

## MIP series

**MIP** is a series of medium-size transimpedance, DC or AC coupled preamplifiers, intended to operate with either biased or non-biased VIGO detectors. MIP is equipped with a fan and does not require any additional external heatsink. It is one of the most user-friendly preamplifier which surely facilitate work.

### Features

- Frequency bandwidth up to 250 MHz
- Integrated fan
- Compatible with optical accessories



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

Parameter	Typical value	Conditions, remarks
Low cut-off frequency $f_{lo}$ , Hz	DC, 10, 100, 1k, 10k	
High cut-off frequency $f_{hi}$ , Hz	100k, 1M, 10M, 100M, 250M	
Transimpedance $K_i$ , V/A	up to 200k	fixed
Output impedance $R_{out}$ , $\Omega$	50	
Output voltage swing $V_{out}$ , V	$\pm 10$ $\pm 2$ $\pm 1$	$f_{hi} \leq 1 \text{ MHz}$ , $R_L = 1 \text{ M}\Omega^{*)}$ $1 \text{ MHz} < f_{hi} \leq 10 \text{ MHz}$ , $R_L = 1 \text{ M}\Omega^{*)}$ $10 \text{ MHz} < f_{hi} \leq 250 \text{ MHz}$ , $R_L = 50 \Omega^{*)}$
Output voltage offset $V_{off}$ , mV	max $\pm 20^{**})$	
Power supply voltage $V_{sup}$ , V	$\pm 15$ $\pm 9$	$f_{hi} \leq 1 \text{ MHz}$ $f_{hi} > 1 \text{ MHz}$
Power supply current $I_{sup}$ , mA	max $\pm 50$	
Ambient operating temperature $T_a$ , $^\circ\text{C}$	10 to 30	
Signal output socket	SMA	
Power supply and TEC control socket	LEMO (female)	ECG.0B.309.CLN
Mounting hole	M4	
Fan	yes	

<sup>\*)</sup>  $R_L$  – load resistance

<sup>\*\*)</sup> Measured with equivalent resistor at the input instead of the detector, it is to avoid the environmental thermal radiation impact.

### Types of VIGO detectors that can be integrated with MIP preamplifier

- Photoconductive**  
PC-2TE, PC-3TE, PC-4TE
- Photoconductive optically immersed**  
PCI-2TE, PCI-3TE, PCI-4TE
- Photovoltaic**  
PV-2TE, PVA-2TE, PV-3TE, PV-4TE
- Photovoltaic optically immersed**  
PVI-2TE, PVIA-2TE, PVI-3TE, PVI-4TE
- Photovoltaic multiple junction**  
PVM-2TE
- Photovoltaic multiple junction optically immersed**  
PVMI-2TE, PVMI-3TE, PVMI-4TE

### Included accessories

- SMA-BNC**, **LEMO-DB9** cables

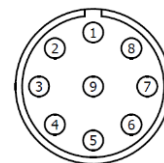
### Dedicated accessories

- PTCC-01-BAS** TEC controller + **USB: TypeA-MicroB** cable + **AC adaptor**
- PTCC-01-ADV** TEC controller + **USB: TypeA-MicroB** cable + **AC adaptor**
- PTCC-01-OEM** TEC controller + **USB: TypeA-MicroB**, **KK2-POWER** cables
- OTA** optical threaded adapter
- DRB-2** base mounting system

