SmartPower XS10-2

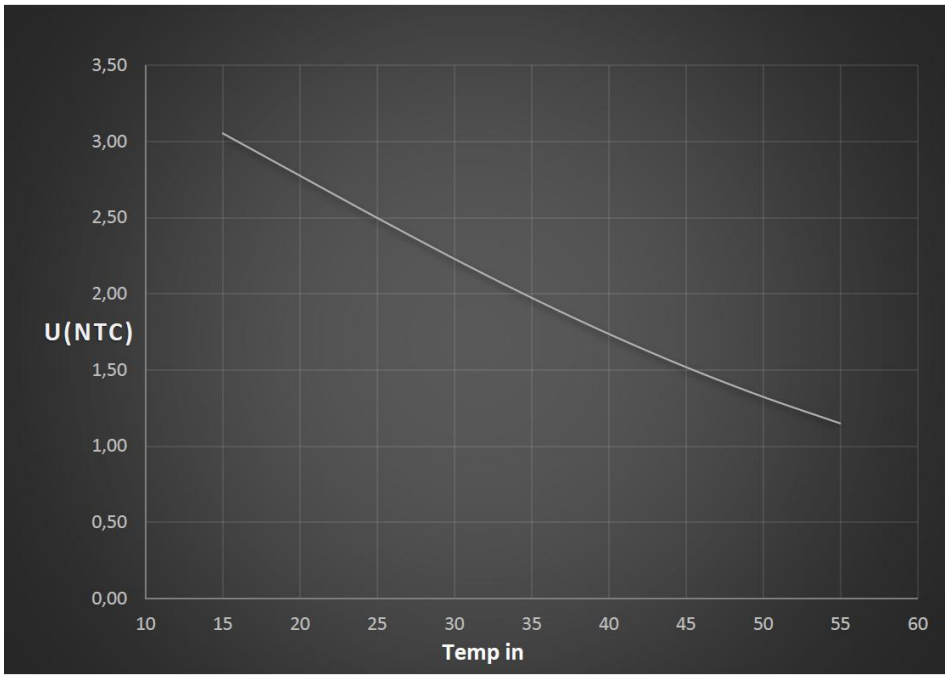
FEATURES:

- Laser diode driver for butterfly 10 or 14-Pin LC96 package
- Integrated PI- control loop for laser built in Peltier element
- Wide input voltage range
- Very low power dissipation
- Transient protection
- Overtemperature protection for driver
- Analog set point control
- Enable/Disable for laser current
- Slow start laser diode protection
- Single power supply for complete diode laser current source
- Easy to mount and user friendly
- Optional heat sink
- Customized solutions possible

PARAMETERS:

