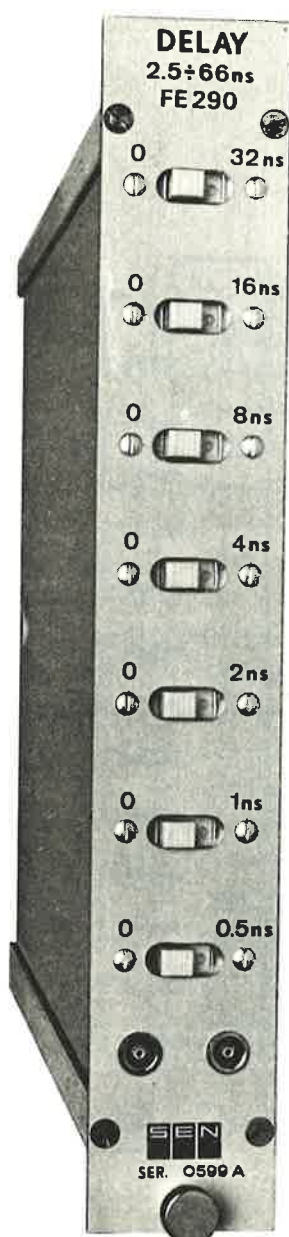


INSTRUCTION MANUAL

Nr 585 1044
FE 290 DELAY UNIT



FE 290 DELAY UNIT

SPECIFICATIONS

Delay Range	2.5 to 66 ns, adjustable in steps of 0.5, 1.0, 2.0, 4.0, 8.0, 16.0 and 32.0 ns.
Calibration	<p>better than 50 ps for the minimum delay of 2.5 ns and</p> <p>50 ps for the switch position of 0.5 ns</p> <p>50 ps for the switch position of 1.0 ns</p> <p>50 ps for the switch position of 2.0 ns</p> <p>50 ps for the switch position of 4.0 ns</p> <p>75 ps for the switch position of 8.0 ns</p> <p>100 ps for the switch position of 16.0 ns</p> <p>200 ps for the switch position of 32.0 ns</p>
Impedance	50 ± 2 ohms (manufacturers quoted tolerance). Cable is Suhner G03232.1. This tolerance in impedance can cause up to 4% ohmic reflections.
Reflections	≅ 5% for pulses with tr = 0.3 ns and for pulses from a 56 AVP photomultiplier (tr = 2.5 ns).
Attenuation of Peak Amplitude	<p>When full delay (66 ns) is switched in:</p> <p>17.5% for 56 AVP pulses.</p> <p>8% for a 10 ns square pulse.</p> <p>15% for a 5 ns square pulse.</p>
Risetime Degradation	Full delay switched in: Negligible for 56 AVP pulses. An input step with a 5-50% risetime of 0.2 ns becomes a risetime of 0.5 ns.
Feedthrough	<p>Via switch capacities</p> <p>≤ 2.5% for 56 AVP pulses.</p> <p>≤ 1% for a pulse with 0.3 ns risetime.</p>

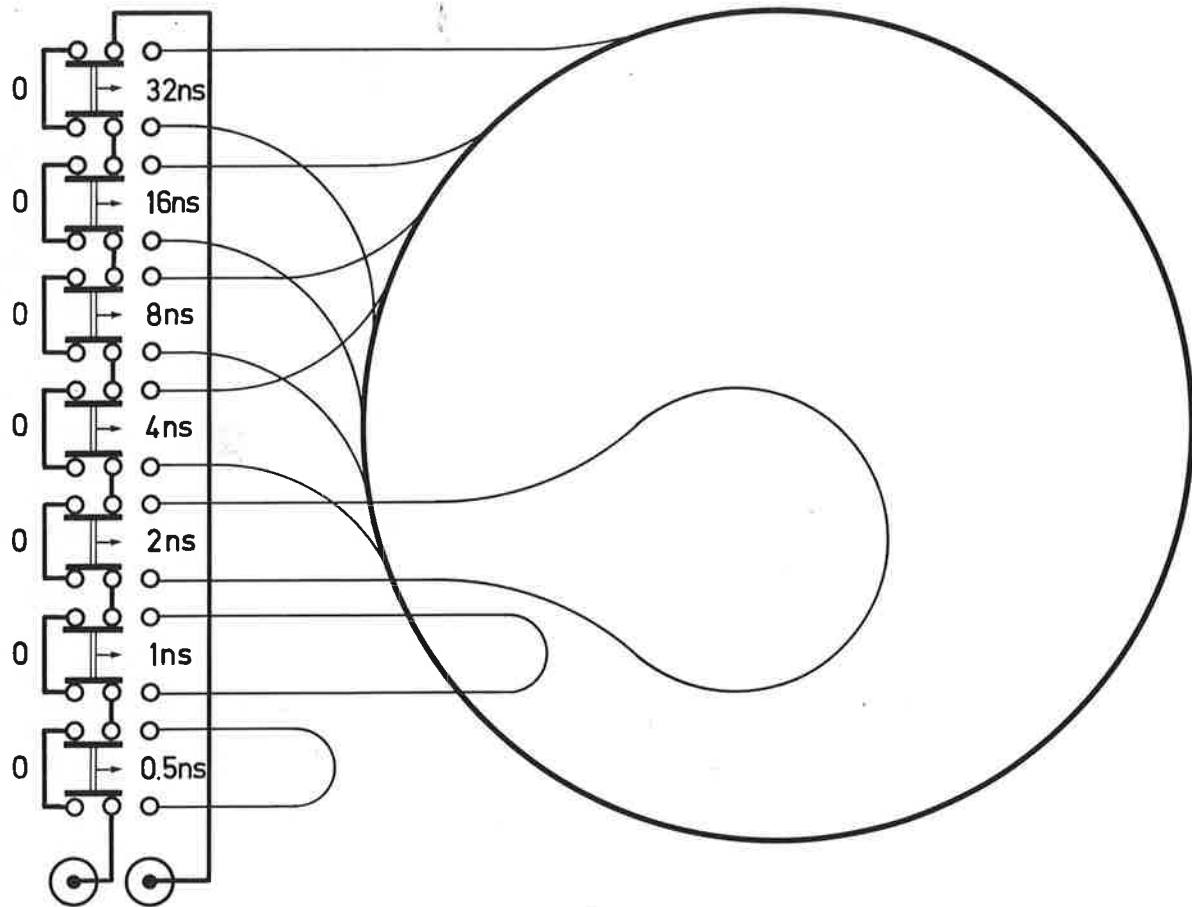
BNC — Connectors : The same module is available with BNC connectors instead of LEMO connectors. The ordering number is **FE 290/B**

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.

Specifications subject to minor changes without notice.

FE 290 NIM DELAY UNIT

CIRCUIT DIAGRAM



ZERO DELAY: 2.5ns, shown in fat lines
 MAX. DELAY: 66ns