



Applications
• Power Generation

2582sc Dissolved Oxygen Analyser



Simple to Integrate. Simple to Operate.

An integral part of the most complete water analytics system for the Power industry. Hach® provides a broad range of product options designed to work together into flexible solutions to meet your unique needs. Hach's comprehensive approach saves you time on design, installation, training, maintenance, and operation.

Save Time on Design

A single design source and one product platform means you spend less time searching for design files or configuring components.

Easy Adoption

The familiar experience with a modern touchscreen, the ability to use your current Hach sensor, and the same footprint as the 9500 Polymetron, make installation and integration of the SC4500 Controller seamless.

The Connectivity Options You Need

The Controller provides local communication to SCADA or a PLC. From analog, to advanced digital protocols, to wi-fi, cellular or LAN, the SC4500 gives you the flexibility to adapt in a rapidly changing world.

Simplify Maintenance and Operation

Common menu guides reduce variability and provide step-by-step procedures for maintenance and calibration. Standard visual alerts across parameters notify operators when troubleshooting is required. Start-up and maintenance time are minimised with pre-mounted membrane cap and factory pre-conditioned sensors.

Technical Data*

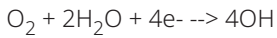
Measuring range	0 - 2000 ppb (0 - 2 ppm)
Detection limit	< 1 ppb
Units	mg/L, ppm, µg/L, ppb, mbar, hPa, inch Hg, mmHg
Repeatability	±0.5 ppb or ±5%, whichever is greater
Reproducibility	±0.5 ppb or ±2% whichever is greater
Response time	For step change 1 - 40 ppb: < 30 s
Calibration method	Zero: Electrically or with oxygen free water, Slope: in air or against a laboratory measurement
Maintenance interval	Membrane Lifetime: 6 months depending on sample
Connection drain line	8 mm tubing
Temperature compensation	Automatic in the range of 0 - 45 °C (32 - 113 °F)
Connections	¼" NPT thread (6 mm or ¼" tubing advised)
Cable length	10 m (33 ft)
Display	3.5-inch TFT colour display with capacitive touchpad
Enclosure waterproof rating	UL50E type 4X, IEC/EN 60529-IP 66, NEMA 250 type 4X Metal enclosure with a corrosion-resistant finish
Flow rate	66 - 166
Operating temperature range	-20 - 60 °C (-4 - 140 °F) (8 W (AC)/9 W (DC) sensor load) -20 - 45 °C (-4 - 113 °F) (28 W (AC)/20 W (DC) sensor load) Linear derating between 45 - 60 °C (-1.33 W/°C)
Storage conditions	-20 - 70 °C (-4 - 158 °F)
Power requirements	AC controller: 100-240 VAC ±10%, 50/60 Hz; 1 A (28 W sensor load) DC controller: 24 VDC +15% -20%; 2.5 A (20 W sensor load)
Communication	Analog: Five 0 - 20 mA or 4 - 20 mA analog outputs on each analog output module Up to two analog Input modules (0 - 20 mA or 4 - 20 mA). Each input module replaces a digital sensor input. Digital: Profibus DPV1 module Modbus TCP Profinet IO module Ethernet IP module
Relays	Two relays (SPDT); Wire gauge: 0.75 - 1.5 mm ² (18 - 16 AWG) AC controller Maximum switching voltage: 100 - 240 VAC Maximum switching current: 5 A Resistive/1 A Pilot Duty Maximum switching power: 1200 VA Resistive/360 VA Pilot Duty DC controller Maximum switching voltage: 30 VAC or 42 VDC Maximum switching current: 4 A Resistive/1 A Pilot Duty Maximum switching power: 125 W Resistive/28 W Pilot Duty
Electrical Certifications	CE, ETL certified to UL and CSA safety standards (with all sensor types), FCC, ISED, KC, RCM, EAC, UKCA, SABS, CMIM, Morocco
Weight	3.2 kg

*Subject to change without notice.

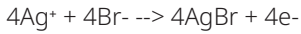
Principle of Operation

The measurement of dissolved oxygen is based on the well-known Clark cell principle. An oxygen-permeable membrane isolates the electrodes from the sample water, thus obviating the need for sample conditioning. Other reducible or oxidizable ions do not interfere, because they cannot pass through the gas-permeable membrane.

