LaserSpeed I/O Module

LaserSpeed®

FieldBus Interface for LS8000 Series Gauges

Brings FieldBus Connectivity for Non-Contact Speed and Length Measurement to Your PLC Controller

The LaserSpeed 8000 Series Speed and Length Gauges bring all the advantages of high accuracy, non-contact measurements to a wide range of metal applications. But some applications demand even more.

That's why Beta LaserMike has developed the LaserSpeed I/O Module. The LaserSpeed I/O Module takes the LaserSpeed Gauge's speed, length, and status information, communicated by default through a RS232/RS422 connector, and converts it to Profibus or Ethernet Fieldbus format. This conversion makes it easy for you to interface the LaserSpeed output to most PLC Controllers.

Setup parameters can be configured directly from your PLC via the Profibus or Ethernet connection or can be configured via a RS232/RS422 pass-through port on the I/O Module, using the LaserTrak software provided with each LaserSpeed Gauge. FieldBus parameters are configured via a separate RS232 serial setup port.

The I/O Module also provides power to the LaserSpeed Gauge, and a keyswitch can be used to control laser power. A safety interlock and a Length Hold input to the gauge is available. Using the Light Stack output, the I/O Module can be used to control a 24 Volt Red/Yellow/Green light stack.

Benefits

- Easy connectivity between LaserSpeed 8000 Gauge and your PLC Controller
- Variety of input and output options offers flexibility and ease of use
- Simplifies LaserSpeed Gauge setup through use of your PLC Controller
- Improved quality control through Light Stack indication of out-of-tolerance products

Features

- Multifunction I/O Module for connectivity with LaserSpeed 8000 Series Gauges
- Connects directly to LaserSpeed Gauge via Gauge Sensor Cable
- Provides power (90 to 240 VAC) to LaserSpeed Gauge
- Outputs Speed, Length and Status via parallel output
- Converts RS232/RS422 Speed, Length and Status output from LaserSpeed Gauge to Profibus or Ethernet FieldBus
- Configuration of LaserSpeed Gauge via Profibus or Ethernet
- Displays Bar Graph for Quality Factor on front panel
- Displays status on front panel, including the following parameters: Valid Scans, Material Present, Laser at Temperature, Laser Power, and Shutter Positions

Visit our website at:
www.betalasermike.com

BETA LaserMike

Profibus Operation

The Profibus module is automatically detected.

Profibus Command Structure

Values are updated whenever the LS8000 is updated. The Status/Command, Velocity, Length, Quality Factor, and Status are updated at the User update. Rate specified by the LS8000.

Status/Command Byte Definition

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit2	Bit 1	Bit 0
0	0	0	0	0	0	Retrieves data from LaserSpeed	Send Data to LaserSpeed

Profibus Data Output Structure

Bytes	Name	Equivalent LS8000 command
1	Status/Command	1st bit set LS setup, 2nd bit read LS put in Fb
4	Velocity	Updated each DIP averaging period
4	Length	Updated each DIP averaging period
1	Quality Factor	0-15, where 0=bad, 15=great
1	Status	1st bit sensor at temperature, 2nd bit laser on, 3rd bit shutter open, 4th bit valid measurement, 5th bit material present.

Ethernet Network Operation

The Ethernet interface is automatically detected. The I/O Module's interface supports either T10 or T100. IP address and ports must be set up before use. A dedicated peer-to-peer network is recommended due the high traffic rate of the UDP broadcast when using a 2ms-update rate.

IP Sets the Ethernet IP address of the IO Module. Default is 192.168.001.111

Udplp Set the address to which the UDP will broadcast. Should be the IP of the Master.

UDP Port Port number for UDP broadcast. This is the port the Master should use to receive data. Default = 2051

TCP port TCP port for sending and receiving setup data. Default = 2052

GateWay = 0.0.0.0

Mask = 255.255.255.000

DHCP = 0.0.0.0

UDP Data Broadcast

Velocity, Length, Quality Factor, and Status are updated at the User Update Rate, as specified by the LS8000, and sent out by a UDP broadcast to the IP at a port specified during setup.

Bytes	Name	Equivalent LS8000 Command
4	Velocity	Updated each DIP averaging period
4	Length	Updated each DIP averaging period
1	Quality Factor	0-15, where 0=bad, 15=great
1	Status	1st bit sensor at temperature, 2nd bit laser on, 3rd bit shutter open, 4th bit valid measurement, 5th bit

This unit is a class IIIB laser product and complies with 21 CFR 1040.10 and 1040.11

The following safety features required to comply with the Bureau of Radiological Health Class IIIB laser requirements are included:

- Key-operated power switch on optional controller
- Laser indicator light on supply and laser
- Delayed laser startup-laser indicator light on prior to laser radiation
- Laser beam blocking device
- Interlock capability for remote shut-off

BETA LaserMike

Beta LaserMike USA
8001 Technology Blvd.
Dayton, OH 45424 USA
Ph: +1 937 233 9935
Fax: +1 937 233 7284

Beta LaserMike Europe
Stirling Road
Cressex Business Park
High Wycombe, Bucks
HP12 3RT United Kingdom
Ph: +44 1494 89 4400
Fax: +44 1494 89 4401

Beta LaserMike Asia
Rm. 606, Suncome Liauw's Plaza
No. 738 Shangcheng Rd.
Shanghai 200120, P.R. China
Ph: +86 21 58367137
Fax: +86 21 58368185

Visit our website at: www.betalasermike.com