

3.1 PTCC-01 series

PTCC-01 is a series of programmable, precision low-noise thermoelectric cooler controllers. They are designed to operate with VIGO IR detection modules: LabM-I-4, LabM-I-5, LabM-I-6-01, LabM-I-10.6, SM-I-12 and devices containing TE cooled detectors and preamplifiers: PIP, MIP, FIP, SIP-TO8.



AVAILABLE OPTIONS

PTCC-01-ADV (advanced)

- TEC controller and preamplifier power supply encapsulated in a small size package.
- Configurable by built-in function keys or PC software available on VIGO website.
- Status LCD indicator.

PTCC-01-BAS (basic)

- TEC controller and preamplifier power supply encapsulated in a small size package.
- Configurable by PC software available on VIGO website.
- Status LED indicator.

PTCC-01-OEM (oem)

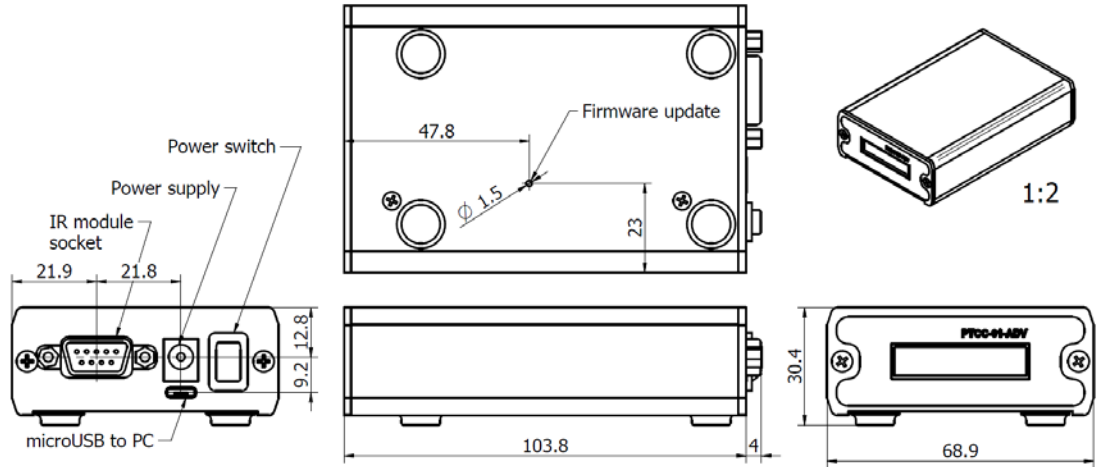
- TEC controller and preamplifier power supply without the package.
- Configurable by PC software available on VIGO website.
- Status LED indicator and status/data connector.

Specification ($T_a = 20^\circ\text{C}$)

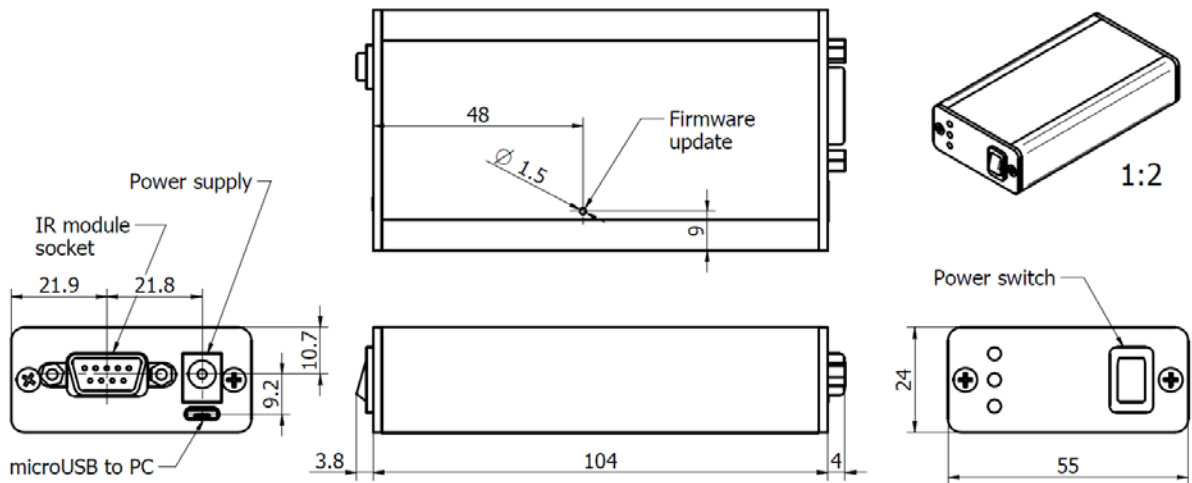
Parameter	Typical value	Conditions, remarks
Temperature stability, K	± 0.01	
Temperature readout stability, mK	max 1.0	
Detector temperature settling time, s	25 45 60	2TE 3TE 4TE
Maximum TEC output current, A	1.20 0.45 0.40	2TE 3TE 4TE
Output voltage range, V	min 3.0 max 14.5	
Power supply voltage V_{sup} , V_{DC}	min 9.0 max 16.0	
Power supply current I_{sup} , mA	500	$I_{\text{TEC}} = 0.45 \text{ A}$, $U_{\text{TEC}} = 7.5 \text{ V}$
Series resistance of the connecting cable, Ω	1	total resistance of the wires supplying TEC element
Ambient operating temperature, $^\circ\text{C}$	5 to 45	
Storage temperature, $^\circ\text{C}$	-20 to 70	
IR module socket	DB9 (female) DUBOX2x5 (male)	D-sub 9 pin (PTCC-01-ADV, PTCC-01-BAS) PTCC-01-OEM
Power supply socket	DC 2.1/5.5 KK2	PTCC-01-ADV, PTCC-01-BAS PTCC-01-OEM
Weight, g	51 $\pm$ 5 155 $\pm$ 5 190 $\pm$ 5	PTCC-01-OEM PTCC-01-BAS PTCC-01-ADV