A constant voltage supply powers two electrodes, maintaining each at a constant potential. A gold, working electrode (cathode) reduces the dissolved oxygen to hydroxyl ions:



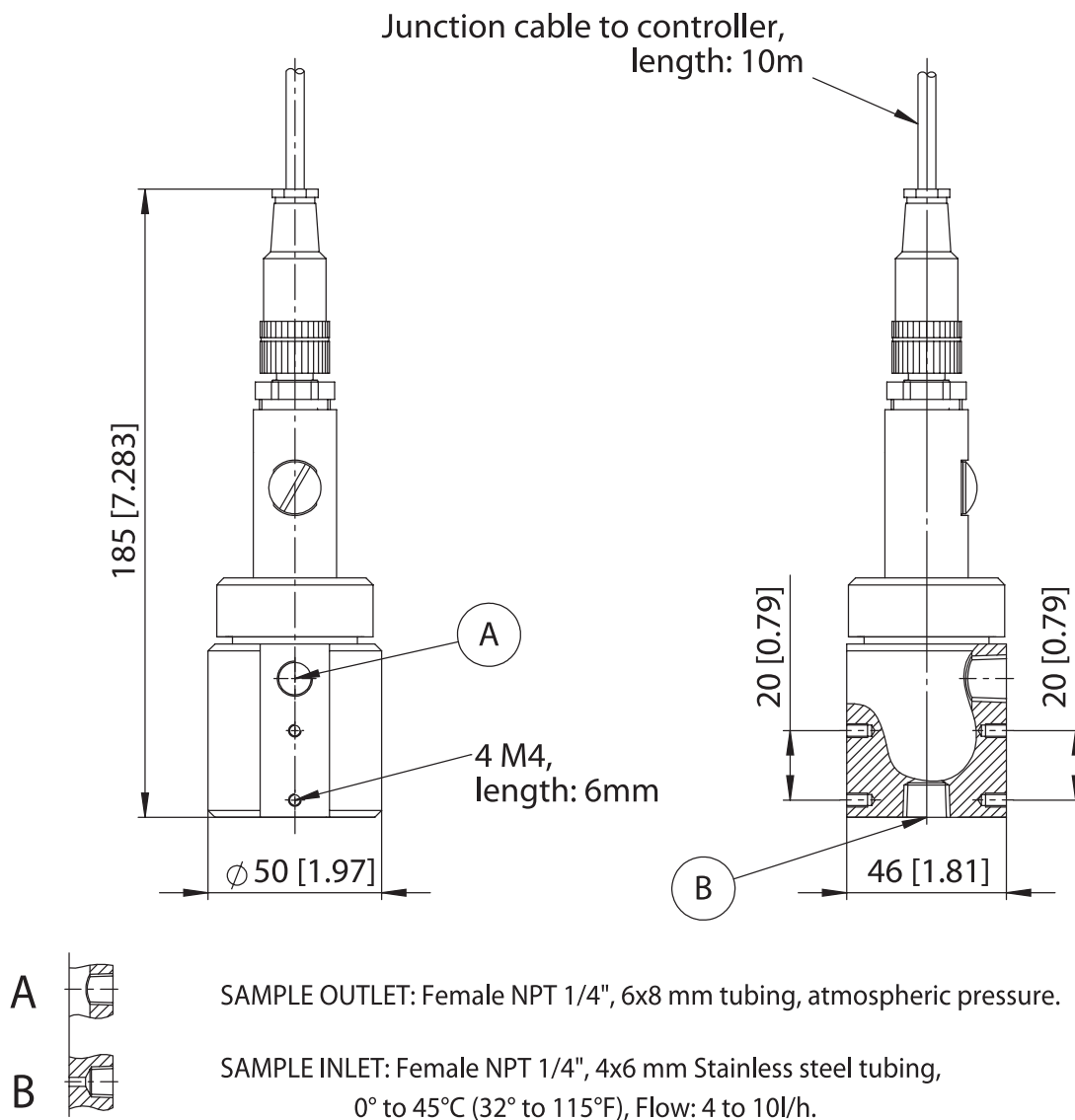
A large silver counter-electrode (anode) provides the oxidation reaction that occurs on its surface:



The reduction of oxygen is the current limiting reaction, thus making the cell current linearly proportional to the dissolved oxygen concentration.

