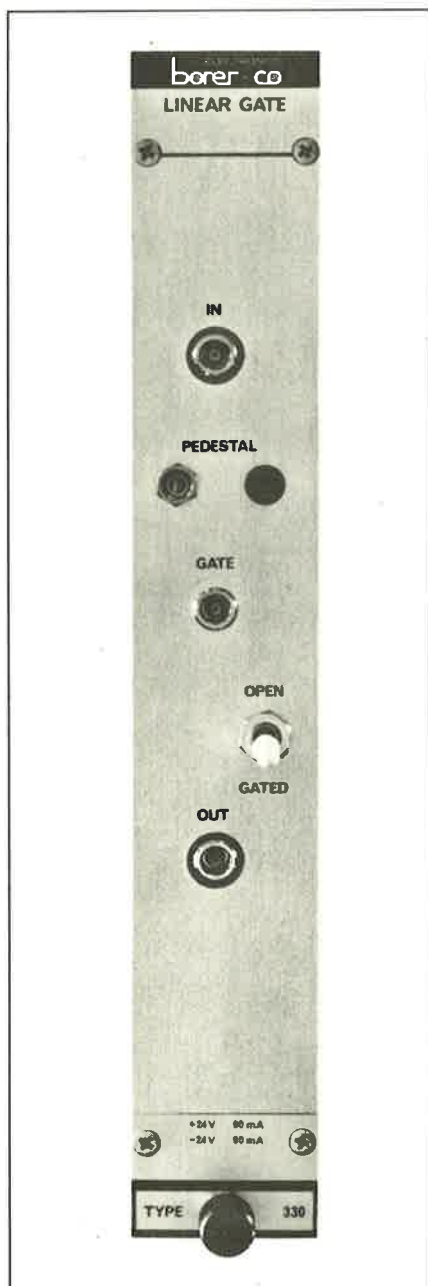


TYPE 330

LINEAR GATE

Ref: 602.3.027.6.72

- HANDLES P.M. or OTHER SHORT PULSES
- CAN SAMPLE VOLTAGE LEVELS
- TRANSMITS SIGNALS OF EITHER POLARITY
- PUSH-BUTTON TIMING ADJUSTMENTS
- PRACTICALLY ZERO PEDESTAL
- RATES IN EXCESS OF 50MHz
- ENTIRELY DC COUPLED



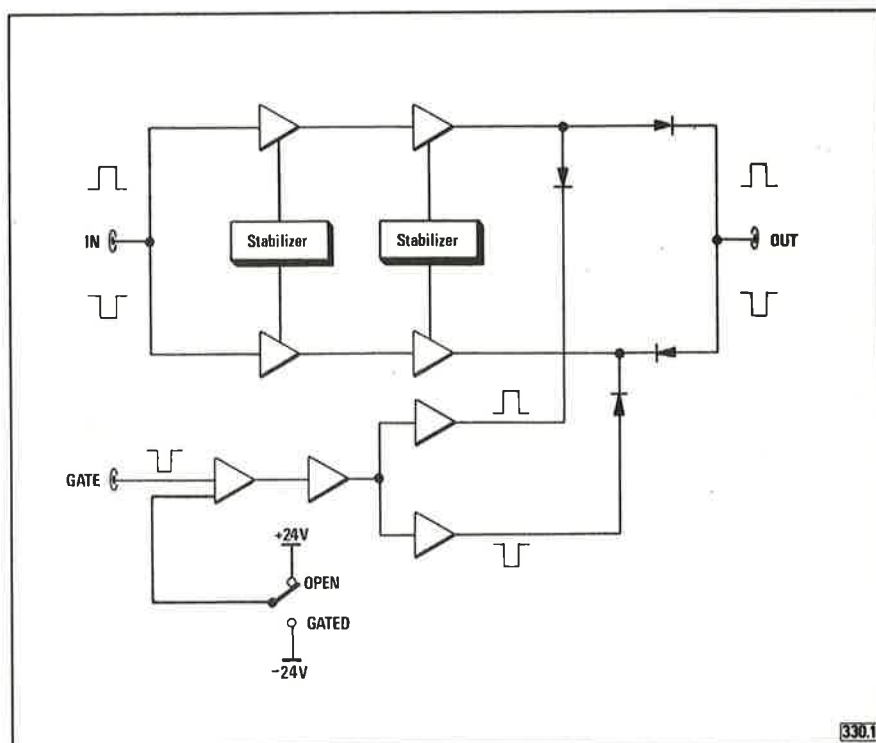
The Linear Gate Type 330 can be used for the linear selection and transmission of photo-multiplier or other short pulses as well as the selection of voltage levels. Built in a single NIM-module width, the dc coupled gate transmits linearly signals of either polarity with a minimum of distortion. The module includes no pulse shaping circuitry and the pedestal at the current output is practically zero.

The gate may be opened by a NIM standard logic signal exceeding 10ns in duration and will remain open as long as that signal is applied. A switch on the front panel is provided to allow the gate to be kept open permanently. Also on the front panel is a push button switch to facilitate timing adjustments when a pedestal is introduced that may be easily identified on an oscilloscope.

In operation, an input signal is transformed into a current pulse which, if too large, is amplitude limited before passing to the gating

circuit proper. The gating diodes are controlled, via two emitter-followers, by the gating signal shaper which provides the necessary symmetrical signal. The dc level at the input is stabilized to zero to eliminate the pedestal on the output that would result from an offset at the input. Further stabilization is applied to other critical parts of the circuitry to ensure that no pedestal is produced. All the stabilization circuitry has a slow response time as it is only required to correct for slowly varying conditions.

This instrument is an industrialized version of the CERN Type N2233. It 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 operational performance are, however, covered in full by the normal Borer guarantee.



TYPE 330

borer



Inputs:

Impedance	$50\Omega \pm 2\%$
Reflections	5% max below $\pm 1V$
Current, max cont	10% max below $\pm 10V$ ($t_r = 1ns$)
Maximum rate	75mA
	Greater than 50MHz

Outputs:

Impedance	Current source, must be terminated dc return path 125Ω max
Rise time	2,5ns max
Linearity	Better than 0.25% (over range of $\pm 16mA$)
Transmission attenuation	5% approx. Output limited to $\pm 22mA$
Pedestal	Adjustable to zero
	Stabilized to better than $\pm 0,5mV$ over 50Ω
Signal feed-through	50mV max capacitively Differentiated, for an input signal of 10V and 1ns rise time. Net charge is zero

Gate:

Input impedance	$50\Omega \pm 2\%$
Input level	-400mV to -4V to open gate
Signal duration	10ns min. Maximum duration unlimited
Opening time	3ns max to 90% of max signal ampli- tude
Closing time	4ns max to 90% of max signal ampli- tude
Transients	30mV max from base line to worst peak, net charge adjustable to zero.

Power requirements

+24V, 90mA max
-24V, 90mA max

Temperature range

+5° to +60°C

Dimensions

1 x NIM-Norm

Compatibility

All standard NIM-Bins such as
Borer Type 573a.