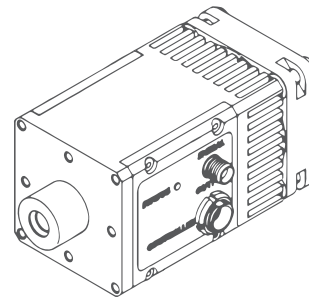


# PIP SERIES

## Programmable transimpedance amplifiers



### FEATURES

- Compatible with VIGO TE-cooled IR detectors in the TO8 package
- Frequency bandwidth:
  - up to 20 MHz (PIP-UC-LS)
  - up to 200 MHz (PIP-UC-HS)
- AC or DC coupled
- Compatible with optical accessories
- M4 mounting hole
- Designed for effective heat dissipation
- Integrated fan
- VIGO PTCC-01 TEC controller obligatory
- Versatility and flexibility

### PROGRAMMABLE PARAMETERS

- Gain: in the 40 dB range
- Bandwidth:
  - 150 kHz/1.5 MHz/20 MHz (PIP-UC-LS)
  - 1.5 MHz/15 MHz/200 MHz (PIP-UC-HS)
- Coupling: AC/DC
- Detector parameters: temperature, reverse bias
- Output voltage offset

### CODE DESCRIPTION

Type	$f_{in}$ , Hz	$f_{out}$ , Hz
PIP	UC <sup>*)</sup> (DC/10Hz)	LS <sup>*)</sup> (150kHz/1.5MHz/20MHz)  HS <sup>*)</sup> (1.5MHz/15MHz/200MHz)

<sup>\*)</sup> User configurable by software

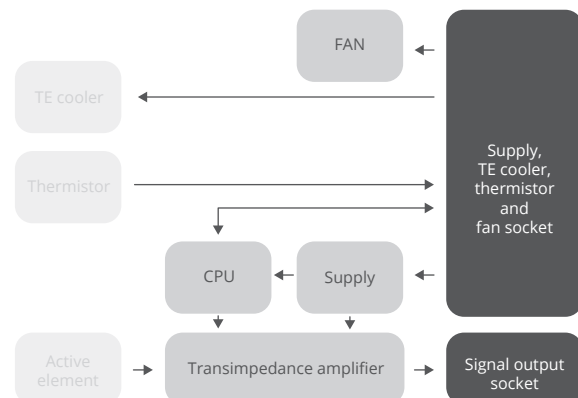
### INCLUDED ACCESSORIES

- 1 pc of SMA-BNC cable
- 1 pc of LEMO-DB9 cable

### DEDICATED ACCESSORIES

- PTCC-01 series TEC controller: obligatory (p. 145)
- Smart Manager software: freeware
- OTA optical threaded adapter (p. 155)
- DRB-2 base mounting system (p. 152)

### SCHEMATIC DIAGRAM

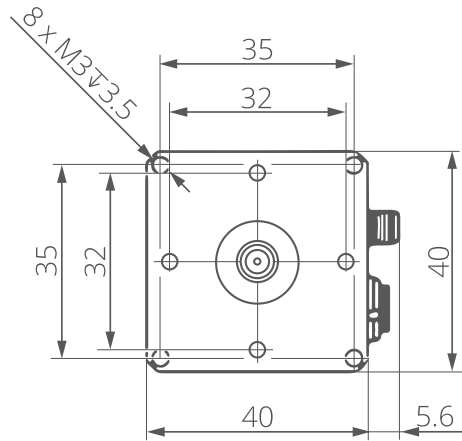
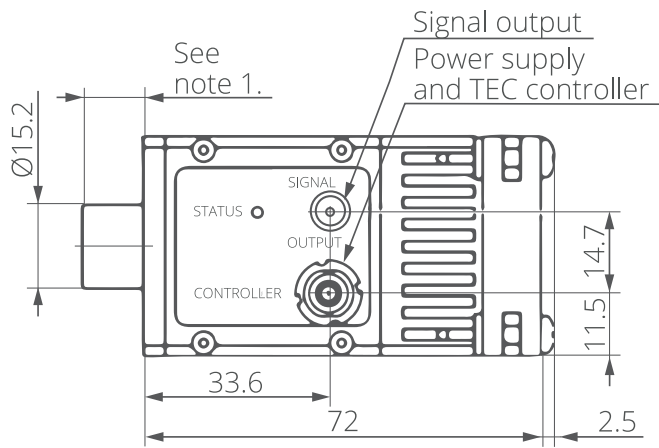
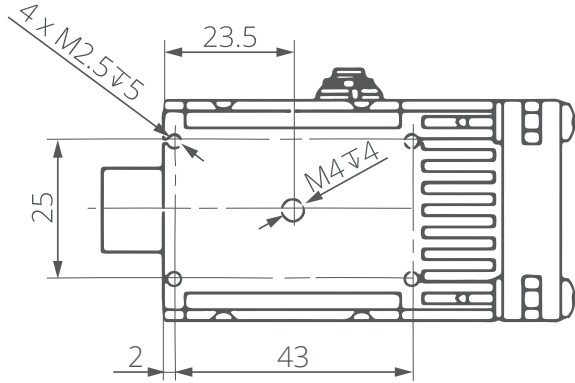


## SPECIFICATION ( $T_{amb} = 293\text{ K}$ )

Parameter	Conditions/remarks	Value	Unit
Low cut-off frequency, $f_{lo}$	DC coupling selected	0	Hz
	AC coupling selected	10	Hz
High cut-off frequency, $f_{hi-H}$	High bandwidth selected	20 <sup>*)</sup> /200 <sup>**)</sup>	MHz
High cut-off frequency, $f_{hi-M}$	Mid bandwidth selected	1.5 <sup>*)</sup> /15 <sup>**)</sup>	MHz
High cut-off frequency, $f_{hi-L}$	Low bandwidth selected	0.15 <sup>*)</sup> /1.5 <sup>**)</sup>	MHz
Transimpedance, $K_i$	Digitally adjustable in 40 dB range	up to 150	kV/A
Output impedance, $R_{out}$		50	$\Omega$
Output voltage swing, $V_{out}$	$R_{load} = 50\ \Omega$	$\pm 1$	V
Output voltage offset, $V_{off}$	Default setup	max. $\pm 20$	mV
Power supply voltage, $V_{sup}$		$\pm 9$	V
Power supply current, $I_{sup}$		max. $\pm 100$	mA
TEC voltage, $V_{TEC}$	2TE	max. 1.3	V
	3TE	max. 3.6	
	4TE	max. 8.3	
TEC current, $I_{TEC}$	2TE	max. 1.2	A
	3TE	max. 0.45	
	4TE	max. 0.4	
Fan power consumption, $P_{fan}$		max. 900	mW
Weight		180	g

<sup>\*)</sup> PIP-UC-LS  
<sup>\*\*)</sup> PIP-UC-HS

## MECHANICAL LAYOUT (Unit: mm)



Notes:

1. TO8 detector dimensions in the TO8 package technical drawings (p. 203, 204, 207, 209, 210)

## ABSOLUTE MAXIMUM RATINGS

Parameter	Test conditions/remarks	Value	Unit
Ambient operating temperature, $T_{amb}$		10 to 30	°C
Storage temperature, $T_{stg}$		-20 to 50	°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.