



General Purpose AC/DC Photoelectric Sensor

U.S. EYE®

U.S. EYE® Photoelectric Sensors were designed and built by TRI-TRONICS® to answer the demand for economical, high-performance AC sensors. They are available with a unique Contrast Indicator for difficult sensing tasks and without the Contrast Indicator for simple tasks at an even lower cost.

Function modes available:

- ON/OFF – output relay switches for duration of input.
- Type T1, delay timer – offers two options using light/dark switch:
 - a) “ON” delay for product jam or backup detection.
 - b) “OFF” delay for product void detection.
- Type T2, “one-shot” timer – may be used for short, momentary output pulse or in the “triggerable” mode for “stop motion” detection. (See Timing Sequence Data Charts.)

Contrast Indicator Models

The Contrast Indicator displays a scaled reading of the level of light received by the sensor’s photo detector. The more light received, the higher the reading. The less light received, the lower the reading. Contrast is a comparison of the lightest state reading vs. the darkest state reading. The sensing task of any photoelectric sensor is to resolve the difference between these two light levels and switch the output accordingly. The U.S. EYE® switches its output when the light level passes the midscale reading of “5.” Refer to section 1 for details.

Fiberoptic Models

Flexible fiberoptic light guides are available in sizes small enough to fit into your toughest job sensing sites, with models designed for inaccessible places, detection of extremely small parts, high temperature applications, corrosive environments, or high vibration locations, as well as straight light guides for Beam Break and bifurcated light guides for proximity sensing.



Features

- Easy installation – includes all accessories, mounting bracket, reflector, and hardware
- Thru-beam models include both light source and receiver
- All models operate on AC or DC from 24 to 130 volts; relay or triac outputs
- Output relay contacts are rated at 5 amps
- High-speed response – limited by the output relay itself. 7ms Beam Make or Beam Break
- Fiberoptic models available with infrared or red LED light sources
- All models equipped with sensitivity adjustments
- All models have red LED indicator showing status of output relay
- All models have green LED beam status indicator for easy alignment
- Switching power supply eliminates failures often caused by power line transients

