

**T21 Series**

**Modulating Photoelectric Amplifier  
Printed Circuit Board Mount  
T21028**

**Description:**

The T21028 is a modulating photoelectric control designed for circuit board mounting. The module is powered from a single 5 volt DC supply and will operate with any Skan-A-Matic sensor that has an LED light source. The T21028 is used where ambient light may interfere with sensor operation. The LED is modulated at approximately 2 kHz, and the receiver is tuned to respond to a signal of this frequency.

The output can be used in a variety of ways. The outputs from pins 10 and 11 can be used to drive TTL loads directly. The buffer transistor can be used to increase the output capability and can be



wired in either Open Collector or Open Emitter configuration.

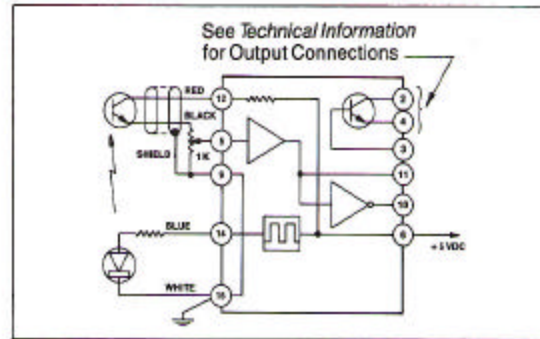
A Skan-A-Matic sensor using a 100 mA LED can be connected directly to pins 14 and 16 as shown. For sensors with 40 mA and 60 mA LED's a 27 ohm, 1/4 W and a 6.8 ohm, 1/4 W current limiting resistor respectively must be used.

**Specifications: (at 25°C)**

- POWER INPUT** 5 VDC  $\pm$  .25 VDC at 110 mA max.
- EXTERNAL POTENTIOMETER** 1K ohm (15 turn) recommended located in close proximity to the module. Larger values will offer more sensitivity but less ambient light rejection. The converse is true for smaller values.
- OUTPUT** Pins 10 & 11: HI VDC = 4.1 V at 4 mA max. source  
LO VDC = 0.5 V at 1 mA max. sink  
Buffer Transistor: NPN transistor to switch up to 28 VDC at 100 mA max.
- RESPONSE TIME** 5 milliseconds. Counting rate 100 cps max.
- TEMPERATURE** Operating: 0° to 50°C  
Storage: -40° to 70°C

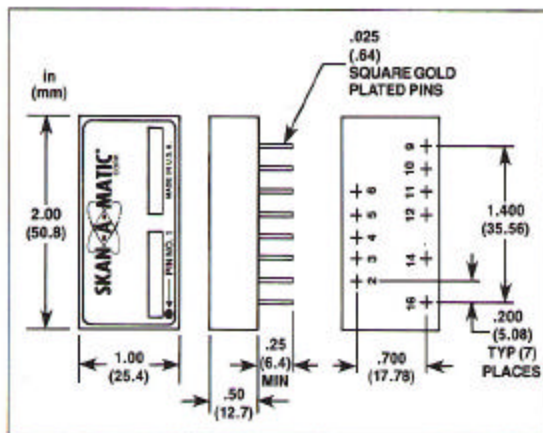
**Wiring Diagram:**

**INPUT WIRING**

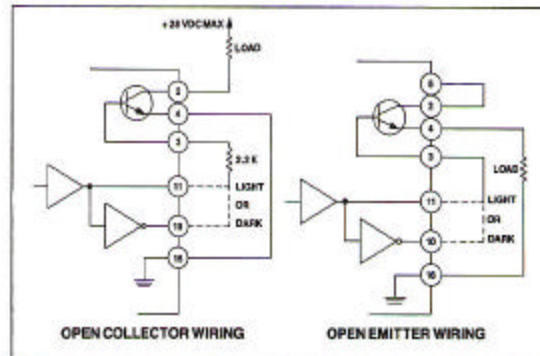


Photodetector	Pin 10	Pin 11
DARK	HI	LO
LIGHT	LO	HI

**Dimensions:**



**OUTPUT WIRING**



Note: In the Open Collector Wiring a 2.2 K ohm resistor must be used.