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Data Sheet

August 13, 2026

ILX LIGHTWAVE

ILX Lightwave TCM39032

Key Features - Same 32 W / 4 A / greater than 8 V output class as TCM-39034 without TE voltage measurement - 5-digit green LED display class on the LDC-3900 - Smart integrator hybrid PI - Isolated from other modules and earth ground - 15-pin D-sub TEC connector - Optional TSC-595 for RTD Technical Specifications Model: TCM-39032 Manufacturer: ILX Lightwave (Newport / MKS) Instrument Type: 32 W temperature control module Alias: TCM39032; 39032 Host mainframe: LDC-3900 (any of four rear slots) Temperature control range: -99.9 C to 199.9 C Thermistor setpoint minus 20 to 20 C: 0.1 C resolution; ± 0.2 C accuracy Thermistor setpoint 20 to 50 C: 0.2 C resolution; ± 0.2 C accuracy AD590 LM335 setpoint minus 20 to 50 C: 0.01 C resolution; ± 0.1 C accuracy (LDC-3900 TEC table) Short term stability: less than ± 0 .



MODEL

**ILX Lightwave
TCM39032**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

TCM39032

LISTING

<https://aumictechlabs.com/products/tcm39032-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The ILX Lightwave TCM39032 is a 32 W thermoelectric cooler control module engineered for precision temperature management in laser diode systems. It installs into any of the four channel slots on the LDC-3900 Modular Laser Diode Controller, delivering stable, low-noise TEC control essential for maintaining consistent laser output and wavelength stability. Fully interchangeable with other LDC-3900 modules, the TCM39032 stores calibration data on-board, eliminating

service requirements and enabling field deployment without recalibration. Technical Specifications Power rating: 32 W (8 V, 4 A) into one-ohm load Output current and power referenced to one-ohm load; higher outputs available via booster Broadband noise measured at 1 A output current, 10 Hz–10 MHz bandwidth Operating temperature: 0 °C to 40 °C Storage and transportation temperature: –40 °C to 70 °C Relative humidity: <80% RH, non-condensing Maximum altitude: 3000 m Mains voltage stability: $\pm 10\%$ of nominal supply Warm-up period: one hour (all specifications referenced to this period) Pollution Degree II; Installation Category II for transient overvoltages Key Features Modular, hot-swappable design for the LDC-3900 controller Service-free operation with on-module calibration storage Low-noise performance for precision temperature control Channel isolation prevents ground loops and laser damage Green indicator illumination upon LDC-3900 recognition Continuous operation rated Indoor use only; unprotected against moisture ingress Compatibility & Integration The TCM39032 integrates directly into the LDC-3900 rear panel, where it operates alongside current sources up to 8 A and other interchangeable modules. Each module slot provides full electrical isolation, protecting laser diodes from ground-loop transients. Upon installation, the corresponding channel indicator illuminates green, confirming recognition as an active TEC source.

Features & description

From manufacturer datasheet

Features

- Same 32 W / 4 A / greater than 8 V output class as TCM-39034 without TE voltage measurement • 5-digit green LED display class on the LDC-3900 • Smart integrator hybrid PI • Isolated from other modules and earth ground • 15-pin D-sub TEC connector • Optional TSC-595 for RTD

TCM39032 Characteristics / Specifications

PARAMETER	VALUE
Model	TCM-39032
Manufacturer	ILX Lightwave (Newport / MKS)
Instrument Type	32 W temperature control module
Alias	TCM39032; 39032
Host mainframe	LDC-3900 (any of four rear slots)
Temperature control range	-99.9 C to 199.9 C
Thermistor setpoint minus 20 to 20 C	0.1 C resolution; ± 0.2 C accuracy
Thermistor setpoint 20 to 50 C	0.2 C resolution; ± 0.2 C accuracy
AD590 LM335 setpoint minus 20 to 50 C	0.01 C resolution; ± 0.1 C accuracy (LDC-3900 TEC table)
Short term stability	less than ± 0.004 C (1 hour)
Long term stability	less than ± 0.01 C (24 hours)
Output type	bipolar current source
Isolation	isolated from other modules and earth ground
Compliance voltage	greater than 8 V
Short circuit output current	4 A
Maximum output power	32 W
Current limit range	0 to 4 A
Current limit set accuracy	± 50 mA
Ripple noise	less than 1 mA rms
Control algorithm	smart integrator, hybrid PI
Sensor thermistor	NTC 2-wire
Sensor IC	AD590 / LM335
Sensor RTD	Pt100 / other 100 ohm RTD with TSC-595 option
Thermistor sensing current	10 μ A / 100 μ A
Sensor bias AD5	8 V

