GARDASOFT
Industrial LED technology

The PP600 Series
LED Lighting Controllers

For more information please contact:

BOCK OPTRONICS INC.
14 Steinway Blvd., Unit 7
Toronto, Ontario M9W 6M6

Tel: (416) 674-2804
sales@bockoptronics.ca
www.bockoptronics.ca

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.**

The PP600 range of Gardasoft products is easy to use, efficient and cost-effective. Although it is a legacy product, it will be supported for many years. The RT range of lighting controllers is also available from Gardasoft, which offers SafeSense™ and SafePower™ technology and higher performance, and should be considered for newer designs.

STOP The Problems Faced:

1 Powering LED lighting requires a DC supply, series potentiometer, enclosure, wiring, documentation and testing – a hidden cost often resulting in about three days work.

2 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.

3 Small variations in supply voltage can cause large changes in brightness.

4 Different component types require different lighting systems. Several different views can be taken of each component.

5 Although LED Lighting is fairly stable, some intensity drift does occur.

6 Production line down-times prohibit lengthy manual adjustments of lighting levels for different builds.

GO The PP600 Series' Solutions:

1 The PP600 Series can be wired up and working in about ten minutes.

2 The PP600 Series replaces all this with a single off-the-shelf unit.

3 The PP600 Series supplies a constant current to produce much more stable lighting.

4 Use a PP600 Series unit and control the switching, intensity and timing directly from software.

5 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.

6 Intensities can be stored with other configuration data and downloaded to the PP610 Series in seconds.

The PP610 Series features

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 trigger -ing functions required for machine vision systems.

Three modes of operation

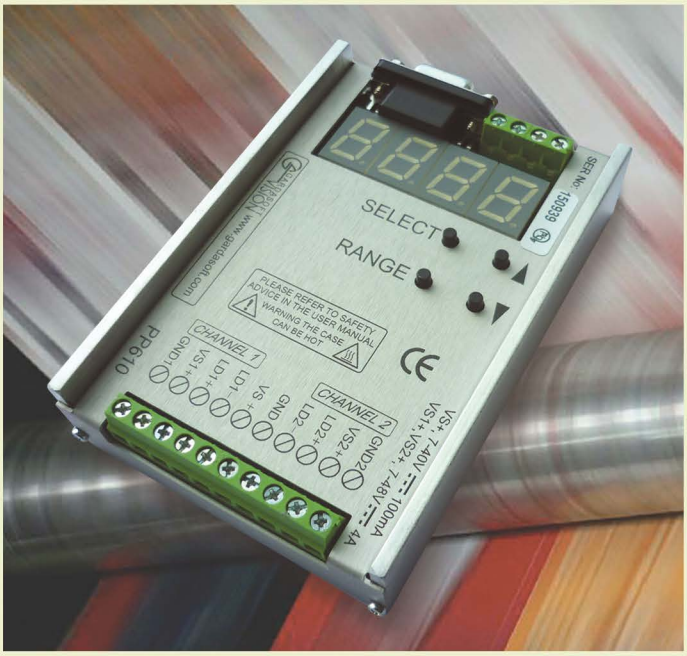
Three modes are provided independently for each channel:

- **Continuous** – output is a continuous current;
- **Pulsed** – output is pulsed once per trigger;
- **Selected** – output changes according to digital inputs. (*Note*: If you set one of the selections to 0, the PP610 operates in *Switched* mode.)

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

Note: For SafeSense™ and SafePower™ technology, and even higher performance, see our RT range of Controllers.

Gardasoft's website www.gardasoft.com provides 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. (*Note*: More product information, manuals and application notes can also be found at our website.)



PP600 SERIES SPECIFICATIONS

SPECIFICATIONS:	PP600	PP602	PP610	PP612	PP600F	PP602F	PP610F	PP612F
User interface	Push-button		Push-button & RS232		Push-button		Push-button & 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 0mA to 10A, in steps of 0.25mA for currents up to 750mA; in steps of 2.5mA for higher currents Maximum current per channel: 10A pulsed, or 4A continuous (subject to heat dissipation limits)							
Output voltage	0V to 47V. (*Note*: Must be at least 1V less than the lighting power supply.)							
Trigger inputs	Two opto-isolated digital inputs, which require 5V to 24V							
Pulse width timing	From 20µS to 1.3S, in steps of 20µS Timing repeatability: 2µS				From 5µS to 10mS, in steps of 1µS Timing repeatability: 1µS			
Delay from trigger to pulse	From 20µS to 1.3S, in steps of 20µS Timing repeatability: 2µS				From 10µS to 10mS, in steps of 2µS Timing repeatability: 2µS			
Supply voltage	Control supply: regulated 12V to 40V. Lighting supply: can be the control supply, or a separate 12V to 48V supply.							
Dimensions	118mm long x 76mm wide x 27mm high (excluding DIN fixing)							
Weight	240g (excluding DIN fixing)							
Mounting	DIN rail or panel mounting							

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Gardasoft Vision Ltd
Trinity Court, Buckingway Business Park
Swavesey, Cambridge CB24 4UQ UK
T. +44 1954 234970 F. +44 1954 231567
E. vision@gardasoft.com

Gardasoft LLC
Oak Ridge Road, Weare
New Hampshire 03281
T. +1 603-657-9026
E. visionusa@gardasoft.com

www.gardasoft.com