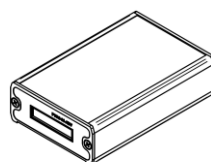


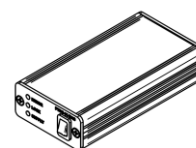
# PTCC-01 TEC CONTROLLER SERIES

## DATASHEET

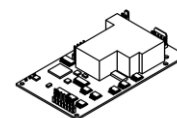
### Programmable, smart thermoelectric cooler controllers



PTCC-01-ADV



PTCC-01-BAS



PTCC-01-OEM

### OPTIONS

PTCC-01-ADV	PTCC-01-BAS	PTCC-01-OEM
<ul style="list-style-type: none"> <li>• TEC controller and power supply encapsulated in a small-size package.</li> <li>• Configurable by built-in function keys or PC software available on the VIGO website.</li> <li>• Status LCD indicator.</li> <li>• IR module socket: D-sub 9 pin.</li> <li>• Power supply socket: DC 2.1/5.5.</li> </ul>	<ul style="list-style-type: none"> <li>• TEC controller and power supply encapsulated in a small-size package.</li> <li>• Configurable by PC software available on the VIGO website.</li> <li>• Status LED indicator.</li> <li>• IR module socket: D-sub 9 pin.</li> <li>• Power supply socket: DC 2.1/5.5.</li> </ul>	<ul style="list-style-type: none"> <li>• TEC controller and power supply without a package.</li> <li>• Configurable by PC software available on the VIGO website.</li> <li>• Status LED indicator and status/data connector.</li> <li>• IR module socket: DUBOX 2x5.</li> <li>• Power supply socket: KK2.</li> </ul>

### VIGO IR DETECTION MODULES THAT CAN OPERATE WITH PTCC-01 SERIES

- LabM-I-4
- LabM-I-5
- LabM-I-6-01
- LabM-I-10.6
- SM-I-12
- IR detection modules containing TE-cooled detectors in the TO8 package and amplifier series:
  - [PIP](#)
  - [MIP](#)
  - [SIP-TO8](#)
  - [FIP](#)

### INCLUDED ACCESSORIES

PTCC-01-ADV, PTCC-01-BAS

- [Smart Manager software](#): freeware
- 1 pc of USB: TypeA-MicroB cable
- 1 pc of AC adaptor

PTCC-01-OEM

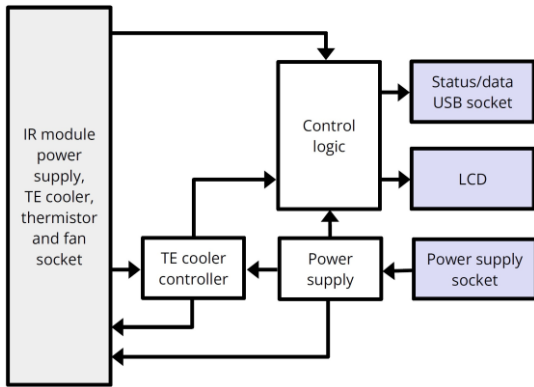
- [Smart Manager software](#): freeware
- 1 pc of USB: TypeA-MicroB cable
- 1 pc of KK2-POWER cable

SPECIFICATION ( $T_{amb} = 293\text{ K}$ )

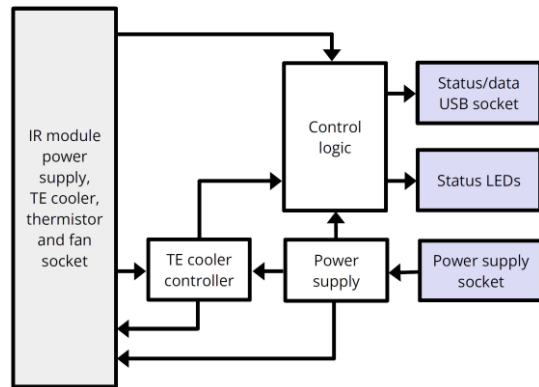
Parameter	Conditions, remarks	Value			Unit
		Min.	Typ.	Max.	
Temperature stability		-	±0.01	-	K
Temperature readout stability		-	-	1.0	mK
Detector temperature settling time	2TE cooled detectors	-	25	-	s
	3TE cooled detectors	-	45	-	
	4TE cooled detectors	-	60	-	
Maximum TEC output current	2TE cooled detectors	-	1.2	-	A
	3TE cooled detectors	-	0.45	-	
	4TE cooled detectors	-	0.4	-	
IR detection module positive power supply output voltage range		+3.0	-	+14.5	V
IR detection module negative power supply output voltage range		-14.5	-	-3.0	V
IR detection module power supply output current		-	-	±200	mA
TEC controller input power supply voltage range		9.0	-	16.0	V <sub>DC</sub>
TEC controller power supply current consumption	$I_{TEC}=0.45\text{ A}$ , $U_{TEC}=7.5\text{ V}$	-	500	-	mA
Maximum total resistance of the wires supplying TEC element	Resistances higher than specified may limit the minimum temperatures that the controller can stabilise	-	1.0	-	Ω
Weight	PTCC-01-ADV	-	190	-	g
	PTCC-01-BAS	-	150	-	
	PTCC-01-OEM	-	50	-	