### Code description

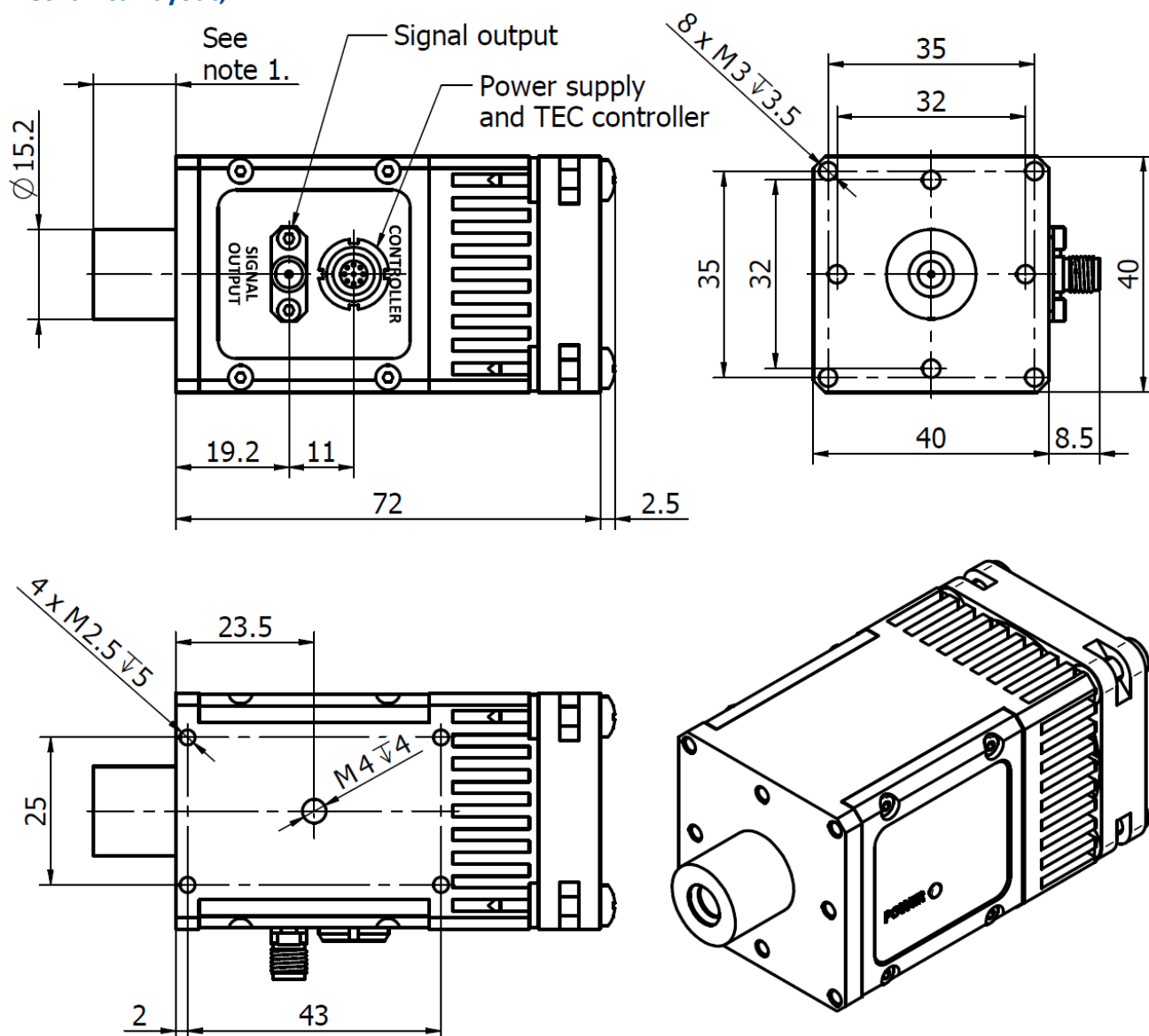
Type	$f_{lo}$ , Hz	$f_{hi}$ , Hz
<b>MIP</b>	<b>DC</b>	<b>100k</b>
	<b>10</b>	<b>1M</b>
	<b>100</b>	<b>10M</b>
	<b>1k</b>	<b>100M</b>
	<b>10k</b>	<b>250M</b>

### Power supply and TEC control socket LEMO (female) ECG.0B.309.CLN



Function	Symbol	Pin number
Fan (+)	FAN+	1
Thermistor output (2)	TH2	2
TEC supply input (-)	TEC-	3
Power supply input (-)	-V <sub>sup</sub>	4
Ground	GND	5
Power supply input (+)	+V <sub>sup</sub>	6
TEC supply input (+)	TEC+	7
Thermistor output (1)	TH1	8
Data pin	DATA	9

## Mechanical layout, mm



### Notes:

1. TO8 detector dimensions in the "TO8 technical drawing".