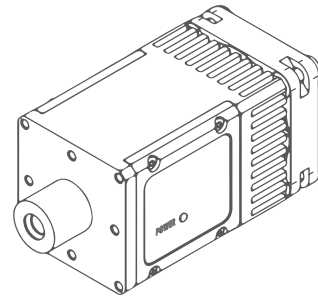


# MIP SERIES

## Medium-size transimpedance amplifiers



### FEATURES

- Compatible with VIGO TE-cooled IR detectors in the TO8 package
- Frequency bandwidth: up to 250 MHz
- AC or DC coupled
- Compatible with optical accessories
- M4 mounting hole
- Designed for effective heat dissipation
- Integrated fan
- External TEC controller required

### INCLUDED ACCESSORIES

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

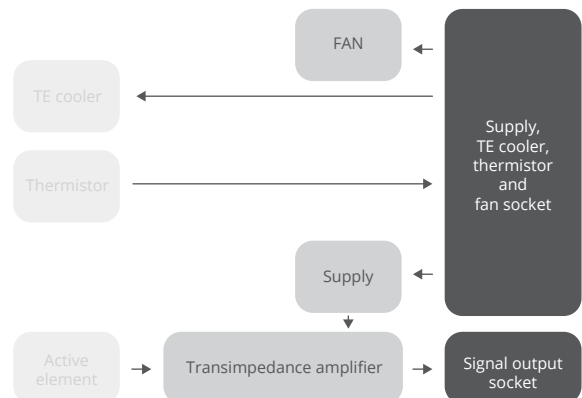
### DEDICATED ACCESSORIES

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

### CODE DESCRIPTION

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

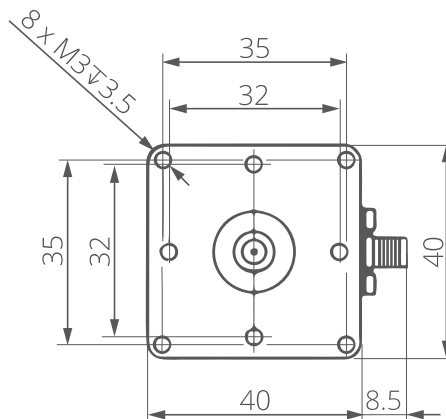
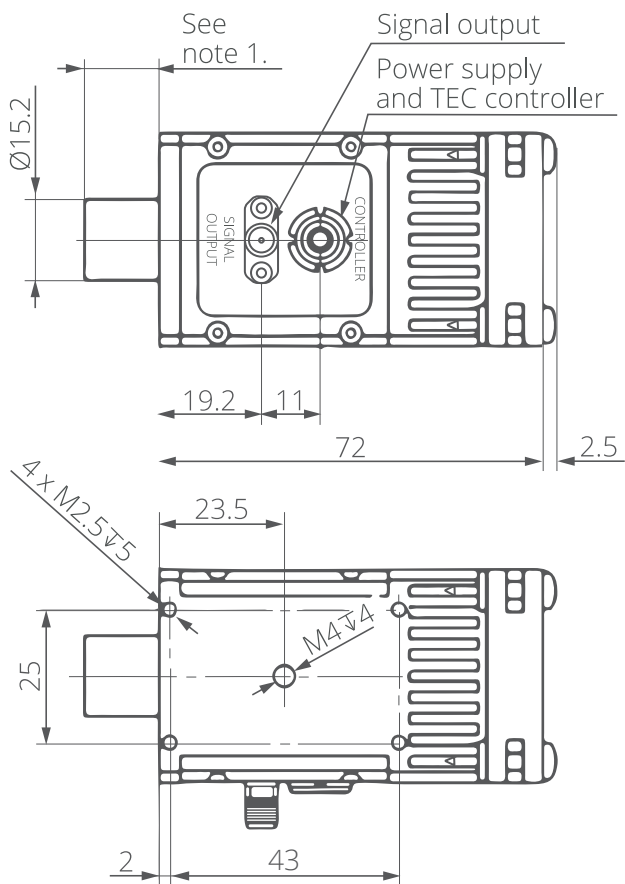
### SCHEMATIC DIAGRAM



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

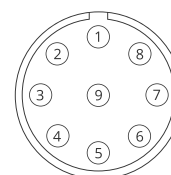
Parameter	Conditions/remarks	Value	Unit
Low cut-off frequency, $f_{lo}$		DC, 10, 100, 1k, 10k	Hz
High cut-off frequency, $f_{hi}$		100k, 1M, 10M, 100M, 250M	Hz
Transimpedance, $K_i$	Fixed	up to 200	kV/A
Output impedance, $R_{out}$		50	$\Omega$
Output voltage swing, $V_{out}$	$f_{hi} \leq 1\text{ MHz}$ , $R_{load} = 1\text{ M}\Omega$	$\pm 10$	V
	$f_{hi} > 1\text{ MHz}$ , $R_{load} = 50\ \Omega$	$\pm 1$	V
Output voltage offset, $V_{off}$		max. $\pm 20$	mV
Power supply voltage, $V_{sup}$	$f_{hi} \leq 1\text{ MHz}$ , $R_{load} = 1\text{ M}\Omega$	$\pm 15$	V
	$f_{hi} > 1\text{ MHz}$ , $R_{load} = 50\ \Omega$	$\pm 9$	V
Power supply current, $I_{sup}$		max. $\pm 50$	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 supply voltage, $V_{fan}$		5	V
Fan power consumption, $P_{fan}$		max. 900	mW
Weight		180	g

## MECHANICAL LAYOUT (Unit: mm)



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

## POWER SUPPLY, TE COOLER, THERMISTOR AND FAN SOCKET PINOUT



LEMO ECG.0B.309.CLN

## 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.

Pin No.	Symbol	Function
1	FAN+	Fan supply input (+)
2	TH2	Thermistor output (2)
3	TEC-	TEC supply input (-)
4	-Vsup	Power supply input (-)
5	GND	Ground
6	+Vsup	Power supply input (+)
7	TEC+	TEC supply input (+)
8	TH1	Thermistor output (1)
9	DATA	Data