



## FE 281 LINEAR GATE

### Purpose

This Linear Gate is intended to select and transmit linearly photo-multiplier pulses or other short pulses. It can also be used to sample voltage levels.

### General Features

The gate, which is built in a single-width NIM-module, is entirely DC-coupled and can transmit linear signals of either polarity with a minimum of distortion.

There is no pulse shaping and the pedestal is practically zero.

The output is a current source which must be terminated by a resistance of less than a few hundred ohms.

The gate is opened by a NIM-Standard Logic signal, not shorter than 10 ns, and is kept open as long as this signal is applied. It can also be kept permanently open by a switch on the front panel.

Timing adjustments are facilitated by a push-button, which introduces a pedestal easily visible on an oscilloscope.

A recessed potentiometer on the front panel allows adjustment of transients.

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**BNC — Connectors :** The same module is available with BNC connectors instead of LEMO connectors. The ordering number is **FE 281/B**

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## SPECIFICATIONS

Linear Input	Impedance 50 ohms with less than 5% reflections below $\pm 1$ V, less than 10% below $\pm 10$ V from a signal with a rise-time of 1 ns. Maximum continuous input current 75 mA.
Linearity	0,25% over a range of $\pm 16$ mA ( $= \pm 800$ mV).
Transmission Attenuation	Approximately 5%. Output limited to $\pm 22$ mA.
Rise-Time	Less than 3 ns.
Output	Current source, which must have a DC return to ground of not more than 125 ohms.
Gating Signal Input	Impedance 50 ohms. Requires a negative signal between $-400$ mV and $-3$ V to open the gate. Minimum length is 10 ns, but there is no maximum limitation.
Repetition Rate	Higher than 50 Mc/s.
Pedestal	Adjustable to zero and stabilized to better than $\pm 0,5$ mV over 50 ohms.
Signal Feed-Through	Less than 50 mV, capacitively differentiated, for an input signal of 10 V and 1 ns rise-time. Net charge is zero.
Power Consumption	+24 V / 80 mA      -24 V / 80 mA

Specifications subject to minor changes without notice.