

# MULTICHANNEL LOW NOISE TRANS-IMPEDANCE AMPLIFIER

## 16 CHANNEL FRAME (4x 4CH MODULES)

### 1. GENERAL DESCRIPTION

The Low Noise Trans-Impedance Amplifier is offered for signal conditioning in low level current sensors readout, and more specifically for the optical signal detection with PhotoMultiplier Tubes.

The 4 channel modules are integrated in an enrackable case with capacity for four modules (16 channels in total). Each card can be easily installed from the front panel without removing any wall of the case. The power connector is an IEC C14 standard with two fuses and EMI filter. The case has an extra ground connector in the front panel.

The 4 channel LNA TIA Module has a front plate with access to the signal and monitoring connectors. The supply connector is in the back side of the card and the connection is kept inside the case. The front connectors are BNC for input signals, SUB-D 25 for differential outputs and Phoenix Contact for temperature and supply monitoring.

### 2. TECHNICAL DATA

#### 2.1. Enrackable mount

BOX SIZE	3U (240 x 425 x 130 mm)
POWER INPUT	230 VAC, 0.375 A max. IEC C14, 2 FUSES (L & N), EMI FILTER
FUSES	2 units: F 0.5A 250VAC
PE	Extra PE connector in front panel.
SLOTS	4 slots available



Fig. 1 - 16 Channel Low Noise TIA. Enrackable mount.

## 2.2. Low Noise TIA 4 channel module

DIMENSIONS	PCB: 200 x 80 mm FRONT PANEL: 228 x 25 mm
POWER	+/- 5 VDC at +/- 200mA
BANDWIDTH	DC to 1 MHz
INPUT	4- CHANNELS common ground CONNECTOR TYPE: BNC (single pole) OVERCURRENT PROTECTION IMPEDANCE: 50Ω, DC coupled DYNAMIC RANGE (gain sel. : input range) 0: +/- 40 μA            1: +/- 20 μA 2: +/- 10 μA            3: +/- 5 μA
OUTPUT	CONNECTOR TYPE: D-SUB 25, differential outputs SHORT CIRCUIT DURATION: infinite. 50Ω SERIAL RESISTOR RANGE: +/- 5V (differential output)
GAIN (4 selectable gains)	0: 125 kV/A            2: 500 kV/A 1: 250 kV/A            3: 1000 kV/A
TOTAL DIFFERENTIAL NOISE (RMS)@ 1MHz	2.7 nA
LINEARITY & DISTORTION	< 2 %
CROSSTALK (adjacent channels)	< 0.1 %
OPERATING TEMPERATURE RANGE	-10 °C to + 80 °C

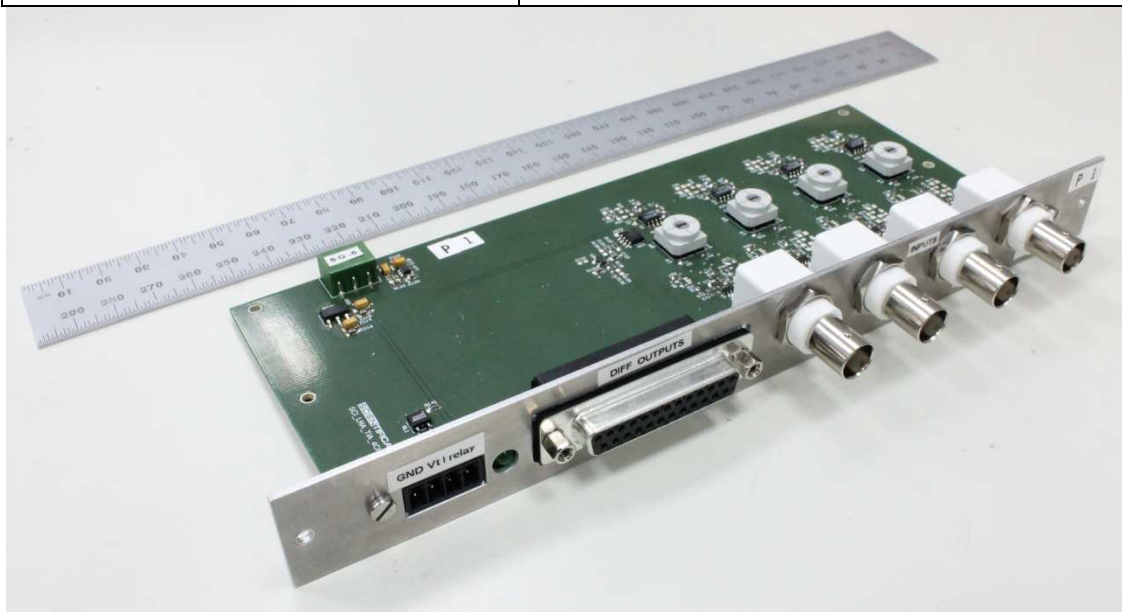


Fig. 2 – Low Noise TIA 4 Channel module