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Data Sheet

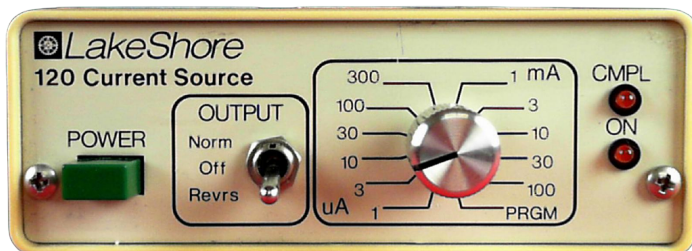
August 13, 2026

LAKE SHORE

Lake Shore 120CS

Lake Shore 120CS Precision DC Current Source 1 μ A to 100 mA The Lake Shore Model 120CS is a line-powered precision DC current source for sensor excitation. Eleven front-panel fixed ranges span 1 μ A to 100 mA in 1X and 3X increments. Rear-panel PRGM allows an external resistor to program any current from 1 μ A to 100 mA. Accuracy is 0.1% on fixed ranges (factory calibrates the 10 μ A range to better than plus/minus 0.05%). Stability better than plus/minus 0.01% per day. Temperature coefficient less than 0.01%/C at 10-35 C. Compliance 11 V (10 V on the 100 mA scale; 10 V above 50 mA in PRGM). Front OUTPUT polarity reverse. CMPL lamp at compliance. Line 90-125 or 210-250 Vac, 50/60 Hz, 3 VA max. Size 106 × 41 × 164 mm, 0.5 kg.

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MODEL

Lake Shore 120CS

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

120CS

LISTING

<https://aumictechlabs.com/products/120cs-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Lake Shore 120CS is a precision DC current source engineered for stable, accurate current outputs in sensor excitation and measurement applications. It delivers switch-selectable output current from 1 μA to 100 mA with an 11 V compliance voltage, ensuring constant current across varying load conditions. Front-panel polarity reversal and rear-panel external programming via resistor network enable flexible current configuration. The unit is manufactured in the USA. Note: The Model 120CS has been discontinued; Lake Shore recommends the Model 121 DC current source as a replacement.

Technical Specifications
Output Current: 1 μA to 100 mA (switch-selectable)
Compliance Voltage: 11 V (up to 50 mA); 10 V (above 50 mA)
Current Accuracy: 0.05% of output at 10 μA
Temperature Coefficient: <0.01% of output per $^{\circ}\text{C}$
Line Regulation: <0.01% change
Load Regulation: <0.01% change
AC Current Ripple: <0.01% of scale
Operating Temperature: 15 $^{\circ}\text{C}$ to 35 $^{\circ}\text{C}$
Power Supply: External AC wall-mount (120 VAC or 210–250 VAC selectable); jumper-configurable
Physical: 106 mm W $\times$ 41 mm H $\times$ 158 mm D; 0.5 kg

Key Features
Switch-selectable current range simplifies bench operation
Front-panel OUTPUT switch enables rapid polarity reversal
External programming input via rear-panel terminal block allows custom current levels from 1 μA to 100 mA
Compliance indicator (CMPL) alerts when voltage limit is reached
Compact benchtop form factor with minimal footprint

Typical Applications
Sensor excitation for resistance temperature detectors and diode sensors
Precision current biasing in cryogenic measurement systems
Stable DC current sourcing across variable impedance loads

Compatibility & Integration
The 120CS excites Lake Shore 400-Series, 500-Series, and TG-120 Diode Sensors. It operates reliably in liquid helium (LHe) and liquid nitrogen (LN2) environments, supporting low-temperature measurement workflows.

