

# STC-2000 A

## Deposition Rate Controller



### SYCON STC-2000A

The STC-2000A from Sycon offers features and performance previously not available in a thin film deposition controller. Its advanced electronics, LCD display, storage for 50 film programs, 9 process recipes and programmable input / output structure give the user versatility and performance. The STC-2000A uses the time-proven 6 MHz oscillating quartz crystal as the sensor device. The STC-2000A is constructed with advanced microprocessor technology. This enables the direct solution of the complex mathematical equation associated with the frequency shift versus mass loading characteristics of the quartz crystal sensor. Its computational power allows the measurement of the material accumulated on the sensor crystal to be accurately converted to film thickness using the exact equation; inaccuracies due to approximations and limited ranges of material constants do not contribute to thickness and rate errors. An innovative frequency measurement system allows the STC-2000A to acquire and display 10 measurements / second with 0.0088 Å/Measurement rate resolution on each of the sensor input channels. The standard STC-2000A is equipped with 8 relays, 8 optocoupled inputs, a RS-232 computer interface, and high-resolution analog control and recorder outputs. A rack mount for half-rack mounting is also standard.

### FEATURES

- Multi Sequence Multi-Film Process Control
- High Resolution / High Speed Measurement Engine
- 10 Measurements per second @ 0.0088 Å / s Rate resolution
- RS232 (optional RS485) interface for serial communications
- Easy to read LCD with touch panel interface
- Versatile I/O programming
- Industry standard 6 MHz crystals

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## LEWVAC

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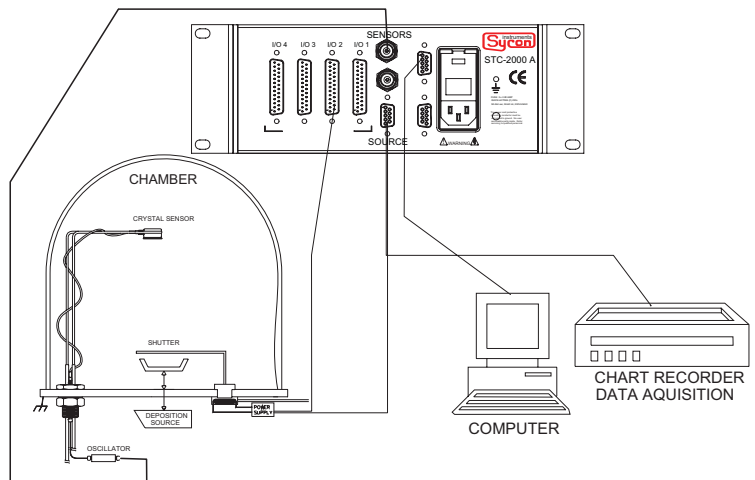
# STC-2000 A Specifications

High Thickness Resolution	0.013 Angstrom per Meas. [for Aluminum] (0.13 Angstrom / second / measurement)
High Rate Resolution	0.0088 Angstrom per Meas. Rate
High Accuracy	1 part per million (equal to + / - 5 Hz) absolute. 0.03 Hz / measurement relative.
High Speed	Ten measurements/second
Measurement Range	500KA Aluminum Equivalent
Standard Sensor Crystal	6 MHz AT cut, Plano/Convex
Sensors	2
Display	240 x 64 pixel monochrome LCD with Backlight and 4 user Programmable LED's
Operation	Menu driven Touch Panel LCD for Parameter Entry, 10 Membrane Keys (STOP, START, MENU, MANUAL, ZERO, STATUS and 4 user programmable keys)
Film Storage (Standard)	50 Film Programs 9 Sequence recipes (99 layers each)
Film Parameters	Material Density 0.4 to 99.99 gm/cc Material Z-Factor 0.1 to 9.999
Set point Limits	Thickness (2), Time (1)
Source Conditioning	Rise (3) & Soak (3) Powers, Soak Times (2)
Rate Control	0.0 to 999.9 Å/s

External Storage (Optional)	Save / restore all Parameters, Configurations, Films, Processes, I/O programs (both A & B memories) and Process Accounting in a Transportable Data Module (Optional)
Hardware I/O (Standard: 1 output card, 1 input card)	Output: 8 SPDT Relays, 1.0 Amp @ 24VDC Input: 8 Optocoupled Inputs, 5-24VDC (4 Slots are available for either input or output cards, 2 are populated with standard)
Interface Protocols	RS-232C (Sycon Format or ASCII)
Analog Outputs	+12 bit resolution on each of 2 outputs
Control Output	10ma, 0 to 10 volts (range programmable: 2.5, 5, 10 volts isolated)
Recorder Output	10ma, 0 to 10 volt programmable (rate, thickness, power, deviation, computer remote)
Power Control:	Automatic Three Mode (PID Control) Manual Hand Controller/Front Panel
Rack Mount	3 1/2" - half rack mount (std.)
Power	90-264 VAC, 50-60 Hz, 168 VA Max.
Weight	4.5 lb.
Operating Range	0 to 40°C ambient
Disclaimer	Some Specifications may change

## Ordering Information

- 500-223 STC-2000A, Deposition Controller
- 500-194 Additional 8 Output Card
- 502-197 Additional 8 Input Card
- 500-212 Memory Interface with 1 module
- 500-013 Low profile sensor package
- 500-218 In-Vac Oscillator / Sensor
- 500-117 Gold sensor crystals (10 Pack)



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