

## FIP series

**FIP** is a series of high speed, transimpedance, AC coupled preamplifiers, intended to operate with biased TE cooled VIGO detectors. Fast preamplifier enables precise I-V conversion, detector biasing up to 800 mV and simultaneously maintains compact size and keeps current noise low. FIP is equipped with a fan and does not require additional heat dissipation. It is suitable for applications requiring wide frequency bandwidth. Additional DC output is available as an option.

### Features

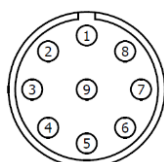
- Wide frequency bandwidth up to 1 GHz
- Integrated fan
- DC monitor as an option

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

Parameter	Typical value	Conditions, remarks
Low cut-off frequency $f_{lo}$ , Hz	1k, 10k	
High cut-off frequency $f_{hi}$ , Hz	1G	
Transimpedance $K_i$ , V/A	up to 8.5k	fixed
Output impedance $R_{out}$ , $\Omega$	50	
Output voltage swing $V_{out}$ , V	$\pm 1$	$R_L = 50 \Omega^*)$
Power supply voltage $V_{sup}$ , V	+12 / -5	
Power supply current $I_{sup}$ , mA	+100 -50	
Ambient operating temperature $T_a$ , $^\circ\text{C}$	10 to 30	
Signal output socket	SMA	RF output
DC monitor socket	SMA	option
Power supply and TEC control socket	LEMO (female)	ECG.0B.309.CLN
Mounting hole	M4	
Fan	yes	

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

### 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



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

- Photovoltaic**  
PV-2TE, PV-3TE, PV-4TE
- Photovoltaic optically immersed**  
PVI-2TE, PVI-3TE, PVI-4TE

### Code description

Type	$f_{lo}$ , Hz	$f_{hi}$ , Hz	Version
FIP	1k 10k	1G	D (with DC monitor) ND (without DC monitor)

### Included accessories

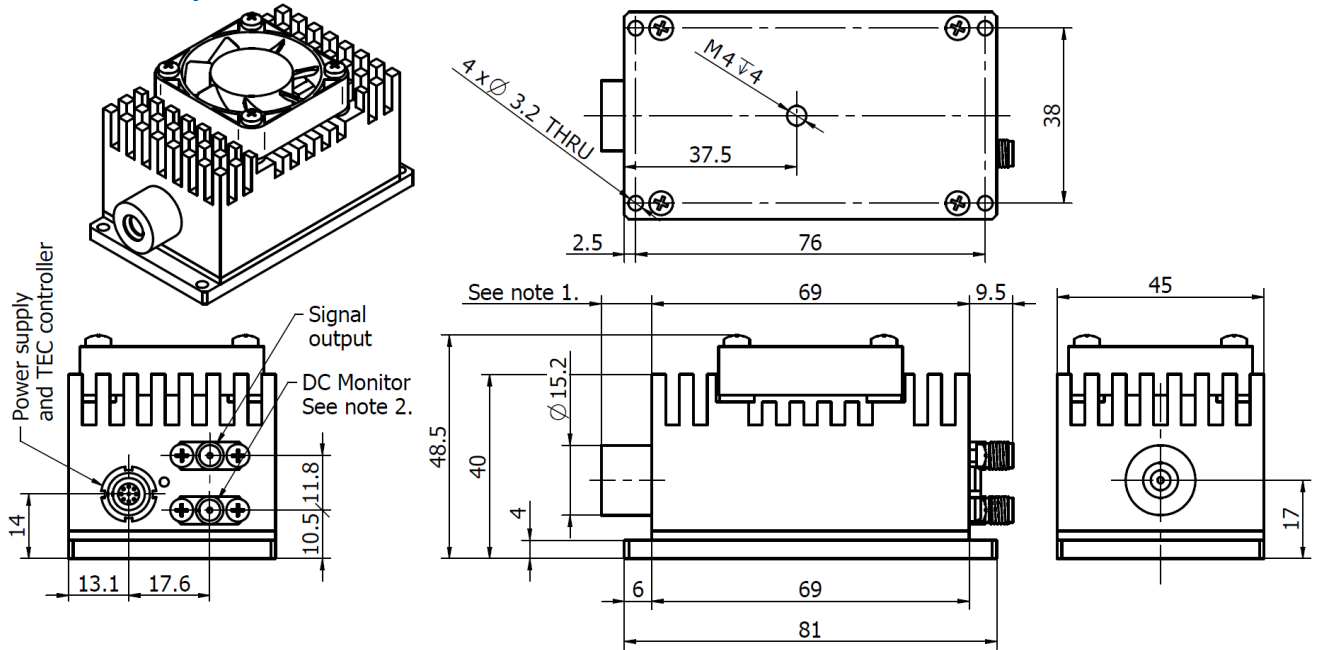
- SMA-BNC<sup>\*)</sup>, LEMO-DB9** cables

<sup>\*)</sup> Additional SMA-BNC cable for FIP-xx-xx-D version.

### 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
- DRB-2** base mounting system

### Mechanical layout, mm



Notes:

1. TO8 detector dimensions in the "TO8 technical drawing".
2. Only for FIP-xx-xx-D version.