



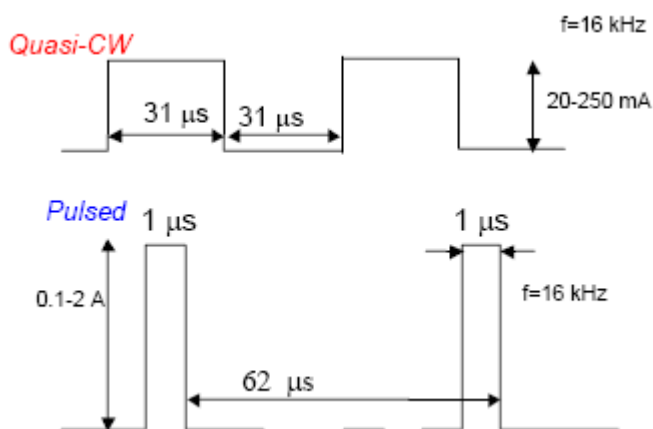
LED Driver and Temperature Controller Model DLT-27

➤ Driver **DLT-27** is designed for power supply of all models Mid-IR LED's with built-in thermocoolers. This driver provides two modes of operation:

- Quasi Continuous Wave (quasi steady-state) mode.
This mode provides maximum average optical power from the LED. The Current in this mode can be changed in the range of 20-250 mA. The Frequency of modulation is 16 kHz.
- Pulse mode.
This mode provides maximum peak optical power from the LED. The Peak current in pulse mode can be changed in the range of 0-2 A. The Pulse duration is 1 μ s.

