

# 120 VAC ENCODER OPTION

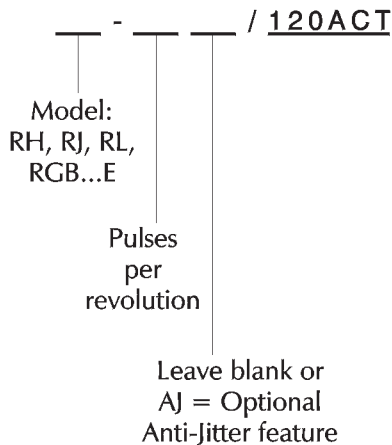
## DESCRIPTION

Photocraft's AC-powered encoder option is for applications where DC power is not readily available. A built-in power supply converts 120 vac into 12 vdc required by the encoder. Photocraft single output models RH, RJ, RL, and RGB (with optional connector) can be ordered with this option.

Included is an optically isolated Triac output capable of directly driving most 120 vac loads up to 2 amps (rms) without the use of any external components. It includes a zero crossing detector that switches the triac on and off synchronously at near zero volts.

The Triac output can be directly interfaced to AC inputs on most PLCs and other motion controllers.

## ORDERING INFORMATION



## Electrical

### Power Requirements:

- Supply Voltage: 80 to 120 Vac
- Frequency: 50 to 60 Hz

Operating temperature: 0° to 70°C

### Output Circuit: (See Figure 2 below)

- Optically Isolated Triac

### Triac Output:

- Operating voltage range: 120 vac (rms)
- Operating frequency range: 47 to 63 Hz
- On state current range: 0.01 to 2.0 A (rms)

*Note: If the application includes switching large inductive loads on and off by contactors, transients may be generated which surpass the devices static dv/dt rating of 400 volts/μsec or the maximum off-state output terminal voltage of 400 vac (peak). For these cases a resistor/capacitor snubber and voltage clipping device (MOV) across the outputs may be needed to protect the triac. Consult the factory for more information.*

**Pulse Rate:** Should be lower than ½ the line frequency (e.g. 30 pulses per second for 60 Hz line frequency).

**Pulses per Revolution:** Any value up to 300

**Anti-jitter:** The anti-jitter feature increases the pulse output hysteresis to ½ of a pulse width, eliminating the effects of mechanical vibration and the possible dither that results in false output pulses. For example, a 10 pulse per revolution output would have 18° hysteresis (i.e.  $360^\circ \div 10 \times \frac{1}{2}$ ).

## SPECIFICATIONS

## Electrical Connections

**Connector:** 6-pin, MS3102A-14S-6P

**Mating Connector:** MS3106A-14S-6S

**Cable Assembly (C6-4-10 CF):** 10 ft. (3m) of 4 conductor, shielded cable with mating connector.  
Other lengths are available

### Connections for Triac Output:

Connector Pin No.	Function	Cable Wire Color
A	AC Neutral	Black
B	AC High	Red
C	—	—
D	Triac	White
E	Triac	Green
F	—	—

### Typical Configuration

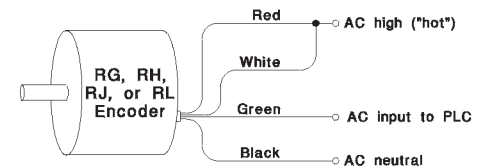


Figure 1 - Typical wiring configuration

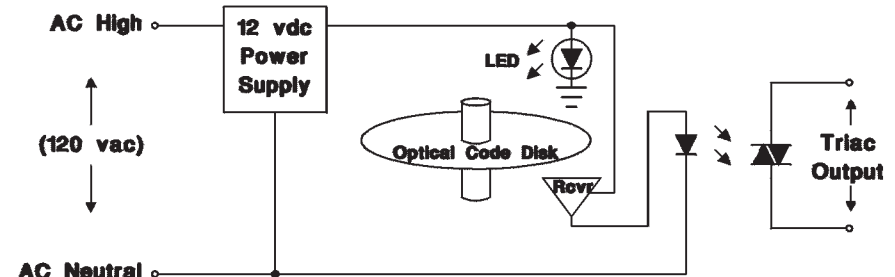


Figure 2 - 120 vac Encoder with Optically Isolated Triac Output



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