



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



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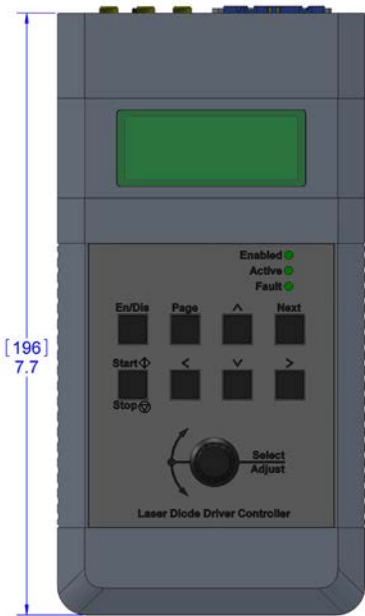


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Interface Connection:

- 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

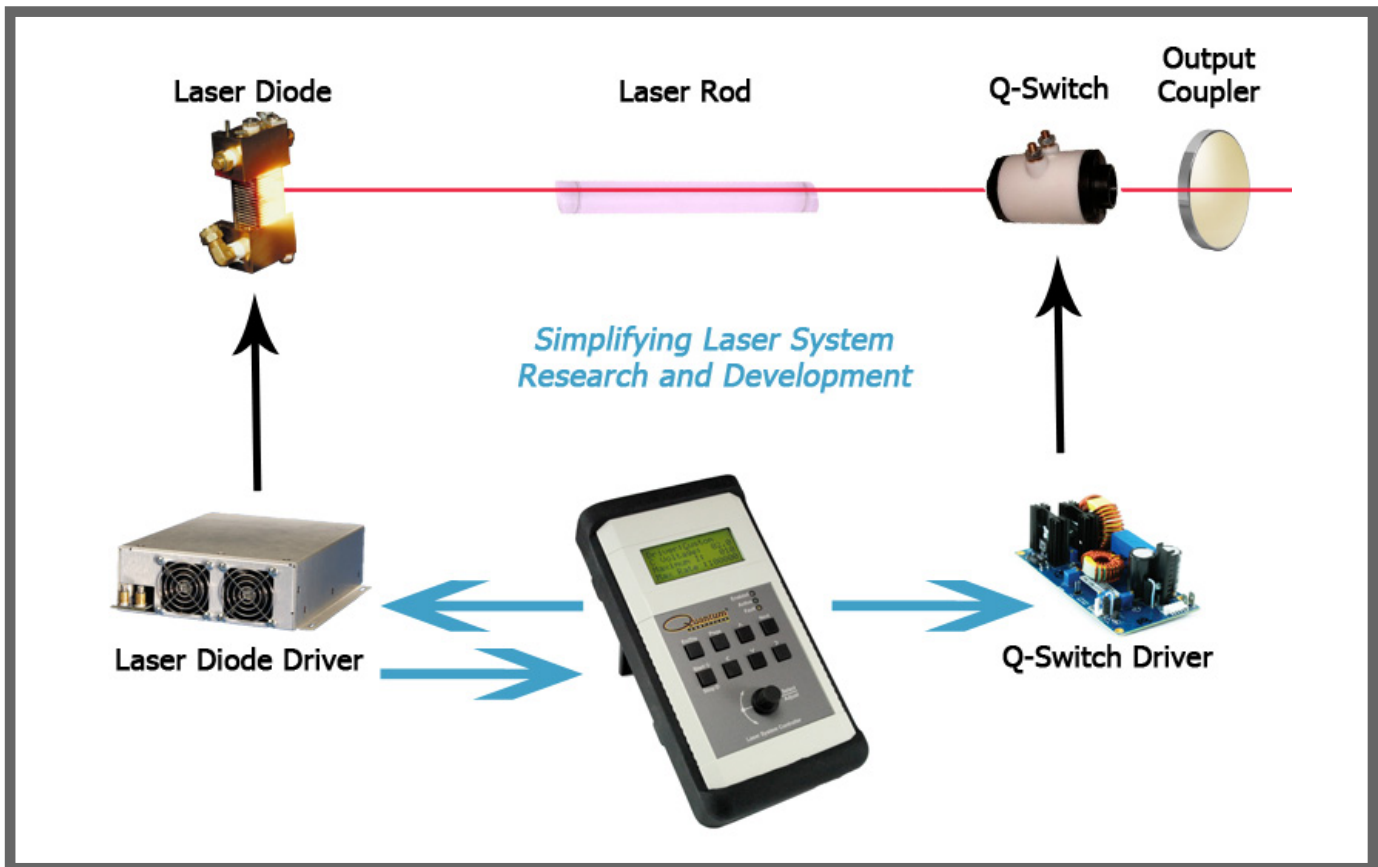
Readout Display:

- 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	single shot, pulsed, burst, and CW
Burst Count	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 us
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 us
Insertion Jitter	100 ns (peak)
Rate	0 to 100 KHz
Photo Diode	
Range	0 to 330 uA
Resolution	10 bit
Thermistor (A & B)	
Range	2K to 100K ohms
Resolution	10 bit
Communications	USB, Optional Ethernet

