



## What makes Zone Manager better?

### Performance

- ▶ <1 in accuracy
- ▶ Indoor/outdoor use
- ▶ Up to 1640 ft (500 m) range
- ▶ No reflector up to 213 ft (65m)



### Configuration

- ▶ Plug & play set up
- ▶ Simple touch screen
- ▶ Teach or enter set points
- ▶ Six configurable relay outputs



### Features

- ▶ Connects 2 lasers
- ▶ Class II visible laser
- ▶ Modular, versatile system
- ▶ Distance, advanced zone, skew



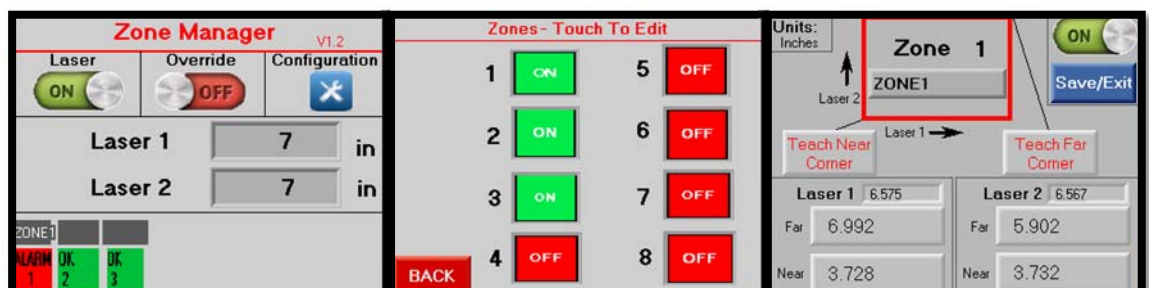
### Installation/Maintenance

- ▶ IP 65 protection
- ▶ Low maintenance
- ▶ Quick aim & set installation
- ▶ Error code troubleshooting



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## CRANE SENTRY ZONE MANAGER LASER COLLISION MONITORING

Laser Model	FLS-C 30	FLS-CH 30
<b>Measuring range</b>		
Reflective foil	~0.5 ... 500 m	~0.5 ... 500 m
Natural surface	0.05 ... ~65 m	0.05 ... ~65 m
Accuracy @ 2 $\sigma$ (10 Hz)	$\pm$ 3 mm	$\pm$ 3 mm
Repeatability typ.	$\pm$ 0.5 mm	$\pm$ 0.5 mm
Max. measure rate	20 Hz	20 Hz
Operating temp.	-10 ... +50 °C	-40 ... +50 °C
Protection rating	IP65	IP65
<b>Diameter, laser dot</b>		
at 10 m	8 mm	8 mm
at 50 m	25 mm	25 mm
at 100 m	40 mm	40 mm
Dimension [mm]	150 x 80 x 50	150 x 80 x 50
Weight	0.69 kg / 1.52 lb	0.72 kg / 1.59 lb

### General

Power Requirement	2.5A @ 110VAC (6.5A@ 110 VAC for heated lasers)
Serial Inputs	Two RS232 inputs for two Dimetix Lasers (19200,7,E,1)

### Digital Inputs

Number of Inputs	7 pnp (source) inputs to override alarms
Input Voltage	17-28.8VDC; 24VDC nominal
Input Current	8mA @24VDC

### Digital Outputs

Number of Outputs	Connected to board relays
Output Voltage	24VDC
Output Load	0.5 A maximum per output. 3A maximum total per common

### Relay Outputs

Type	24V DC relays on board
Rated Current	8A
Rated Voltage	250 VAC
Single Phase Motor Rating	0.37 kW

### Graphic Display

Type	TFT, LCD display (3.5"; 320x240 pixels)
Touchscreen	Resistive, analog

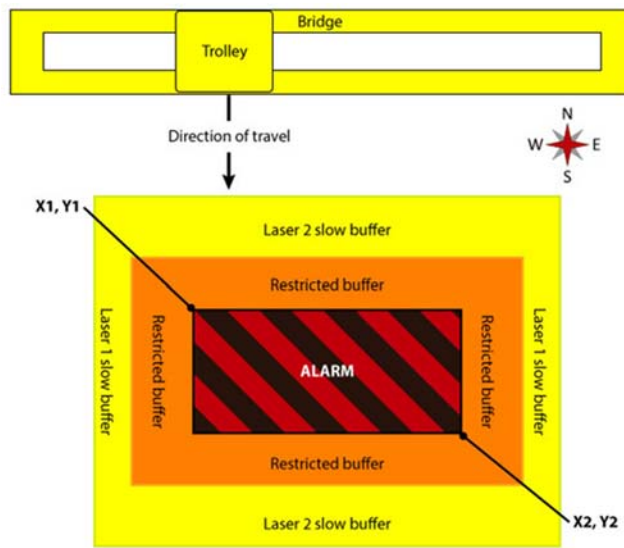
### Environmental

Operating Temp (Control Box)	0 to 50 degrees C; options for heated and cooled enclosure
Storage Temp	-20 to 60 degrees C
Controller memory battery backup	7 years typical at 25 degrees C
Expected Life time	5 to 10 years at 25 degrees C
Ingress Protection	IP65/66/NEMA4x
Enclosure Material	Polycarbonate



