



AWS X4

Advanced Multichannel QCMD system



Features

- High sensitivity & low limits of detection.
- Fast acquisition rate.
- Low sample volumes.
- Modular design enabling classical and High-Frequency QCMD as well as LOVE-SAW sensor measurements.
- Comfortable handling and robust measurements with quick-lock measurement cells.
- Instrument control and data acquisition via Ethernet.
- Integrated potentiostat control for simultaneous QCMD and electrochemistry applications.
- Optional fluidics module(s) with integrated software control.
- Basic data analysis package and export functions for third-party software analysis.
- Sleek, space-saving and lightweight design.

General operation specifications	
Number of cell units (channels)	4
Type of sensors	QCM, AWS HFF-QCM, AWS Love-SAW
Measurement modes	Tracking mode (single overtone and multiple overtones) ¹ High Resolution mode (single overtone and multiple overtones) ²
Number of overtones	Up to 7 (fundamental + 6 overtones)
Operation frequency range	4 MHz – 160 MHz
Max. Frequency resolution ³	0.1 Hz
Frequency accuracy ³	± 0.5 Hz
Temperature control range ⁴	15 °C – 45 °C
Temperature stability	± 0.05 °C
Maximum time resolution ⁵	50 sps
Normal mass sensitivity in air ⁶	8 pg/cm ²
Normal dissipation sensitivity in air ⁶	1.71x10 ⁻¹⁰
Normal mass sensitivity in liquid ⁶	0.6 ng/cm ²
Normal dissipation sensitivity in liquid ⁶	3.5x10 ⁻⁸
Dimensions, (H x W x D)	150 mm x 400 mm x 300 mm
Weight	< 10 Kg

¹ Tracking mode provides the full impedance spectrum of the sensor around resonance frequency.

² Patented Fast & High-Resolution single frequency point measurement.

³ Signal generator.

⁴ At room temperature 24°C ± 1°C.

⁵ High-Resolution mode at single frequency.

⁶ For QCM 5 MHz, measured in Tracking Mode on 7 overtones, with no averaging.

Specifications are subject to change without notice.