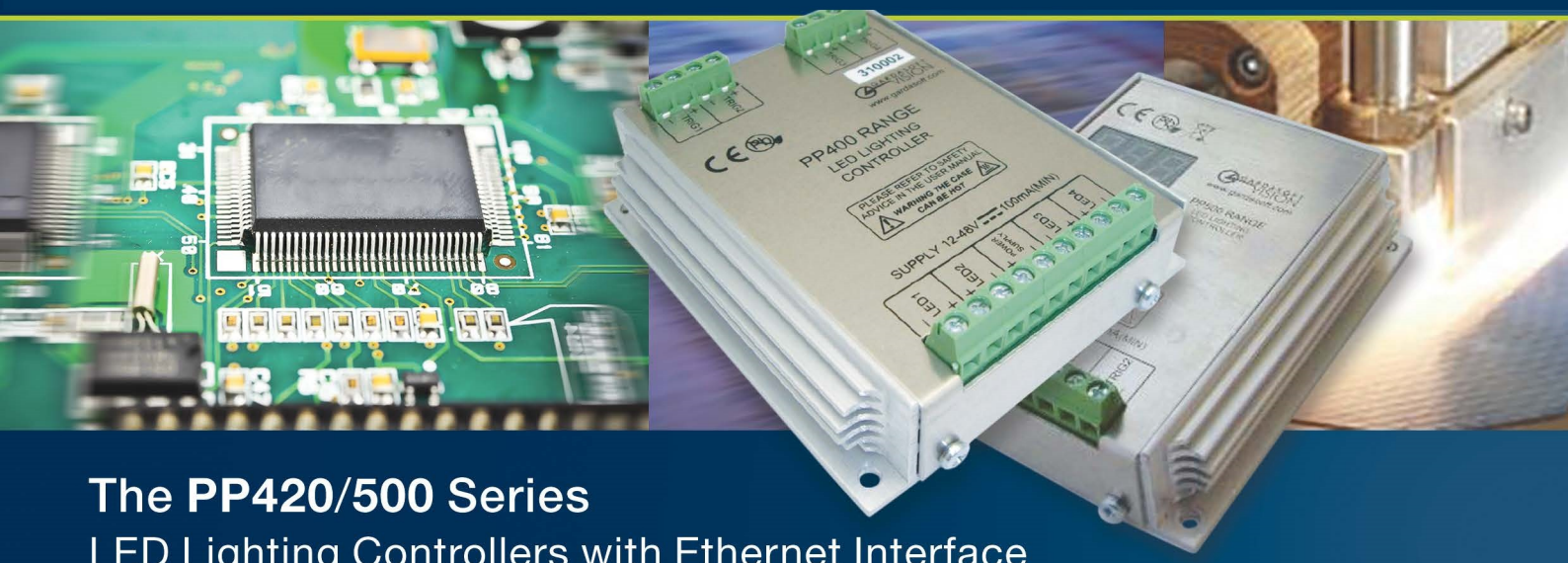
Pyramid Imaging



The PP420/500 Series

LED Lighting Controllers with Ethernet Interface

Fast and accurate pulsing

- **Configured using a Web Browser**
- **Incorporates patented SafeSense™ Technology**
- **Integrates with Machine Vision Software**
- **Available in both 4- and 2-channel versions.**

The PP420 and PP500 Series are 4- and 2-channel LED Lighting Controllers (respectively), each with an in-built Ethernet interface for efficient and flexible configuration. The PP500/520 ranges also provide options for normal or fast pulsing, with or without the Ethernet interface.

Internal Web Server

The PP420/500 Series LED Lighting Controllers have all of the usual features of Gardasoft's broad range of LED Lighting Controllers, with the addition of an Ethernet connection.

The PP420/500 Series have an internal web server, which can be controlled by image processing software on a remote PC.

Flexible Operation

The PP420/500 units provide control of LED lighting for Machine Vision applications. They include the power regulation, intensity control, timing and triggering functions required for the most effective use of Machine Vision systems.

Three modes of operation are provided independently for each channel:

- **Continuous** – output is a continuous current, with configurable intensity;
- **Pulsed** – output is pulsed once per trigger, with configurable delay, pulse width and intensity;
- **Switched** – output is a continuous current, turned on and off by a digital input.