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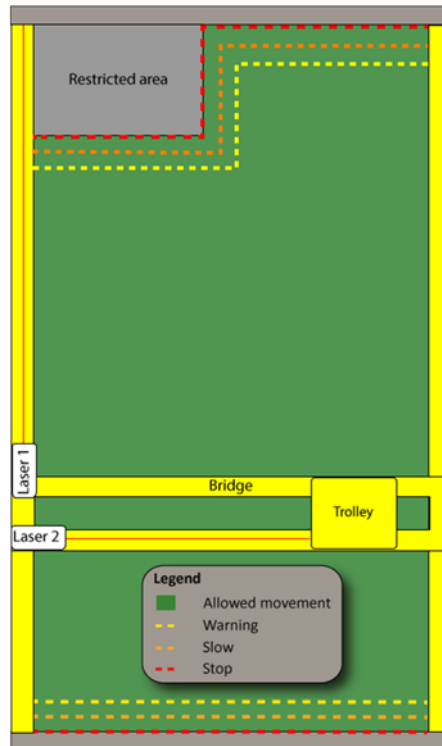
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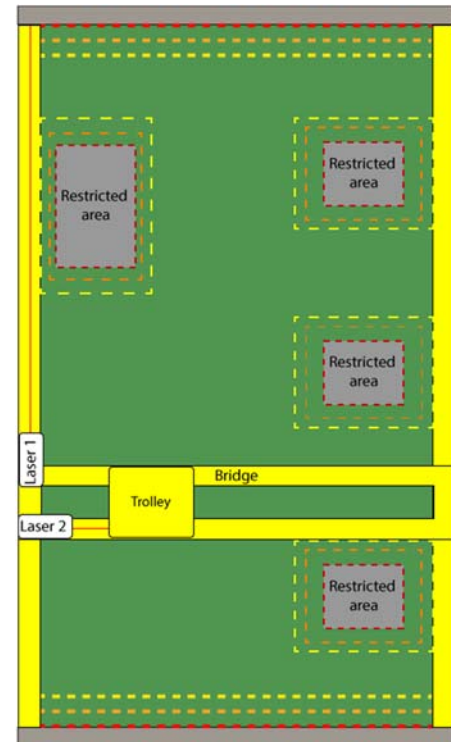
Zone Manager advanced restricted zone monitoring creates a virtual box around protected areas based on the X1, Y1 and X2, Y2 coordinates that define the "Alarm" area. When a crane controlled by Zone Manager approaches a "Slow buffer" zone, the slow motor function of the crane system is enabled. Zone Manager will disable movement in a specific direction when the crane enters the "Restricted buffer" zone. In the example shown here, when the crane moving South enters the Restricted buffer zone along its northern edge, further movement to the South will be disabled, while North, East, and West movement will still be allowed. The Zone Manager override function can then be used to allow intentional entry into and exit from the protected area.

East, and West movement will still be allowed. The Zone Manager override function can then be used to allow intentional entry into and exit from the protected area.

**Figure 1. Single zone monitoring compared to Zone Manager multiple zone monitoring**



**Crane Sentry single zone monitoring.** Up to 6 Crane Sentry outputs can be configured to monitor end stops and a protected area. One laser monitors bridge position, the other laser monitors trolley position. Parallel board relay controller outputs constrain crane movement only when the bridge AND trolley approach the protected area.



**Zone Manager advanced multiple zone monitoring.** Zone Manager creates a coordinate-based virtual box around multiple restricted areas and can be configured to monitor several user selectable conditions with up to ten programmable outputs. Output assignments can be mixed.



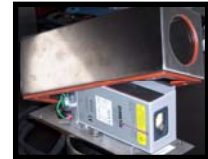
## CRANE SENTRY LASER COLLISION MONITORING SYSTEM OPTIONS

Typical Crane Sentry laser collision monitoring system consists of :

- ▶ (1) Crane Sentry controller
- ▶ (1) or (2) Dimetix FLS-C30 laser distance sensor(s)
- ▶ (1) or (2) laser cable M12 to DB15 sealed connector(s)
- ▶ (1) or (2) two axis alignment bracket (s)

And the following optional accessories:

- ▶ **NEMA 4x stainless steel windowed enclosure**
  - 316 S/S construction
  - Weatherproof silicone gasketing
  - Replaceable glass optics
  - Sealed cord grip with split insert
  - Internal mounting bracket for laser (aluminum)
  - Heating and cooling options available
  - Assembled with laser and cable if applicable
- ▶ **HD laser enclosure with 4 axis mount**
  - 304 S/S upper cover
  - Painted steel flanged base plate with welded thread conduit connection (safety yellow)
  - Adjustable axis (horizontal, vertical, 2 rotation axis)
  - Replaceable glass optics
  - Internal mounting bracket for DLS series laser (aluminum)
  - Heating and cooling options available
  - Image shown with optional enclosure cooler assembled
- ▶ **Target plate**
  - Orange reflective metal target plate for distances over 65 m



**NOTE: The minimum distance is 0.5 m for the FLS-C series.**

- ▶ Complete modular system includes up to 2 lasers
- ▶ Quick aim & set installation, versatile application
- ▶ Intuitive operation, simple troubleshooting
- ▶ Rugged industrial package, low maintenance
- ▶ Indoor/outdoor operation
- ▶ Non-contact, eye-safe laser measurement
- ▶ High accuracy, long range, competitive cost

Please **contact** Laser-View Technologies today to request a quote or learn more about the Crane Sentry laser collision monitoring system.



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