PARAMETER	VALUE
Sensor bias LM3	1 mA
Sensor bias RTD	0.8 mA
Usable thermistor range	25 to 450000 ohm typical
AD590 at 25 C	298.2 uA; 1 uA perKLM335 at 25 C: 2.73 V; 10 mV perKRTD PT100 at 25 C: 109.73 ohm
User calibration	Steinhart-Hart thermistor; two-point IC/RTD
TEC connector	15-pin D-sub
Display temperature 10 uA	-99.99 C to 199.99 C; 0.01 C; ± 0.1 C
Display temperature 100 uA	-99.99 C to 199.99 C; 0.01 C; ± 0.05 C
Thermistor 10 uA	0.0 to 480.00 kohm; 0.01 kohm; $\pm 0.05\%$
Thermistor 100 uA	0.0 to 48.000 kohm; 0.001 kohm; $\pm 0.05\%$
TE current display	-4.000 to 4.000 A; 0.001 A; ± 0.04 A
TE voltage measurement	not available (TCM-39034 only)
Display type	5-digit green LED (LDC-3900)
Maximum current reading	4.000 A
Maximum temp reading	199.9 C
Spec condition	1 hour warm-up

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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AD590 LM335 setpoint minus 20 to 50 C: 0.01 C resolution; ± 0.1 C accuracy (LDC-3900 TEC table)	
Specifications	
PARAMETER	VALUE
Short term stability	less than ± 0.004 C (1 hour)
Long term stability	less than ± 0.01 C (24 hours)
Output type	bipolar current source
Isolation	isolated from other modules and earth ground
Compliance voltage	greater than 8 V
Short circuit output current	4 A
Maximum output power	32 W
Current limit range	0 to 4 A
Current limit set accuracy	± 50 mA
Ripple noise	less than 1 mA rms
Control algorithm	smart integrator, hybrid PI
Sensor thermistor	NTC 2-wire
Sensor IC	AD590 / LM335
Sensor RTD	Pt100 / other 100 ohm RTD with TSC-595 option

PARAMETER	VALUE
Thermistor sensing current	10 uA / 100 uA
Sensor bias AD590	8 V
Sensor bias LM335	1 mA
Sensor bias RTD	0.8 mA
Usable thermistor range	25 to 450000 ohm typical
AD590 at 25 C	298.2 uA; 1 uA perKLM335 at 25 C: 2.73 V; 10 mV perKRTD PT100 at 25 C: 109.73 ohm
User calibration	Steinhart-Hart thermistor; two-point IC/RTD
TEC connector	15-pin D-sub
Display temperature 10 uA	-99.99 C to 199.99 C; 0.01 C; ± 0.1 C
Display temperature 100 uA	-99.99 C to 199.99 C; 0.01 C; ± 0.05 C
Thermistor 10 uA	0.0 to 480.00 kohm; 0.01 kohm; $\pm 0.05\%$
Thermistor 100 uA	0.0 to 48.000 kohm; 0.001 kohm; $\pm 0.05\%$
TE current display	-4.000 to 4.000 A; 0.001 A; ± 0.04 A
TE voltage measurement	not available (TCM-39034 only)
Display type	5-digit green LED (LDC-3900)
Maximum current reading	4.000 A
Maximum temp reading	199.9 C
Spec condition	1 hour warm-up

Notes

Specs from ILX Lightwave TCM-39032 user manual and LDC-3900 family TEC-module table (TCM-39032/39034). Model 39032 must be ordered with TSC-595 for RTD. Do not apply TCM-39034 GPIB TE-voltage specs (± 30 mV) to this module.

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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NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
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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.