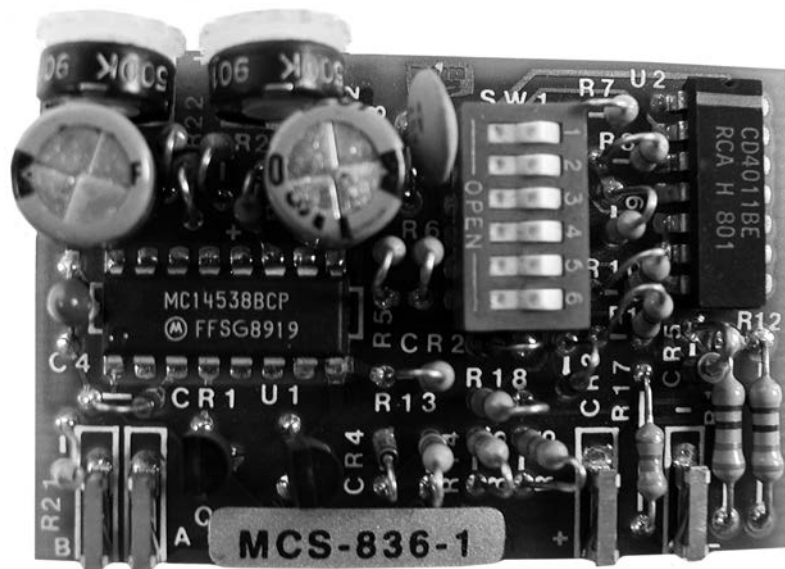


Warner Photoscanner MCS-836/836-1/836-2 Multi-Function Plug-In Timer Modules MCS-144, 149, 152, 159 Photoelectric Controls

