



How to Install, Trouble Shoot and align Light Curtain

Presenter: Stephen May

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Same Part # for each light curtain



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450L Light Curtains

Universal Transceiver Design
One Part Number



You must add a Receiver and Transmitter



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450L Control Modules



Plug-In Control Module



450L-APT-PW-5



450L-APR-ED-8

Part Numbers Used



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Plug-in Overview

Marathon Uses these

	Catalog	Pins	Description	450 B	450L-E
Transmitter (Tx)	450L-APT-PW-5	5	Tx 5 pin (No DIP Switches)	✓	✓
	450L-APT-PW-8	8	Tx 8 pin	✓	✓
Receiver (Rx)	450L-APR-ON-5	5	Auto reset	✓	✓
	450L-APR-ED-8	8	Reset, EDM, Range (8 DIP Sw)	✓	✓
	450L-APR-BL-5	5	Blanking, Range		✓
	450L-APR-MU-8	8	Muting & Blanking		✓
Universal (Tx/Rx)	450L-APU-UN-8	8	Tx or Rx	✓	✓
Cascading	450L-APC-IO-8	8	Cascading on top	-	✓



Brackets



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Mounting Brackets



(1) Pair Included w/Each Stick



450L-AM-SM Adjustable Side Mount

Unlocking the Sensor



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450L-E Functionality



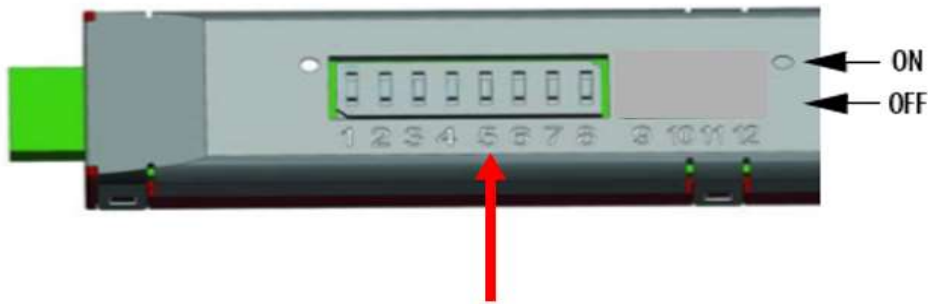
Dip switch settings



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Out-of-Box Setup & Configuration

DIP Switch Location at Receiver Plug-in



Step #1 – Set DIP Switches

Table 22 - Function and Default Settings

Switch Number	Switch Function	Default	Description
1	—	OFF	—
2	Low Range Activation	OFF	OFF: Disabled ON: Enabled
3	450L-E only: Activates Beam Coding	OFF	OFF: Disabled ON: Enabled
4	—	OFF	—
5	Combination activates the following start modes: • Automatic start • Manual (re) start • Manual cold start • Manual start with off function	OFF	<ul style="list-style-type: none"> • DIP 5: OFF, DIP 6: OFF: Automatic start (Default) • DIP 5: ON, DIP 6: OFF: Manual (re) start • DIP 5: OFF, DIP 6: ON: Manual cold start • DIP 5: ON, DIP 6: ON: Manual start with off function
6		OFF	
7	External Device Monitoring	OFF	OFF: Disabled ON: Enabled
8	—	OFF	—

****Note: “Transmitter” Plug-in Modules do NOT have DIP Switches**

Remove the red cap if they are new.



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— Out-of-Box Setup & Configuration

**Step #2 – Remove “Red” Module Cover
From Both Light Curtain Sticks**



Never plug or unplug with power on



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— Out-of-Box Setup & Configuration



Fully seated, screws tight



Step #3 – Insert and Secure Receiver Plug-in Module

450L-APR-ED-8

5 Pin



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Out-of-Box Setup & Configuration



Fully seated, screws tight



Step #4 – Insert and Secure Transmitter Plug-in Module

450L-APT-PW-5

Remove cover



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— Out-of-Box Setup & Configuration



Step #5 – Remove Protective Film

Turn on power



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Out-of-Box Setup & Configuration

Step #6 – Connect Power & Control Cordsets



Programing not required if new



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— Reconfiguration

- **NOT** Required out of the Box
- **Required** IF:
 - Receiver was previously operated with a **different** DIP switch configuration
 - Receiver was previously operated with a different Transmitter
 - Transmitter OR Receiver is Firmware Upgraded via CCW Software
- STS Light Flashes **Red/Green** at 1 Hz rate if Required

If the STS light is Flashing 1/2 seconds Apart RED GREEN, you need to Teach with steps below.



