ANALOG MODULES, INC.

a HEICO company

MODEL 741DP

QUADRANT TRACKING
DETECTOR/PROCESSOR

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- **LOW COST**
- **UP TO 14mm DIAMETER QUADRANT DETECTOR**
- **HIGH SENSITIVITY**
- **WIDE DYNAMIC RANGE**
- **OPTIMIZED FOR 1.06μm**
- **ADAPTIVE NOISE TRACKING THRESHOLDS**
- **SUNLIGHT TOLERANT**
- **FLEXIBLE INTERFACE**

DESCRIPTION:

The *Model 741DP* is a new generation of laser spot tracker with wide flexibility for missile and platform applications. The detector is temperature controlled and optimized for 1.06μm. Independent five channel noise detectors set the lowest thresholds to achieve long acquisition ranges for different background light and spot positions. Special circuits resist sunlight blinding in any one or all quadrants. A range of N-type custom-designed detectors gives the highest performance at 1.06μm. The Detector-Amplifier Assembly comprises a hermetically-sealed temperature-controlled detector with built-in front-end electronics, mounted on a SMT board. The Quadrant Processor provides laser detect logic pulses for decoding and digitization. Linear proportional signals are provided over a 90dBv dynamic range due to gain-changing with facilities provided for real-time gating to track the correct signal. The individual channels are digitized with high-speed A-D converters and output a serial digital interface for steering. A compact high voltage power supply (Model 524) is available for detector biassing.

SPECIFICATIONS:

Quadrant Detector	
Size	5.33mm (-1), 14mm (-2) Other sizes & InGaAs available
Inter-element Gap	0.003 inches (76μm)
Thickness	Approx. 400μm
Responsivity	0.4 A/W at 1.06μm
Bias Voltage	180V
Leakage (25°C)	< 10nA (-1), < 200nA (-2)
Temperature	Built-in heater and controller
Sun Protection/Performance	
Linear Operation	Up to 10mW/quadrant at 1.06μm
Over-temperature	Temperature sensor output
Over-current	Resistively limited
Threshold	
FAR	Controlled by independent noise detector on each channel, plus sum channel
Minimum Signal	First of any channel, or sum channel. 100nW to 500nW depending on FAR and quadrant size.

Inputs	Gain1, Gain2, Gain Control, Gate, First/Last Pulse Logic
Outputs	Serial Output and Laser Pulse Detect
Gain	Four overlapping stages (2 gain inputs), 10:1 each
Power	+5V ± 2% @ 560 mA (includes up to 250mA for heater) -5V ± 2% @ 200mA 180V ± 5% @ 500μA to 5mA (depending on background light)
Physical	Hermetically sealed Detector/Amplifier on mini SMT PCB; Quadrant Processor board
Connections	Samtec PN FTSH-125-01-F-DV-EJ
Operating Temp	-40°C to +70°C
Size	Detector: 1.123" diameter x 0.43" high Amplifier PCB: 1.56" x 1.18" x 0.492" high Quad Processor: 2.95" x 2.125" x .50"high
Weight	1.62 oz.

Specifications subject to change without notice.

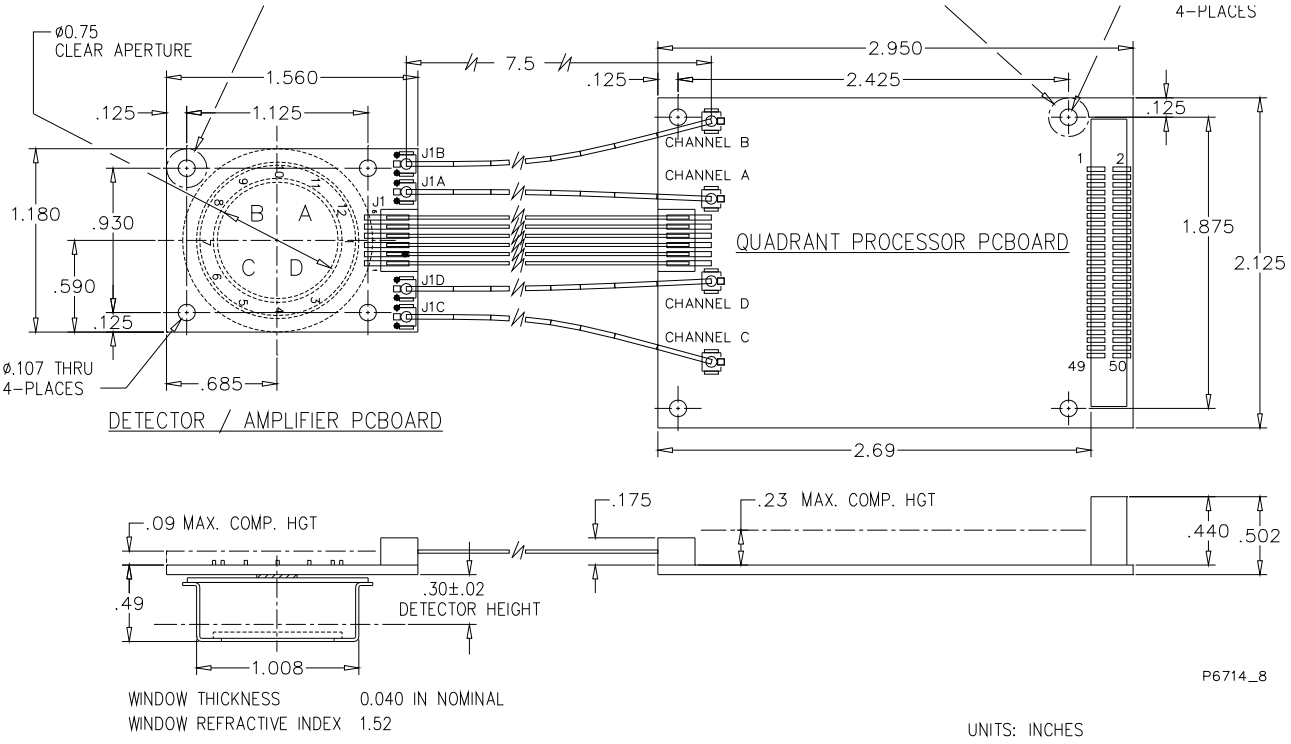
ISO 9001 CERTIFIED

APPLICATIONS:

Missiles, Mounted Tracking Systems, Weapons Systems

"In the event this commodity will be transferred to a "foreign person" as defined in 22 CFR 120.16, either outside or within the United States, a validated US State Department license is required."

126 BAYWOOD AVENUE ♦ LONGWOOD, FLORIDA 32750-3426 ♦ USA
(407) 339-4355 ♦ FAX (407) 834-3806 ♦ E-mail: ami@analogmodules.com
www.analogmodules.com



SYSTEM WIRING DIAGRAM AND SIZES