

## 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-6, LabM-I-10.6 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)

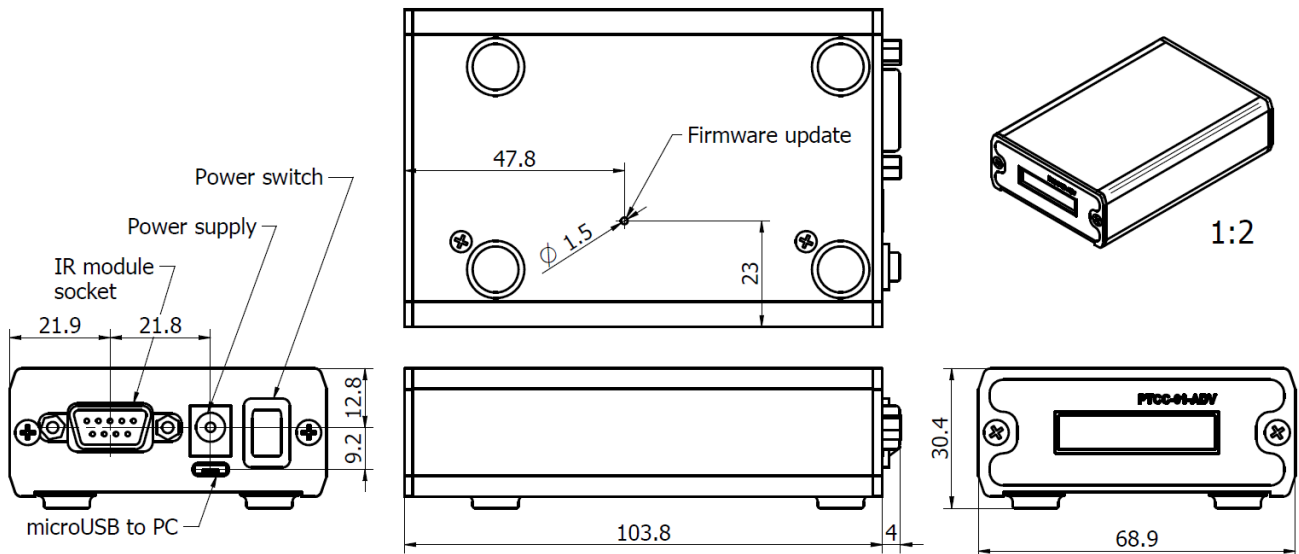
- TEC controller and preamplifier power supply without package.
- Configurable by PC software available on VIGO website.
- Status LED indicator and status/data connector.

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

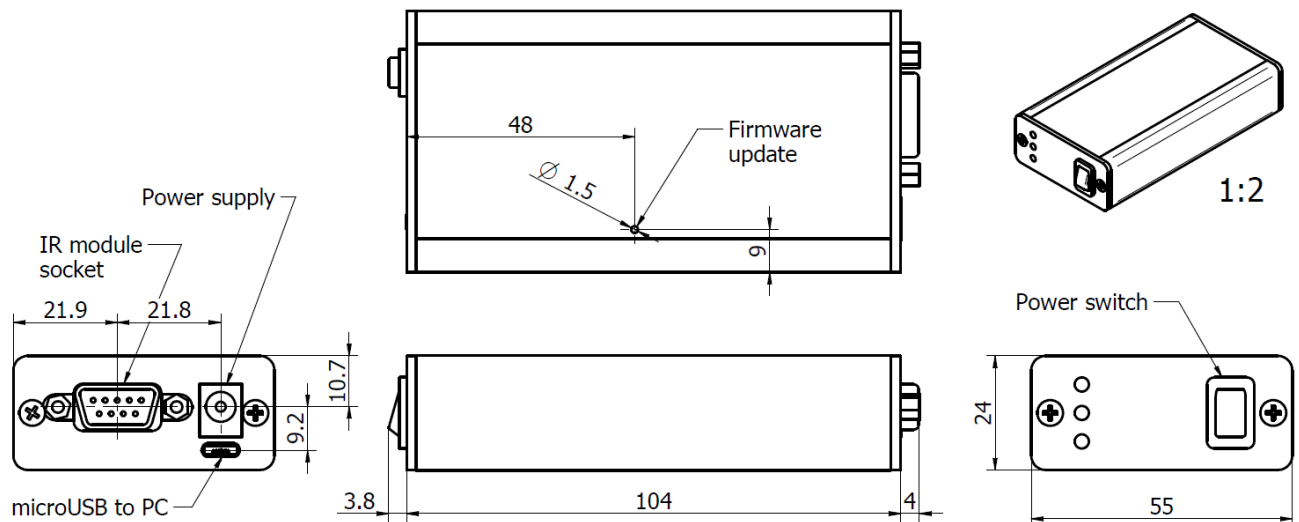
Parameter	Typical value	Conditions, remarks
Temperature stability, K	$\pm 0.01$	
Temperature readout stability, mK	max 1.0	
Detector temperature settling time, s	25	2TE
	45	3TE
	60	4TE
Maximum TEC output current, A	1.20	2TE
	0.45	3TE
	0.40	4TE
Output voltage range, V	min 3.0	
	max 14.5	
Power supply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