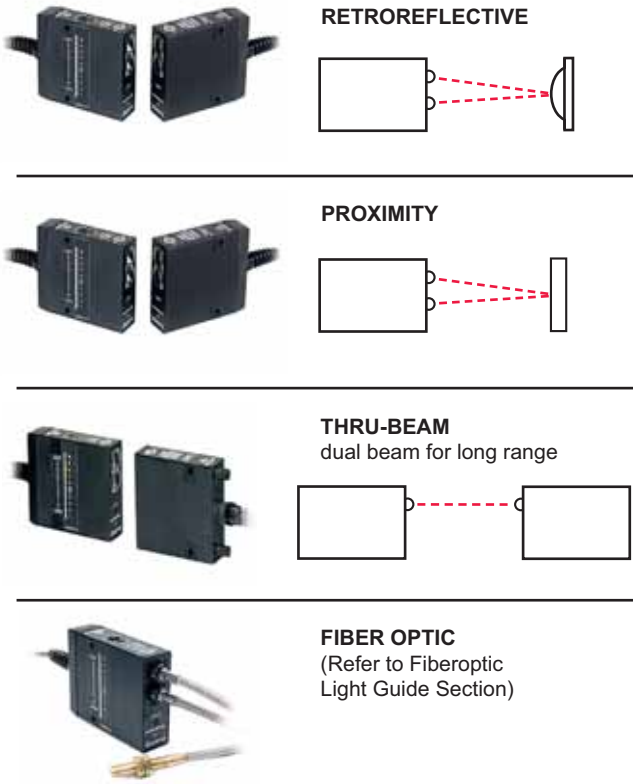


On or Off Delay Switch

With Contrast Indicator	Without Contrast Indicator	Light Source	Max Range	Speed of Response	Output Information			
Beam Break Mode Retroreflective (Models Include 78P Reflector)								
UCR-A	UR-A	Infrared	15 ft.	7ms	On/Off Relay			
TUCR-A	TUR-A	Infrared	15 ft.	8ms	On/Off Triac			
UCR-AT1	UR-AT1	Infrared	15 ft.	7ms	On or Off Delay			
UCR-AT2	UR-AT2	Infrared	15 ft.	7ms	One-Shot Motion			
Beam Break Opposed Mode (Models Include Both Light Source and Receiver)								
UCT-A	UT-A	Infrared	75 ft.	7ms	On/Off Relay			
UCT-AT1	UT-AT1	Infrared	75 ft.	7ms	On or Off Delay			
UCT-AT2	UT-AT2	Infrared	75 ft.	7ms	One-Shot Motion			
Receiver Replacements		Light Source Replacements						
W Contrast Indicator	W/O Contrast Indicator							
UCT-A	UT-AR	UT	order replacements separately					
UCT-AT1	UT-AT1R	UT	order replacements separately					
UCT-AT2	UT-AT2R	UT	order replacements separately					
Beam Make Mode Proximity Diffused Beam								
UCD-A	UD-A	Infrared	3 ft.	7ms	On/Off Relay			
TUCD-A	TUD-A	Infrared	3 ft.	8ms	On/Off Triac			
UCD-AT1	UD-AT1	Infrared	3 ft.	7ms	On or Off Delay			
UCD-AT2	UD-AT2	Infrared	3 ft.	7ms	One-Shot Motion			
Fiberoptic Mode								
With Contrast Indicator	Without Contrast Indicator	Light Source	Opposed Range*		Proximity Range*		Speed of Response	Output Information
			With Lens	W/O Lens	With Lens	W/O Lens		
UCF-A	UF-A	Infrared	12 ft.	2 ft.	4 in.	2.5 in.	7ms	On/Off Relay
TUCF-A	TUF-A	Infrared	12 ft.	2 ft.	4 in.	2.5 in.	8ms	On/Off Triac
UCF-AT1	UF-AT1	Infrared	12 ft.	2 ft.	4 in.	2.5 in.	7ms	On or Off Delay
UCF-AT2	UF-AT2	Infrared	12 ft.	2 ft.	4 in.	2.5 in.	7ms	One-Shot Motion
UCFR-A	UFR-A	Red	6 ft.	8 in.	4 in.	1 in.	7ms	On/Off Relay
UCFR-AT1	UFR-AT1	Red	6 ft.	8 in.	4 in.	1 in.	7ms	On or Off Delay
UCFR-AT2	UFR-AT2	Red	6 ft.	8 in.	4 in.	1 in.	7ms	One-Shot Motion

NOTES:

- FIBER OPTIC range tests utilized .125 in. diameter fiber bundles and UAC-15 lenses as indicated.
- PROXIMITY tests utilized a 90% Reflective target. RETROREFLECTIVE tests utilized a 78P reflector.



Operating Range: 24 to 130 VAC or VDC
Power Consumption: 2VA
Temperature Range: -10°C to + 50°C (14°F to 122°F)
Output:
 • SPDT Relay Models: 5 amps @ 120 VAC
 Normally de-energized before input occurs.
 • Isolated Solid State TRIAC Models: 1 amp at 50 C
Response Time: Relax: 7ms light or dark TRIAC: 8ms
Timer Range: 0.1 to 15 seconds
Contrast Indicator Models: Displays a 10 bar LED scaled reading of contrasting light level
LED Light Source Wavelength: Infrared (880nm), Red (660nm)
Sensitivity Adjustment: Provided on all models
Beam Status Indicator: (Green LED) "ON" when beam is established
Output Indicator: (Red LED) Follows status of output relay Cabling: 6' standard, 5-conductor

Accessories

Model #	Miscellaneous
CA-1 1/2 in.	Conduit Adaptor
FSR-1	Flexible Strain Relief
UMB-1	U.S. Eye Bracket
USB-1	U.S. Eye Sub-Bracket

RoHS Compliant
 Product subject to change without notice

Connections and Dimensions

U.S. EYE

