

## N411 16 channels SiPM amplifier.

The desktop module **N411** has 16 channels amplifiers specially designed for HAMAMATSU MPPC S10931-050P type detector. The module has two version: with bias and without bias tension. The amplifier has 50 ohm input impedance and amplified output signal can be terminated by 50 Ohm. The module has 16 input (isolated connectors - with bias tension) and 16 output LEMO type connectors, power and Bias connectors (with bias tension).



### PERFORMANCE

Input impedance	50 Ohm
Rise/fall time	25 ns
Gain*	35 dB
Output range voltage	2 Volt
Termination	50 Ohm
Gain temperature coefficient	0,03%/C
Input equivalent Noise	8 uV RMS
Maximum Bias Value	250 VDC
Input, Output connectors	LEMO type connector
Bias connector	Sub D 9 pins

### POWER SUPPLY REQUIREMENTS:

The module has two power supply voltages.

P. Voltage (V)	Current (mA)
+6	210
-12	90

Dimensions:

D007

1

Width 165 mm, Height 51,5, Depth 160 mm.

Weight: 1 Kg.

**Table 1. Power supply connector.**

**Connector type D9 ( 9 pin )**

<i>1</i>	<i>GROUND</i>
<i>2</i>	<i>GROUND</i>
<i>3</i>	<i>+6 V</i>
<i>4</i>	<i>N.C.</i>
<i>5</i>	<i>N.C.</i>
<i>6</i>	<i>N.C.</i>
<i>7</i>	<i>N.C.</i>
<i>8</i>	<i>-12 V</i>
<i>9</i>	<i>N.C.</i>

**Table 2. Bias Voltage Connector**

**Connector type D9 ( 9 pin )**

<i>case</i>	<i>EARTH</i>
<i>2</i>	<i>BIAS 1</i>
<i>3</i>	<i>BIAS 2</i>
<i>4</i>	<i>BIAS 3</i>
<i>5</i>	<i>BIAS 4</i>
<i>6</i>	<i>GND 1</i>
<i>7</i>	<i>GND 2</i>
<i>8</i>	<i>GND 3</i>
<i>9</i>	<i>GND 4</i>

**Bias 1** is connected to 13,14,15,16 channels

**Bias 2** is connected to 12,11,10,9 channels

**Bias 3** is connected to 8,7,6,5 channels

**Bias 4** is connected to 4,3,2,1 channels



The common back view of the module.