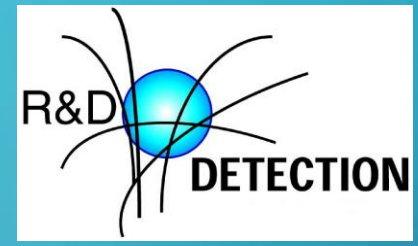




Neutral Particule Spectrometer



HIGH VOLTAGE DISTRIBUTION

Meeting June 22nd to 26th 2019

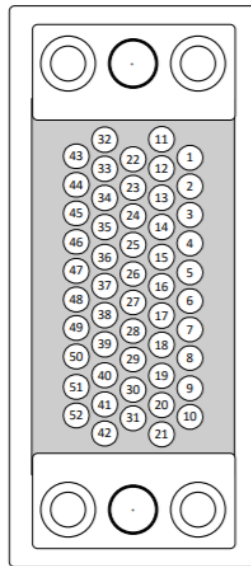
Neutral Particule Spectrometer

- High Voltage done by 30 CAEN modules →
- Outputs by RADIALL connector

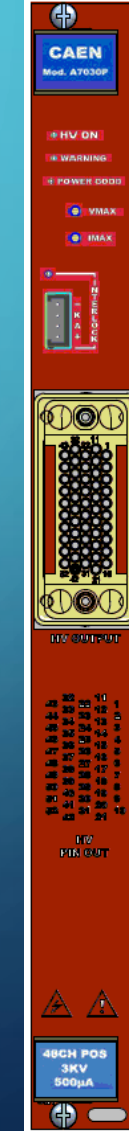
Multipin connector pin assignment

Table 2 – 52 pin connector assignment

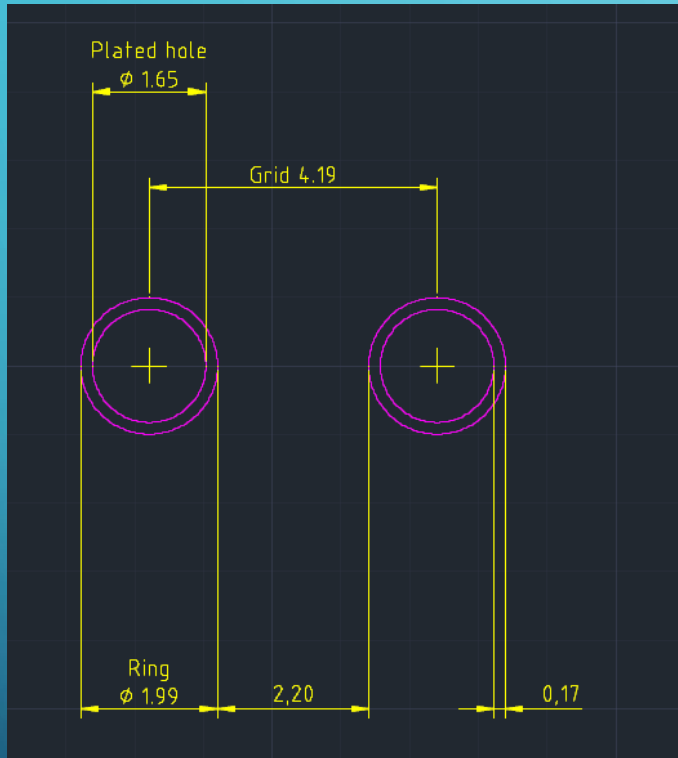
A/AG7030 – 7030T (CH36..47 N.C. on A7030T & AG7030T)



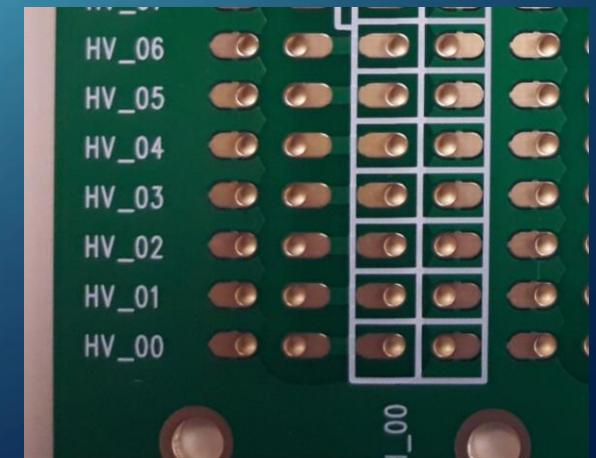
#	function	#	function	#	function	#	function	#	function
1	CH02	11	RETURN	22	CH01	32	RETURN	43	CH00
2	CH07	12	CH04	23	CH06	33	CH03	44	CH05
3	CH12	13	CH09	24	CH11	34	CH08	45	CH10
4	CH17	14	CH14	25	CH16	35	CH13	46	CH15
5	CH22	15	CH19	26	CH21	36	CH18	47	CH20
6	CH27	16	CH24	27	CH26	37	CH23	48	CH25
7	CH32	17	CH29	28	CH31	38	CH28	49	CH30
8	CH37	18	CH34	29	CH36	39	CH33	50	CH35
9	CH42	19	CH39	30	CH41	40	CH38	51	CH40
10	CH47	20	CH44	31	CH46	41	CH43	52	CH45
		21	RETURN			42	SAFETY LOOP		