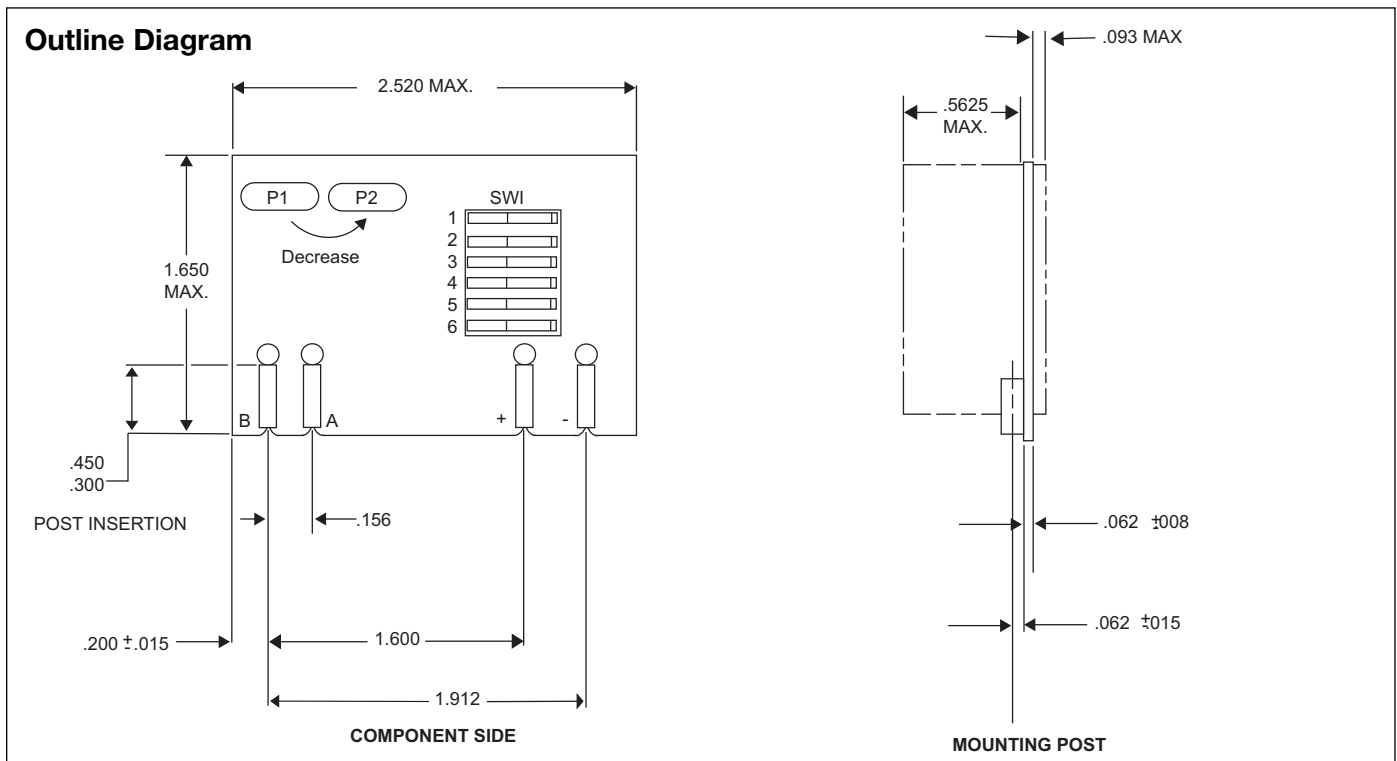
P-241-78

Service & Installation Instructions



 **Warner**[®]
Electric

An Altra Industrial Motion Company



Specifications

Mounting: Plug-in, mates directly with connector on photoelectric amplifier board.

Timing Controls: Potentiometers, adjustable

Weight: 1 oz.

Ambient Temperature: 0 - 125°F. (-18 — +52°C)

Light or Dark Operation: Selectable

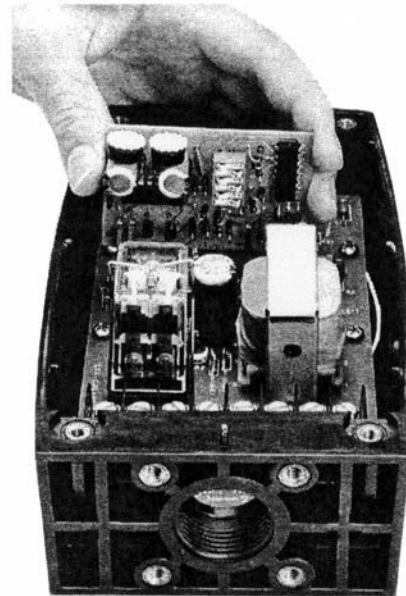
Timing Ranges: MCS-836: 0.4 to 15 seconds
 MCS-836-1: 1 to 30 seconds
 MCS-836-2: 0.02 to 0.5 seconds

Minimum Input Pulse: 20 milliseconds for delay pull, delay drop, and dual delay. 50 microseconds for one-shot and delayed one-shot

Minimum Reset Time: 1 millisecond for all functions

Electrical:	Pin No.	Function
	+	+24 VDC Input
	-	Return (ground)
	A	Timer Input
	B	Timer Output

Part Numbers:	MCS-836:	7400-448-024
	MCS-836-1:	7400-448-029
	MCS-836-2:	7400-448-030



Operations

The timer module is an optional plug-in device which modifies the basic on-off photoelectric control operation. These functions are necessary for special timing applications. Dark-to-Light and Light-to-Dark transitions may be used to trigger any function, as selected.

Delay Pull: This function provides a delayed response for pull-in (energize) of the output device. The time delay is adjustable from 0.4 to 15 seconds.

Delay Drop: Immediate pull-In (energize) of the output device and a time delay for drop-out (de-energize).

Dual Delay: Independently set time delays for both pull-in (energize) and drop-out (de-energize) of the output module.

One-Shot: Provides a one-shot output. The output device is energized by a transition of the input state, and holds for a preset time independent of the photoelectric input.