Features & description

From manufacturer datasheet

Features

- 1 μ A to 100 mA, eleven 1X/3X fixed ranges

120CS Characteristics / Specifications

PARAMETER	VALUE
Model	120CS
Manufacturer	Lake Shore Cryotronics
Instrument Type	Precision DC Current Source
Series	120
Alias	120CS; Model 120CS; Lake Shore 120CS
Output Current Fixed	11 ranges from 1 uA to 100 mA, 1X and 3X increments
Output Current Program	rear PRGM external resistor, 1 uA to 100 mA
Accuracy Fixed	0.1% on fixed ranges
Accuracy 10 uA	factory calibrates 10 uA to better than plus/minus 0.05%
Stability	better than plus/minus 0.01% per day on fixed ranges
Temperature Coefficient	less than 0.01% perCat 10-35 C
Program Trim	programmed current adjustable about 5% with rear trim
Compliance Voltage	11 V; 10 V on 100 mA scale
Compliance PRGM	11 V up to 50 mA; 10 V above 50 mA
Compliance Lamp	CMPL flashes when output voltage reaches 11 V
AC Current Ripple	less than 0.01% of scale plus 40 uV RMS inappropriately shielded system
Line Regulation	less than 0.01% change in output for 10% line change within specified range
Load Regulation	less than 0.01% change in output from 1 to 100% of compliance voltage
Polarity	front-panel OUTPUT reverse
Connections	output, ground, and programming terminals on rear terminal block
Ambient Temperature	15-35 C (59-95 F)
Power	90-125 or 210-250 Vac, 50/60 Hz, 3 VA maximum
Size	106 × 41 × 164 mm (4.2 × 1.6 × 6.5 in)
Weight	0.5 kg (1.1 lb)

PARAMETER	VALUE
Successor	Lake Shore Model 121 DC current source (120 family discontinued)
Related 110CS	1 uA to 10 mA class sibling with 11 V compliance
Documentation	Lake Shore 120CS User Manual P/N 119-016
Rack	Model 2090 rack mounting accessory
Duty	continuous sensor excitation within compliance Notes Specs from Lake Shore Model 120CS User Manual Table 1-1. Confirm 90-125 vs 210-250 Vac jumper and whether PRGM resistor is installed. Do not copy Model 110CS 10 mA ceiling onto 120CS.

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	120CS
Manufacturer	Lake Shore Cryotronics
Instrument Type	Precision DC Current Source
Specifications	
PARAMETER	VALUE
Series	120
Alias	120CS; Model 120CS; Lake Shore 120CS
Output Current Fixed	11 ranges from 1 uA to 100 mA, 1X and 3X increments
Specifications	
PARAMETER	VALUE
Output Current Program	rear PRGM external resistor, 1 uA to 100 mA
Accuracy Fixed	0.1% on fixed ranges
Accuracy 10 uA	factory calibrates 10 uA to better than plus/minus 0.05%
Specifications	
PARAMETER	VALUE
Stability	better than plus/minus 0.01% per day on fixed ranges
Temperature Coefficient	less than 0.01% perCat 10-35 C
Program Trim	programmed current adjustable about 5% with rear trim
Specifications	
PARAMETER	VALUE
Compliance Voltage	11 V; 10 V on 100 mA scale
Compliance PRGM	11 V up to 50 mA; 10 V above 50 mA
Compliance Lamp	CMPL flashes when output voltage reaches 11 V

Specifications

PARAMETER	VALUE
AC Current Ripple	less than 0.01% of scale plus 40 uV RMS inappropriately shielded system
Line Regulation	less than 0.01% change in output for 10% line change within specified range
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Specifications

PARAMETER	VALUE
Polarity	front-panel OUTPUT reverse
Connections	output, ground, and programming terminals on rear terminal block
Ambient Temperature	15-35 C (59-95 F)

Specifications

PARAMETER	VALUE
Power	90-125 or 210-250 Vac, 50/60 Hz, 3 VA maximum
Size	106 x 41 x 164 mm (4.2 x 1.6 x 6.5 in)
Weight	0.5 kg (1.1 lb)

Specifications

PARAMETER	VALUE
Successor	Lake Shore Model 121 DC current source (120 family discontinued)
Related 110CS	1 uA to 10 mA class sibling with 11 V compliance
Documentation	Lake Shore 120CS User Manual P/N 119-016

Rack: Model 2090 rack mounting accessory

Duty: continuous sensor excitation within compliance

Notes

Specs from Lake Shore Model 120CS User Manual Table 1-1. Confirm 90-125 vs 210-250 Vac jumper and whether PRGM resistor is installed. Do not copy Model 110CS 10 mA ceiling onto 120CS.

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

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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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.