



The DT 950 is a programmable Trigger logic module with adjustable DELAY and WIDTH, 4 NIM Inputs, 1 INHIBIT, 1 VETO, 1 RESET, and 1 Ext. CLK. in a 6U VME module. 4 NIM Output, NIM Endmark, NIM CLK Output, 4 TTL Output.

INPUT NIM (1)	Lemo connector, bipolar input NIM input input impedance 50 Ω "0" = 0V, "1" = -0.7V TTL input "0" = 0V, "1" = 2.0 to 5.0V
INPUT INHIBIT (Input)	Lemo connector, bipolar input NIM input input impedance 50 Ω "0" = 0V, "1" = -0.7V TTL input "0" = 0V, "1" = 2.0 to 5.0V As long as INHIBIT is active, input is suppressed
INPUT VETO (Output)	Lemo connector, bipolar input NIM input input impedance 50 Ω "0" = 0V, "1" = -0.7V TTL input "0" = 0V, "1" = 2.0 to 5.0V As long as VETO is active, input is suppressed
INPUT RESET	Lemo connector, bipolar input NIM input input impedance 50 Ω "0" = 0V, "1" = -0.7V TTL input "0" = 0V, "1" = 2.0 to 5.0V As long as RESET is active, input is suppressed
INPUT CLK	Lemo connector, bipolar input NIM input input impedance 50 Ω "0" = 0V, "1" = -0.7V TTL input "0" = 0V, "1" = 2.0 to 5.0V Ext. ref clock, (200MHz)

OUT NIM	2 Lemo connector Output with logic signal "1", -0.7V output impedance 50 Ω
$\overline{\text{OUT NIM}}$	2 Lemo connector Output with logic signal "0", 0V output impedance 50 Ω
END MARK (NIM)	Lemo connector Output with logic signal "1", -0.7V output impedance 50 Ω, 10ns
CLK (NIM)	Lemo connector output impedance 50 Ω, 200MHz
OUT TTL	2 Lemo connector Output with logic signal "1", 5V output impedance 50 Ω
$\overline{\text{OUT TTL}}$	2 Lemo connector Output with logic signal "1", 0V output impedance 50 Ω
Indicator	LED, light indicates IN, OUT signals
Switching times	$t_r = t_f$ ca. 250 ps, (NIM)
Delay	INPUT to OUTPUT ... ns, (propagation time)
Bus	RS485, connector on the front panel
Skew	Output to Output (max) +/- 25 ps, (NIM)
Jitter	over the whole range approx. ... ps
Packing	6U-high, 4U-wide VME Unit
Temperature range	0 – 50 °C
Dimension	6U-high, 4U-wide, VME unit
Power requirements	+ 5V ...mA, +12V ...mA

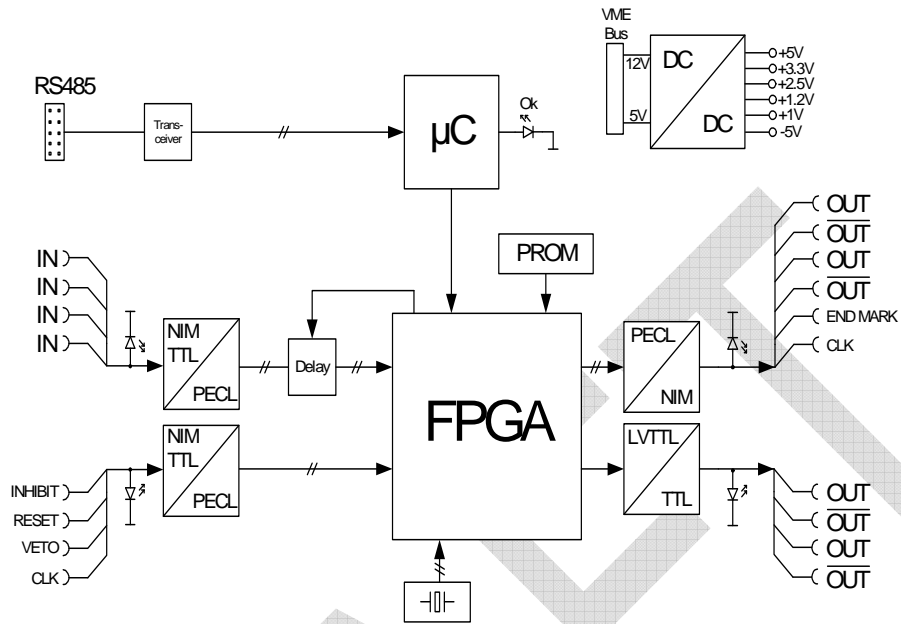


Figure 1. Functional Block Diagram

Setting Delay and Width

The delay and width is adjustable from 0 ns to 4s (+propagation delay).

- s 0 - 4
- ms 0 - 999
- us 0 - 999
- ns 0 - 990, 10ns steps

Delay in ps

- ps 10ps - 10ns, in 10ps steps

Table 4. Variable classification

<u>index</u>	<u>parameter</u>		<u>value</u>	<u>hex</u>	<u>unit</u>
0	+5.0V	16bit U	1000	(0x03EB)	millivolt
1	+3.3V	16bit U	1000	(0x03EB)	millivolt
2	+2.5V	16bit U	1000	(0x03EB)	millivolt
3	+1.2V	16bit U	1000	(0x03EB)	millivolt
4	+1.0	16bit U	1000	(0x03EB)	millivolt
5	-5.0V	16bit U	1000	(0x03EB)	millivolt
6	Voltage6	16bit U	0	(0x0000)	millivolt
7	Voltage7	16bit U	0	(0x0000)	millivolt
8	BUTTON	8bit U	60	(0x3C)/00111100)	byte
9	CHANNEL	8bit U	0	(0x00/00000000)	byte
10	MODE	8bit U	0	(0x00/00000000)	byte
11	Delay s	32bit U	0	(0x00000000)	dword
12	Delay ms	32bit U	0	(0x00000000)	dword
13	Delay us	32bit U	0	(0x00000000)	dword
14	Delay ns	32bit U	0	(0x00000000)	dword
15	Width s	32bit U	0	(0x00000000)	dword
16	Width ms	32bit U	0	(0x00000000)	dword
17	Width us	32bit U	0	(0x00000000)	dword
18	Width ns	32bit U	0	(0x00000000)	dword
19	Delay 1 ps	16bit U	0	(0x0000)	word
20	Delay 2 ps	16bit U	0	(0x0000)	word
21	Delay 3 ps	16bit U	0	(0x0000)	word
22	Delay 4 ps	16bit U	0	(0x0000)	word