



- High Resolution
± 0.03 Hz at 10 readings/sec
- 2 or 4 channels
- Co-deposition option
- 3½" (2U) or 5¼" (3U) height
- ¼ VGA color LCD display
- RS232, USB standard
- Ethernet optional
- Windows® software included
- Low cost

Sigma Instruments' SQC-300 Series Controllers continue our tradition of innovation, enhanced performance, and competitive pricing.

SQC-300 Series Thin Film Deposition Controllers



Configurable

The standard SQC-300 Series controller monitors two quartz crystal sensors, with two PID control outputs, eight digital inputs, and eight relay outputs. An optional expansion card doubles capacity to 4 sensor inputs, 4 source outputs, and 16 digital inputs/outputs. Multi-layer deposition is standard, with co-deposition control of up to four materials optional. RS-232 and USB ports are standard, with Ethernet optional.

The SQC-300 Series is available in a 5¼" or 3½" high half-rack enclosure. Both use a bright active matrix color LCD display.

Easy Setup & Operation

Front panel controls include six context-sensitive pushbuttons and a convenient parameter setting knob. A "Quick Setup" menu allows instant access to the most commonly needed parameters for the active film.

The Windows program included with the SQC-300 allows you to develop and test a process on your PC, then download it to the controller. You can also log instrument data to your PC for process analysis and quality control.

Enhanced Performance

Accurate control of deposition rate and film thickness depends on how well a QCM-based instrument can measure the change in frequency caused by film growth on the crystal. Sigma's SQC-300 Series controllers achieve ± 0.03 Hz resolution at 10 readings per second, with ± 2ppm frequency stability over 0 to 50°C. This means better control of your process, especially for low deposition rates.

The SQC-300 Series stores up to 100 processes, 1000 layers, 50 films, and 2 rate ramps per film. Each source material can be monitored by a single sensor, or by multiple sensors, to provide accurate source distribution monitoring.

We're here to help you.

The flexible, easy-to-use SQC-300 Series Controllers offer features you won't find on many competitive thin film controllers at twice the price.

We also have a broad selection of sensors, feedthroughs, and accessories to complement the SQC-300 Series controllers. We're ready to help you with your thin film deposition application.

SQC-300Series Specifications

Measurement	
QCM Sensor Inputs	2 standard, (+2 optional)
Frequency Range	4 to 6 MHz
Frequency Resolution	± 0.03 Hz at 0.10 sec measurement period
Frequency Stability	± 2 ppm total, over 0 to 50°C
Measurement/Update Rate	1 to 10 Hz
Rate Display Resolution	0.01 Å/sec
Thickness Display Resolution	0.001 kÅ

Control	
Processes	100 processes, 1000 layers, 50 films, 4 co-deposited films
Source (or Recorder) Outputs	2 standard, (+2 optional)
Output Signal	± 0 to 10 VDC, 15 bit resolution
Digital Inputs/Outputs	8/8 standard, (+8/8 optional)
Inputs	5 VDC non-isolated
Output Relays	SPSTForm 1A, 30V, 2A max
Co-Deposition	Optional, up to 4 materials
Interface(s)	RS-232and USBstandard, Ethernet optional (replaces USB)
Remote / Manual Power Control	Optional

Display	
Type	¼ VGA 320 x 240 active matrix color LCD
Graphs	3: rate, rate deviation, output power
Full Screen Numeric Display	Yes

General	
Power	100-240 VAC, 50/60 Hz, 25 W
Compliance	CE
Windows Software	Included
Housing / Mounting	SQC-310:½-rack cabinet, 5¼" high SQC-330:½-rack cabinet, 3½" high

Ordering Information

SQC-300Series Controller	SQC-3xx-x-x-x
Base Controller	
standard display, 1/2-rack x 5 1/4" high	310
compact display, 1/2-rack x 3 1/2" high	330
Number of Channels	
2 QCM channels	2
4 QCM channels	4
Interface	
RS-232& USB	R
RS-232& Ethernet	E
Control Mode	
standard	D
co-deposition	C

Example of a complete system:

Consists of a controller, at least one sensor, one feedthrough, and one sensor kit for each sensor. A sensor kit contains a standard oscillator, a 10-pack of crystals, and the cables required to connect everything together.

SQC-330-2-R-D	SQC-330Controller with compact display & 3 1/2" high 1/2-rack housing, 2 channels, RS232& USB, standard deposition control.
930-000	Feedthrough, 1 inch bolt, one electrical and two cooling lines
932-000	Single standard sensor
934-003	Sensor kit, includes one 900-010 oscillator, one 934-000 10-pack of gold crystals, on 902-011 8" (150mm) BNC cable, one 902-012 10ft (3m) BNC cable, and one 902-014 30" (0.7m) vacuum cable.

Additional information, such as instruction manuals and pricing, is available on our website: www.sig-inst.com

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Want to Know More?

We've only touched on the possibilities. Contact Sigma Instruments with your application. We're ready to help.

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