# PicoLAS

## FOCUSSING POWER TO THE POINT

# User Manual

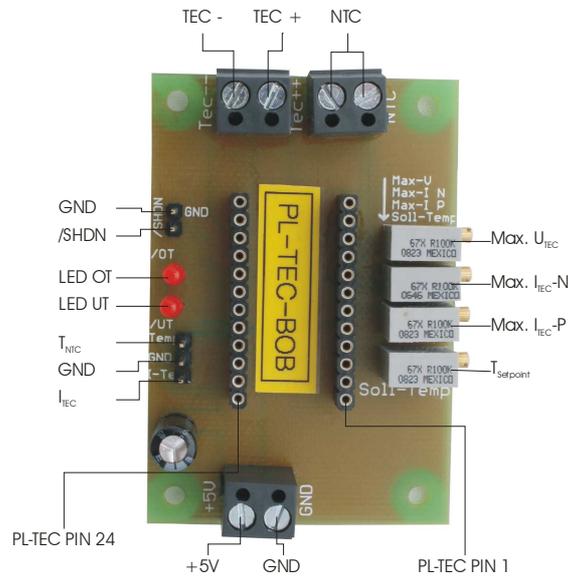## PL-TEC 1-0305-PWM-BOB

PicoLAS GmbH
Company for Innovative Power Electronics und Laser Technology

Kaiserstraße 100
52134 Herzogenrath

Tel:      +49(0)2407-563 58-0
Fax:      +49(0)2407-563 58-29
E-Mail:  info@picolas.de
Web:     www.picolas.de

# Elements of the Break out Board (BOB)

The BOB implements the typical operating environment of the PL-TEC 1-0305 PWM as explained in the user manual. The following graphic gives an overview of all connectors and elements of the BOB.



| Power supply connector: | +5V / GND |
|---|---|
| NTC connector: | connect to the NTC |
| TEC connector: | connect to TEC module. Pay attention to correct polarity |
| Poti $T_{Setpoint}$: | Adjusts NTC temperature setpoint |
| Poti Max. $I_{TEC}$-P: | Adjusts maximum positive TEC current limit |
| Poti Max. $I_{TEC}$-N: | Adjusts maximum negative TEC current limit |
| Poti Max. $U_{TEC}$: | Adjusts maximum TEC voltage limit |
| LED OT: | indicates over temperature |
| LED UT: | indicates under temperature |
| Pin header /SHDN: | Shutdown input |
| Pin header $I_{TEC}$: | TEC current monitor output |
| Pin header $T_{NTC}$: | NTC temperature monitor output |

# How to get started

| What to do | How to do it |
|---|---|
| Adjust TEC voltage and current limit potis according to the used TEC module | - See PL-TEC manual for the required resistor values. <br> - Connect an ohmmeter between ground and Pin 6, 7 and 17 of the PL-TEC connector respectively. <br> - Adjust potis to the desired values with help of the ohmmeter. <br> - Disconnect ohmmeter |
| Mount PL-TEC | Pay attention to the correct alignment (Pin 1) |
| Connect power supply and apply power | Connect +5V / 3A power supply to power connector. Pay attention to correct polarity. |
| Adjust $T_{Setpoint}$ poti | - Connect Voltmeter between ground and Pin 3 of the PL-TEC connector. <br> - Adjust $T_{Setpoint}$ poti to the desired Setpoint voltage. See PL-TEC user manual for detailed information. <br> - Disconnect voltmeter |
| Disconnect power supply | |
| Connect TEC | Pay attention to correct polarity |
| Connect NTC | No polarity required |
| Connect power supply and apply power | |
| Watch $I_{TEC}$ and $T_{NTC}$ outputs | Connect Voltmeter to the according pin header. For detailed information about the scale of the monitor outputs see PL-TEC user manual. |