

**Photoelectric Sensors & Controls**

MEK 90 : User Selectable ..... M2

Accessories ..... M4

Operating Mode Index

Photoelectric Control

| Operation Mode            | Description       | Catalog No.   | Range   | Page |
|---------------------------|-------------------|---------------|---------|------|
| Retroreflective           | User Selectable   | MEK90-LU __   | 18 ft.  | M2   |
|                           | User Selectable   | MEK90-U __    | 18 ft.  | M2   |
| Polarized Retroreflective | High Performance  | MEK90-P __    | 27 ft.  | M2   |
| Thru-Beam                 | User Selectable   | MEK90-LU __   | 200 ft. | M2   |
|                           | User Selectable   | MEK90-U __    | 200 ft. | M2   |
| Diffuse                   | User Selectable   | MEK90-LU __   | 78 in.  | M2   |
|                           | User Selectable   | MEK90-U __    | 78 in.  | M2   |
| Fiber-optic Controls      | User Selectable * | MEK90-(L)U __ |         | M2   |



MEK 90 Universal and High Performance Series



MEK 90 Dedicated Controls



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## MEK 90 Universal and High Performance Series



User Programmable or Dedicated Controls:  
Thru-Beam, Retroreflective, Diffuse Reflective,  
Convergent, Fiberoptic Thru-Beam, Fiberoptic Diffuse  
Two Built-In Timers

- Plug-In control may be replaced without rewiring  
User configurable as a Retro, Diffuse, Light Source or  
Light Receiver (Thru-Beam)
- Two timers included: On Delay, Off Delay, One Shot or  
Delayed One Shot may be selected or combined
- Two selectable timing ranges: 0-1.5 sec. and 1-15 sec.
- Large capacity 6A SPDT Relays, AC FET outputs and  
NPN Open Collector outputs are available
- Wide range of supply voltages
- Optional lens kits for conversion to Convergent Beam or  
Fiberoptic in the field
- Dedicated factory assembled controls: Polarized Retro,  
Fiber Optic, and Dedicated Light Source (Emitter)
- Housing environmental integrity is 1, 4, 4X, 12, and 13
- Mounting Brackets on page M24

### Selection Chart

| Universal Control: Provide Retro, Diffuse and Thru-Beam      |   |                    |  |                           |           |
|--|---|--------------------|--|---------------------------|-----------|
| Output   | Supply voltage                                | Max. Load          | Range (Using standard test targets)        | Catalog No.               | Price     |
| Relay  | 102-132 VAC                                   | 6A / 240 VAC (res) | Retro: 18 ft. Diffuse: 78 in. T-B: 200 ft. | MEK90-LUAR <sup>1,3</sup> | \$ 348.00 |
| Relay  | 105-264 VAC                                   | 6A / 240 VAC (res) | Retro: 18 ft. Diffuse: 30 in. T-B: 200 ft. | MEK90-UAR                 | 348.00    |
| NPN  | 10-36 VDC                                     | 200 mA / 30 VDC    | Retro: 18 ft. Diffuse: 30 in. T-B: 200 ft. | MEK90-UDC                 | 348.00    |
| Relay  | 10-36 VDC                                     | 6A / 120 VAC       | Retro: 18 ft. Diffuse: 30 in. T-B: 200 ft. | MEK90-UDR                 | 348.00    |
| Dedicated High Performance Series: Polarized Retroreflective |   |                    |  |                           |           |
| Relay  | 105-264 VAC                                   | 6A / 240 VAC (res) | High Gain: 27 ft. Low Gain: 10 ft.         | MEK90-PAR <sup>4</sup>    | \$ 366.00 |
| NPN  | 10-30 VDC                                     | 200 mA / 30 VDC    | High Gain: 27 ft. Low Gain: 10 ft.         | MEK90-PDC <sup>4</sup>    | 366.00    |
| Relay  | 10-30 VDC                                     | 6A / 240 VAC       | High Gain: 27 ft. Low Gain: 10 ft.         | MEK90-PDR <sup>4</sup>    | 366.00    |
| Visual Relay Petro Reflective                                |   |                    |  |                           |           |
| Relay  | 102-132 VAC, 50/60 HZ<br>204-264VAC, 50/60 HZ | 6A / 240 VAC (res) | 6 ft. - 35 ft.                             | MEK90-VRAR                | \$ 366.00 |

### Specifications

| Output  | Response Time        |
|---|----------------------|
| Relay: SPDT 6A 240VAC (resistive) 28 VDC  | <10ms. ON, <8ms. OFF |
| FET: SPNO Solid State AC Output 1A @ 25° C,<br>0.5A @ 60° C (<10uA OFF State Leakage) | <13ms. ON, 13ms. OFF |
| Open Collector: NPN (sinking) 200 mA 30VDC  | <5ms. ON, <5ms. OFF  |

### Specifications

|                       |  |
|-----------------------|--|
| Power Consumption     | 2VA, 50mA  |
| Materials             | (Housing) Corrosion Resistant,<br>Fire Retardant ABS<br>(Lens) Polycarbonate |
| Environmental Ratings | NEMA 3,4,4X,12, and 13   |
| Temperature Range     | -40° to 158° F    -40° to 70° C  |
| Approvals             | U.L. Recognized C.S.A.   |

<sup>1</sup> 90% White Card.  
<sup>2</sup> Reflective Targets refer to page M4.

