



1650 Series

Laser System Controller

The model 1650 Laser System Controller (LSC) expands the capabilities of our model 1550 Laser Diode Driver Controller. It allows the ability to easily control current levels, pulse modes, and interlock controls as well as monitor voltage and current levels from the driver. In addition to providing complete control of the Laser Diode Driver, the LSC includes features such as q-switch triggering, external triggering, sync output, and additional I/O signals. The LSC is a cost-effective solution for controlling various laser system setups.

Base Specifications

- 12 bit resolution on current setting
- 5 setup storage locations
- Single shot, continuous, burst and CW modes
- Repetition rates from 0.1 Hz to 100 KHz (50KHz in Q-sw mode)
- Sync Output – referenced to diode or Q-switch control pulses
- Additional I/O – photodiode, thermistor inputs and 0-10V analog output
- External Trigger-Start, stop, start/stop, gate and rising or falling edge modes
- Q-switch Trigger-Delay control with +/-6.5ms adjustment range and 200ns resolution



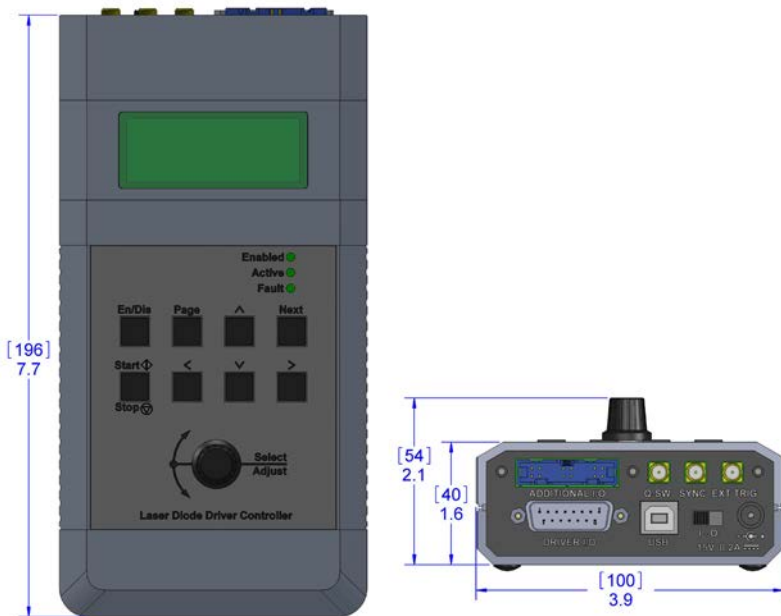
ES France - Département Tests & Mesures
127 rue de Buzenval BP 26 - 92380 Garches



Tél. 01 47 95 99 45
Fax. 01 47 01 16 22



e-mail : tem@es-france.com
Site Web : www.es-france.com



Interface Connection:

- DB15 male standard density for driver interface.
- SMA for ext trigger, sync and q-sw
- IDC for additional I/O.

Communication:

- USB 2.0 type B

Power Input:

- +15-24 VDC, 200 ma. from either external wall type or powered from driver

User Interface:

