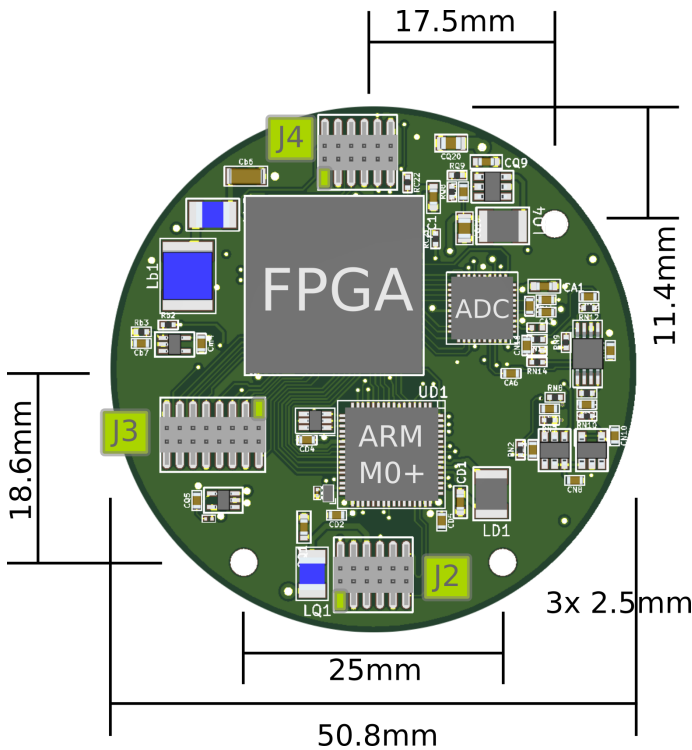


Gamma-ray detector with SiPM and SiPM-3000 MCA.

8-pin GPIO Connector, Switchcraft EN3P8MXPKG

Pin	Function	
Pin	SEL=GND	SEL=3.3V or N/C
1	TMS	S0
2	TDO	S2
3	TDI	S4
4	TCK	S6
5	Vref=3.3V	S7
6	VD50	
7	GND	
8	SEL	

SEL has an internal 10kΩ pull-up resistor to 3.3V. When the device is not powered via USB, it can be powered via VD50 and GND. The voltage on VD50 is +5V nominal.



SiPM-3000 PCB, MCA with SiPM power supply.

Connector J4, FTSH-106-01-F-DV

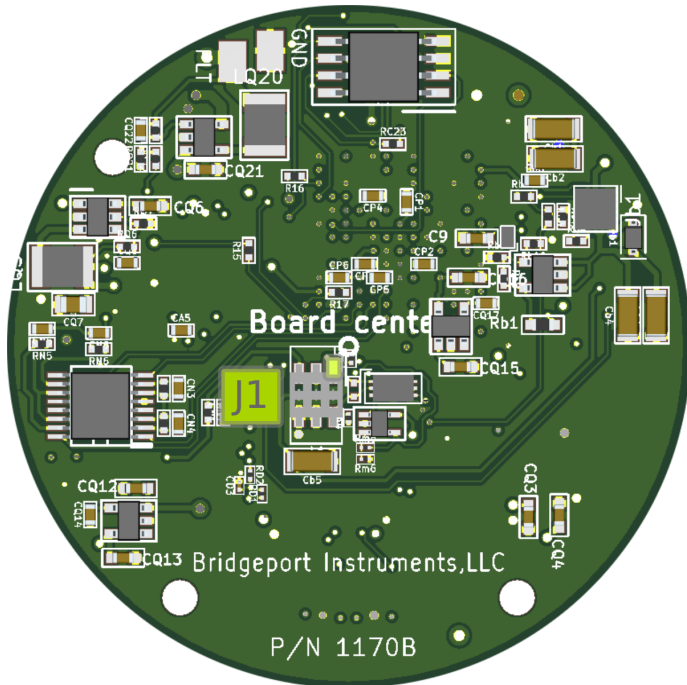
#	Name	Description
1	VD33	3.3V, Vref for JTAG
2	TCK	JTAG clock
3	GND	Ground
4	TDI	JTAG Data In
5	TDO	JTAG Data Out
6	TMS	JTAG Module Select
7	GND	Ground
8	C_CLK	Config Clock
9	C_MISO	Config MISO
10	C_MOSI	Config MOSI
11	C_CSB	Config Chip Select #
12	GND	Ground

Pinout of the FPGA programming connector; A # indicates "active low".

<i>Connector J3, FTSH-108-01-F-DV</i>		<i>Connector J2, FTSH-106-01-F-DV</i>	
#	Name	#	Name
1, 2, 3, 5, 6, 7, 8, 9, 11, 12, 13, 14, 16	S0 to S12	1	ARM Port A1
4, 10, 15	GND, Ground	2	ARM Port A16
<i>Pinout of the FPGA GPIO connector</i>		3, 4, 9	GND
		5	SWD Clock
		6	VD50; +5V power input
		7	SWD Data
		10	FPGA GPIO S0
		11	USB Data +
		12	USB Data -

Pinout of the ARM connector

SiPM-3000 PCB, MCA with SiPM power supply.



<i>SiPM Connector J1, CLP-6</i>	
#	Name
1	D+; cf Note 1
2	D-; cf Note 1
3	SiPM operating voltage (+)
4	GND; Ground
5	SiPM Anode
6	GND; Ground

Pinout of the SiPM connector; Note 1: The SiPM carrier board has an MMBT3904 NPN transistor connected as a diode (CB=D+ and E=D-). D+ and D- connect to an LTC2997 temperature-measuring IC.