Project   **„M101 USB controllable DC-Lightsource /**

Development of a 4-color LED system for illuminating at industrial image recognition". (2004)

Principal:

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Description:

Problem:

For quality assurance at industrial production, increasing there it will be applied technology of computer-aided image recognition by using high-speed cameras and subsequently image processing in neural networks. For proper image recognition of moving objects it is neccessary to illuminate without flickering and freely adjustable via PC.

Solution:

Direct current (DC), generated by an USB-controlled 4-channel DC/DC converter, mounted in a DIN-rail housing.

The 4 DC-outputs provide 6 diametral arranged LED-Stripes populated with overall 3600 LEDs in different colors and wavelengths.

Technical data

Controller

Input   : 32VDC, 240W

Output   : 4 x 12-25V DC, max. 2A/channel

Interface   : USB 1.1

LED-stripes

Dimensions : 40mm x 800mm

Assembly   : 150pcs. per color in 4 different wavelenghts, infrared (λ=880nm) up to ultraviolet (λ=380nm)

controller

4-color LED-stripes, mounted in u-profiles

controller, power supply and LED-stripes in the test

sorting machine for quality assurance