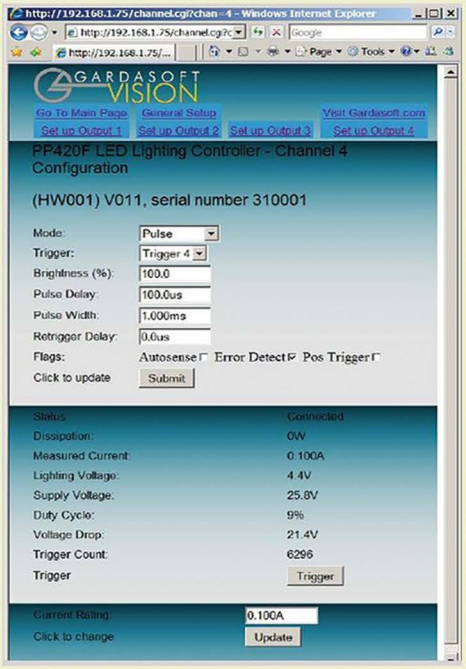
The PP420/500 Series units are configured using the Ethernet connection to a network (for more information about configuration, please see overleaf).

These configurations are saved in non-volatile memory, so that the Controllers will resume operation after a power cycle.

Configuration options

The PP420/500 Series Controllers can be configured in two ways: *one*, a Web Browser can be used to access its web pages, allowing status to be viewed and parameters to be changed; *two*, simple string commands can be sent from an application program using TCP/IP or UDP.

The Gardasoft Vision website www.gardasoft.com also offers the free download of a maintenance program.



Patented SafeSense™ Technology

The PP420/500 provides automatic operation with current-rated and voltage-rated lighting, providing 'plug-and-play' functionality. Using the technology set out in our patent, it detects the connection and disconnection of a light; on connection, the PP420/500 Controller senses automatically the current-rating of the light.

Continuous monitoring for fault detection

The PP420/500 Series unit monitors the output voltage and current continuously for sudden and long-term changes. When an unexpected change occurs, a fault is alerted.

Depending upon conditions, the Controller can detect:
- disconnected or open circuit lighting
- short-circuit lighting
- LED failures in lighting.

Note: More product information, manuals and application notes can be found at our website www.gardasoft.com.

PP420/500 SERIES SPECIFICATIONS

SPECIFICATIONS:	PP420	PP420F	PP500	PP520	PP500F	PP520F
User interface	Ethernet	Ethernet	Pushbutton	Ethernet or Pushbutton	Pushbutton	Ethernet or Pushbutton
Output channels	Four independent constant current outputs with SafeSense™.		Two independent constant current outputs with SafeSense™.			
Output current	From 0mA to 10A in steps of 2.5mA. Up to 2A per channel continuous or 10A pulsed. Total 2A maximum average output current from the controller.					
Trigger inputs	4 opto-isolated digital inputs; require 3V to 24V at 3mA.		2 opto-isolated digital inputs; require 3V to 24V at 3mA.			
Pulse width timing	From 20µs to 999 milliseconds in steps of 20µs. Timing repeatability: 0.1µs.	From 1µs to 999 milliseconds in steps of 0.1µs. Timing repeatability: 0.1µs.	From 20µs to 999 milliseconds in steps of 20µs. Timing repeatability: 0.1µs.		From 1µs to 99 milliseconds in steps of 1µs. Timing repeatability: 0.1µs.	
Delay from trigger to pulse	From 20µs to 999 milliseconds, in steps of 20µs. Timing repeatability: 1µs.	From 5µs to 999 milliseconds, in steps of 1µs. Timing repeatability: 1µs.	From 20µs to 999 milliseconds, in steps of 20µs. Timing repeatability: 1µs.		From 5µs to 999 milliseconds, in steps of 1µs. Timing repeatability: 1µs.	
Output voltage	0V to 47V.					
Supply voltage	Regulated 12V to 48V. The supply voltage must be at least 1V higher than the output voltage required by the lighting.					
Dimensions	118mm long x 76mm wide x 27mm high (excluding DIN fixing).					
Weight	240g (excluding DIN fixing).					
Mounting	DIN rail or panel mounting.					
Standards	CE, RoHS.					

Pyramid Imaging

Pyramid Imaging 945 East 11th Avenue Tampa, FL 33605.
813-984-0125
sales@pyramidimaging.com - pyramidimaging.com