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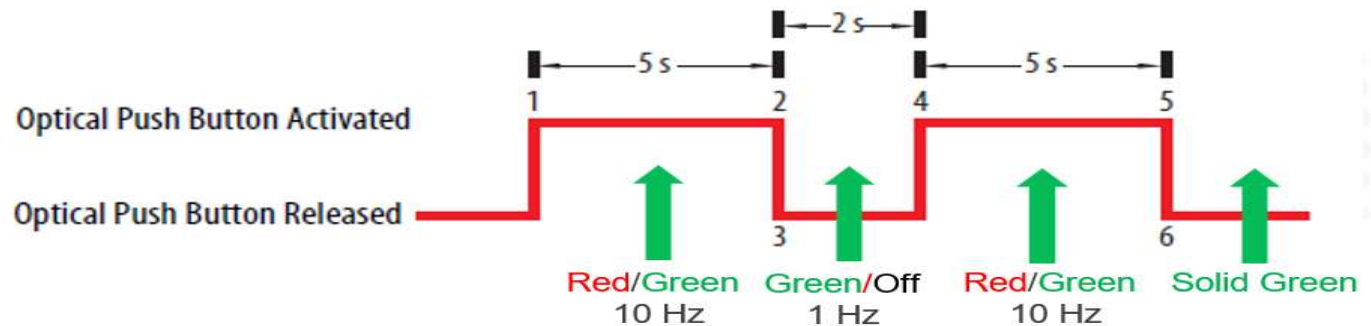
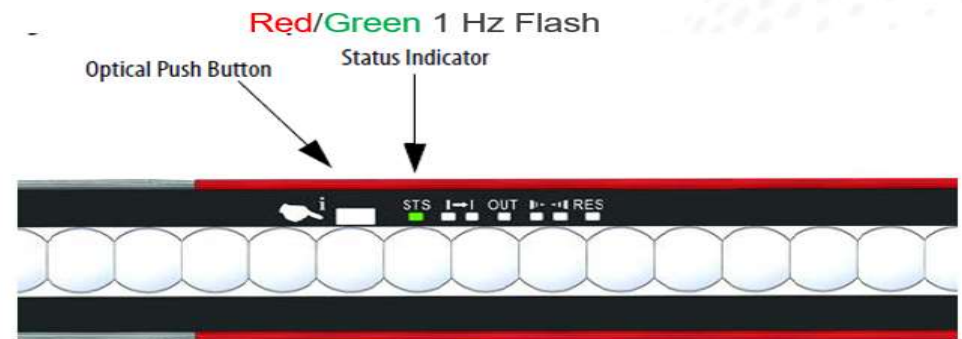
Reconfiguration

Step #1 – Push Optical Button 5 Seconds

Step #2 – Release Optical Button Max 2 Seconds

Step #3 – Push Optical Button 5 Seconds

Step #4 – Release Optical Button



Setting Alignment



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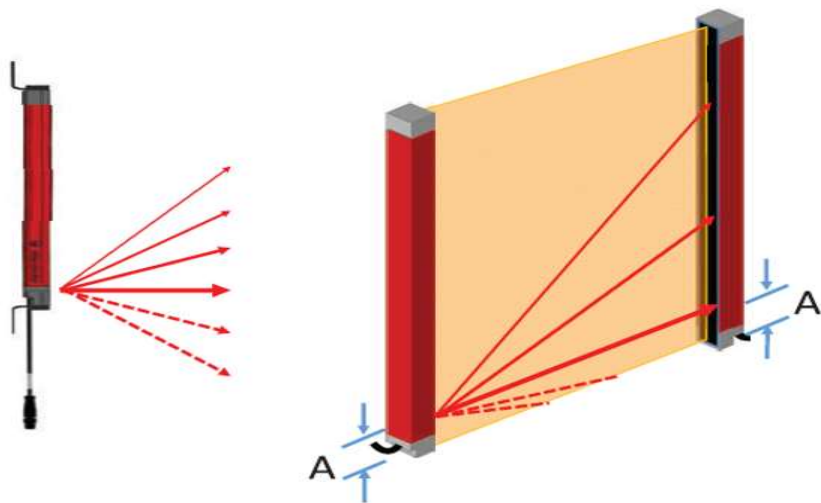
Alignment

By holding your finger over the window for a second the laser will turn on, Aim them toward the target. Repeat for the other side.



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450L-E Alignment - Manually



It is Very Important that the wires below are earth grounded.



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Grounding – Critical for Electrical Noise Suppression

Table 32 - Pin Assignment — Cat. No. 450L-APT-PW-5

Face View of Male M12 5-pin	View	Pin Number	Signal Transmitter
		1	24V DC
		2	No connection
		3	0V (ground)
		4	No connection
		5	Functional earth FE

Gray Wire

Table 35 - Pin Assignment — Cat. No. 450L-APR-ED-8

Receiver Bottom Plug-in Face View of Male M12 8-pin (DC Micro)	View	Pin Number	Signal Receiver
		1	Auxiliary output (OSSD emulation)
		2	+24V DC
		3	Functional earth FE
		4	EDM (Input) ⁽¹⁾
		5	OSSD1
		6	OSSD2
		7	0V (GND)
		8	Start ⁽¹⁾

Green Wire

(1) If set with DIP switches.

Helpful Hints – 450L Light Curtains

- Minimum operating distance between “Transmitter” and “Receiver” is 1.5 ft for 14mm resolution.
- Minimum operating distance between “Transmitter” and “Receiver” is 3 ft for 30mm resolution.
- The laser alignment tool is a Class 2 Visible Red laser “Eye-Safe” for **UNINTENTIONAL** eye exposure.
- The laser alignment light has a built-in safety timer to automatically turn off after 4 minutes.
- Light curtain pairs can be mounted upside down, however, both transmitter and receiver **MUST** be mounted in the same orientation.
- **NEVER** insert OR remove a plug-in control module under power.
- Plug-in control modules are mechanically “keyed” and can only be inserted on the end of stick that has indicator lights.

Thank You!



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