

Interface cable for RTC4 board and the IPG fiber laser machine

- (1) There are two external connector on the RTC4 board. One is a DB-9 (9 pin female) connector for the connections to the laser system and a DB-25 (25 pin female) connector for the connections to the Galvo sub-system with XY2-100 interface.
- (2) Along with the external DB-9 connector, two more connectors (internal or on-board connectors) Extension 1 connector and Laser Extension connectors are also used for connecting between the two devices.
- (3) There is one DB-25 (25 pin male) connector on the IPG laser machine for interfacing.

RTC4 board side

IPG fiber laser side

DB-9 Male connector

DB-25 Female connector

1 - Q switch signal	-	-	-	-	20 - PRR
2 - Laser ON	-	-	-	-	19 - PA ON/OFF
6 - Ground	-	-	-	-	10, 11, 12, 13, 14, and 15
7 - Ground	-	-	-	-	24
8 - External Start (If required)					
5 - Ground for External Start (If required)					

Laser Extension connector

1 - LSB (D0)	-	-	-	-	1 - Laser power setting
3 - D1	-	-	-	-	2
5 - D2	-	-	-	-	3
7 - D3	-	-	-	-	4
9 - D4	-	-	-	-	5
11 - D5	-	-	-	-	6
13 - D6	-	-	-	-	7
15 - MSB (D7)	-	-	-	-	8 - Laser power setting
18 - +5 VDC	-	-	-	-	23 - Emergency Stop

(Temporary connection to logic 'Hi' on Laser Extension connector pin 18 to bypass or defeat the emergency stop for initial testing only. In final assembly, the emergency stop line on IPG should be connected to proper emergency stop button.)

Extension 1 connector

11 - Red diode ON/OFF	-	-	-	22
13 - Power setting latch	-	-	-	9
15 - Master Oscillator ON/OFF	-	-	-	18
2 - IPG laser status input	-	-	-	21
4 - IPG laser status input	-	-	-	16

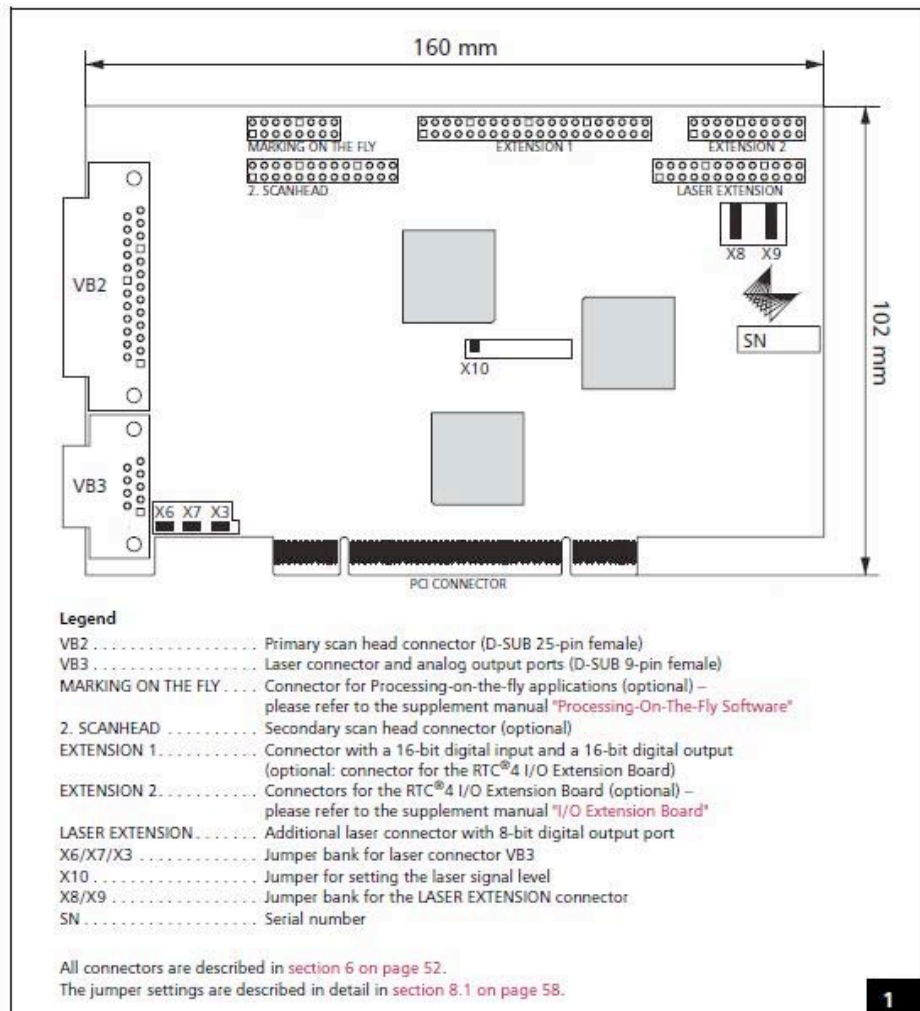
Note 1: The programming of the RTC4 board meets the specification, safety, and timing requirements for the IPG laser based on IPG Type B interface specifications of July 2005.

Note 2: It is always a good idea to be safe and expect malfunctioning of PC or the machine.

Additional connections for other functions (Not mandatory for IPG)

Extension 1 connector

- 1 - Busy signal
- 3 - Z direction command, if Z axis is equipped with a step motor
- 5 - Z step command, if Z axis is equipped with a step motor
- 7 - Z active signal, if Z axis is in motion
- 9 - End of Job pulse signal



IPG Connector
DB 25 Female



Laser Extension

Extension 1

VB3 Laser Connector
DB 9 Male