

A1428

A1428 - Discriminator for Low noise fast current neutron flux preamplifier



Features



- Input polarity negative
- Input impedance 50 Ω
- Threshold -1 mV to -100 mV
- Output: standard TTL signal
- Maximum frequency 15 MHz for Fission Chamber
- Maximum frequency 6 MHz for Proton Recoil

Description

The CAEN **Mod.A1428** is a leading-edge discriminator designed for negative pulses, with thresholds values into the range from -1 mV to -100 mV.

It's suited to work with **A1427**, a fast and low noise current preamplifier with AC coupled input which hosts two outputs to calculate the energy associated to the input signal and the rate.

A1427 Kit configuration is also available, that includes the A1427 and the A1428 assembled together, both for fission chambers and for proton recoil detectors.

Technical Specifications

Packaging

Shielded box, Dimensions:

WxHxL: 91 x 144 x 39 mm; 91 x 119 x 39 mm (without connectors)

WxHxL A1428CA models: 61 x 135 x 31; 61 x 112 x 31 mm (without connectors)

No. of Channels

1

Input

LEMO connector, negative polarity, AC coupled, 50 Ω input impedance, minimum discriminated input: -4 mV.

Threshold

- Vishay 11A11B10 Dial, with brake lever (LOCK);
- Range: -1 mV to -100 mV, settable on 10 turns of the dial (10 mV/turn; 1 mV/division, e.g.: 5.40 on dial, leads to Threshold = -54.0 mV).

Output

LEMO connector, std. TTL signals (must be externally terminated with 50 Ω impedance), rise time \leq 6 ns, fall time \leq 6 ns

Output Width

Trimmer settable;

A1428FC: 45÷100 ns FWHM;

A1428PR: 45÷200 ns FWHM

Offset

Trimmer settable; range -40÷+15 mV

Power requirements

- External power supply Switchbox FRA045-S12-4 (12 VDC, 3.75 A, 45 W); Universal Input C14 receptacle;
- INPUT Voltage range 100-240VAC 1.2A 50-60Hz. Inrush current 40A at 115VAC / 80A at 230VAC max. Dielectric withstand Input/output 3,000VDC.
- OUTPUT Output voltage +12V. Ripple and noise 2% p-p max. Load regulation \pm 5% max. No load stand by power <0.5W@ 230VAC. Efficiency \geq 85% for CEC requirement. Hold up time 10ms at nominal line. Protections OCP, OVP, over power & short circuit.
- GENERAL Std output connector Dc barrel jack. Std output cable/length UL1185, #18AWG / 5 ft.
- ENVIRONMENTAL Operating temperature 0°C to +40°C. Storage temperature -20°C to +85°C.
- STANDARDS Safety standards IEC/UL/EN60950-1, CE, CB. EMC EN55022 (CISPR 22) class B, FCC class B.
- **A1428CA** models: TE 282834-5; 1 GND, 2 +12V

Ordering Options

Code	Description	
WA1428CABFCA	A1428 Cabri Discriminator for Fission Chamber	RoHS
WA1428CABPRA	A1428 Cabri Discriminator for Proton Recoil	RoHS
WA1428FCAAAA	A1428 Discriminator for Fission Chamber	RoHS
WA1428PRAAAA	A1428 Discriminator for Proton Recoil	RoHS

Related Products

A1427



A1427 - Low noise fast current neutron flux preamplifier

A1427 KIT



Low noise fast current preamplifier and discriminator

Gallery



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