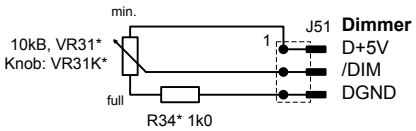


Circuit (I) – Simple Potentiometer Dimmer

Purpose:
To dim one (1) photonExa 50W by a simple Potentiometer

Notes:
Use a logarithmic potentiometer (marked as B). Only one Device can be controlled Individual minimum light output can be adjusted by the dimmer adjust Trimmer (VR2)

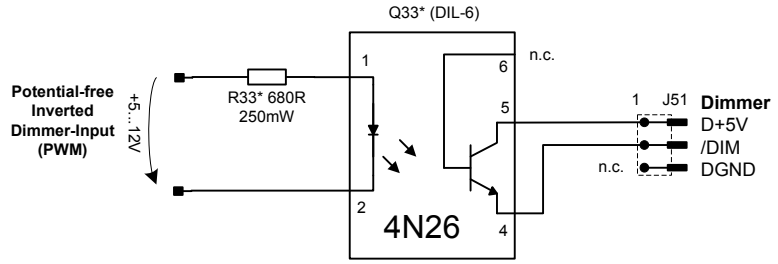
> ***Warning***:
> Never short J51 Pin#1 (D+5V) to Pin#3 (DGND). LED-Arrays may get degraded. Absolute Maximum Output Current of D+5V: 0.5mA.

Circuit (II) – Dimmer Voltage Extender +5...0.5V -> +10...1V

Purpose:
To interface one photonExa to a standard industrial DALI- or LON-Bus Controller.

Recommended Controller Configuration Parameters:
Type of lamp: Gas-Discharge, Control-Curve: Logarithmic, Control-Voltage: 1...10V, Signal-Type: Analog (PWM 25...250kHz possible), Signal-Logic: Inverted

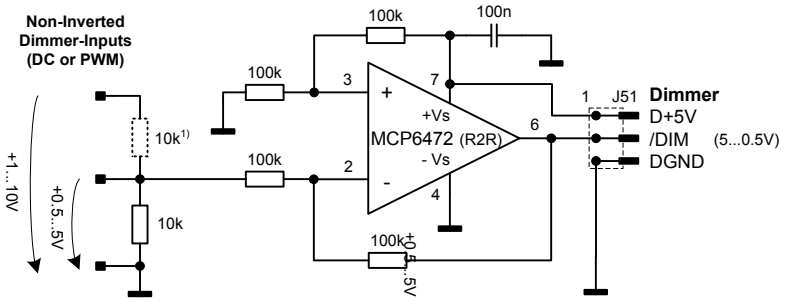
Notes:
Unless the controller provides potential-free outputs, only one device can be controlled. Use Circuit (III) for non-potential-free outputs and PWM-mode. Individual minimum light output can be adjusted by the dimmer adjust Trimmer (VR2)



Circuit (III) – Dimmer Signal Potential Separator

Purpose:
To dim multiple photonExa 50W devices from one PWM-Lighting-Controller 25kHz … 250kHz. 0=+5...12V, 1=+0...1.2V. The circuit separates potentials by a opto-coupler.

Notes:
Only digital conctrol signals (PWM) can be used.



Circuit (IV) – Dimmer Signal Inverter

Purpose:
photonExa uses a inverted signal logic; e.g. +0.5V means full power and +5V means lowest light output. This circuit converts the signal-logic from a custom-controller, that can't handle inverted signals into positive, non-inverted signal logic. Hence +0.5V means now lowest light output and +5V full power.

Notes:
The circuit does not separate potentials. Analog or PWM-Signals (up to 50kHz) can be used. [1)] Resistor can be omitted if 1...10V input is not used.