N410 - 32 CHANNELS SiPM AMPLIFIER

The NIM module N410 has 32 channels amplifiers specially designed for HAMAMATSU MPPC S10931-050P type detector. The amplifier has 50 Ω input impedance and amplified output signal can be terminated by 50 Ω. The module has 4 output connectors(see pin out connectors J1-4), one high density input connector and Bias connector.

PERFORMANCE

Input impedance	50 Ω
Rise/fall time	25 ns
Gain*	35 dB
Output range voltage	2 V
Termination	50 Ω
Gain temperature coefficient	0,03%/C
Input equivalent Noise	8 µV RMS
Maximum Bias Value	250 VDC
Output connector	Mini D 20 pin
Bias connector	Sub D 9 pins

* tested with HAMAMATSU MPPC S10931-050P biased by 72 V.

CABLE FOR BIAS VOLTAGE

CASE	EARTH
2	BIAS 1
3	BIAS 2
4	BIAS 3
5	BIAS 4
6	GND 1
7	GND 2
8	GND 3
9	GND 4

Bias 1 connected to 1,3,5,7,9,11,13,15 channels
Bias 2 connected to 17,19,21,23,25,27,29,31 channels
Bias 3 connected to 18,20,22,24,26,28,30,32 channels
Bias 4 connected to 2,4,6,8,10,12,14,16 channels

POWER SUPPLY REQUIREMENTS

The module has NIM standard power supply.

P. Voltage (V)	Current/ch (mA)
+6	420
-12	180

DIMENSIONS

dimensions	3,43x22,13 cm per DOE/ER-0457T
weight	1,1 kg

JC1

1	Cathode 1	2	Anode 1
3	Cathode 2	4	Anode 2
5	Cathode 3	6	Anode 3
7	Cathode 4	8	Anode 4
9	Cathode 5	10	Anode 5
11	Cathode 6	12	Anode 6
13	Cathode 7	14	Anode 7
15	Cathode 8	16	Anode 8
17	Cathode 9	18	Anode 9
19	Cathode 10	20	Anode 10
21	Cathode 11	22	Anode 11
23	Cathode 12	24	Anode 12
25	Cathode 13	26	Anode 13
27	Cathode 14	28	Anode 14
29	Cathode 15	30	Anode 15
31	Cathode 16	32	Anode 16
33	Cathode 17	34	Anode 17
35	Cathode 18	36	Anode 18
37	Cathode 19	38	Anode 19
39	Cathode 20	40	Anode 20
41	Cathode 21	42	Anode 21
43	Cathode 22	44	Anode 22
45	Cathode 23	46	Anode 23
47	Cathode 24	48	Anode 24
49	Cathode 25	50	Anode 25
51	Cathode 26	52	Anode 26
53	Cathode 27	54	Anode 27
55	Cathode 28	56	Anode 28
57	Cathode 29	58	Anode 29
59	Cathode 30	60	Anode 30
61	Cathode 31	62	Anode 31
63	Cathode 32	64	Anode 32
65	NC	66	NC
67	NC	68	NC

J1

PIN	CHANNEL
1	2
2	4
3	6
4	8
5	N.C.
6	N.C.
7	10
8	12
9	14
10	16
11	GND
12	GND
13	GND
14	GND
15	GND
16	GND
17	GND
18	GND
19	GND
20	GND

J2

PIN	CHANNEL
1	18
2	20
3	22
4	24
5	N.C.
6	N.C.
7	26
8	28
9	30
10	32
11	GND
12	GND
13	GND
14	GND
15	GND
16	GND
17	GND
18	GND
19	GND
20	GND

J3

PIN	CHANNEL
1	15
2	13
3	11
4	9
5	N.C.
6	N.C.
7	7
8	5
9	3
10	1
11	GND
12	GND
13	GND
14	GND
15	GND
16	GND
17	GND
18	GND
19	GND
20	GND

J4

PIN	CHANNEL
1	31
2	29
3	27
4	25
5	N.C.
6	N.C.
7	23
8	21
9	19
10	17
11	GND
12	GND
13	GND
14	GND
15	GND
16	GND
17	GND
18	GND
19	GND
20	GND