

ISIBox

Interface for the boards

ISITime-01 (PCI)
ISITime-01 (CPCI)
ISITime-02 (PCI)
TDC-V4 (PCI)
TDC-V4 (CPCI)



User Manual

v3.1 - July 2013

LUMAT – DTPI (CNRS – UPSud)

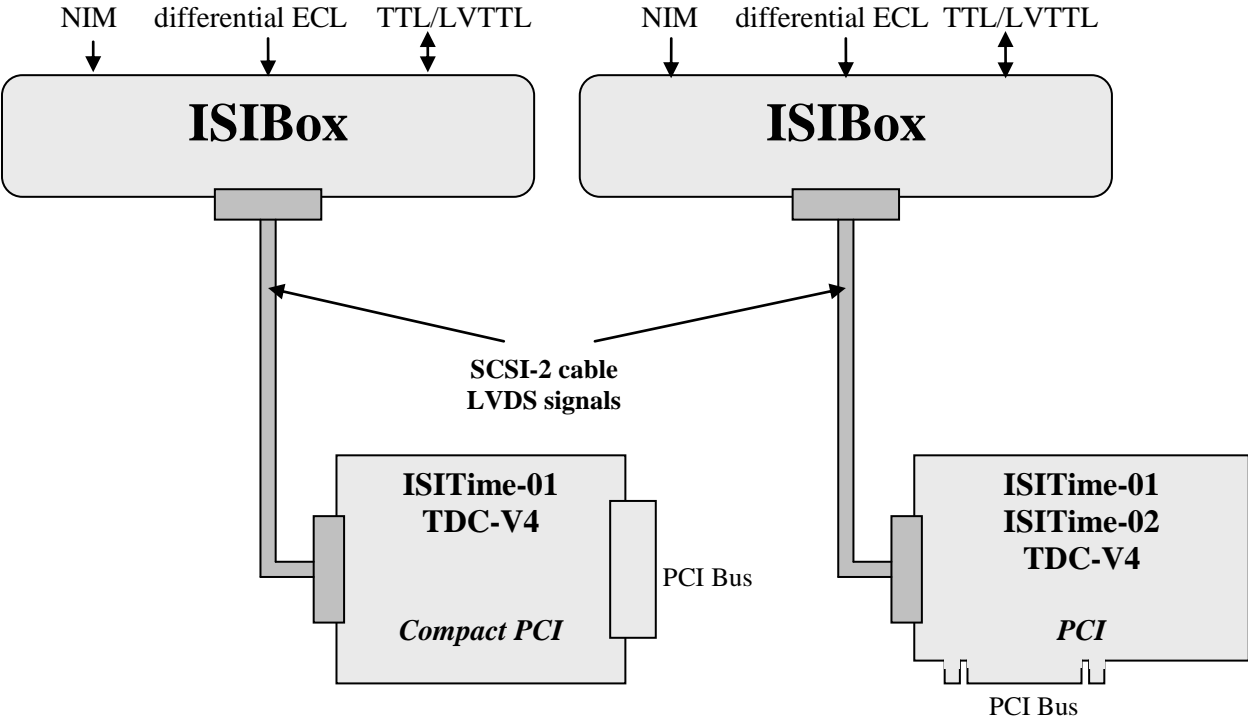
Overview

The Interface ISIBox makes it easier to access the ISITime and TDC-V4 TDC family. This device plugs into a 19 inches rack and is powered by the connected TDC itself.

The ISIBox communicates with the TDC board by means of a 50 pins SCSI-2 cable which carries differential LVDS signals. Communication operates properly with a cable up to 5 m.

The ISIBox offers the following functions :

- transposition to LVDS standard from standards used in laboratories : NIM, differential ECL, TTL, LVTTTL
- mechanical adaptation to common connectors : BNC, Lemo00, HE10
- visual control of TDC operation : Power, Run (encoding is enabled) and Busy (an Event is in progress) LEDs



Inputs and Outputs

- 1 fast START input: NIM standard, BNC connector in front panel
 - 16 STOP inputs : NIM standard, BNC connectors in front panel
or differential ECL standard, HE10 connector in front panel
- These inputs are multiplexed and transmitted to the 16 STOP inputs of the TDC according to the following table :

Left switch	Right switch	STOP channels transmitted to the TDC
↑	↑	CH0 ... CH15 NIM
↓	↑	CH0 ... CH5 ECL CH6 ... CH15 NIM
↑	↓	CH0 ... CH5 NIM CH6 ... CH15 ECL
↓	↓	CH0 ... CH15 ECL

