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Data Sheet

August 13, 2026

STANFORD RESEARCH SYSTEMS

Stanford Research QCM200

Stanford Research Systems QCM200 Quartz Crystal Microbalance The SRS QCM200 is a stand-alone digital quartz crystal microbalance. It reads series resonance frequency and series resistance of a 5 MHz AT-cut crystal for mass and viscosity/elasticity at surfaces and in thin films. The system includes the QCM200 controller, QCM25 oscillator, crystal holder, three crystals, and Windows software. A built-in counter resolves 0.01 Hz (10 s gate); resistance covers 0 to 5000 ohm with 5-digit display. Analog frequency and conductance outputs support EQCM with a potentiostat. The SRS QCM200 is a stand-alone digital quartz crystal microbalance. It reads series resonance frequency and series resistance of a 5 MHz AT-cut crystal for mass and viscosity/elasticity at surfaces and in thin films. The system includes the QCM200 controller, QCM25 oscillator, crystal holder, three crystals, and Windows software. A built-in counter resolves 0.01 Hz (10 s gate); resistance covers 0 to 5000 ohm with 5-digit display. Analog frequency and conductance outputs support EQCM with a potentiostat. Thin-film deposition and adsorption studies; electrochemical quartz crystal microbalance work; liquid and polymer viscoelasticity; sub-monolayer mass detection; real-time frequency and resistance logging via RS-232.



MODEL

Stanford Research Systems QCM200

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

QCM200

LISTING

<https://aumictechlabs.com/products/qcm200-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Stanford Research Systems QCM200 is a standalone quartz crystal microbalance instrument that measures mass deposition and viscoelastic properties with nanogram sensitivity and sub-monolayer detection capability. Operating at 5 MHz with an AT-cut, 1-inch diameter plano-plano crystal, the QCM200 directly correlates resonant frequency shifts to surface mass changes while simultaneously monitoring crystal resistance to characterize film and liquid viscoelasticity. The instrument handles highly viscous media up to 88% glycerol concentration, making it suitable for both air and liquid-phase measurements.

Technical Specifications

Quartz Crystal: 5 MHz AT-cut, 1-inch plano-plano, standard Cr/Au electrodes with optional Ti/Au, Ti/Pt, or In Sn oxide configurations

Frequency Counter: Integrated, user-selectable gate times (0.1 s, 1 s, 10 s) with display resolution of 1.0 Hz, 0.1 Hz, and 0.01 Hz respectively

Timebase Stability: $<4 \times 10^{-9}$ Allan Variance (typical); Accuracy: ± 1.5 ppm

Resistance Meter: 0 to 5000 Ω range with resolution of 0.001 Ω ($R < 100 \Omega$), 0.01 Ω (100–1000 Ω), and 0.1 Ω (1000–5000 Ω)

Frequency Output: 5 MHz TTL square wave, 50 Ω source impedance Δf

Analog Output: ± 10 V full scale, 20-bit resolution; selectable ranges from ± 200 kHz to ± 2 kHz; 1 k Ω source impedance

Conductance Output: Log-scale voltage output (0 to 10.625 VDC) correlating to resistance

External Timebase Input: 10 MHz, 1 Vpp nominal, 1 k Ω input impedance for phase-locking to external precision references

Capacitance Cancellation: Integrated shunt-capacitance cancellation circuitry

Crystal Isolation: Transformer-isolated crystal for EQCM compatibility

Key Features

Dual integrated measurement system: frequency and resistance simultaneously

Front-panel or RS-232 control via Windows/Mac software for real-time acquisition and analysis

Potentiostat integration through analog outputs for electrochemical applications

Supports nanogram to microgram mass detection ranges

Typical Applications

Electrochemical quartz crystal microbalance (EQCM) studies

Thin-film characterization and viscoelastic analysis

Molecular-level gravimetric sensing

Lossy film and high-viscosity media measurements

Compatibility & Integration

Analog outputs interface directly with potentiostats. External 10 MHz precision timebase input enables enhanced frequency stability for long-term measurements.