One-Shot Drop: Reverse action of the one-shot function, the output device is energized and drops out on the input transition of the photoelectric control.

Delayed One-Shot: Time delay prior to a one-shot output. Delay on one-shot timing is independently adjustable.

Delayed One-Shot Drop: Delay prior to a one-shot

drop similar to the one-shot drop but with a time delay. Both delay and one-shot are independently adjustable.

Installation

1. Select the desired timing functions.
2. Set appropriate switches to "ON" from table below.
3. Place Light-Dark Selector Switch in the desired position.
4. Insert timer module on pins in photoelectric control, (NOTE: Power must be off.)
5. Adjust potentiometers for desired timing range.

Function	Dark Operate Mode Switches "On"	Pin Selection L/D	Potentiometer(s) Adjust	Light Operate Mode Switches "On"	Pin Selection L/D	Potentiometer(s) Adjust
Normal Operation	Unplug Timer Use Jumper 7420-702-001	D	—	Unplug Timer Use Jumper 7420-702-001	L	P-1 P-1
Delay Pull	5	D	P-1	5	L	P-1 pull, P-2 drop
Delay Drop	3,5	L*	P-1	3,5	D*	P-1
Dual Delay	None	D	P-1 pull, P-2 drop	None	L	P-1 delay, P-2 O.S.
One-Shot	1, 2, 5, 6	D	P-1	1, 2, 5, 6	L	P-1
Delayed One-Shot	1, 2, 4, 6	D	P-1 delay, P-2 O.S.	1, 2, 4, 6	L	P-1 delay, P-2 O.S.
One-Shot Drop	1, 2, 3, 5, 6	D	P-1	1, 2, 3, 5, 6	L	
Delayed One-Shot Drop	1, 2, 3, 4, 6	D	P-1 delay, P-2 O.S.	1, 2, 3, 4, 6	L	
*NOTE: For proper operation of delay drop, note that the light-dark switch must be reversed for proper operation in the light & dark modes.						
Special Functions						
Motion Detection	2,4	D	P-2	2, 3, 4	L	P-2

