

2/4 Channel Tausand Abacus coincidence counter



Features

- Coincidence counter with 2ns or 5ns resolution
- BNC inputs coupled at 50Ω
- Adjustable settings:
 - sampling time: 1ms to 1000s
 - coincidence window: 2ns (5ns) to 10μs
 - delay, to allow time compensation
 - sleep time, to avoid after-pulsing
- Standalone operation; no PC required
- LabView and Python libraries for USB data and settings communication
- Ideal to measure temporal correlations in particle detection and quantum optics experiments

Specifications

Performance

	AB1x02	AB1x04
Input channels	2	4
Single channel counters	2	4
2-fold coincidence counters	1	6
3,4-fold coincidence counters	none	1

The 3 or 4-fold coincidence counter is set anytime by the user between options ABC, ABD, ACD, BCD or ABCD.

	AB100x	AB150x
Resolution & accuracy	5ns	2ns
Coincidence window	5ns–10μs	2ns–10μs
Input pulse rate	up to 5Mcps	
Sampling time	1ms–1000s	
Delay per channel	0ns–100 ns	
Sleep time per channel	0ns–100 ns	
Counter resolution	28-bit, up to 250M	

Settings can be selected by the user anytime.

Controls

One on/off switch, one knob and two push buttons to navigate along settings and measurement menus. One LCD screen with backlight included.

Inputs

Rear-panel BNC connectors accept LVTTTL signals and offer an input impedance of 50Ω. With proper impedance matching, voltage seen by the Abacus will be half the input, like an oscilloscope coupled at 50Ω does.

Since LVTTTL standard recognizes 2V-3.3V as high level inputs, a 50Ω coupled device like the Abacus will recognize 4V-6.6V as high level inputs.

	Min	Max
High level input voltage	4.0V	6.6V
Low level input voltage	0.0V	1.6V



USB interface

Configuration and data acquisition can be done by using the front-panel mini-USB port.

- Abacus software is available.
- Python and LabView libraries are available.

Electrical and mechanical

Power provided by a single external wall adapter power supply (included).

Power supply	12VDC / 1A
Weight	1 lb
Dimensions	15.8 x 8.5 x 18.5cm