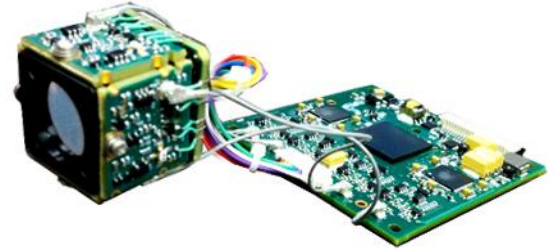




MULTIPLE LASER SPOT TRACKER (MLST)

- TRACKS MULTIPLE SPOTS SIMULTANEOUSLY
- VERY HIGH SENSITIVITY
- TRACKER MODE – TRACKS SPECIFIC PRF CODES
- SEEKER MODE – IDENTIFIES/REPORTS ALL VALID PRF CODES WITHIN THE FOV
- ULTRA-WIDE DYNAMIC RANGE
- DETECTOR OPTIMIZED FOR 1.06 μ m
- ADAPTIVE NOISE TRACKING THRESHOLDS
- POWER-ON BUILT-IN-TEST (BIT)
- INTERFERENCE FILTER AND OPTICS INCLUDED
- PREALIGNED MECHANICAL INTERFACE



DESCRIPTION:

The *Model 743DP* is a new generation of miniaturized Multiple Laser Spot Trackers designed for target identification and tracking applications. The Model 743DP utilizes a silicon quadrant detector optimized for 1.06 μ m. Independent five channel noise detectors set the lowest thresholds to achieve long acquisition ranges for different background light and spot positions. The unit can be operated with a finely focused spot size for steering applications or with a defocused spot for target location identification within the FOV. The Model 743DP will decode and track up to 4 separate and independent laser pulse trains.

SPECIFICATIONS:

Quadrant Detector	1.5mm diameter SiAPD Quad	Inputs	First/last/peak pulse logic, PRF code via RS-422/RS-485 full duplex serial interface
Spectral Response	1064nm with 10nm narrowband optical filtering	Outputs	Steering plus status information sent via serial interface
Field-of-View	3.5° full angle with a spot size ~1/2 detector	Power	+5V \pm 2% @ 500mA - 5V \pm 2% @ 200mA
Aperture Size	11mm clear aperture	Temperature	Operating: -40°C to +71°C Storage: -55°C to +85°C
Boresight Accuracy	Standard Deviation < 1.0mr/axis at 10x minimum detectable signal	Size	1.1" x 1.1" x 1.0" Sensor Assembly 2.5" x 2.5" x 0.4" Processor Assembly
Min Detectable Signal	< 1 femtojoule (23°C)	Weight	Sensor = 22g Processor = 24g
Dynamic Range	> 100,000:1		
False Alarm Rate	Controlled by adaptive threshold on each channel, plus sum channel		

Specifications subject to change without notice.

U.S. Patent No.8,451,432

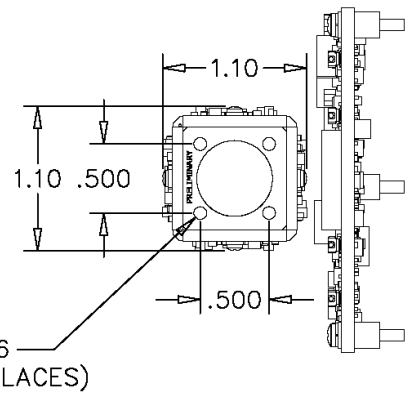
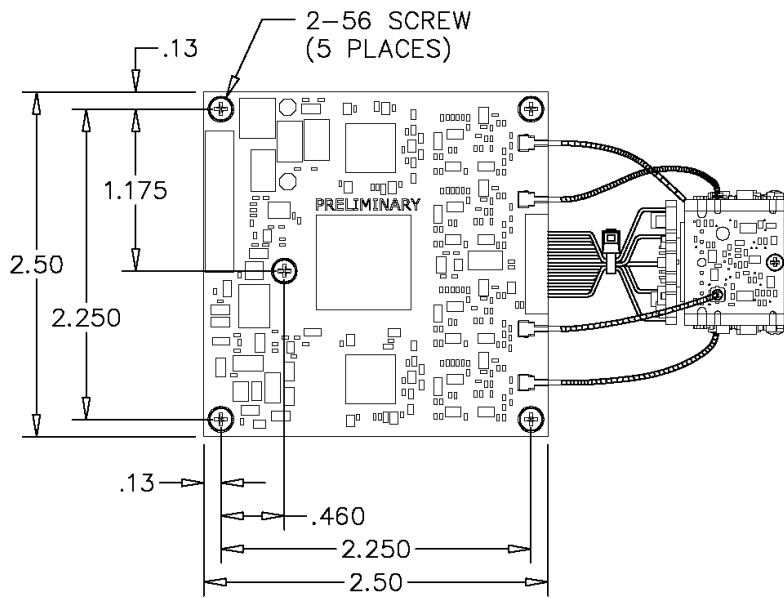


APPLICATIONS:

Missiles, UAS, Handheld & Mounted Tracking Systems, Weapons Systems, Alignment

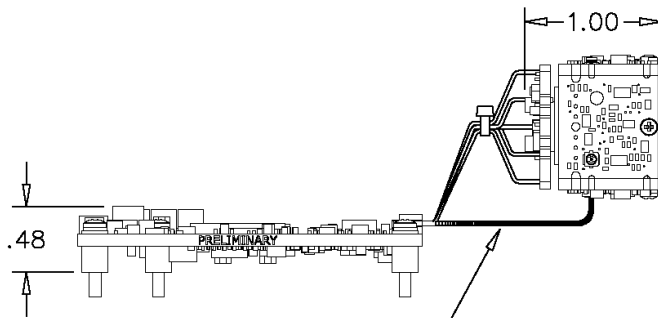
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TOLERANCES

.XX=±.03
.XXX=±.005



COAXIAL OUTPUT LEADS
LENGTH: 3.5"
4-CHANNELS

8481_4.DWG

Sensor Assembly

Dimensions are in inches.

The *Model 743DP* comprises a hermetically-sealed detector with built-in front-end electronics on a rigid flex board, and a separate board assembly (2.5" x 2.5") containing analog and digital processing circuits. The individual channels are digitized with a high-speed A-D converter and output as a serial digital interface for steering or as an X -Y location within the field of view. An adaptive threshold control allows optimum signal-to-noise operation and power management is used to reduce power consumption.