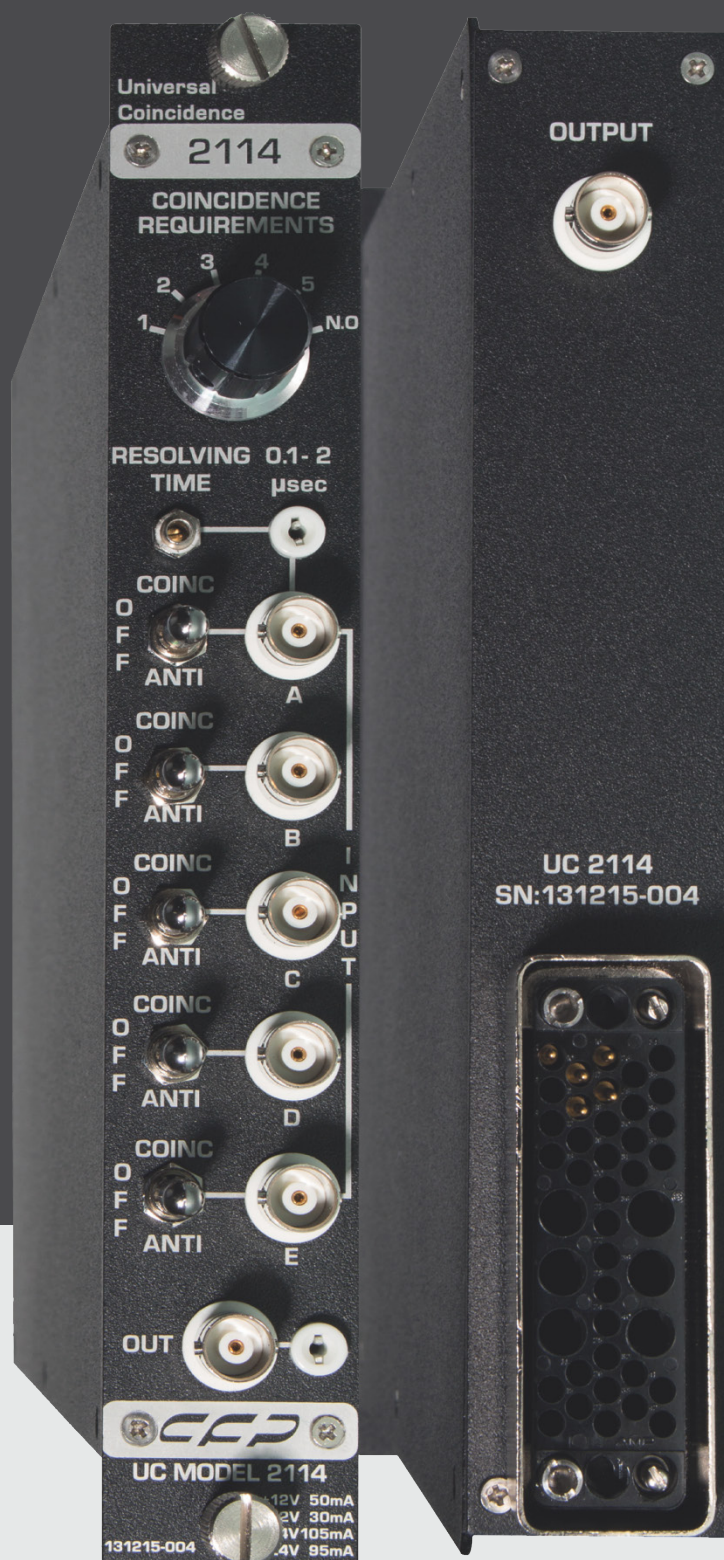




Innovator In Spectroscopy Equipment

UNIVERSAL COINCIDENCE MODEL UC2114



12V	50mA
2V	30mA
1V	105mA
0.4V	95mA

131215-004

NUCLEAR INSTRUMENTS MODULE



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Features:

- Connectors signal input: five front panel BNC connector
- Connectors signal input: one front and one rear panel BNC connector
- Amplitude: accept +4V to +10V pulses
- Provides coincidence determinations using majority logic
- Five, positive-polarity, dc-coupled inputs
- Coincidence, Anticoincidence, or Off selectable for each input

Description:

The Model UC 2114 is a Universal Coincidence unit with five dc-coupled inputs. Each input is accepted through a convenient front-panel connector.