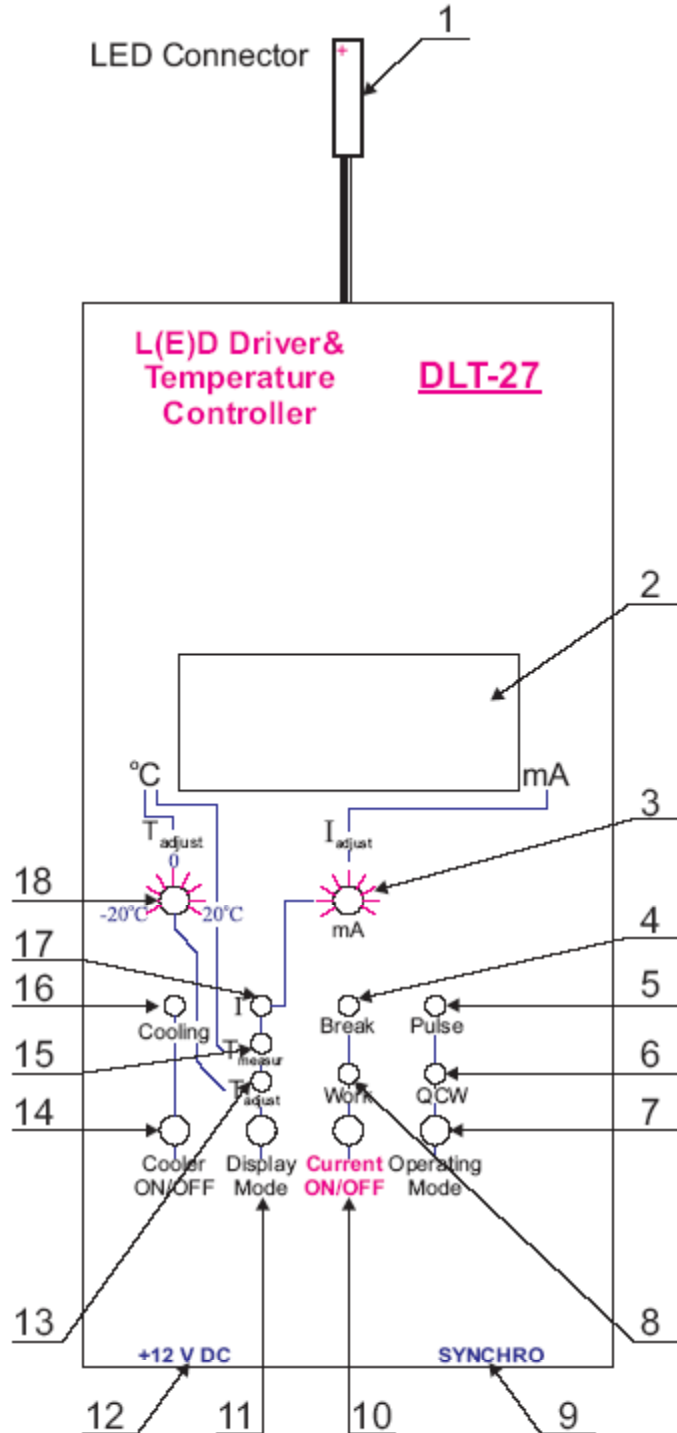


➤ The temperature controller, which is built in DLT-27 provides selecting and stabilizing of the temperature on LED's chip in wide range. That gives the possibility to tune wavelength or optical power.



The Frequency can be changed accordingly the customer's request. Also at the using of photoresistor of PR43 model the pulse duration must be changed to 10 μ s.

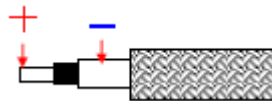
Parameters	Pulse mode	Quasi-CW mode
Pulse duration	1 μ s	31 μ s
Repetition rate	16 kHz	16 kHz
Current amplitude	0.1-2 A	20-250 mA
Temperature range	-10°C ÷ + 15 °C	
Dimensions, mm	145x70x30	
Weight	200 g	
Power requirement	stabilize +12 V DC+5%	



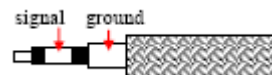


Operating instruction for DLT-27 for LEDs with thermocoolers (LEDXX-TEC and LEDXX-TEC-PR models)

1. Please take a LED with thermocooler and combine its pins with many-coloured wires of connector "LED" (1 -> see the page 2) till fixation; Please check that:
 - Pin with **red** point on the LED package (Anod of LED) is combined with **red** wire of connector "LED" (1).
 - Pin with **blue** point on the LED package (cathode of LED) is combined with **blue** wire of connector "LED" (1).
 - "+" of thermocooler is combined with **white** wire of connector "LED" (1).
 - "-" of thermocooler is combined with **black** wire of connector "LED" (1).
 - Pins of thermoresistor (that are pointed on a LED as "R") are combined with **green** wires of connector "LED" (1). Polarity of thermoresistor is not important.
2. After the connection of a LED into connector "LED" (1) Please take and replace the big aluminium cylindrical package in the direction from driver package against stop. Thus the whole LED must be placed inside big aluminium cylindrical package. After that, please, screw the aluminium cylindrical package with two small screws on it.
3. Insert AC/DC adapter into connector "+12V DC" (12) (Attention on voltage polarity).



4. Take the synchro cable (enclosed one piece to the DLT-27 – AMT-07 system) and unite the "SYNCHRO" out of DLT-27 with the "SYNCHRO" out of AMT-07. Below is given polarity of this cable.



5. Select operating mode - "QCW" or "Pulse" (switch "Operating mode" - 7). Green LED will indicate selected mode "Pulse" (5) or "QCW" (6)
6. Switch "Display Mode" (11) to the position "Tadjust" (13).
7. Select temperature of LED's operation by adjusting on Switch "Tadjust" (18). We recommend to begin with temperature +15C. You will see on the LC display (2) selected temperature.
8. Switch "Display Mode" (11) to the position "Tmeasur" (15). You will see on the LC display (2) real (measured) temperature on the LED chip.
9. Switch on thermocooler (14). Green LED (16) will indicate that cooling is working. You will see new measured temperature on the LED's chip on LC display (2). Recommend minimum temperature is around -10C.
10. Switch "Display Mode" (11) to the position "I" (17).
11. Set minimum current on Switch "Iadjust" (3).
12. Switch on driver (switch "Current On/Off" (10)). Green LED "Work"(8) will indicate that current is flowing. You will see on the LC display (2) drive current through the LED's chip in milliAmps. If after switching on current is not flowing red LED "Break"(4) will indicate break of the circuit. That situation can take place if testing Infrared LED is damaged.
13. Select drive current that you need by Switch "Iadjust" (3).