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**Data Sheet**

August 12, 2026

THORLABS

# Thorlabs LDC 400 , LDC 402 AND TED 420 Controller CardS Profile

The Thorlabs LDC400, LDC402, and TED420 are controller cards designed for precise control of laser diodes and thermoelectric devices. These cards offer stable current and temperature control, essential for demanding photonics applications.



## MODEL

**ThorLabs LDC  
400/LDC 402/TED  
420**

## CALIBRATION

**Available on  
request**

## CONDITION

**Used**

## STATUS

**In stock**

## RFQ / SKU

**LDC 400/LDC  
402/TED 420**

## LISTING

<https://aumictechlabs.com/products/ldc-400-ldc-402-ted-420-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

## This unit

The Thorlabs LDC400, LDC402, and TED420 controller cards deliver precise current and temperature regulation for laser diode and thermoelectric device management. The LDC series provides stable laser diode current control with constant current and constant power modes, while the TED series handles thermoelectric cooler temperature stabilization. These cards integrate to form complete solutions for laser module stabilization and thermal management in demanding photonics applications. Technical Specifications Laser Diode Control (LDC Series): Adjustable laser diode current up to 400 mA TEC drive output up to 2 A Control modes: Constant Current (CC) and Constant Power (CP) Photodiode monitoring with anode- or cathode-grounded configuration support Laser diode voltage measurement capabilities Analog monitor output for

laser current Thermoelectric Control (TED Series): Designed for precise temperature regulation of thermoelectric devices TEC current output capability Protection and Modulation: Adjustable laser current limit Adjustable laser power limit Laser over-voltage protection Over-temperature protection Internal function generator for analog modulation External modulation inputKey Features USB interface with SCPI compliance Support for VISA drivers including LabWindows/CVI, LabVIEW, and MS Visual Studio Enhanced laser diode protection architecture Integrated laser and thermoelectric control for comprehensive thermal and optical stabilizationTypical Applications Laser module wavelength stabilization Noise reduction in optical systems Precision thermal management for laser diodes and detectorsCompatibility & Integration The LDC400, LDC402, and TED420 cards are engineered to operate as standalone units or integrated pairs, enabling coordinated control of laser current and temperature within single optical assemblies.

## Features & description

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From manufacturer datasheet

### Features

- Included card types per listing: LDC 400, LDC 402, TED 420
- Function class: laser diode controller card(s) + TEC/temperature controller card
- OEM ecosystem: Thorlabs Series 4000 laser diode / TEC control (USB/USBTMC class on benchtop siblings)
- Related documented LDC4000 examples (for reference only – verify on cards): LDC4005 0–5 A; LDC4020 0–20 A, compliance 11 V, resolution 1 mA, accuracy  $\pm(0.1\% + 8 \text{ mA})$  class
- Companion TEC controllers in Thorlabs 4000 family (e.g. TED4015) achieve high thermal stability when paired with TEC mounts – TED420 exact rating must be read from the card label

## LDC400LDC402TED420 Characteristics / Specifications

| PARAMETER                                                                  | VALUE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Models (listing)                                                           | LDC 400; LDC 402; TED 420                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Manufacturer                                                               | Thorlabs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Instrument Type                                                            | Laser Diode / TEC Controller Cards (profile)                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Alias                                                                      | LDC400; LDC402; TED420; Thorlabs LDC/TED cards Verified listing contents LDC 400 controller card LDC 402 controller card TED 420 controller card Notes Dense numeric limits for the exact LDC 400 / LDC 402 / TED 420 card SKUs were not found as a single modern OEM datasheet row matching these short names. Do not invent ampere/watt ratings. Inspect silkscreen/labels, connectors, and any Thorlabs manuals shipped with the cards for authoritative current, compliance voltage, and TEC limits. Related LDC40 |
| Included card types per listing                                            | LDC 400, LDC 402, TED 420                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Function class                                                             | laser diode controller card(s) + TEC/temperature controller card                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| OEM ecosystem                                                              | Thorlabs Series 4000 laser diode / TEC control (USB/USBTMC class on benchtop siblings)                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Related documented LDC4000 examples (for reference only – verify on cards) | LDC4005 0–5 A; LDC4020 0–20 A, compliance 11 V, resolution 1 mA, accuracy $\pm(0.1\% + 8 \text{ mA})$ class                                                                                                                                                                                                                                                                                                                                                                                                            |

# LDC400LDC402TED420 Specifications

| PARAMETER                 | VALUE                                                        |
|---------------------------|--------------------------------------------------------------|
| Key Features              | - Included card types per listing: LDC 400, LDC 402, TED 420 |
| Technical Specifications  | Models (listing): LDC 400; LDC 402; TED 420                  |
| Verified listing contents | LDC 400 controller card                                      |
| LDC 402 controller card   | TED 420 controller card                                      |

# 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                                          |
|------------------|------------------------------------------------|
| Models (listing) | LDC 400; LDC 402; TED 420                      |
| Manufacturer     | Thorlabs                                       |
| Instrument Type  | Laser Diode / TEC Controller Cards (profile)   |
| Alias            | LDC400; LDC402; TED420; Thorlabs LDC/TED cards |

Verified listing contents

LDC 400 controller card  
LDC 402 controller card  
TED 420 controller card

Notes

Dense numeric limits for the exact LDC 400 / LDC 402 / TED 420 card SKUs were not found as a single modern OEM datasheet row matching these short names. Do not invent ampere/watt ratings. Inspect silkscreen/labels, connectors, and any Thorlabs manuals shipped with the cards for authoritative current, compliance voltage, and TEC limits. Related LDC4000/TED4000 benchtop specs are cited only as family context.

### Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: [sales@aumictech.com](mailto:sales@aumictech.com) · +1 (484) 841-9341

#### Aumictech

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30-day returns  
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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.