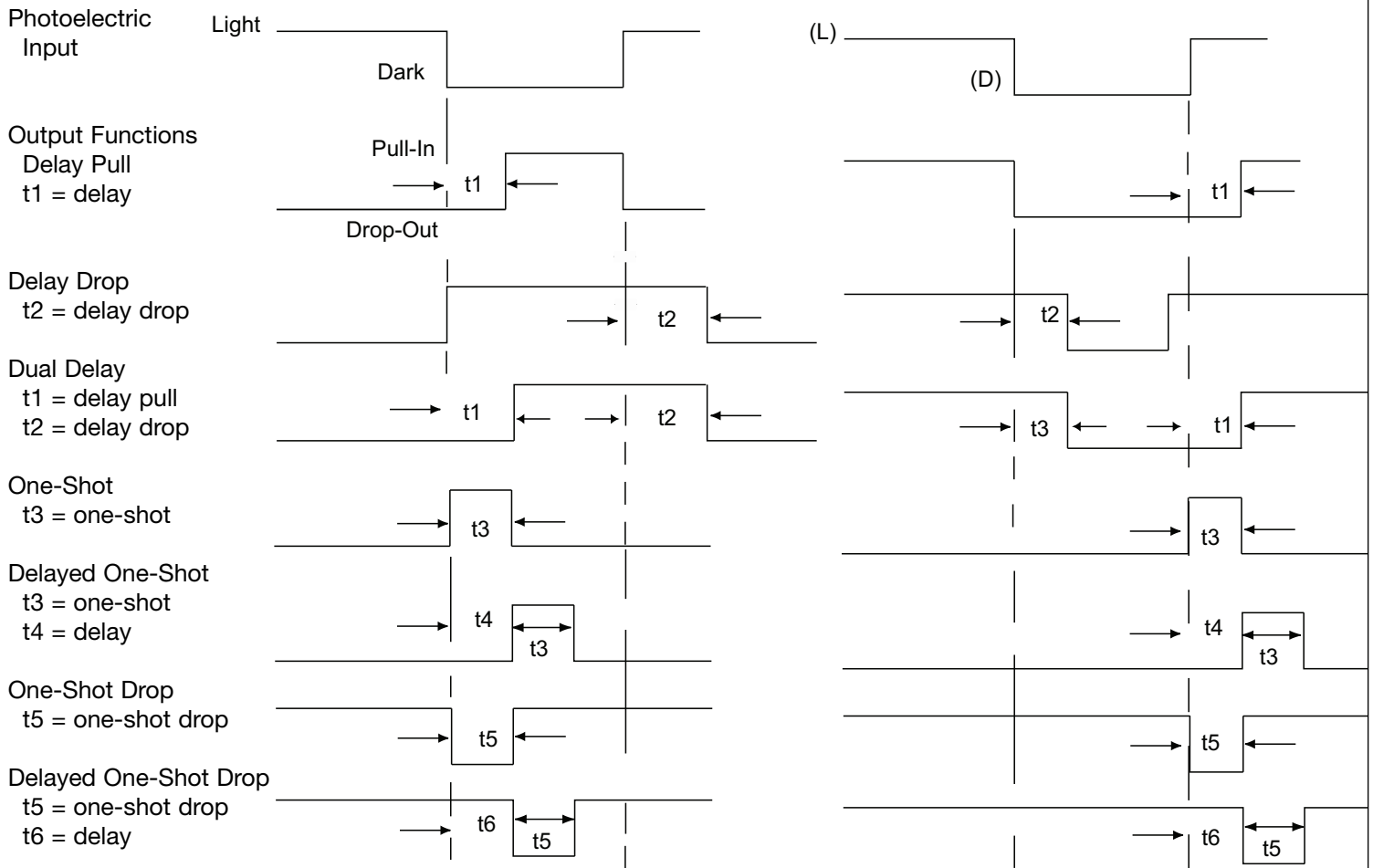
Retriggerable or integrating one-shot

Timing Function Waveforms

Operating Mode

Dark Operate Mode

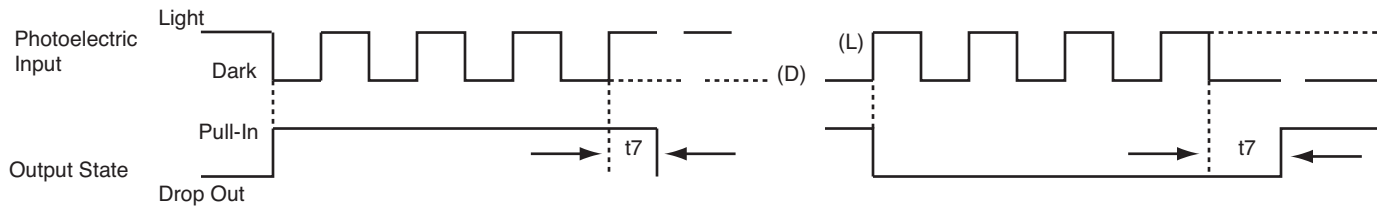
Light Operate (Beam Complete)



Special Function

Motion Detector (Retriggerable or integrating one-shot):

This function provides a state change of the output device when the input signal to the photoelectric control is changing at a constant rate. When the input signal decreases in frequency or stops completely, the output will reverse states.



Note: Time t_7 must be longer than the light or dark transition time of the photoelectric input.

The response of the output module to the photoelectric input (beam complete or beam break) is dependent on the mode of operation selected for the photoelectric amplifier.

Note: The timing potentiometers are not calibrated and the minimum time may be less or the maximum time more than the specified timing ranges.

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This warranty extends only to the original purchaser and is not transferable or assignable without Warner Electric LLC's prior consent.

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