STREAMLINE MICROCONTROLLER OPTION

DESCRIPTION

Osela's Streamline laser is now offered with an optional internal microcontroller for digital communication. The MC monitors and reports key parameters as well as allowing users to set operational conditions of the laser. The real time health monitoring is an excellent tool to analyze laser aging as well allowing for preventive maintenance to reduce down time in factory.

FEATURES

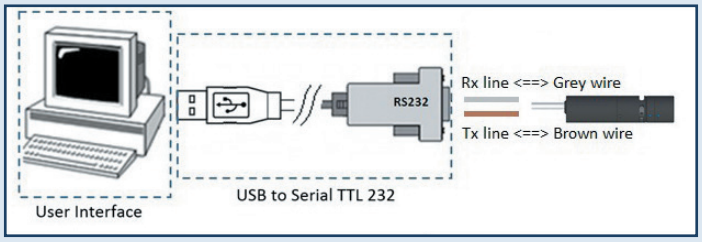
- Real time health monitoring and life time prediction
- Laser diode current, temperature and power monitoring
- Power setting from 10% to 100% of the nominal output
- Setting of modulation logic and slope
- Temperature Cut off setting
- RS-485 communication mode for paring up to 32 lasers in master/slave configuration or RS-232 for peer-to-peer

COMMUNICATION

The RS-232 is a peer-to-peer communication standard that does not need a network address. The RS-485 communication has the advantage of being able to interface with up to 32 lasers on the same communication bus where each laser, specific groups, or all lasers can be accessed. Each laser uses it's 6 digit serial number as the address. RS-485 allows for broadcasting of all connected lasers for simultaneous feedback.

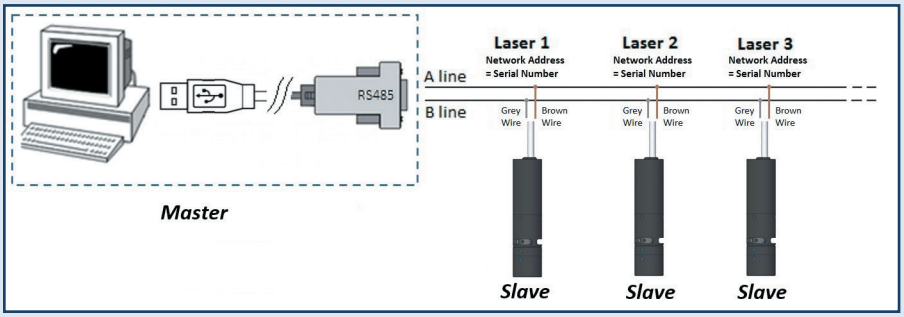
The lifetime estimations are generated by the calculation of the past usage, output power and operating laser diode temperature.