- Printed Circuit Board feasibility

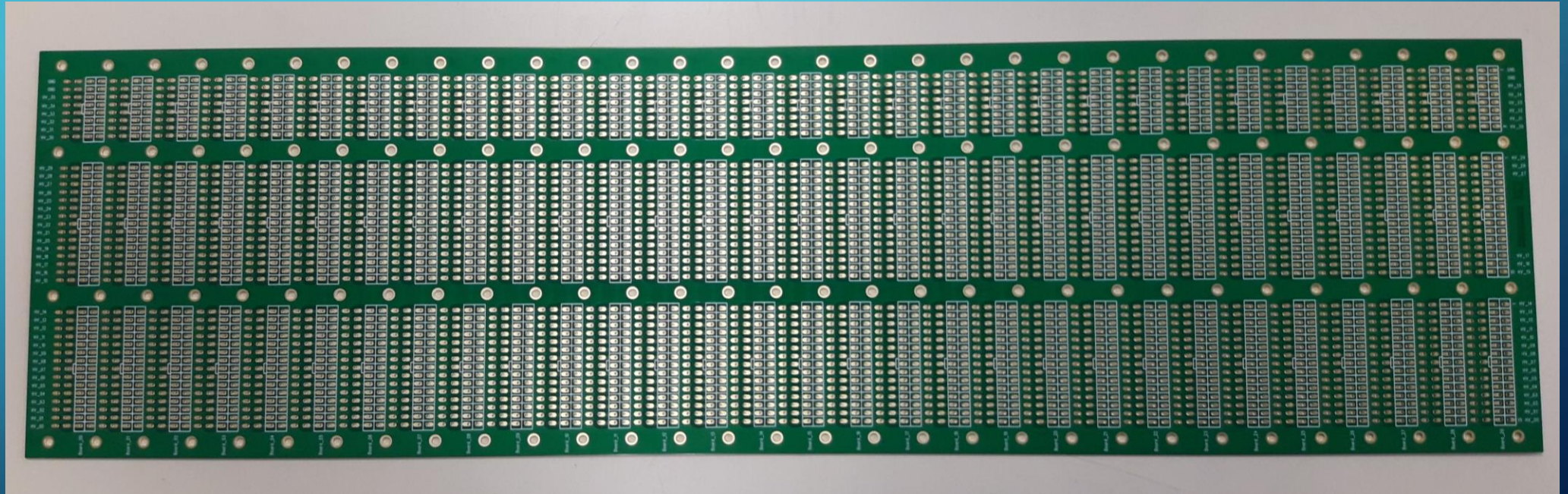


- High Voltage 1100V
- Small connector : \rightarrow Grid 2.54mm not possible
 \rightarrow Grid 5.08 mm too big
- Grid 4.19 possible
- Plated Hole = 1.65 mm
- Clearance between 2 Pads = 2.20 mm
- Round pad = 1.99 mm
- Annular ring = 0,17 mm \rightarrow Soldering difficult
- Best choice, use oval pads



Neutral Particule Spectrometer

- Printed Circuit Board « HV Distribution » done
- 2 layers, 1.6 mm thickness, size 780 x 214 mm, solder mask and silkscreen both sides



- Security for the High Voltage if the detector is opened

→ Use the SAFETY LOOP of each module

Principle : Pin 41 connected to 0V = all High Voltage outputs are ON

Pin 41 open = High Voltage OFF by ramp-down

Action : → Modify the actual PCB by cutting the pin connected to the Ground

→ Connect the pin « Safety Loop » of each module chained together to an external switch behind the door (only 2 wires required)