

## **BETA LaserMike LaserSpeed Driver**

### **Information Sheet for Crimson v3.0+**

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#### **Compatible Devices**

BETA LaserMike LaserSpeed

#### **Verified Devices**

LS9000-320, LS8000-310, LS4000-303

#### **Overview**

The BETA LaserMike LaserSpeed driver is available in both serial and Ethernet (UDP) transports. It is designed to access configuration data as well as real time data via the LaserSpeed's TB mode.

LaserSpeed driver v1.10+ includes model detection for the LS9000, LS8000 and LS4000. Only parameters valid for the device detected will be requested of the drive.

Please review the following information to achieve successful communications.

#### **Driver/Device Configuration**

A Scan Rate is provided for user configuration. This setting allows the user to specify the rate for which the driver should request non real-time data from the LaserSpeed device. Raising this value will allow faster update of real-time data.

When real-time data is requested over a serial link, the following Port Settings should be used: Data bits - Eight, Stop Bits – One, Parity - None.

The LaserSpeed serial driver v1.10+ has support for LaserSpeed's auto baud and framing detection mechanism. When enabled in the device configuration, the Red Lion device will assist in this task for the first 20 seconds after power up.

The Ethernet driver's UDP Port setting should be set to the same port as the LaserSpeed's UDP Data Port setting. This port is used for real-time data access.

In the LaserSpeed UDP driver v1.10+, it is now possible to access the LaserSpeed's IP address and UDP port from the Red Lion device's UI by using the DevCtrl function as follows:

Set Device IP Address:       DevCtrl(device number, 1, new IP address string)  
 Set UDP Port:                DevCtrl(device number, 2, new UDP port string)  
 Get Device IP Address\*:     DevCtrl(device number, 3, empty string)  
 Get UDP Port\*:               DevCtrl(device number, 4, empty string)

\*value returned will be an integer

## Accessing Data

Raw values are retrieved from the LaserSpeed as follows.

Group	Item	Type	Access	Notes	
Real Time Data	Length	Integer	Read		
	Velocity	Integer	Read		
	Quality Factor	Byte	Read		
	Status	Byte	Read		
Standard	Material Input Present Mode	Integer	R/W		
	Material Present Dropout Time	Integer	R/W		
	Material Present Validation Time	Integer	R/W		
	Material Present Threshold	Integer	R/W		
	Walking Threshold	Integer	R/W		
	Minimum Final Length	Integer	R/W		
	Index Pulse Length	Integer	R/W		
	Index Pulse Every	Integer	R/W		
	High Speed Pulse Rate	Integer	R/W		
	Low Speed Pulse Rate	Integer	R/W		
	Measurement Units	Byte	R/W		
	Advanced	Direction Inversion Switch	Byte	R/W	
		Hold Velocity If Above	Integer	R/W	
		Velocity Hold Timeout	Integer	R/W	
Calibration Trim		Integer	R/W		
User Update Rate		Integer	R/W		
Length Reset Value		Integer	R/W		
Minimum Velocity Limit		Integer	R/W		
Maximum Velocity Limit		Integer	R/W		
Length Reset Input Action		Byte	R/W		
QF Warning Threshold		Integer	R/W		
QF Warning Timeout		Integer	R/W		
Velocity At Loss Of Material		Byte	R/W		
Comm LED Control		Byte	R/W		
Averaging Time		Integer	R/W		
Setting Lock		Flag	R/W		
Setting Lock Enabled		Flag	R/W		
Reset Internal Length Count		Byte	WO		
High Speed Pulse Count At Last Reset		Integer	RO		
Low Speed Pulse Count At Last Reset	Integer	RO			

Group	Item	Type	Access	Notes
	Delta Length Calculation Mode	Byte	R/W	
	Signal Threshold Settings	Byte	R/W	
	Shift Frequency	Byte	R/W	
	Reversal Zone Hits	Byte	R/W	
	Arbitrary Command Out	String	WO	
	Arbitrary Result In	String	RO	
Outputs	Analog Full Scale	Real	R/W	
	Auxiliary Digital Output Func	Byte	R/W	
	High Speed Pulse Config	Byte	R/W	
	Low Speed Pulse Config	Byte	R/W	
	Length Threshold A	Integer	R/W	
	Length Threshold B	Integer	R/W	
	Analog Zero Scale	Integer	R/W	
Gauge Info	Gauge Serial Number	String	RO	*
	Firmware Version String	String	RO	*
	Hour Meter Current Value	Integer	RO	
	Current Temp	Integer	RO	
	Max Temp	Integer	RO	
	Micro Software Version	String	RO	
Communication	RS232 Baud Rate Settings	Byte	R/W	
	RS232 Power On Mode	String	R/W	Set String Length to 4. *
	RS422 Baud Rate Settings	Byte	R/W	
	RS422 Power On Mode	String	R/W	Set String Length to 4. *
	Ethernet Enabled	Flag	RO	
	Ethernet Link Status	Byte	RO	
	Ethernet Hardware ID	String	RO	*
	DHCP Enabled	Flag	R/W	
	Host Name	String	R/W	*
	IP Address	String	R/W	*
	IP Default Gateway	String	R/W	*
	IP Net Mask	String	R/W	*
	UDP Data Port	Integer	R/W	
	UDP Power On Dest IP Address	String	R/W	*
	UDP Power On Dest IP Port	Integer	R/W	
	UDP Power On Mode	String	R/W	Set String Length To 4. *

\* When accessing items with a data type of "String", the item should be assigned to a string tag and the tags Packing should be set to ASCII Big-Endian. Care should be taken when writing to string items. In the event that the current string value contains the same first 4 or more characters as the desired string value, the string should be cleared before writing the desired string. String support is provided for lengths up to 64 characters.

## Cable Information

<b>G3 RS232 Port</b>	<b>LS9000 RS232 Port</b>
2 - Rx	1 - Tx
5 - Tx	2 - Rx
3,4 - Common	19 - Common

<b>G3 RS422 Port</b>	<b>LS9000 RS422 Port</b>
1 - TxB	3 - Receive -
2 - TxA	4 - Receive +
3 - RxA	2 - Transmit +
4 - RxB	1 - Transmit -
6 - Common	5 - Common

G3 Ethernet Port: Standard 10-Base-T Ethernet Cable

### Revision History

08/17/11 – Created

10/12/12 – v 1.10 Added model detection and LS4000/LS8000 support.

Added support for LaserSpeed's auto baud detection mechanism.

Added DevCtrl support for LaserSpeed UDP driver.