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Data Sheet

August 2, 2026

STANFORD RESEARCH SYSTEMS

Stanford Research SR470 Laser Shutter System

Stanford Research SR470 Laser Shutter System The SR470 provides a laser shutter controller designed for SR475 ultra-low-vibration mechanical shutter heads with programmable exposure from 4 ms to 10,000 s, pre/post trigger delays, and internal, external, or continuous triggering from DC to 125 Hz at any duty cycle. The system includes GPIB, RS-232, and Ethernet remote interfaces with fault detection and greater than 10 million cycle head lifetime class. Laser exposure timing and gating; pump-probe and fluorescence experiments; optical safety interlock and beam blocking; programmable duty-cycle chopping; synchronized camera and detector acquisition; long-exposure and short-pulse laser experiments; automated test sequences via GPIB, RS-232, or Ethernet. The SR470 provides a laser shutter controller designed for SR475 ultra-low-vibration mechanical shutter heads with programmable exposure from 4 ms to 10,000 s, pre/post trigger delays, and internal, external, or continuous triggering from DC to 125 Hz at any duty cycle. The system includes GPIB, RS-232, and Ethernet remote interfaces with fault detection and greater than 10 million cycle head lifetime class. Laser exposure timing and gating; pump-probe and fluorescence experiments; optical safety interlock and beam blocking; programmable duty-cycle chopping; synchronized camera and detector acquisition; long-exposure and short-pulse I



MODEL

**Stanford Research
Systems SR470**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

SR470

LISTING

<https://aumictechlabs.com/products/sr470-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Stanford Research Systems SR470 Laser Shutter System delivers precision beam modulation and blocking for demanding optical research and industrial applications. The controller manages timing, triggering, and fault detection, while the shutter head employs closed-loop DSP control with sapphire jewel bearings for vibration-free operation on optical tables.

Technical Specifications

Controller Timing Resolution: 100 μ s (8-digit display) Accuracy: 100 ppm Pre-exposure delay: 0 to 10,000 seconds Exposure time: 4 ms to 10,000 seconds Post-exposure delay: 4 ms to 10,000 seconds Repetition rate: DC to 125 Hz (any duty cycle) Triggered burst capability: 1 to 99,999,999 timing cycles

Shutter Head Performance The SR475 delivers a 3 mm minimum clear aperture and reaches 100 Hz repetition rate with 500 μ s typical rise/fall time. The SR476 provides 1 mm minimum clear aperture and exceeds 125 Hz with 750 μ s typical rise/fall time. Both heads achieve minimum exposure of 5 ms, 10 μ s rms insertion delay jitter, and exceed 10 million cycle lifetime. Beryllium-copper blades with black oxide finish ensure durability.

Control & Monitoring Triggering modes: Internal, external TTL, external level, front-panel, continuous Shutter polarity: Selectable Normally Open or Normally Closed Fault detection with audible alarm, LED indicator, and TTL rear-panel output Configuration storage: Nine complete instrument setups in non-volatile RAM Blade control: Closed-loop PID, never contacts physical stops, zero bounce

Interfaces & Power Communication: GPIB, RS-232, Ethernet Auxiliary I/O: TTL-level, multi-purpose rear-panel ports Power: 90 to 264 VAC, 47 to 63 Hz, 75 W nominal consumption Operating temperature: 0 $^{\circ}$ C minimum

Key Features Ultra-low vibration design minimizes optical table disturbance Closed-loop DSP control with sapphire jewel bearings ensures smooth, repeatable blade motion Independent timing control for pre-exposure, exposure, and post-exposure intervals Flexible triggering accommodates burst sequences up to 99,999,999 cycles Selectable shutter polarity via DIP switch or front-panel control

Typical Applications Pump-probe spectroscopy, time-resolved fluorescence, ultrafast imaging, laser material processing, and precision photonics research requiring accurate beam gating with minimal mechanical disturbance.

Compatibility & Integration The SR470 controller interfaces with standard laboratory instrumentation through GPIB, RS-232, and Ethernet. TTL trigger and sync outputs enable synchronization with external timing systems. Multi-purpose auxiliary I/O ports support context-sensitive triggering and monitoring.

Features & description

From manufacturer datasheet

Features

- Shutter controller for SR475 ultra-low-vibration mechanical heads
- Exposure range 4 ms to 10,000 s (0.1 ms resolution)
- Pre-trigger and post-trigger delays
- Internal, external, and continuous trigger modes
- DC to 125 Hz operation at any duty cycle
- GPIB, RS-232, and Ethernet remote interfaces
- Fault detection
- SR475 head lifetime greater than 10 million cycles class

SR470 Characteristics / Specifications

PARAMETER	VALUE
Model	SR470
Manufacturer	Stanford Research Systems
Instrument Type	Laser Shutter Controller
Compatible Heads	SR475 ultra-low-vibration mechanical shutter heads
Exposure Range	4 ms to 10,000 s
Exposure Resolution	0.1 ms
Delays	Pre-trigger and post-trigger programmable
Trigger Modes	Internal, external, continuous
Frequency/Duty	DC to 125 Hz, any duty cycle
Remote Interfaces	GPIB, RS-232, Ethernet
Fault Detection	Yes
Head Lifetime	Greater than 10 million cycles class (SR475)
Related Model	SR474 four-channel driver variant
Alias	SR470 Standard Operating Conditions Mount SR475 head securely to minimize vibration coupling. Configure exposure and delay limits within mechanical and optical safety requirements. Verify trigger source timing meets minimum pulse width for selected exposure. Allow head to reach thermal equilibrium for repetitive high-duty operation.

SR470 Specifications

PARAMETER	VALUE
Stanford Research SR470 Laser Shutter System	Overview
Key Features	- Shutter controller for SR475 ultra-low-vibration mechanical heads
Technical Specifications	Model: SR470

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

Specifications

PARAMETER	VALUE
Model	SR470
Manufacturer	Stanford Research Systems
Instrument Type	Laser Shutter Controller
Compatible Heads	SR475 ultra-low-vibration mechanical shutter heads
Exposure Range	4 ms to 10,000 s
Exposure Resolution	0.1 ms
Delays	Pre-trigger and post-trigger programmable
Trigger Modes	Internal, external, continuous
Frequency/Duty	DC to 125 Hz, any duty cycle
Remote Interfaces	GPIB, RS-232, Ethernet
Fault Detection	Yes
Head Lifetime	Greater than 10 million cycles class (SR475)
Related Model	SR474 four-channel driver variant
Alias	SR470

Standard Operating Conditions

Mount SR475 head securely to minimize vibration coupling. Configure exposure and delay limits within mechanical and optical safety requirements. Verify trigger source timing meets minimum pulse width for selected exposure. Allow head to reach thermal equilibrium for repetitive high-duty operation.

Operational Notes

SR474 is the four-channel shutter driver variant-do not confuse with single-channel SR470 controller pairing. Confirm SR475 head cable and firmware compatibility. Alias SR470.

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.