COMMUNICATION DIAGRAM WITH RS-232

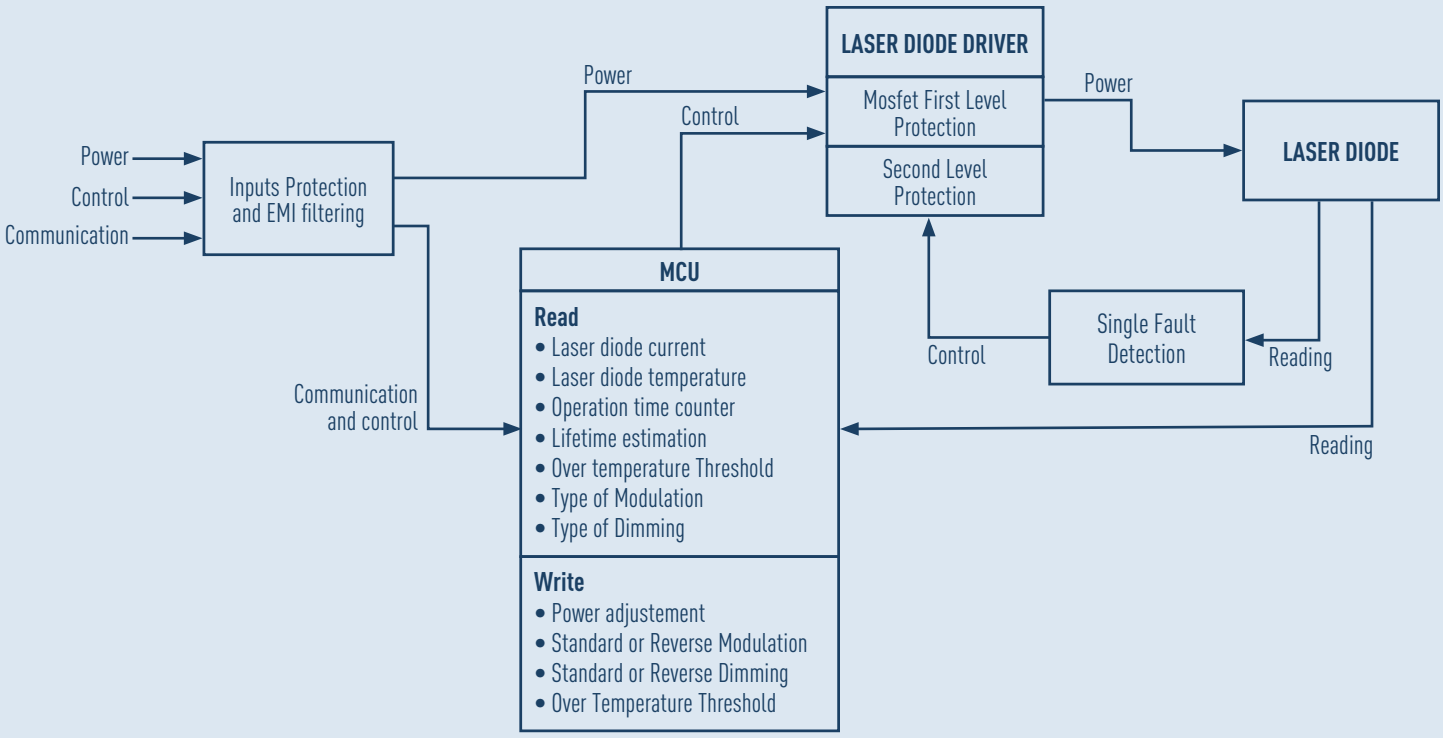


COMMAND	DESCRIPTION
'r' + 'l' + 'enter'	Report estimation of remaining life time
'r' + 'i' + 'enter'	Report laser diode current
'r' + 'p' + 'enter'	Report laser output power
'r' + 't' + 'enter'	Report laser diode temperature
'r' + 's' + 'enter'	Report laser module serial
'w' + 'p'+<VALUE> + 'enter'	Set output power
'w' + 'm'+ 'enter'	Set modulation logic
'w' + 'd'+ 'enter'	Set dimmer curve
'w' + 'o'+<VALUE> + 'enter'	Set temperature cut off

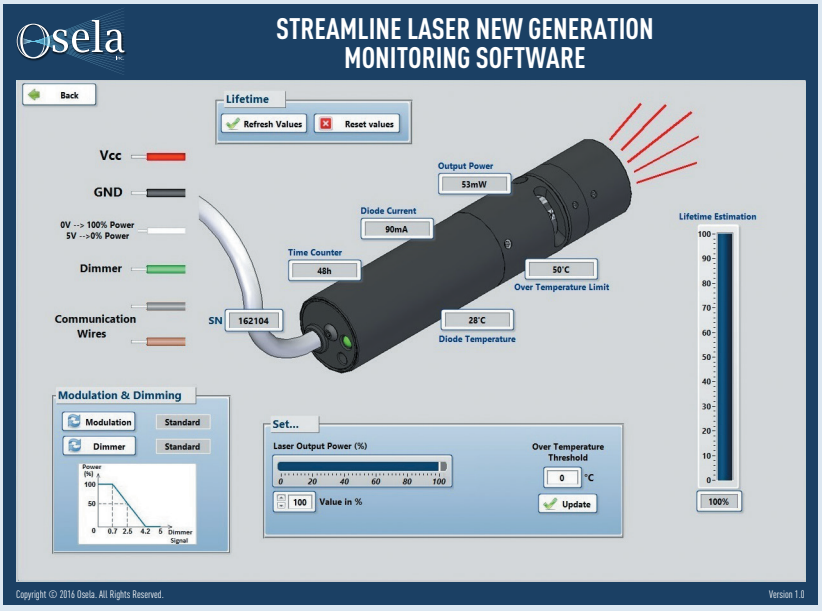
COMMUNICATION DIAGRAM WITH RS-485



FONCTIONAL BLOCK DIAGRAM



PC INTERFACE SOFTWARE AND INTERCONNECTIONS



M12 8 pins connector

PIN	DESCRIPTION
1 (black)	GND (power)
2 (white)	Modulation
3 (red)	Vin
4 (green)	Dimmer (0 to 5V)
5 (yellow)	Near end of time signal
6 (brown)	A line (RS-485), Tx (RS-232)
7 (blue)	GND (Communication)
8 (grey)	B line (RS-485), Rx (RS-232)

HOW TO ORDER

When ordering the Streamline laser module, simply add the suffix "RS232" or "RS485" at the end of the part number.