Electrochemical reactions and diffusion rates are temperature-sensitive. The measuring cell, therefore, is equipped with a temperature sensor which allows for automatic temperature compensation.

Dimensions



Order Information

Complete Analyser

2582.99.A01801	2582sc Dissolved Oxygen - SC4500 mA Output and Analyser Kit
2582.99.A02801	2582sc Dissolved Oxygen - SC4500 Profibus DP and Analyser Kit
2582.99.A06801	2582sc Dissolved Oxygen - SC4500 Profinet and Analyser Kit
2582.99.A0B801	2582sc Dissolved Oxygen - SC4500 LAN + mA Output and Analyser Kit
2582.99.A0B801	2582sc Dissolved Oxygen - SC4500 LAN + mA Output and Analyser Kit
2582.99.A0F801	2582sc Dissolved Oxygen - SC4500 LAN+ Profinet and Analyser Kit
2582.99.AA1801	2582sc Dissolved Oxygen - SC4500 Claros mA Output and Analyser Kit
2582.99.AA2801	2582sc Dissolved Oxygen - SC4500 Claros Profibus DP and Analyser Kit
2582.99.AA6801	2582sc Dissolved Oxygen - SC4500 Claros Profinet and Analyser Kit
2582.99.AAB801	2582sc Dissolved Oxygen - SC4500 Claros LAN + mA Output and Analyser Kit
2582.99.AAC801	2582sc Dissolved Oxygen - SC4500 Claros LAN + Profibus DP and Analyser Kit
2582.99.AAF801	2582sc Dissolved Oxygen - SC4500 Claros LAN + Profinet and Analyser Kit
2582.99.Z01801	2582sc Dissolved Oxygen - SC4500 24 VDC mA Output and Analyser Kit
2582.99.Z02801	2582sc Dissolved Oxygen - SC4500 24 VDC Profibus DP and Analyser Kit
2582.99.Z0B801	2582sc Dissolved Oxygen - SC4500 24 VDC LAN + mA Output and Analyser Kit
2582.99.Z0C801	2582sc Dissolved Oxygen - SC4500 24 VDC LAN + Profibus DP and Analyser Kit
2582.99.ZA1801	2582sc Dissolved Oxygen - SC4500 24 VDC Claros mA Output and Analyser Kit

2582.99.ZA2801	2582sc Dissolved Oxygen - SC4500 24 VDC Claros Profibus DP and Analyser Kit
2582.99.ZAB801	2582sc Dissolved Oxygen - SC4500 24 VDC Claros LAN + mA Output and Analyser Kit
2582.99.ZAC801	2582sc Dissolved Oxygen - SC4500 24 VDC Claros LAN + Profibus DP and Analyser Kit

Communication and Module Options

LXZ524.98.00042	SC4x00 mA Input Module
LXZ525.99.D0002	SC4x00 mA Output Module (5 Outputs)
LXZ525.99.D0007	SC4500 Ultrapure Conductivity Module
LXZ525.99.D0008	SC4500 Modbus RS232/RS485 Module
LXZ525.99.D0003	SC4500 pH/ORP Module
LXZ525.99.D0004	SC4500 Conductivity Module
LXZ525.99.D0006	SC4500 Ultrapure pH/ORP Module
LXZ525.99.D0007	SC4500 Ultrapure Conductivity Module
LXZ525.99.D0009	SC4500 Amperometry Module

Accessories and Consumables

Z09181=A=3600	Electrolyte for Dissolved Oxygen Probe, 25 mL
09182=A=1000	Replacement Electrode
09185=A=3500	Dissolved Oxygen Membranes, pack of 4
LXZ525.99.B0001	SC4500 Power Cord Kit, EU plug
LXZ525.99.B0003	SC4500 Power Cord Kit, UK plug
LXZ525.99.B0004	SC4500 Power Cord Kit, CH plug
LXZ525.99.00022	SC Controller M16 Cable Gland Kit
LXZ525.99.C0001	SC4500 Ethernet IO Upgrade Kit
LXZ525.99.C0002	SC4500 Ethernet IP Upgrade Kit
LXZ525.99.C0003	SC4500 LAN Connector Upgrade Kit



With Hach Service, you have a global partner who understands your needs and cares about delivering timely, high-quality service you can trust. Our Service Team brings unique expertise to help you maximise instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk.

