

TCC-6-45



## TEC Controller 6 A, 45 V

### Features

- Drives Peltier elements with high efficiency – low noise design
- Extremely precise digital temperature controller
- Standard temperature sensors with preset configuration
- Arbitrary temperature sensors configurable by customer
- Digital PID controller, tunable by customer
- LEDs for status notification
- Serial interface for configuration, controlling and monitoring
- Analog output for actual temperature



### Description

The TEC Controller TCC-6-45 is a controller and driver for Peltier elements. It is a temperature control system with extreme accuracy. The output ripple is very low due to extensive multistage filters. The output is short circuit proof. The supply voltage can be a standard industrial voltage with 24V or 48V or any other input voltage. The configuration for standard temperature sensors such as PT100, PT1000 is already integrated. Other temperature sensors can be defined by the customer. The coefficients of the PID controller can be adjusted by the customer. The user can enter a temperature set-point as well as limits for the temperature, for the Peltier voltage and current. It can be operated via hardware inputs / outputs and / or via software control

### Specification

Supply voltage	15.0 V ... 48.0 V, max. 50 V
Output voltage	max 45 V
Output current	max +/- 6 A
Output ripple	< 1%
Temperature range TEC	-100 °C ... +200 °C
Accuracy	+/- 0.1 °C (with sensor PT100, PT1000)
Internal resolution	< 0.0001 °C
Peltier efficiency ( $d\vartheta/d\vartheta_{max}$ )	> 99.9%

### Inputs

Sensor	4-wire / 2-wire connection
Enable	TTL - impedance: 10 k $\Omega$ - (default configuration: low active)
Reset	TTL - impedance: 10 k $\Omega$ - (default configuration: low active)
Temperature setpoint	0 V ... 5 V (-100 °C ... +200 °C) - impedance: 10 k $\Omega$

### Outputs

Ready	TTL - (high or low active; Totem pole or open collector)
Status	TTL - (high or low active; Totem pole or open collector)
Peltier element	Terminal+, Terminal-
Actual Temperature	0 V ... 5 V (-100°C ... +200°C) – impedance: 100 $\Omega$

### General specifications

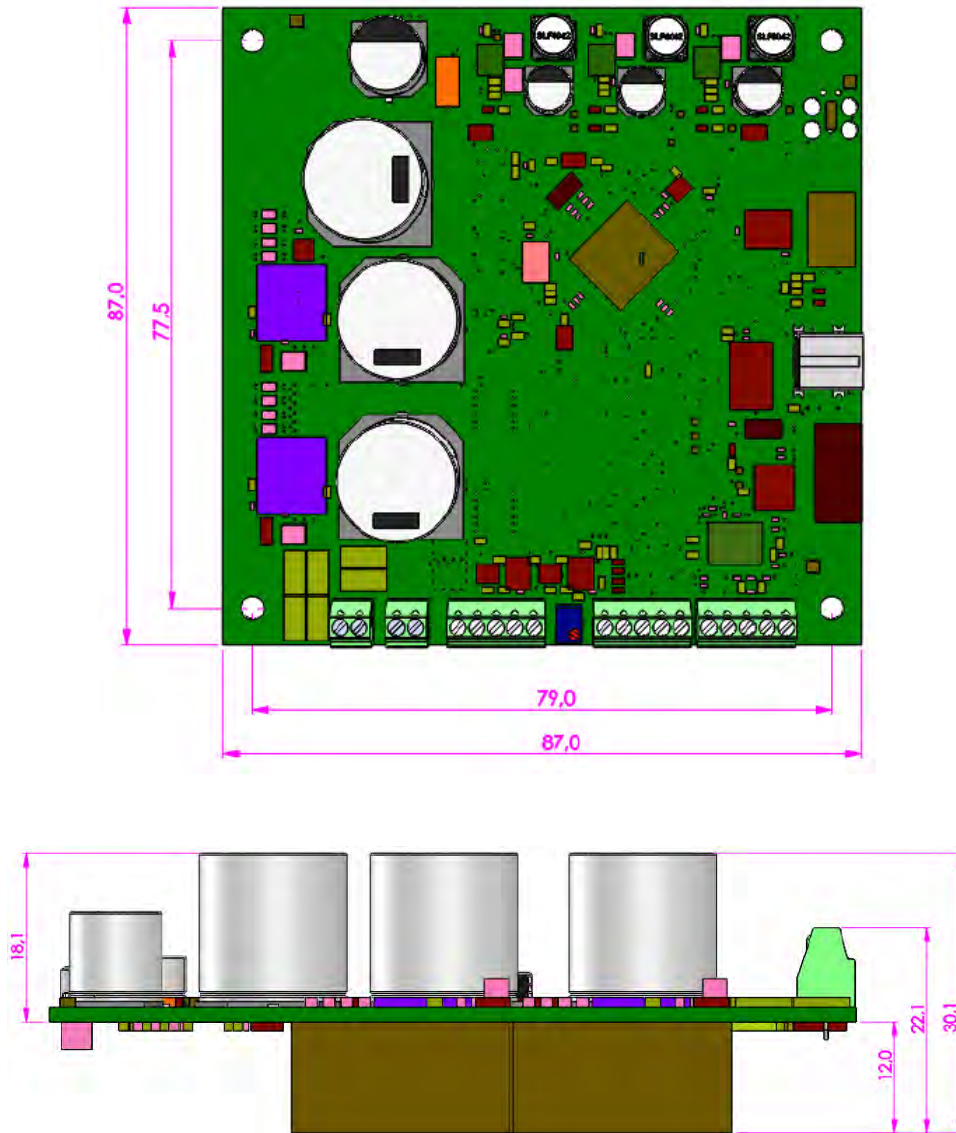
Ambient temperature	0 ... +45 °C
Dimensions	87 x 87 x 22 mm
Weight	110 g

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### Drawing / Dimensions



### Ordering Information

Part Number	Description
TCC 6-45-U	TEC 6A with USB interface
TCC 6-45-R	TEC 6A with RS232 interface
TCC RS232 CABLE	USB Mini-B to SubD9F adapter
TCC USB-A CABLE	USB Mini-B to Standard-A cable
TCC SOFTWARE	Control-Software for PC
TCC PT1000	Pt1000 temp. sensor (without cable)

Specification subject to change without notice.