- 8 button keypad
- rotary encoder

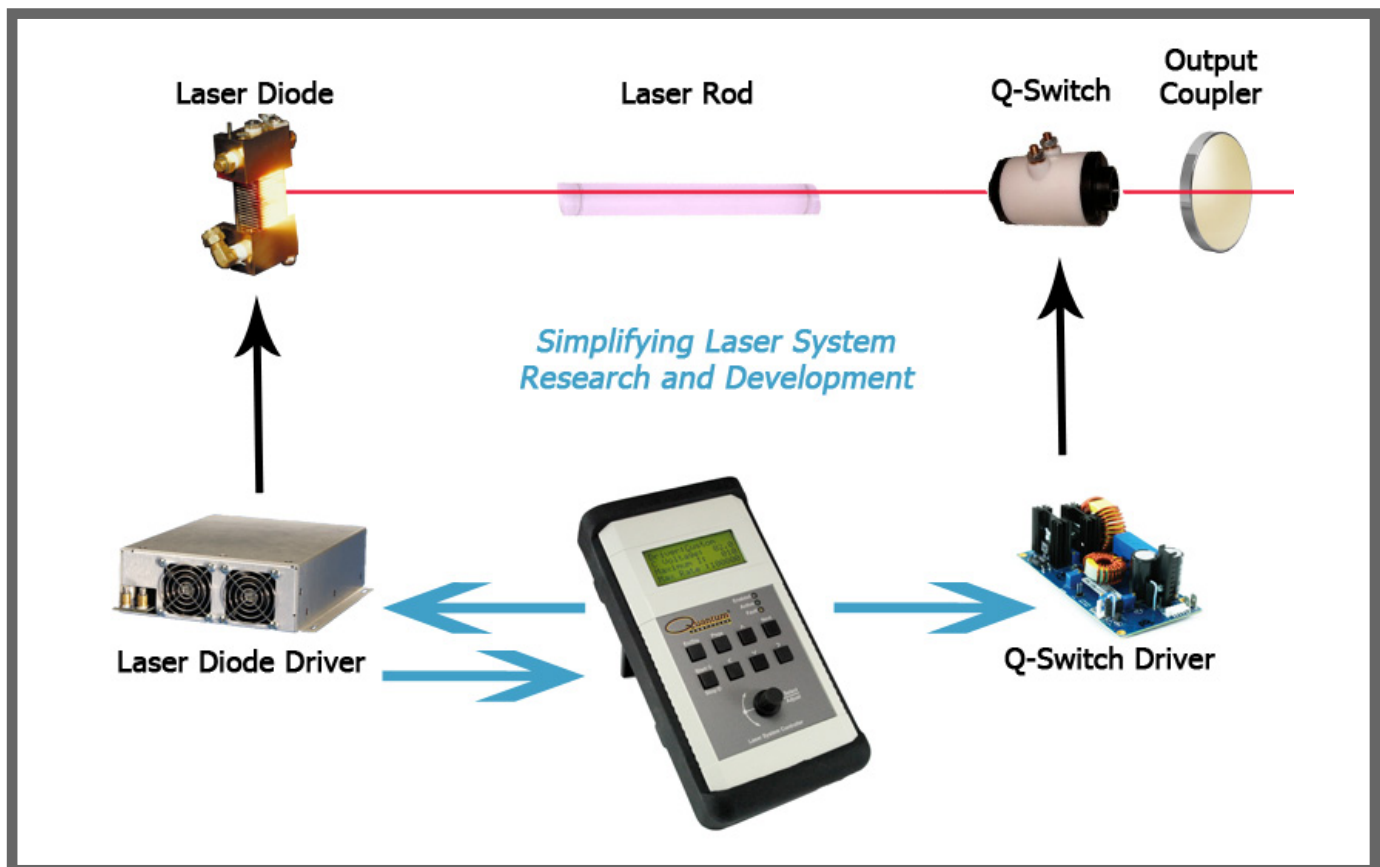
Readout Display:

- 16X4 LCD backlit display
- 3 LED status indicators

Driver Compatibility:

- Standard diode drivers with digital and analog control interfaces

*Future options include: board level for OEM integration, and ethernet communications.



SPECIFICATIONS

1650 Series LSC

Pulse Mode Options

Burst Count

single shot, pulsed, burst, and CW

1 to 65535 pulses

Internal Rate Generator

Rate

0.1 to 100,000 Hz

Resolution

100 ns

Accuracy

25 ns

Jitter (pulse to pulse)

1 ns RMS

Timing

Pulse Width Range

100 ns to 10 s

Width Resolution

100 ns

Width Accuracy

25 ns

Analog Measurement

Range

0.01 to 10 VDC

Resolution

10 mVDC

Q-Switch Trigger

Modes

enabled/disabled

Delay Range

-6.5 ms to + 6.5 ms (from falling edge of pulse control) *Total delay time of 13ms available with respect to Pulse Control's rising edge.

Amplitude

4 to 5 V

Width

5 μ s

Rate

0.1 to 50 KHz

Resolution

200 ns

Accuracy

25 ns

Jitter (from pulse control's falling edge)

2 ns (peak)

Sync

Modes

pulse control, q-sw control, pulse/q-sw

Amplitude

4 to 5 V

Delays

Rising Edge of Pulse Control

460 ns

Falling Edge of Pulse Control

750 ns

Rising Edge of q-sw

75 ns

Falling Edge of q-sw

105 ns

Jitter

To Pulse Control

25 ns (peak)

To Q-Sw Control

2 ns (peak)

External Trigger

Modes

start, stop, start/stop, gate AH,
gate AL (rising/falling)

Input Levels

2 to 20V

Insertion Delay

1.7 μ s

Insertion Jitter

100 ns (peak)

Rate

0 to 100 KHz

Photo Diode

Range

0 to 330 μ A

Resolution

10 bit

Thermistor (A & B)

Range

2K to 100K ohms

Resolution

10 bit

Communications

USB, Optional Ethernet

