

PP100 - LED Lighting Controller With RS232 Control

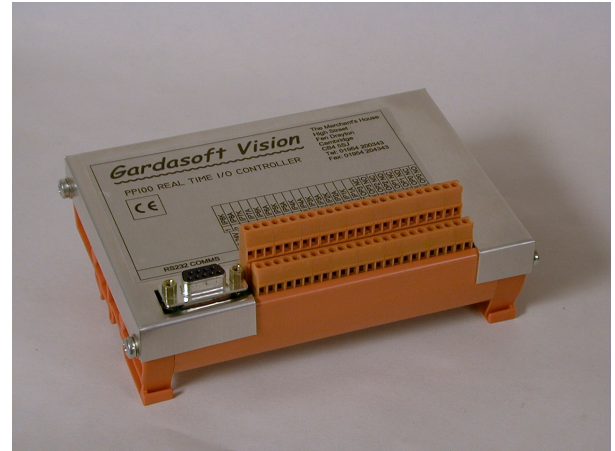
**Every machine vision system
using LED lighting
should use a controller**

Use techniques not previously possible

Auto-calibrate lighting

8 output channels up to 1A each

Cut the cost of using LED lighting



Controlling LED lighting is usually time consuming and costly. The solution is a Gardasoft Vision LED Lighting Controller. The PP100 range enables complex operations to be performed in real-time, controlled by RS232 and digital inputs.

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 PP100 can be wired up and working in about ten minutes.

Complex sequences of lighting arrangements need to be synchronised to the camera so that successive images show different features.

Different setups need to be selected by a PLC, depending on which product type is being manufactured.

The PP100 enables different brightness values and pulses to occur in sequence, selected by digital input or for any of eight trigger inputs.

Eight production lines work independently and need to pulse lighting when a component is ready for inspection.

The PP100 lighting controller range 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.

PP100 Range			
Model	Supply Voltage	Output Voltage	Inputs/Outputs
PP102	12V to 30V	0 to 28V	Opto inputs, relay outputs
PP112	12V to 30V	0 to 28V	RS422 inputs and outputs
PP101	24V	0 to 12V	Opto inputs, relay outputs
PP111	24V	0 to 12V	RS422 inputs and outputs

The PP102 and PP112 are recommended for new applications.

GardaSoft Vision

GardaSoft Vision

The PP100 can be configured to provide constant or pulsed output, with control over the delay, intensity and duration. Configuration is very generalised to allow a vast range of real time operations to be set up to run from digital input triggers.

Four modes of operation are provided:

- Static:** Outputs are constant or pulsed and can be controlled externally using the serial port.
- Triggered:** Each of eight triggers can cause a different sequence of outputs.
- Programmed:** One trigger causes one of eight sequences of operations, selected by digital input.
- Sequenced:** Up to eight sequences of operations are set up to be executed in rotation, one per trigger.

Configurations can be saved in non-volatile memory so that the PP100 will run standalone. Configuration can be performed using a straightforward setup program running on a PC, using an RS232 connection. Applications include lighting systems requiring brightness changes, easy and repeatable set up of lighting levels, strobe control of lighting and synchronising lighting switching to camera syncs.

PP100 Range Specification	
User interface	RS232 commands sent from a user program or supplied configuration utility
Output channels	8 independent constant current output channels
Output current	From 0.25mA to 1A in steps of 0.25mA. Multiple channels can be connected to one light for more current
Trigger/selection inputs	8 opto-isolated digital inputs. Require 5V to 24V
Digital Outputs	4 change over relay contacts or RS422
Pulse width timing	From 20us to 1.3 seconds in steps of 20us (see manual for conditions)
Delay from trigger to pulse	From 20us to 1.3 seconds in steps of 20us (see manual for conditions)
Serial port	Female 9 way D-type requiring a straight through connector to a PC. 9600 baud, 8 bits, no parity, 1 stop bit, no handshaking
Output voltage/ Supply Voltage	See table overleaf
Dimensions	150mm long by 104mm wide by 45mm high
Weight	340g
Mounting	DIN rail

Gardasoft Vision Ltd produce controllers for a wide variety of applications. New products are constantly being developed.

Gardasoft LED Lighting Controller Range Summary				
Product Range	PP100	PP600	PP600F	PP900
Number of lighting output channels	8	2	2	1
Max current per channel	1A	10A	10A	0.5A
Control Interface	RS232 only. Includes Windows configuration program	Push button and display. RS232 option	Push button and display. RS232 option	Screwdriver adjustment
Digital Inputs	8 opto-isolated	2 opto-isolated	2 opto-isolated	1 opto-isolated
Digital Outputs	4	0	0	0
Comments	High end controller for systems with large numbers of lights	Low cost controller for pulsing, switched and continuous lighting	High end controller for high accuracy timing	Low cost controller for continuous and simple pulsed applications



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