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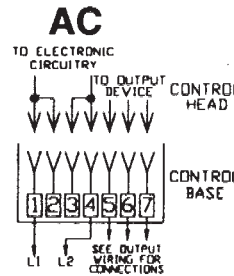
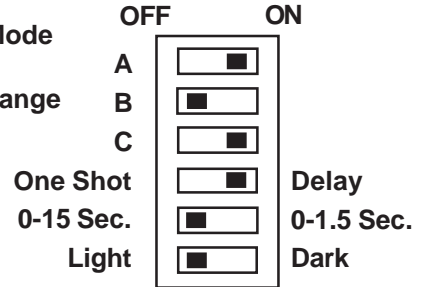
## Mode Selection Switch Settings

| Operating Mode                         | Switch Positions |     |    |
|--|------------------|-----|----|
|  | A                | B   | C  |
| Retroreflective                        | OFF              | OFF | ON |
| Thru-Beam Source                       | OFF              | OFF | ON |
| Thru-Beam Receiver (Standard)          | OFF              | ON  | ON |
| Thru-Beam Receiver (Long Range)        | ON               | ON  | ON |
| Proximity                              | ON               | OFF | ON |
| Converging Beam Proximity <sup>1</sup> | ON               | OFF | ON |
| Fiberoptic (All Modes) <sup>2</sup>    | ON               | OFF | ON |

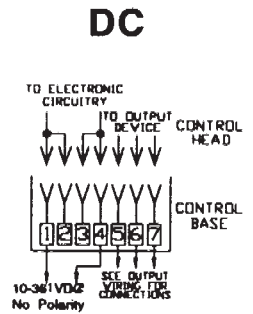
<sup>1</sup> Refer to page M58 for accessory Converging Beam Lens Kits.  
<sup>2</sup> Refer to page M58 for accessory Fiberoptic Adaptors; Refer to page M33 for MEK901 Glass Fiberoptic Light Guides.

**Example: Proximity Mode**  
**Delay<sup>3</sup>**  
**0-15 Sec. Timing Range**  
**Light Operate**

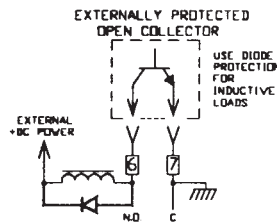
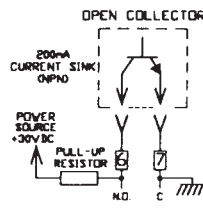
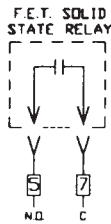
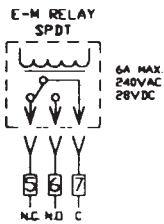
<sup>3</sup> The actual delay mode depends on where timing adjustments T1 and T2 are set. When both are set to minimum (0) the unit operates in the NO DELAY Mode.



## Wiring

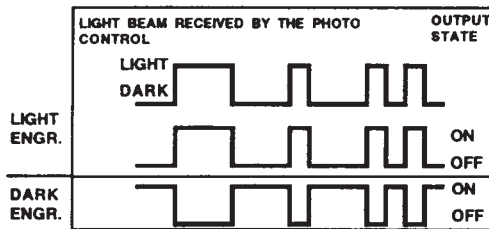


## Outputs

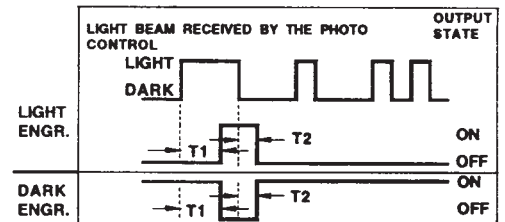


## Timer Functions

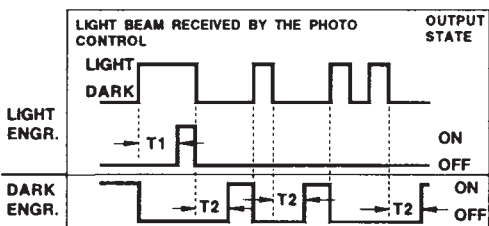
### NO DELAY (ON/OFF)



