

PP420 - LED Lighting Controller with Ethernet Interface

Ethernet – the future for Machine Vision

Uses Same Cabling as GigE

Configure Using Web Browser

SafeSense™ Technology

Integrates with Machine Vision Software



The PP420 is a 4 channel LED Lighting Controller with an Ethernet interface for configuration.

Miniature Web Server

The PP420 LED Lighting controller has all the features of Gardasoft's LED Lighting controllers with the addition of an Ethernet connection. It acts as a miniature web server and can be controlled by image processing software on a remote PC.

With the introduction of GigE cameras, the machine vision market is moving towards Ethernet. The advantage of Ethernet is that it is fast, long distance, standardised worldwide and implementation is inexpensive.

Flexible Operation

The PP420 provides 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:
Pulsed:
Switched:

Output is a continuous current.
Output is pulsed once per trigger.
Output switched according to a digital input.

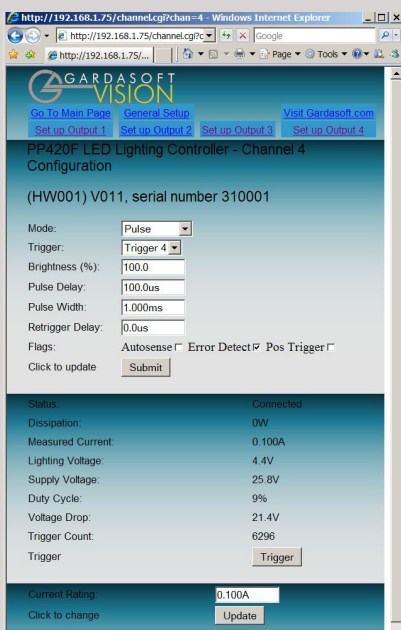
Three Ways to Configure

Firstly, a Web Browser can be used to access its web pages allowing status to be viewed and parameters to be changed.

Secondly, a PP420 configuration program is available so that all parameters can be configured from a PC.

Thirdly, simple string commands can be sent from an application program using TCP/IP or UDP. The Gardasoft Vision website www.gardasoft.com has a free download of a configuration program (with fully commented source).

The configuration is stored in non-volatile memory.

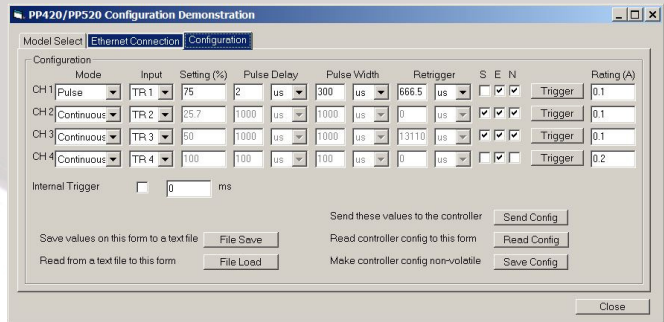


Patented SafeSense™ Technology

The PP420 provides automatic operation with current-rated and voltage-rated lighting, providing plug and play operation. Using the technology set out in our patent, it detects the connection and disconnection of a light. On connection, the PP420 will automatically sense the current rating of the light.

Ethernet Features

The PP420 needs an IP address. It can be configured to work using a specific IP address entered using the front panel or using a Dynamic Host Configuration Protocol (DHCP) server, which supplies a temporary IP address.



Continuous Monitoring for Fault Detection

The PP420 monitors the output voltage and current continuously for sudden and long term changes. When an unexpected change occurs, a fault is alerted and the output is disabled. The PP420 can detect lighting that fails open or short circuit, lighting which is overheating or degrading over time and single LED failures, depending on conditions.

Specification

| | PP420 | PP420F |
|-----------------------------|---|---|
| User interface | Ethernet | Ethernet |
| Output channels | Four 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. | |
| Pulse width timing | From 20us to 999 milliseconds in steps of 20us. Timing repeatability 0.1us | From 1us to 999 milliseconds in steps of 0.1us. Timing repeatability 0.1us |
| Delay from trigger to pulse | From 20us to 999 milliseconds in steps of 20us. Timing repeatability 1us (depending on conditions) | From 3us to 999 milliseconds in steps of 1us. Timing repeatability 1us (depending on conditions) |
| 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 by 76mm wide by 27mm high (excluding DIN fixing). | |
| Weight | 240g excluding DIN fixing. | |
| Mounting | DIN rail or panel mounting. | |