## Mechanical layout, mm

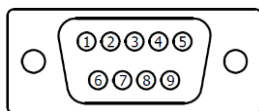
### PTCC-01-ADV



### PTCC-01-BAS



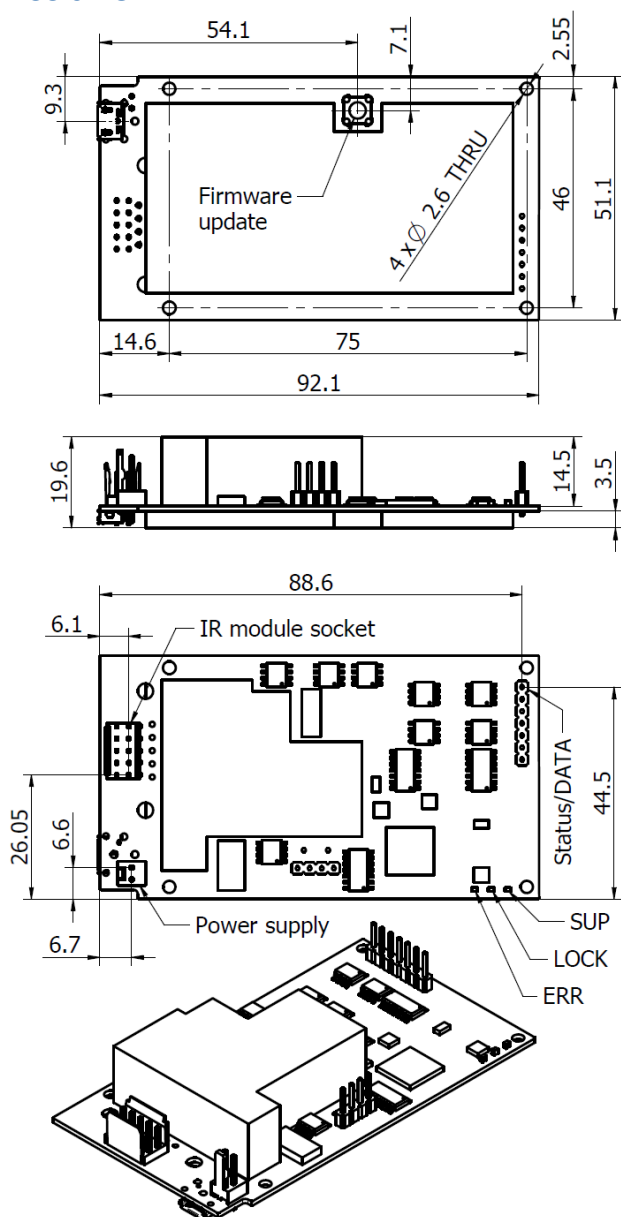
### IR module socket D-sub 9 pin (male)



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 <sub>sup</sub>	6
FAN and programmable preamp internal logic auxiliary supply	+5V	7
Bidirectional data port	DATA	8
Power supply output (+)	+V <sub>sup</sub>	9
Shield	GND-SH	metal cover

## Mechanical layout, mm

### PTCC-01-OEM

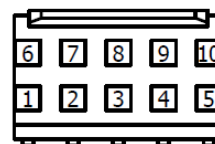


### Power supply socket KK2 (male)



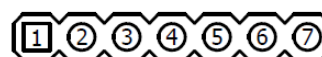
Function	Symbol	Pin number
TEC controller supply input (+)	TECC+	1
TEC controller ground	TEC GND	2

### IR module socket DUBOX2x5 (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 <sub>sup</sub>	6
FAN and programmable preamp internal logic auxiliary supply	+5V	7
Bidirectional data port	DATA	8
Power supply output (+)	+V <sub>sup</sub>	9
Shield	GND-SH	10

### Status/DATA socket Pin-header 1x7



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

### 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