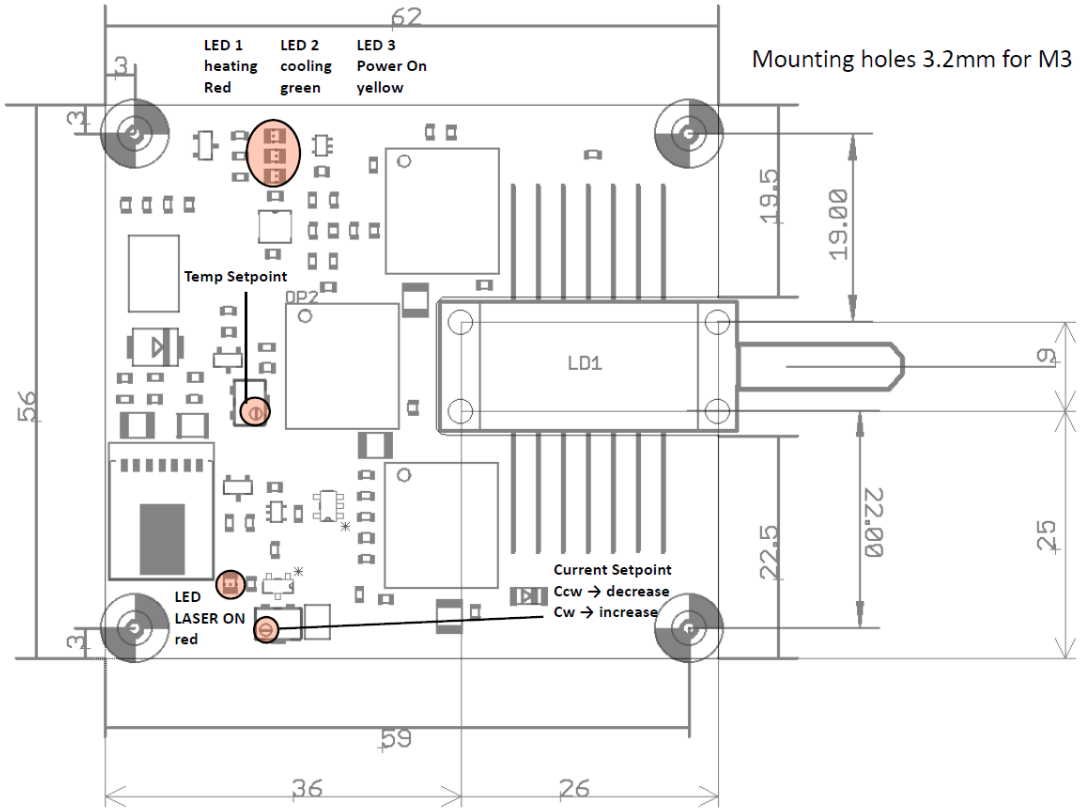
Parameter		**Laser diode driver**
Voltage output		0…4V
Current output		0…2 Amps (TEC and laser current in total under 2.8 A)
Current resolution		Analog Input unlimited
Current accuracy		±0,5%
Current stability		<0,1%
Current noise		< 5mA rms in cw mode
Current limit		2,1 Amps
Rise time		<150µs
Fall time		<150µs
Enable input		TTL
Parameter		**TEC control**
Sensor type		NTC10k
TEC current		±2 Amps (TEC and laser current in total under 2.8 A)
TEC voltage		±2,5V
Temperature controller		Set point potentiometer 15-25°±1°
Relative accuracy		±0,5K
Parameter		**Common data**
Voltage input		7…25Vdc
Power dissipation		<15 Watts
Dimensions [mm]		62x56x20 (Length x Width x Height)
Weight		0,016kg
Location of use		Only for inside use
Environmental conditions		
Temperature range	Operation	10 … 45 °C (non-condensing)
	Storage	-40 ... 70 °C
Relative Humidity	Operation	≤ 95 % (non-condensing)
	Storage	≤ 95 % (non-condensing)
Vertical height of use	Storage	12000 m

TEMPERATUR SETPOINT (NTC-10k) DIAGRAMM

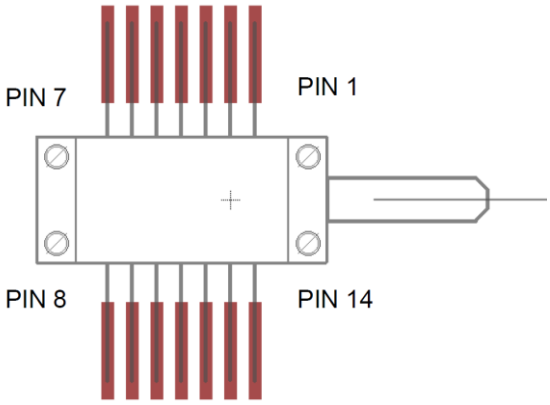


MECHANICAL DRAWING

All dimensions are in mm



LASER DIODE CONNECTION



PIN	FUNCTION	SPECIFICATION AND REMARKS
1	TEC	Maximum ±2 Amps
2	NTC+	Thermistor NTC 10k High potential 5V
3	PD	Not used *
4	PD	Not used *
5	NTC-	Thermistor NTC 10k Low potential 2.5V @ 25°C
6-9	N.C.	Not used
10	LDA	Laser diode anode
11	LDK	Laser diode cathode
12/13	N.C.	Not used
14	TEC	Maximum ±2 Amps

*Automatic Power Control on Request

INTERFACE

Connector X2 type Fischer WSL6 (PIN 1 MARKED)

PIN	FUNCTION	SPECIFICATION AND REMARKS	
1	Temp-Monitor	Normal operation 2.5V	(see diagram chapter 9)
2	External Set point Laser Current (option via Jumper)	0...2V 1V/1A [please contact default: disabled]	(input Impedance = 10kΩ)
3	Monitor Laser Current	Analog Voltage 0...2V 1V/1A	(output impedance 1kΩ)
4	Enable Laser Current	LOW signal	(connect to pin 5 to start laser)
5	GND	Power supply return path connected to Laser Diode Cathode (-)	
6	Power Supply	7..24V max. 2.2A ripple max. +/- 20mV generated from the driver board)	(use filters to prevent reverse noise

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