

Table 3. The 14 inputs and 10 outputs of each nanoautomate. The meaning of the input or output when “true” (green) is listed below. Black dot means output is “true” in that state; blank means output is “false”; “-” means the output is not specified. A1, A2 and A3 refer to the three alarm modes.

Ch	Input	Output	Rest	Run	VME	A1	A2	A3
1-0	Request Close VVPC-1	Close VVPC_1		•	-			
1-1	Request Close VVPC-2	Open VVPC_2			-			
1-2	Request Close VVPC-3	Open VVPC_3		•	-			
1-3	Request Close VVPC-4	Open VVPC_4		•	-			
1-4	Request Close VVPC-5	Open VVPC_5			-			
1-5	Request Close VVPC-6	Open VVPC_6		•	-			
1-6	Request Close VVPC-7	Open VVPC_7		•	-			
1-7	Request Close VVPC-8	Open VVPC_8		•	-			
1-8	Request Close VVPC-9	Close VVPC_9			-			
1-9	Request pump on	free						
1-10	Sample Point Valid							
1-11	Request VME mode							
1-12	Request REST mode							
1-13	Request Running mode							
2-0	He Pressure OK	On for Running mode		•				
2-1	Iso Pressure OK	On for Rest mode	•					
2-2	Circulation Pressure OK	On for VME mode			•			
2-3	DC Pressure OK	Flash for Alarm Mode				•	•	•
2-4	Iso Temperature OK	Cut power (unused)						
2-5	Circulation Flow OK	Cut 24V #1 (unused)						
2-6	Fresh Gas Flow OK	Cut 24V #2 (unused)						
2-7	O2 Concentration OK	free						
2-8	Isobutane Mix OK	Compressor Enabled		•	•			
2-9	Compressed Air Pressure OK	Compressor On		•	-			
2-10	Inlet Pressure OK							
2-11	Bulkhead Flows OK							
2-12	110V Power OK							
2-13	free							
3-0	free	Gain Chamber enabled (24V)	•	•	•			
3-1	free	Free (24V)						
3-2	free	Free (24V)						
3-3	free	Free (24V)						
3-4	Manual Pump On	HV enabled	•	•	•			
3-5	free	LV enabled	•	•	•		•	•
3-6	Gas Hut OK	Sys OK (annunciator)	•	•	•			•
3-7	O2 Not Present	free						
3-8	Isobutane Not Present	Sys OK (EPICs) 24V	•	•	•			
3-9	free	Access alarm 24V				•	•	•
3-10	Front Vent HAD OK							
3-11	Rear Vent HAD OK							
3-12	Gain Chamber Flow OK							
3-13	free							