

BORER ELECTRONICS AG

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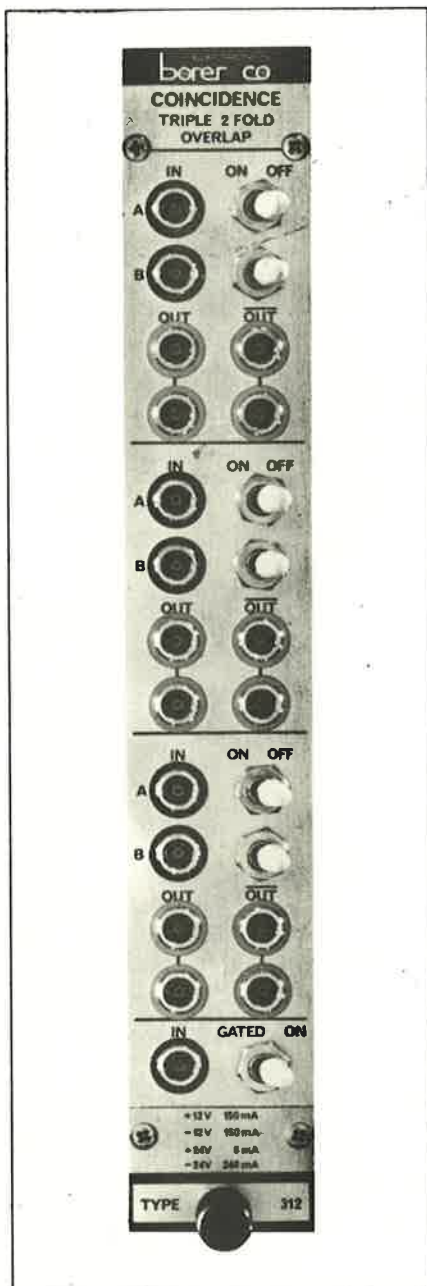
TYPE 312

Ref: 602.3.034.6.72

- TRUE OVERLAP OPERATION
- 2ns MINIMUM OVERLAP
- RATES IN EXCESS OF 150MHz
- COMMON GATE
- NIM-BIN COMPATIBLE

COINCIDENCE

TRIPLE 2-FOLD OVERLAP



Module Type 312 contains three identical independent 2-fold overlap coincidence circuits which can, when required, be controlled by a single common gate. Outputs are produced only for as long as coincidence is present at the corresponding activated inputs. This instrument replaces the earlier Type 311 Dual 2-Fold Coincidence unit.

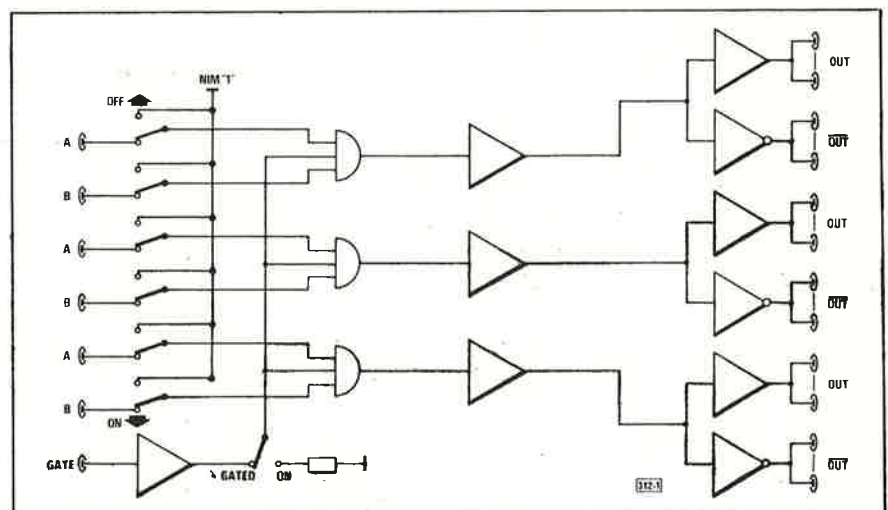
Designed to accept NIM-standard signals, each of the 50 Ω inputs is provided with a switch to render it inactive for timing purposes, etc.

The instrument may operate as a coincidence or as an anti-coincidence unit by the application of logic or complementary input signals respectively. Overlaps from as little as 2ns will produce full amplitude NIM-standard outputs at rates of 150MHz or more. Each of the three sections provides a dual logic and a dual complementary output.

The gate input will accept NIM-

standard signals at rates of up to 125MHz: minimum pulse width to open or close the gate or to overlap with an input is 2,5ns. A front panel switch is provided to enable the module in the absence of gate signals. The propagation delays between each input, the gate and the coincidence stage are all accurately equalized.

This instrument is an industrialized version of the CERN Type N6237 made suitable for housing in a conventional NIM-Bin. The instrument has been produced on the basis of documents and drawings designed and developed by the European Organisation for Nuclear Research (CERN) which has no intention of giving, in any case, any guarantee whatsoever regarding the quality or the performances of the items produced. Manufacturing quality and the operational performance are, however, covered in full by the normal Borer guarantee.



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SPECIFICATIONS

Inputs:	2 per section
Impedance	50 Ω
Reflections:	
In "On" state	20% max (Capacitive) with $t_r = 0,7\text{ns}$
In "Off" state	20% max (Inductive) with $t_r = 0,7\text{ns}$
Level	NIM-standard
Overload protection	$\pm 5\text{V}$ dc, $\pm 50\text{V}$ for 100ns
Pulse width	2ns min, dc max
Maximum rate	150MHz min
Outputs:	2 NIM, 2 NIM per section
Impedance	High, 32mA current sources
Pulse width	Equal to input width or overlap
Propagation delay	7,5ns $\pm 1,2\text{ns}$
Gate:	1 input, common to all sections
Impedance	50 Ω
Level	NIM-standard: "1" = On, "0" = Off
Pulse width	2,5ns min, dc max
Maximum rate	125MHz min
Physical dimensions	1 x NIM-Norm
Power requirements	+12V, 150mA max -12V, 150mA max +24V, 5mA max -24V, 240mA max
Temperature range	+5 $^{\circ}$ to +60 $^{\circ}$ C
Compatibility	All standard NIM-Bins, such as Borer Type 573a.