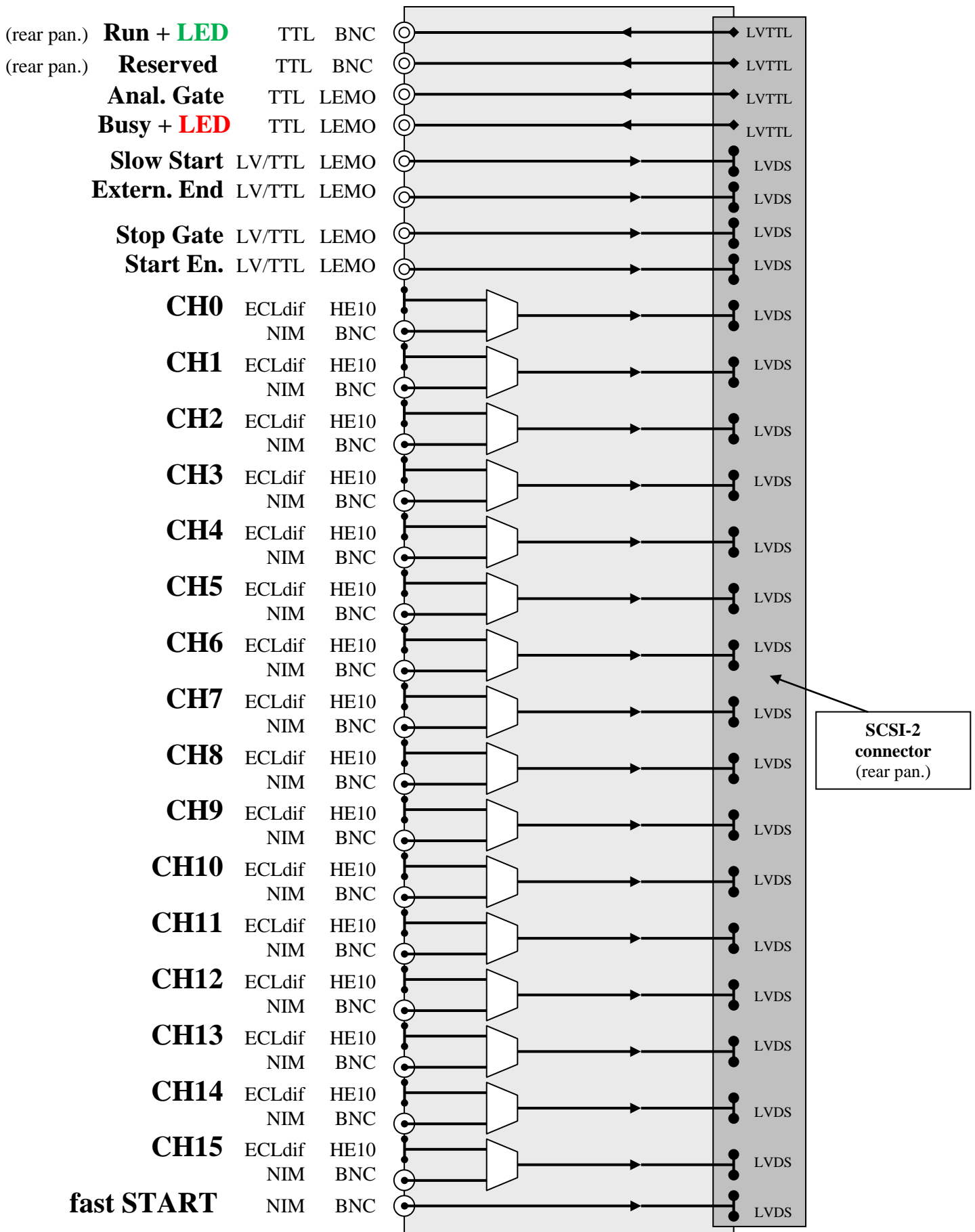
- 4 inputs : TTL/LVTTL standard, Lemo00 connectors in front panel :
 - Slow Start
 - Start Gate
 - Extern. End
 - Stop Gate

- 4 outputs : TTL/LVTTL standard:
 - Anal. Gate : Lemo00 connector in front panel
 - Busy : Lemo00 connector in front panel
 - Run : BNC connector in rear panel
 - Reserved : BNC connector in rear panel

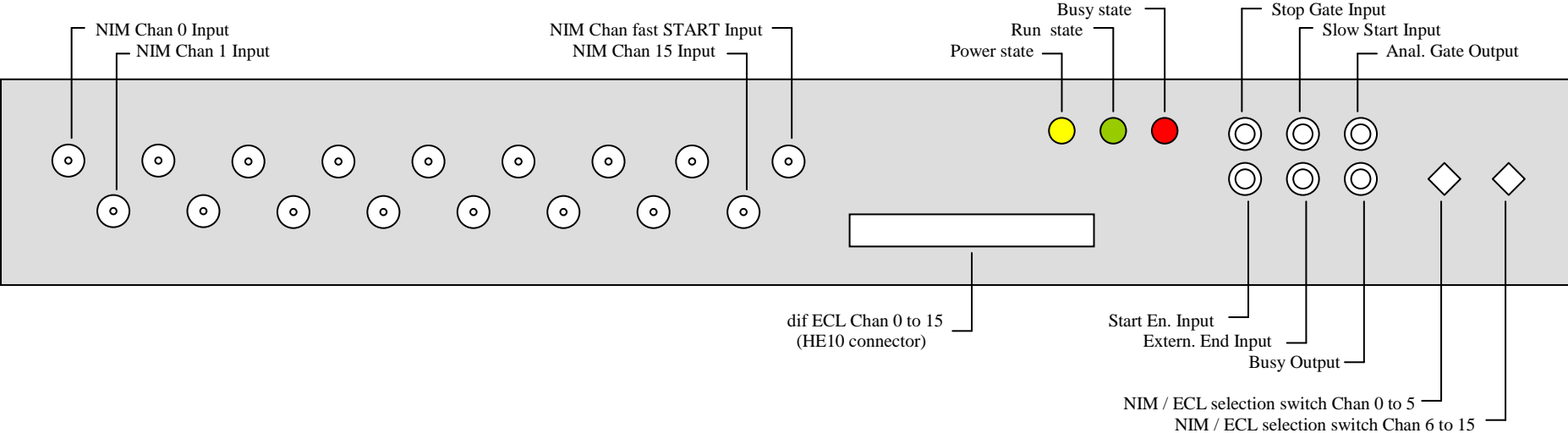
The Busy output signal

This signal can be configured as positive or negative logics. If the Busy output is configured to positive logics, the LED is on and the Lemo00 output is asserted high when the TDC is in the BUSY state. If the Busy output is configured to negative logics, the LED is off and the Lemo00 output is asserted low when the TDC is in the BUSY state. Unless the use of the Busy output signal requires negative logics, it is advisable to configure it to positive logics.

ISIBox architecture



Front Panel



Rear Panel