Features & description

From manufacturer datasheet

Features

- Built-in frequency counter and resistance meter (unlike analog QCM100)
- Gate times 0.1 s, 1 s, and 10 s with 1.0 Hz / 0.1 Hz / 0.01 Hz display resolution
- Analog delta-f output +/-10 V full scale (20-bit) on selectable spans
- Capacitance cancellation 10 pF to 40 pF with 0.01 pF limit
- External 10 MHz timebase input for long-term stability
- Front-panel or RS-232 control with included acquisition software

QCM200 Characteristics / Specifications

PARAMETER	VALUE
Model	QCM200
Manufacturer	Stanford Research Systems
Instrument Type	Quartz Crystal Microbalance Digital Controller System
Companion Oscillator	QCM25 5 MHz crystal oscillator
Alias	QCM200; SRS QCM200
Crystal Frequency	5 MHz, AT-cut, plano-plano
Crystal Diameter	1 inch
Electrode Materials	Cr/Au standard; Ti/Au and Ti/Pt optional
Gate Times	0.1 s, 1 s, 10 s (user selectable)
Display Resolution Ten Second Gate	0.01 Hz
Display Resolution One Second Gate	0.1 Hz
Display Resolution Tenth Second Gate	1.0 Hz
Internal Timebase Stability	less than 4e-9 Allan variance typical (catalog); less than 2e-9 typical 10 s Allan variance (manual)
Internal Timebase Accuracy	+/-1.5 ppm
Analog Frequency Output Span	+/-10 V full scale (20-bit)
Analog DeltaFRanges	+/-200 kHz, +/-100 kHz, +/-50 kHz, +/-20 kHz, +/-10 kHz, +/-5 kHz, +/-2 kHz
Frequency Output Frequency	5 MHz nominal
Frequency Output Level	TTL square wave
Frequency Output Impedance	50 ohm
External Timebase Frequency	10 MHz
External Timebase Level	1 Vpp nominal
Resistance Display Range	0 to 5000 ohm
Resistance Resolution Below 100 Ohm	0.001 ohm
Resistance Resolution Mid Range	0.01 ohm (100 ohm to 1000 ohm)

PARAMETER	VALUE
Resistance Resolution High Range	0.1 ohm (1000 ohm to 5000 ohm)
Conductance Resistance Formula	$R = 10000 \times (10^{(-V_c/5)}) - 75 \text{ ohm}$
Conductance Voltage Level	0 to 10.625 VDC, logarithmic scale
Conductance Output Impedance	1 kOhm
Capacitance Cancellation Range	10 pF to 40 pF (20 pF nominal)
Cancellation Adjustment Limit	0.01 pF
Interface	RS-232, 9600 baud
Analog Connectors	BNC
Crystal Holder Material	Kynar holder with Viton O-ring
Controller Oscillator Cable	Cat-5, approximately 3 ft
Dimensions	10.6 in x 2 in x 7 in (WHD); catalog also lists 10.625 in width
Weight	2 lbs
Operating Temperature	0 C to 40 C
Power	15 W, 100/120/220/240 VAC, 50/60 Hz
System Contents	controller, oscillator, holder, three quartz crystals, Windows software Notes Dedicated SRS QCM200 digital controller file. A related catalog source also exists as stanford-research-qcm200.txt. Specs from SRS QCM200 product page, catalog, and user manual. For analog-only setups without a built-in counter, see QCM100.

General Specifications & Supplementary Characteristics

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Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Alias	QCM200; SRS QCM200
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Electrode Materials	Cr/Au standard; Ti/Au and Ti/Pt optional
Gate Times	0.1 s, 1 s, 10 s (user selectable)
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Display Resolution One Second Gate	0.1 Hz
Display Resolution Tenth Second Gate	1.0 Hz
Internal Timebase Stability	less than 4e-9 Allan variance typical (catalog); less than 2e-9 typical 10 s Allan variance (manual)
Internal Timebase Accuracy	+/-1.5 ppm
Analog Frequency Output Span	+/-10 V full scale (20-bit)
Analog DeltaFRanges	+/-200 kHz, +/-100 kHz, +/-50 kHz, +/-20 kHz, +/-10 kHz, +/-5 kHz, +/-2 kHz
Frequency Output Frequency	5 MHz nominal
Frequency Output Level	TTL square wave
Frequency Output Impedance	50 ohm
External Timebase Frequency	10 MHz
External Timebase Level	1 Vpp nominal
Resistance Display Range	0 to 5000 ohm
Resistance Resolution Below 100 Ohm	0.001 ohm
Resistance Resolution Mid Range	0.01 ohm (100 ohm to 1000 ohm)
Resistance Resolution High Range	0.1 ohm (1000 ohm to 5000 ohm)

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Conductance Resistance Formula	$R = 10000 \times (10^{(-V_c/5)}) - 75 \text{ ohm}$
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Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.