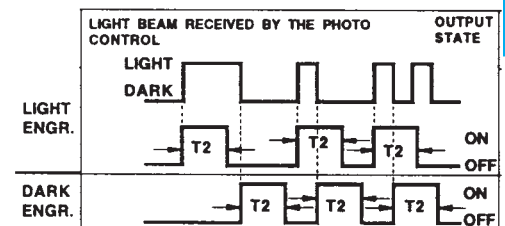
### DUAL DELAY



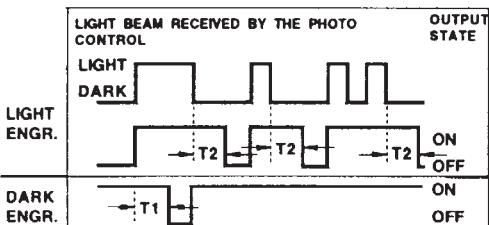
### ON DELAY



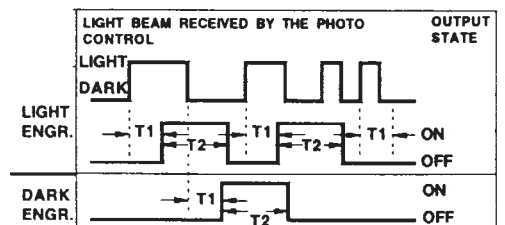
### ONE SHOT



### OFF DELAY



### DELAYED ONE SHOT



**NOTE: NOT SUPPORTED IN THRU-BEAM MODE!**  
 T2: ON DELAY, OFF DELAY, DUAL DELAY

T1: DELAYED ONE SHOT - DARK ENERGIZED

### Plastic Corner Cube Reflectors

| Catalog No. | Dimensions     | Range  | Use With:   |
|-------------|----------------|--------|---|
| K-3567      | 3 in. dia.     | Long   | Any Retroreflective, Polarized or Reflective Fiberoptic control |
| K-3568      | 1.5 in. dia.   | Middle | Any Retroreflective, Polarized or Reflective Fiberoptic control |
| K-4305      | 0.625 in. dia. | Short  | Any Retroreflective, Polarized or Reflective Fiberoptic control |

### Retroreflective Targets

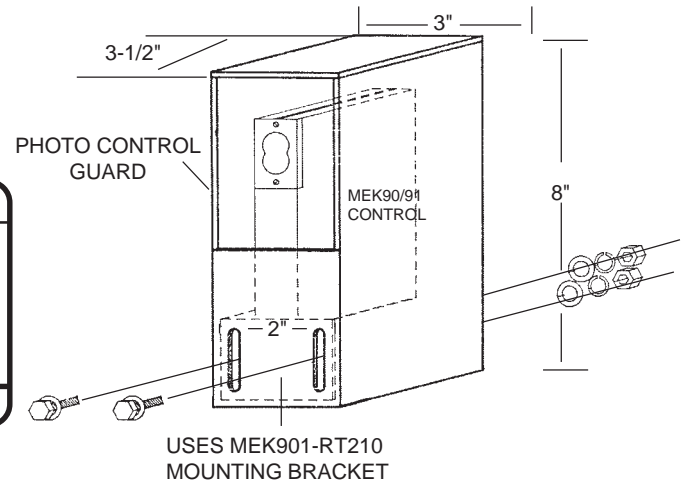
| Description                      | Catalog No. | Price  |
|----------------------------------|-------------|--------|
| Corner Cube Reflector 3" DIA.    | K-3567      | \$ 14. |
| Corner Cube Reflector 1.5" DIA.  | K-3568      | 8.     |
| Corner Cube Reflector .625" DIA. | K-4305      | 8.     |

## Control Guard For MEK90/91

### MEK901-RT230

Note:  
Provides effective protection from physical damage.

| Description                              | Catalog No.  | Price  |
|--|--------------|--------|
| Parallel Mount for MEK 90/91             | MEK901-RT100 | \$ 16. |
| Universal Mount for MEK 90/91            | MEK901-RT150 | 34.    |
| Right Angle Mount for MEK 90/91          | MEK901-RT200 | 16.    |
| Right Angle/360 Deg. Mount for MEK 90/91 | MEK901-RT210 | 16.    |
| Flex-Mount for MEK 90/91                 | MEK901-RT220 | 58.    |
| MEK 90/91 Guard                          | MEK901-RT230 | 76.    |
| For MEK 55 Series                        | MEK55-RT123  | \$ 24. |

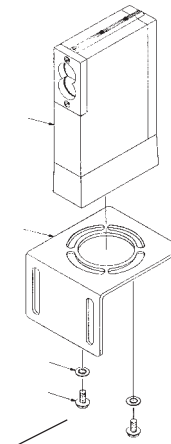


## Mounting Brackets For MEK90

### MEK901-RT210

#10 INTERNAL TOOTH LOCKWASHER (2 INCL.)

#10-32 SLOTTED HEX WASHER HEAD SCREWS (2 INCL.)



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