PP600 Series LED Lighting Controller

Every machine vision system using LED lighting needs one of these

Dynamically adjust all lighting parameters

Use techniques not previously possible

Auto-calibrate lighting

Produce more reliable inspection systems

Cut the cost of using LED lighting

Controlling machine vision lighting is usually time consuming and costly. The solution is the PP600 family of products.

Problem	Solution
Powering LED lighting requires a DC supply, series potentiometer, enclosure, wiring, documentation and testing – a hidden cost often resulting in about three days work.	The PP600 series can be wired up and working in about ten minutes.
Automated control of lighting then requires an analogue output board, amplifiers and power drivers, more documentation. After all that there are noise and ripple issues to be resolved.	The PP600 series replaces all this with a single off the shelf unit.
Small variations in supply voltage can cause large changes in brightness.	The PP600 series supplies a constant current to produce much more stable lighting.
Different component types require different lighting systems. Sometimes several different views are taken of each component.	Use a PP600 series and control the switching, intensity and timing directly from software.
Although LED Lighting is fairly stable, some intensity drift does occur.	Measure the lighting intensity by averaging the brightness of the image grabbed by a camera. Send commands to the PP610 series using RS232 to adjust the lighting current accordingly.
Production line down times prohibit lengthy manual adjustment of lighting levels for different builds.	Intensities can be stored with other configuration data and downloaded to the PP610 series in seconds.

GARDASOFT VISION

The PP610 lighting controller provides PC or PLC control of LED lighting for machine vision applications. It includes the power regulation, intensity control, timing and triggering functions required for machine vision systems.

Three modes of operation are provided separately for each channel:
Continuous: Output is a continuous current.
Pulsed: Output is pulsed once per trigger.
Selected: Output changes according to digital inputs.

The PP610 is set up using simple RS232 commands sent from a PC or PLC. The setup is saved in non-volatile memory so that the PP610 will resume operation after a power cycle. The PP610 series can also be set up using four push buttons and a four digit display on the front of the unit.

The Gardasoft Vision website www.gardasoft.com has a free download of a demonstration program (with fully commented source) showing how the PP610 can be controlled from a PC using either Visual C++ or Visual Basic.

Specification

	PP600	PP602	PP610	PP612	PP600F	PP602F	PP610F	PP612F
User Interface	Pushbutton		Pushbutton & RS232		Pushbutton		Pushbutton & RS232	
Lighting connection	Screw Terminal	Screw terminal & Japanese Style Connector	Screw Terminal	Screw terminal & Japanese Style Connector	Screw Terminal	Screw terminal & Japanese Style Connector	Screw Terminal	Screw terminal & Japanese Style Connector
Output channels	Two independent constant current outputs							
Output current	From 0 to 10A in steps of 0.25mA up to 750mA / Steps of 2.5mA for higher currents Maximum current per channel: 10A pulsed or 4A continuous							
Trigger inputs	Two opto-isolated digital inputs. Requires 5 – 24v							
Pulse width timing	From 20uS to 1.3S in steps of 20uS Timing repeatability 2uS				From 5uS to 10mS in steps of 1uS Timing repeatability 1uS			
Delay from trigger to pulse	From 20uS to 1.3S in steps of 20uS Timing repeatability 2uS				From 10uS to 10mS in steps of 2uS Timing repeatability 2uS			
Output voltage	0 – 39v							
Supply voltage	Regulated 12 – 48v. The supply voltage must be at least 1v higher than the output voltage required by the light							
Dimensions	118mm long, 76mm wide, 27mm high (excluding DIN fixing)							
Weight	240g (excluding DIN fixing)							
Mounting	DIN rail or panel mouting							

Vision Light Tech
creating optical solutions