

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} , Ω	50	
Output voltage swing V_{out} , V	± 10 ± 1	$f_{hi} \leq 1 \text{ MHz}$, $R_L = 1 \text{ M}\Omega^{*)}$ $f_{hi} > 1 \text{ MHz}$, $R_L = 50 \Omega^{*)}$
Output voltage offset V_{off} , mV	max $\pm 20^{**})$	
Power supply voltage V_{sup} , V	± 15 ± 9	$f_{hi} \leq 1 \text{ MHz}$ $f_{hi} > 1 \text{ MHz}$
Power supply current I_{sup} , mA	max ± 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	

*) R_L – load resistance

**) 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

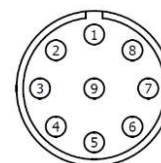
Dedicated accessories

- **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

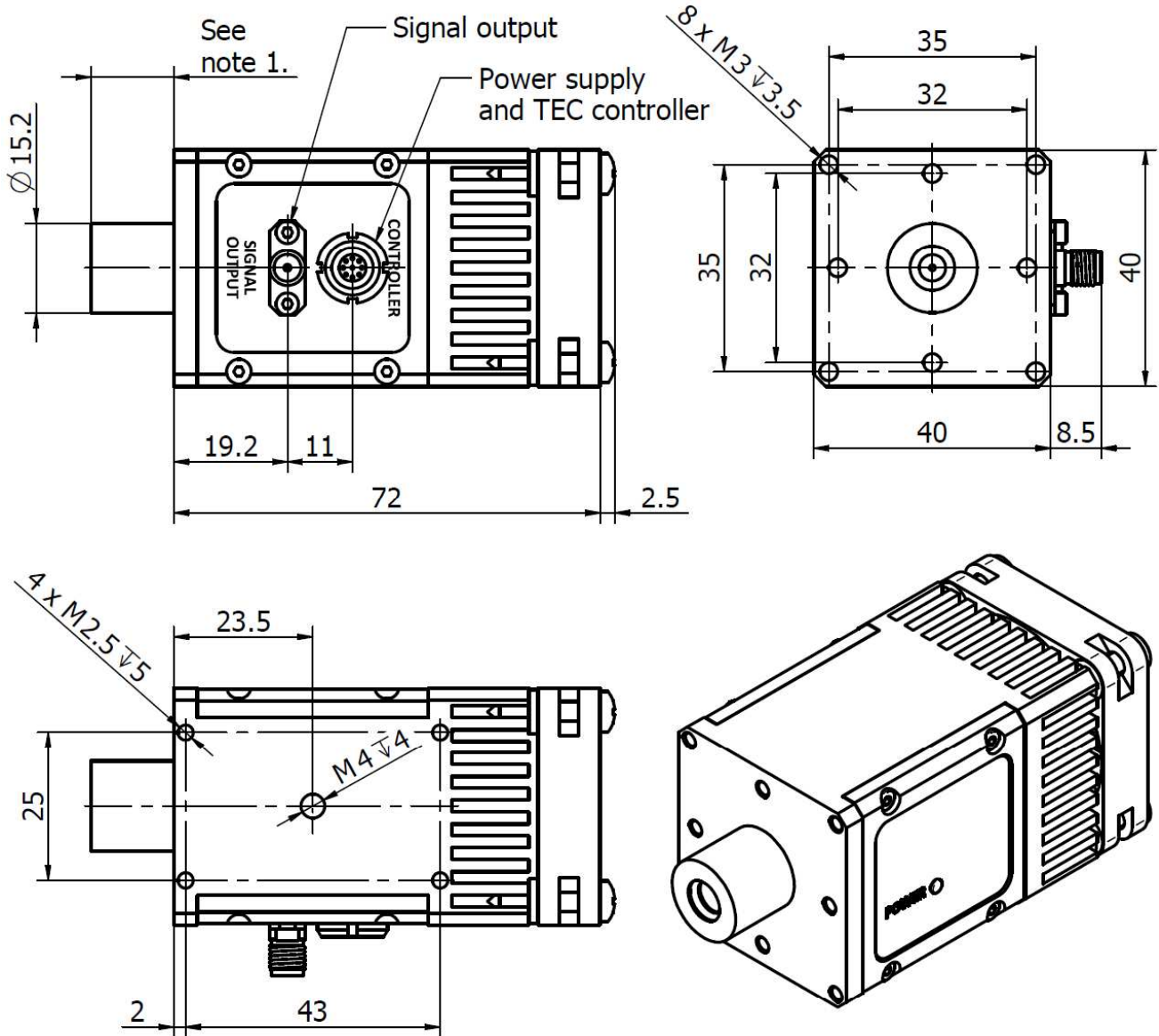
Type	f_{lo} , Hz	f_{hi} , Hz
MIP	DC	100
	10	1M
	100	10M
	1k	100M
	10k	250M

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 (-)	$-V_{sup}$	4
Ground	GND	5
Power supply input (+)	$+V_{sup}$	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".