AMCRYS

Техническое описание (eng.)

Электроника

Built-in

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Built-in electronic modules allow manufacturing detector probes with signal processing inside the units. Wide range of different configuration is available and highly cost effective. From simplest configuration with just HV divider to SMART interface built up to a customer specifications in the detector assembly housing available with short manufacturing time and cost effective. Complete integration of those location sensitive parts makes devices compact, rigid and noise protected as well as cheaper to compare with stationary analogs. Added MCA capabilities to detector probes allow using any laptop or desktop PC (with provided software) as multichannel analyzer for γ-radiation spectrums.

HV power supply modules

Part number	Output voltage	Output current	Polarity	Power supply	V/I monitoring	Control	Dimensions
EHV-101-P12	0.1 - 1 1.6 kV	0.3 mA	+	+ 12 V	-	(1)	(3)
EHV-101-P5	0.1 - 1 1.6 kV	0.3 mA	+	+ 5 V	-	(1)	(3)
EHV-101-M12	0.1 - 1 1.6 kV	0.3 mA	-	+ 12 V	-	(1)	(3)
EHV-101-M5	0.1 - 1 1.6 kV	0.3 mA	-	+ 5 V	-	(1)	(3)
EHV-102-P12	0.1 - 1 1.6 kV	0.3 mA	+	+ 12 V	+	(1)	(4)
EHV-102-M12	0.1 - 1 1.6 kV	0.3 mA	-	+ 12 V	+	(1)	(4)
EHV-103-P12	10 - 200 V	1 μA	+	+ 12 V	+/-	(2)	(5)
EHV-103-M12	10 - 200 V	1 μA	-	+ 12 V	+/-	(2)	(5)

(1) Output voltage is controlled digitally if using with EMA-series modules, otherwise it is controlled by an external 0.1-1.6 V source.
(2) Output voltage is controlled digitally if using with EMA-series modules, otherwise it is controlled by an external 0.1-2 V source.
(3) 2 PCB boards of 50 mm diameter. The total height is 35 mm
(4) 2 PCB boards of 50 mm diameter. The total height is 35 mm
(5) 1 PCB board of 50 mm diameter. The total height is 20 mm

MCA/Interface modules

Embedded MCA are designed to be installed directly on a PMT socket. The main advantages of these devices are small size and low power consumption.

It comes in variety of input and output capabilities to increase functionality and compatibility with different devices and systems. USB, Ethernet, RS232 or RS432 ports are used as external interfaces. Built-in temperature sensor allows to built precision devices with thermal compensation of output signal.

Part number	External interface	Number of channels	T° sensor	Power supply	Dimensions
EMA-102-U	USB	4096	+	+ 5 V	(1)
EMA-102-E	Ethernet	4096	+	+ 5 V	(2)
EMA-102-R	RS422	4096	+	+ 5 V	(3)
EMA-102-S	RS232	4096	+	+ 5 V	(3)

(1) 3 PCB boards of 50 mm diameter. The total height is 35 mm.(2) 3 PCB boards of 50 mm diameter. The total height is 40 mm.(3) 2 PCB boards of 50 mm diameter. The total height is 25 mm.

The following options for MCA modules are available:
- additional TTL output of the discriminator (suffix O in the part number);
- additional TTL GATE input (suffix I in the part number);
- additional TTL high voltage blocking input (suffix H in the part number).

Multichannel analyzer SMA-xx is a perfect tool for all the measurements concerning scintillators. The analyzer includes:

- one or two high voltage supply modules SHV-xx either of positive or negative polarity. All the controls and monitoring of these modules are carried out from spectrometric software.
- a set of detachable charge sensitive amplifiers and preamplifiers for various crystals.