Input A accepts an input signal with a width of 50 ns or more and regenerates an internal signal that will be used for coincidence comparisons. The Input A signal width is adjustable for a resolving time of 100 ns to 2 ns, and this range is available with a front-panel control.

The function of each input is selectable, and its signal can be used for coincidence or ant coincidence or can be disabled. This permits various combinations of input signal relations to be selected without adding or removing cables in the system.

Another feature that simplifies operating flexibility without changing any cables is a selectable number of inputs that are required to satisfy a coincidence. For example, if the selector shown is set at 2, an overlap between any two inputs that are selected for the coincidence function will cause an output to be generated. If any one or more inputs are selected for ant coincidence, all outputs are inhibited while such signals are present. Because any combination of input signal effects can be selected easily at the front panel, the Model 2114 is a Universal Coincidence unit that can be adapted to any coincidence system arrangement.

Specifications:

Inputs

- Polarity: Positive 2 V minimum, 30 V maximum
- Pulse Width: 50 ns to dc
- Impedance: $> 1.5\text{k}\Omega$, dc-couple
- Connectors: BNC on front panel

Outputs

- Amplitude: +10V
- Pulse width: 1 to 5 μsec (variable via an internal potentiometer)
- Output impedance: 10Ω ; DC-couple
- CONNECTORS: BNC on front and rear panel, Two each, dc-coupled, positive 5 V, 500 ns wide





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Controls (Front Panel)

- Input Controls: Five 3-position toggle switches select Coincidence, Anticoincidence, or Off (disabled).
- Coincidence Requirements: Selects number of inputs necessary to satisfy a coincidence requirement (majority logic).

Performance

- Input A Resolving Time: 100 ns to 2 μ s; controlled by a front-panel, 20-turn, screwdriver adjustable potentiometer; inputs B, C, D, and E controlled by input pulse width
- Temperature Instability
- Input A: Change in resolving time, τ , $< \pm 0.1\%/^{\circ}\text{C}$
- Inputs B, C, D, E: Change in resolving time, τ , $< \pm 0.05\%/^{\circ}\text{C}$ for $\tau = 500$ ns
- Operating Temperature : 0 to 50°C

Electrical and Mechanical Power Required:

Typical Power Requirements

- Standard version +12V, 50mA; -12V, 30mA; +24V, 105mA; -24V, 90mA

Physical

- Size: NIM-standard single-width module 3.43 X 22.13 cm (1.35 X 8.714 in.) per DOE/ER-0457T
- Weight: Net Weight - 0.9kg (2.0lbs.) & Shipping Weight: 2.2 kg (4.9 lbs.)

Uc2114 REV 1.0 131215





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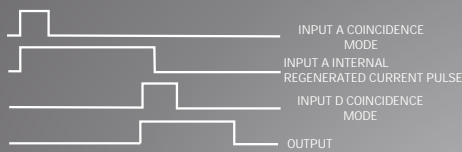
UNIVERSAL COINCIDENCE MODEL UC2114

Related Equipment:

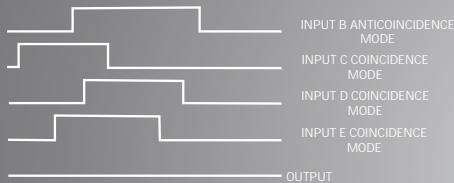
Input signals to the Model 2114 can be from any timing instrument providing a positive output signal from 2 to 30 V. The output of the Model 2114 provides a logic signal suitable for driving any of the medium-speed logic modules in the CFP product line, but it is more typically used as a gating signal such as a gate-enable signal to a multichannel analyzer.



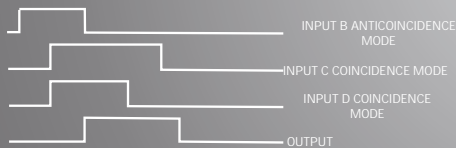
Coincidence Requirements When Switch Setting is 2.



Coincidence Requirements When Switch Setting is 2.



Coincidence Requirements When Switch Setting is 3.



Coincidence Requirements When Switch Setting is 2.



Coincidence Requirements When Switch Setting is 4.

