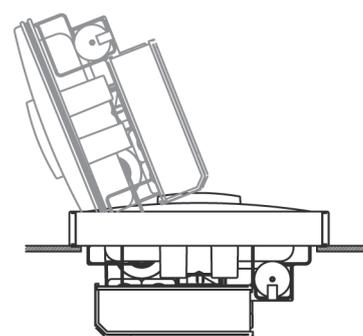
All dimensions in mm [inches]



All dimensions in mm [inches]



Enclosure mount



Panel mount

### Data and diagnostics

The system displays comprehensive information for each sample stream including clearly identified sample names and alarms, 24 hour sample trend curve, and bargraph analysis. A built-in data logger captures measurement readings, calibration results and alarm information for future access. The analyser contains six programmable/assignable relays. Four alarm relays may be assigned to concentration limits, minimum sample flow rate detection, and/or sequence of sample stream measurements. Two additional relays may be used for warning messages or system alarms.

The isolated analogue outputs are also assignable. Six sets can be configured in 0/4–20 mA. Five of these can be designated to provide sample concentration or temperature readings. The remaining output reports electrode status, including calibration and grab sample information. A step-by-step menu and submenu guides the user through all configuration, maintenance, and troubleshooting.

### Principle of operation

The POLYMETRON 9240 multi-channel uses an ion-selective electrode measurement after pH conditioning. Sample pH conditioning is essential for limiting the interference of temperature or other ions on sodium measurement. Constant, temperature compensated buffering is assured using regulated reagent addition across sample pH and temperature changes. The “smart” rinsing sequence between channels ensures a minimum cycle time of 10 minutes and no carry-over effect.

1 to 4 Channels capable w/ full automatic conditioning adjust. & sample temperature adjust. & Automatic reactivation & automatic calibration & manual calibration & grab sample.



The POLYMETRON 9240 multi-channel provides low level sodium measurement in high purity water applications for up to four sample streams. With a detection limit of 0.01 ppb and a range of 0 to 10,000 ppb, this analyser is ideally suited for monitoring sodium in demineralised water, boiler feedwater, condensate and all parts of the steam/water cycle.

### Order information

09240=A=	X	X	X	X	
					1 One channel
					2 Two channels
					3 Three channels
					4 Four channels
					0 Standard
					1 With RS485 <sup>1</sup>
					2 With PROFIBUS <sup>2</sup>
					0 Panel version
					1 Wall mount enclosure version
					0 Standard (0.01–10,000 ppb)
					1 Kit K (1 ppb – 200 ppm)

<sup>1</sup> Not available on wall mount enclosure versions

<sup>2</sup> Not available on panel versions

# Technical data

<b>Sample</b>	No. of sample streams	Integrated 1 to 4 channels	
	Insoluble	<10 ppm, no oil, no grease. For boiler sample type, install approx. 100 µm filter	
	Temperature	5–45 °C (41–113 °F)	
	Pressure / Flow rate	0.2–6 bar (3–87 psi), 5 L/h during sampling phase	
<b>Connections</b>	Sample line(s)	Simple fittings for 6 mm O.D. tubing or 1/4" O.D. in PE-low density. For 1/4" O.D. in PEHD-PTFE-SS, request imperial kit	
	Drain	Barbed stem for 12 mm (1/2" I.D.) hose	
	Ambient temperature	5–50 °C (41–122 °F)	
	Power supply	100–240 V AC, ±10%, 50/60 Hz, 80 VA	
<b>Analysis</b>	Measuring ranges	0 to 10,000 ppb freely programmable / 0 to 200 ppm with K kit option	
	Repeatability	<0.02 ppb or 1.5% reading, whichever is greater, within 10 °C variation	
	Detection limit	0.01 ppb	
	Response time (t=90%)	1 cycle, minimum 10 min	
	Calibration	As standard: automatic known addition 3 points, manual - 1 or 2 points	
	Sample conditioner	Di-isopropylamine (1 L / 100 days), Concentrated ammonia (sample >1 ppb - 2.5 L / 90 days)	
<b>Transmitter</b>	Protection	IP 65 (NEMA 4)	
	E.C regulations + certifications	Conform EN 61326-1:2006, EN 61010-1:2001, U. L. and GOST Metrology (contact us for QSIC of PR of China)	
	Digital display	75 × 75 mm graphic + LED backlighting: concentration, trend curves, diagnostics, alarm status, calibration constants, historical data.	
	Programming	Menu driven operation and clear messages in 5 languages	
	Analogue outputs	6 × (0 or 4) / 20 mA [800 Ohms] / linear, dual, logarithmic / Smart	
	Relay outputs (30 V DC, 0.5 A max.)	4 programmable contacts assigned to any of: - concentration or temperature limits including direction, delay, hysteresis and normal relay status - minimum sample flow rate detection 2 extra programmable relays allocated to: - warning messages (reagent level low, small calibration deviation) - system alarm = operation in negative or positive safety (no reagents, no sample, no calibration, no power)	
	<b>Options</b>	Accessories	K kit, Static heat exchanger, filtration system, wall enclosure
		RS485 <sup>1</sup>	300...9600 baud, 32 stations max, JBUS/MODBUS
PROFIBUS DP <sup>2</sup>		9.6 Kbit/s to 12 Mbit/s, 127 stations max (with repeater)	
<b>Materials / Dimensions</b>	Panel	ABS with SS frame / 850 × 450 × 252.5 mm [33.46 × 17.71 × 9.94 in]	
	Enclosure	ABS / 850 × 450 × 331.5 mm [33.5 × 17.74 × 13.05 in]	
	Weight	Empty canisters: Panel 18 kg; Enclosure 23 kg   Full canisters: Panel 20 kg; Enclosure 25 kg	
<b>Maintenance</b>	Every 100 days	Refill electrolyte, reagents and calibration solution	

<sup>1</sup> Not available on wall mount enclosure versions

<sup>2</sup> Not available on panel versions

## Upgrade options

09125=A=1485 PROFIBUS DP, with board

09125=A=2485 RS485 JBUS/MODBUS, with board

09240=A=8315 Cation kit

## Accessories

595=010=000 Sample filter; 100 micron, metric fittings

595=010=005 Sample filter; 100 micron, imperial fittings

09240=A=8405 Static heat exchanger system, imperial fittings

## Consumables

09240=A=8000 1-year Spare part kit

363140,00500 Reference electrolyte, KCl, 3 M, 500 mL

2834453 Di-isopropylamine (DIPA), 1 L

2835153 Sodium standard, 10 ppm, 1 L

2834253 Sodium standard, 100 ppm, 1 L

2507149 Sodium Nitrate, 0.5 M, 500 mL

595=010=906 Replacement filter cartridges; 6/pkg.

Subject to change without notice.