

Technical
Information
Manual

MOD. N 89

*NIM-TTL-NIM
ADAPTER*

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CAEN
NIM-TTL-NIM
ADAPTER
mod 89

The PCB features four identical functional sections arranged vertically. Each section contains a central toggle switch and two pairs of circular connectors. The labels for these sections are as follows:

- Section 1 (top): IN (left), OUT (right), NIM (left), TTL (right)
- Section 2: IN (left), OUT (right), NIM (left), TTL (right)
- Section 3: IN (left), OUT (right), NIM (left), TTL (right)
- Section 4 (bottom): IN (left), OUT (right), NIM (left), TTL (right)

At the bottom of the board, there are two power input terminals labeled $+6V/500mA$ and $-6V/700mA$, and a screw terminal labeled Ser. N° 22.

$+6V/500mA$ Ser. N° 22
 $-6V/700mA$

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CAEN declines all responsibility for damages or injuries caused by an improper use of the Modules due to negligence on behalf of the User. It is strongly recommended to read thoroughly the CAEN User's Manual before any kind of operation.



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DESCRIPTION

Model N 89 is a NIM-to-TTL, TTL-to-NIM Adapter and incorporates 8 channels of NIM to TTL converters and 8 channels of TTL to NIM converters in a 1-unit wide std. NIM module.

In order to increase its flexibility, the module is divided into four sections: the two upper sections perform the NIM to TTL conversion; the two lower sections, the TTL to NIM conversion. In each section a two-position switch allows logic inversion.

All the channels are DC coupled and have no duty-cycle limitations. The TTL output can deliver 2V on 50 Ω and can therefore be connected to remote 50 Ω loads through 50 Ω coaxial cable with minimum signal degradation. Fast rise-and-fall times ensure reliable operations with minimum pulse width and maximum frequency.

SPECIFICATIONS

PARAMETER	NIM-TTL	TTL-NIM
Number of channels	8	8
Input impedance	50 Ω	50 Ω
Min. input pulse width	10 ns	12 ns
Output pulse amplitude	≥ 2 V	800 mV
Output impedance	50 Ω	50 Ω
Rise- and fall-time	≤ 3 ns	≤ 2 ns
Input-Output delay	≤ 8 ns	≤ 10 ns
Max. operating frequency	60 MHz	40 MHz

All connectors are **LEMO 00** type

Power requirements: + 6V 0.23 A
 - 6V 0.23 A

LIST OF COMPONENTS

IC.s

(IC4) x 2	SN7486	(2)
IC1,IC2,IC3	MC10107	(3)
IC6,IC7	MC10125	(2)

TRANSISTORS

(T18,T20,T22,T24) x 2	2N918 Ph.	(8)
T1+T8	2N918 Mot.	(8)
T9+T16	2N2369A	(8)
(T17,T19,T21,T23) x 2	BSX 29	(8)

DIODES

D1,D2	1N4007	(2)
D3,D4	1N914	(2)

RESISTORS 1/4 W 5%

R1,R3,R5,R7,R11,R13,R15,R17 (R39,R42,R51,R54) x 2 ..	51 Ω	(16)
(R41,R47,R53,R59) x 2	178 Ω 1%	(8)
(R37,R44,R49,R56) x 2	220 Ω	(8)
(R40,R46,R52,R58) x 2	215 Ω 1%	(8)
R19+R26, (R38,R45,R50,R57) x 2	560 Ω	(16)
R2,R4,R6,R8+R10,R12,R14,R16,R18	1 K Ω	(10)
R27+R34, (R35) x 2	2.2 K Ω	(10)
(R36,R53,R48,R55) x 2	6.8 K Ω	(8)

CAPACITORS

C*	10 nF	(22)
C**	> 6.8 μ F > 6V	(14)

C*,C**: Filter Capacitors