Mechanical layout, mm

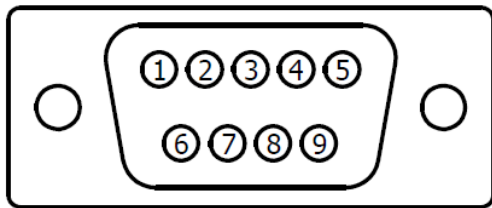
PTCC-01-ADV



PTCC-01-BAS



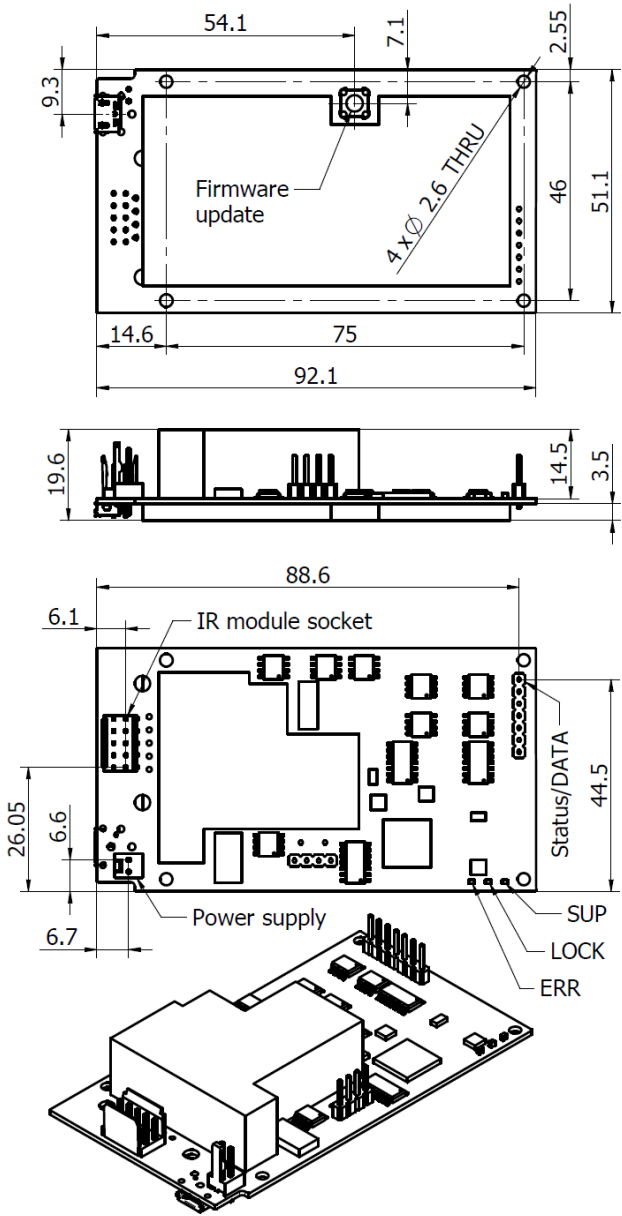
IR module socket D-sub 9 pin (male)



Function	Symbol	Pin number
TEC supply output (+)	TEC+	1
TEC supply output (-)	TEC-	2
Ground	GND	3
Thermistor input (1)	TH1	4
Thermistor input (2)	TH2	5
Power supply output (-)	-V _{sup}	6
FAN and programmable preamp internal logic auxiliary supply	+5V	7
Bidirectional data port	DATA	8
Power supply output (+)	+V _{sup}	9
Shield	GND-SH	metal cover

Mechanical layout, mm

PTCC-01-OEM



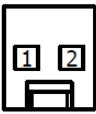
Included accessories for PTCC-01-ADV and PTCC-01-BAS

- USB: TypeA-MicroB cable + AC adaptor
- Smart Manager software

Included accessories for PTCC-01-OEM

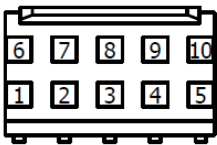
- USB: TypeA-MicroB, KK2-POWER cables
- Smart Manager software

Power supply socket KK2 (male)



Function	Symbol	Pin number
TEC controller supply input (+)	TECC+	1
TEC controller ground	TEC GND	2

IR module socket DUBOX2×5 (male)



Function	Symbol	Pin number
TEC supply output (+)	TEC+	1
TEC supply output (-)	TEC-	2
Ground	GND	3
Thermistor input (1)	TH1	4
Thermistor input (2)	TH2	5
Power supply output (-)	-V _{sup}	6
FAN and programmable preamp internal logic auxiliary supply	+5V	7
Bidirectional data port	DATA	8
Power supply output (+)	+V _{sup}	9
Shield	GND-SH	10

Status/DATA socket Pin-header 1×7



Function	Symbol	Pin number
Error indicator	ERR - LED	1
Temperature control loop lock indicator	LOCK - LED	2
Module power supply on indicator	SUP - LED	3
Auxiliary supply	3.3 V	4
Transmitted data (RS-232)	TXD	5
Common (signal) ground (RS-232)	GND	6
Received data (RS-232)	RXD	7