



## RTCC4 LED Lighting Controller Combined with Trigger Timing Control

The RTCC4 combines the features of the Gardasoft RT Series LED Lighting Controllers with the addition of two digital outputs for Triggering or general use.

This combination provides a high level of integration in Machine Vision systems - reducing complexity, space and cost.

- Combines Lighting Control with Trigger timing
- Two extra digital outputs compared with standard Gardasoft RT Controllers
- Includes CC320 functionality
- Encoder input
- SafePower™ and SafeSense™ technologies for lighting control

### Combined LED Control & Triggering

Combining the functionality of the Gardasoft CC320 Timing Controller and integrating the RT Series controllers allows precise lighting control combined with the ability to trigger external components such as cameras and reject gates. In addition, inputs can be accepted from encoders or proximity switches that can be used to trigger lights or additional digital inputs.

### Sensor, Camera and Reject Gate timing

This is an easy and complete working solution providing optimum control of light intensity and accurate timing of component sensing, camera triggering and reject gates. Timing can be based on precise delays or on exact conveyor belt travel using an encoder. This controller reduces engineering effort by solving the following time consuming problems often faced with machine vision systems:

- Delay from product sensor to camera trigger
- Delay from pass/fail result to reject gate
- Synchronising multiple cameras to trigger at different times
- Resynchronise the product result to the original trigger time
- Tracking product position on a belt that stops, reverses or has varying speed
- Handle multiple products with overlapping results
- Handling fast encoder pulses
- Producing timing with microsecond accuracy

### RT Series functionality

The RT Series provides the power regulation, intensity control, timing and triggering of LED lighting required for the application of machine vision systems.

### Modes of operation

Four modes of operation are provided separately for each channel:

- Continuous: Output is a continuous level
- Pulsed: Output is pulsed once per trigger
- Switched: Output is switched by a digital input
- Selected: Output intensity selected by a digital input

### No Heat-sinking

SafePower™ supply removes the need to mount the controller onto a heat-sink, simplifying the installation process. SafePower™ automatically minimises the heat generated for continuous, pulsed and switched operation.

### Voltage Step-up

SafePower™ removes the restriction of the output voltage needing to be less than the input voltage, and automatically steps up or down the voltage needed to drive or Overdrive the lighting, up to a limit of 46V.

SafePower™ works automatically without needing any configuration or user input. For example, the RT range can use a 24VDC supply, regardless of the lighting connected, heat generation or Overdriving required.

### Extra LED Brightness

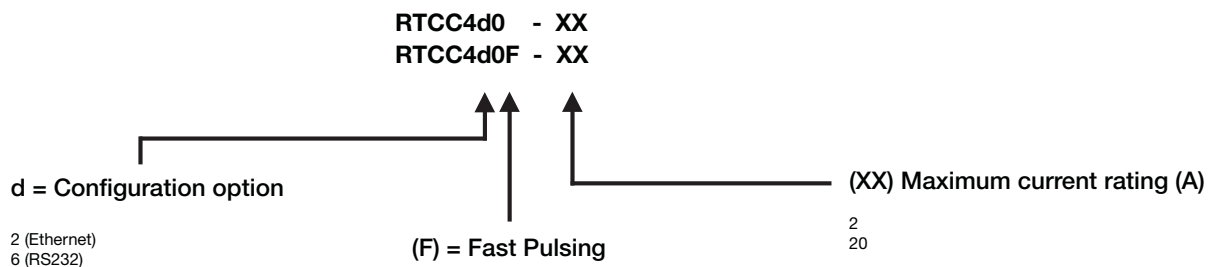
Patented SafeSense™ technology creates a safe working environment for overdriving LED lights. Driving LEDs with a constant current source allows very precise Overdriving. SafeSense™ ensures that the pulse width and duty cycle are kept within safe working limits. The end result is that much more light is gained from the LED lighting for your machine vision application.

## SPECIFICATIONS

	RTCC420	RTCC460	RTCC420F	RTCC460F
User interface	Ethernet	RS232, 115KBaud	Ethernet	RS232, 115K Baud
Output channels	Four independent current outputs with SafeSense™			
Output current	-2 option: Up to 2A per channel continuous or 2A pulsed in steps of 1mA -20 option: Up to 3A per channel continuous or 20A pulsed in steps of 5mA			
Output power	Max 30W per channel			
Trigger inputs	4 opto-isolated digital inputs. 3V to 24V operation			
Digital outputs	2 open collector outputs			
Timing	From 20µs to 999 ms in steps of 20µs/100µs		From 1µs to 999 ms in steps of 1µs/100µs	
Delay from trigger to pulse	From 20µs to 999 ms in steps of 20µs/100µs		From 3µs to 999 ms in steps of 1µs/100µs	
Timing repeatability	Delay + Pulse up to 10ms: 0.1µs for pulse width and 3µs for delay. Otherwise 100µs			
Output voltage	0V to 46V			
Supply voltage	Regulated 24V to 48V			
Dimensions	159mm long by 97mm wide by 62mm high (excluding DIN fixing)			
Weight	400g			
Mounting	Panel mounting. DIN rail mount option			

Other Gardasoft Lighting Controllers are available to cover all applications. See [www.gardasoft.com](http://www.gardasoft.com)

## ORDERING INFORMATION



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