MESSTEC Power Converter GmbH

Data Sheet
TEC Controller wide range TEC 6-50-B-WR

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

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 kΩ - (default configuration: low active)
Reset	TTL - impedance: 10 kΩ - (default configuration: low active)
Temperature setpoint	0 V … 5 V (-100 °C … +200 °C) - impedance: 10 kΩ

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: 100Ω

General specifications

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

Description

The TEC Controller TEC 6-50-B-WR 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

Type	Description	Ordering code
TEC 6-50-B-U-WR	TEC 6A with USB interface	10100170
TEC 6-50-B-R-WR	TEC 6A with RS232 interface	10100171
USB cable adapter	USB Mini-B to SubD9F adapter	10385263
USB cable	USB 2.0: A to Mini-B cable	10385120
TEC Software	Control-Software for PC	31000055

Technical subjects to change without notice.