SCHMATIC DIAGRAM

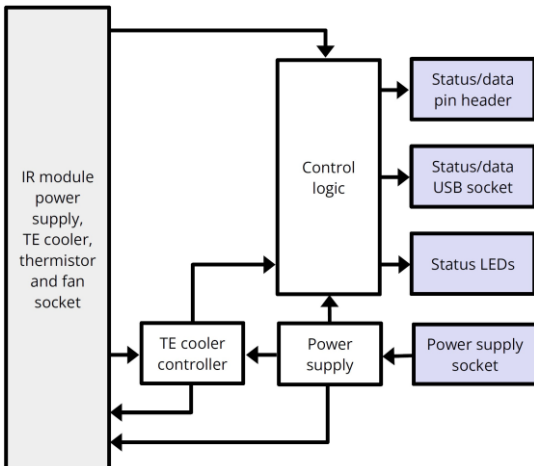
PTCC-01-ADV



PTCC-01-BAS

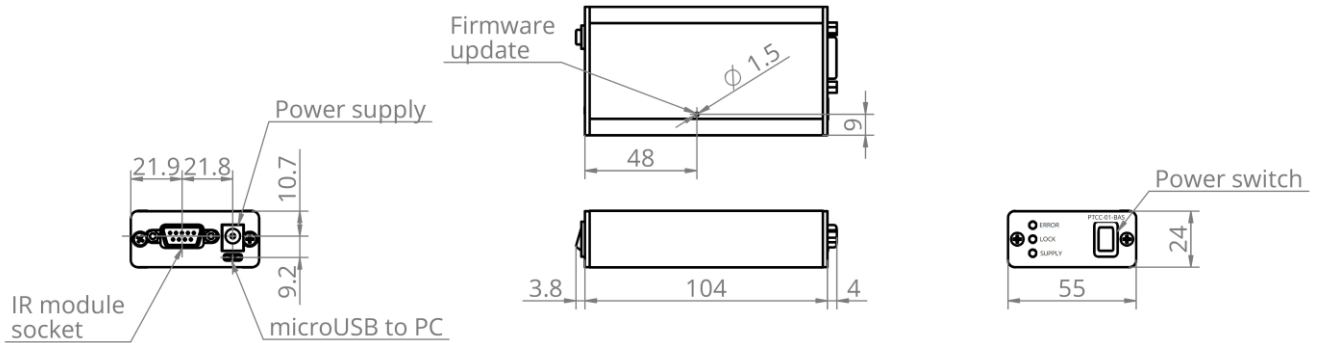


PTCC-01-OEM

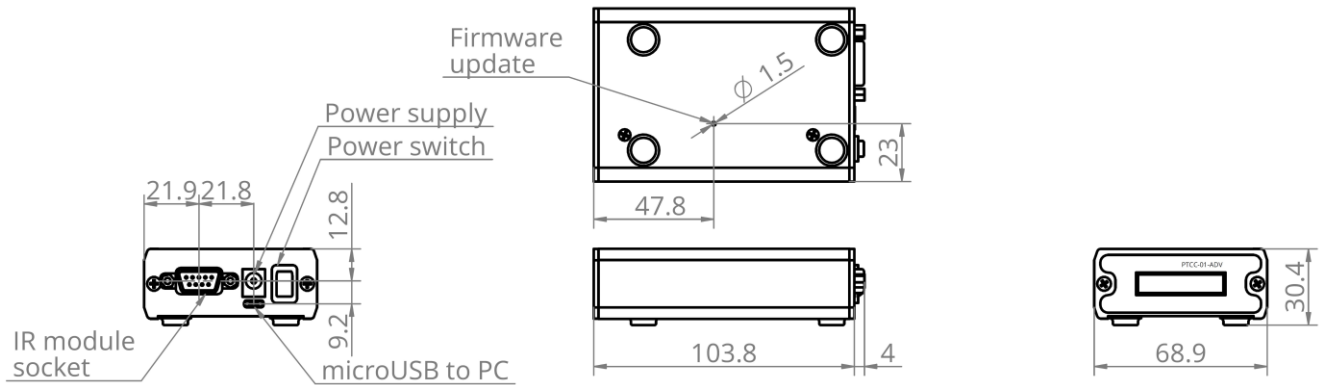


## MECHANICAL LAYOUT (Unit: mm)

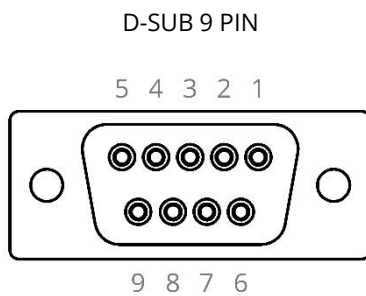
### PTCC-01-BAS



### PTCC-01-ADV



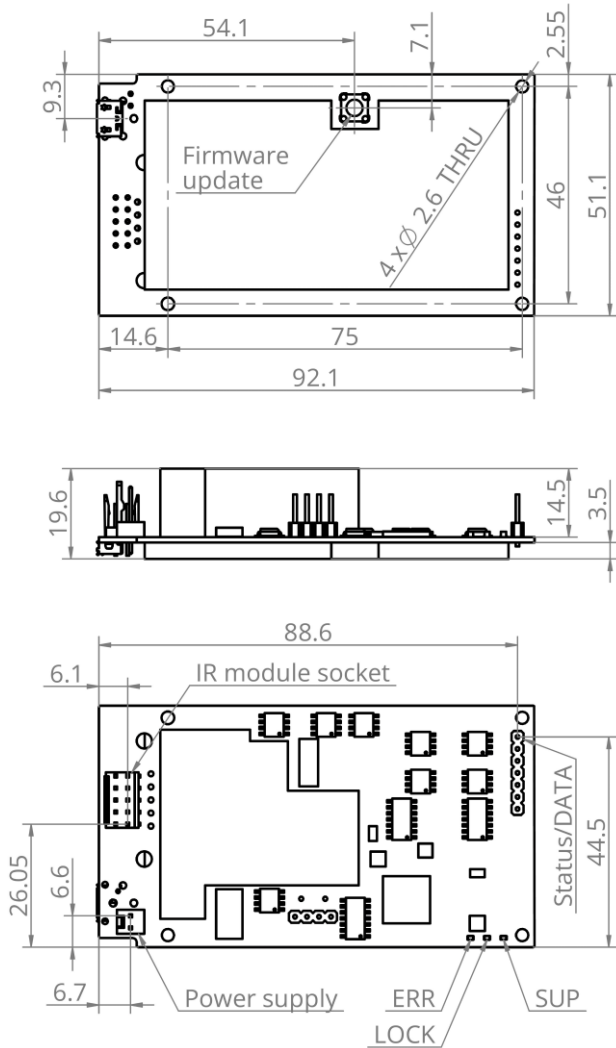
### IR MODULE SOCKET PINOUT



Pin No.	Symbol	Function
1	TEC+	TEC supply output (+)
2	TEC-	TEC supply output (-)
3	GND	IR module power supply ground
4	TH1	Thermistor input (1)
5	TH2	Thermistor input (2)
6	-Vsup	IR module power supply output (-)
7	+5V	FAN and programmable preamp internal logic auxiliary supply
8	DATA	Bidirectional data port
9	+Vsup	IR module power supply output (+)
Metal cover	GND-SH	Shield

## MECHANICAL LAYOUT (Unit: mm)

PTCC-01-OEM



### POWER SUPPLY SOCKET PINOUT

KK2



Pin No.	Symbol	Function
1	PTCCsup+	TEC controller supply input (+)
2	PTCCsup-	TEC controller supply input (-)

### IR MODULE SOCKET PINOUT

DUBOX2x5



Pin No.	Symbol	Function
1	TEC+	TEC supply output (+)
2	TEC-	TEC supply output (-)
3	GND	IR module power supply ground
4	TH1	Thermistor input (1)
5	TH2	Thermistor input (2)
6	-Vsup	IR module power supply output (-)
7	+5V	FAN and programmable preamp internal logic auxiliary supply
8	DATA	Bidirectional data port
9	+Vsup	IR module power supply output (+)
10	GND-SH	Shield

### STATUS/DATA SOCKET PINOUT

Pin-header 1x7



Pin No.	Symbol	Function
1	ERR-LED	Error indicator
2	LOCK-LED	Temperature control loop lock indicator
3	SUP-LED	Module power supply on indicator
4	3.3 V	Auxiliary supply
5	TXD	Transmitted data (RS-232)
6	GND	Common (signal) ground (RS-232)
7	RXD	Received data (RS-232)

## ABSOLUTE MAXIMUM RATINGS

Parameter	Test conditions/remarks	Value	Unit
Ambient operating temperature, $T_{amb}$		5 to 45	°C
Storage temperature, $T_{stg}$		-20 to 70	°C
Humidity	No dew condensation	10 to 90	%

Stresses beyond those listed under Absolute maximum ratings may cause permanent damage to the device. Constant or repeated exposure to absolute maximum rating conditions may affect the quality and reliability of the device.