



HIGH PERFORMANCE LASER RANGEFINDER RECEIVER WITH RANGE PROCESSOR

- HIGH SENSITIVITY DOWN TO 3nW
- FAST RECOVERY FROM OVERLOAD
- OPTIMIZED FOR MULTIPLE TARGETS
- THERMO-ELECTRICALLY COOLED DETECTOR
- TIME PROGRAMMED GAIN WITH NOISE TRACKING THRESHOLD
- HIGH SPEED RANGE COUNTER WITH RANGE WALK CORRECTION TO 1m RMS
- DIGITALLY ADJUSTABLE APD BIAS, RANGE GATES AND FALSE ALARM RATE
- BUILT-IN HV BIAS SUPPLY FOR APD DETECTOR
NO NEGATIVE SUPPLY REQUIRED



DESCRIPTION:

The **7558 Series** Rangefinder/Processor assembly comprises a high performance Model 758A receiver with compact support electronics to provide correct range data to a mother system. The serial range data output is calibrated using AMI's patented technology to mitigate the effects of range errors from various sources including walk due to return signal amplitude variations. Exceptional sensitivity allows the use of low power lasers, or alternatively, long range operation. The module provides high voltage bias, time programmed gain with noise tracking threshold, first/last pulse selection, range gating, a cooler controller and heat sink, as well as a number of user controlled options via the serial interface. The compact layout allows positioning at the optics for minimum overall system size. Custom options and optimization are available.

SPECIFICATIONS:

Detectors/Sensitivity

(50% Pd; 6ns pulse; 1550nm; 0.1% FAR; TEC set for 15°C)

Detector type: InGaAs APD

MODEL	DET DIA	TYP	MAX
7558-03	80µm	3nW	6nW
7558-04	200µm	6nW	9nW

At 1.06µm, multiply sensitivity value by 2.

Multiple Target Resolution

Small Signal	(10uW)	20m typical at 50m
Large Signal	(1uW)	10m typical at 10km

Dynamic Range 10⁷:1

Min/Max Range 50m to 65km

Range <1m RMS typical, 2m RMS max. – digitally

corrects for fixed-threshold receiver range walk as a function of signal amplitude

Accuracy

Range Gate Digitally adjustable via serial interface

FAR False alarm rate adjustable via serial interface.

APD Bias Detector bias adjustable via serial interface

First/Last/Strongest

First, last or strongest pulse range logic selection via serial interface

TPG

Receiver is held in low gain until a start pulse is detected, after which the receiver time programmed gain is initiated

Start Pulse

Electrically or optically injected

Serial I/O

Serial input – RS422
Optional LVDS
Serial output – RS422
Optional LVDS

Power

+5V at 450mA (excluding TEC)
TEC current <300mA
TEC cool down rate: 10°C/sec
Reduced power mode when idle

Temperature

Operating -40° to +71°C
Storage -40° to +85°C

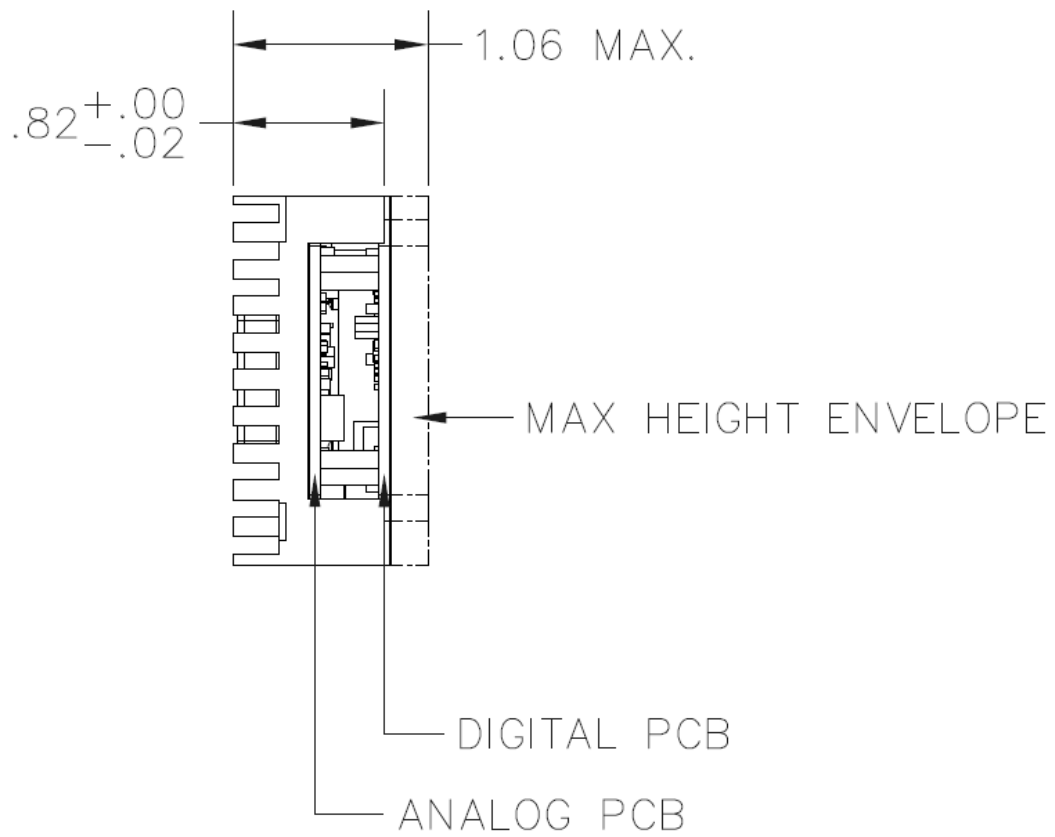
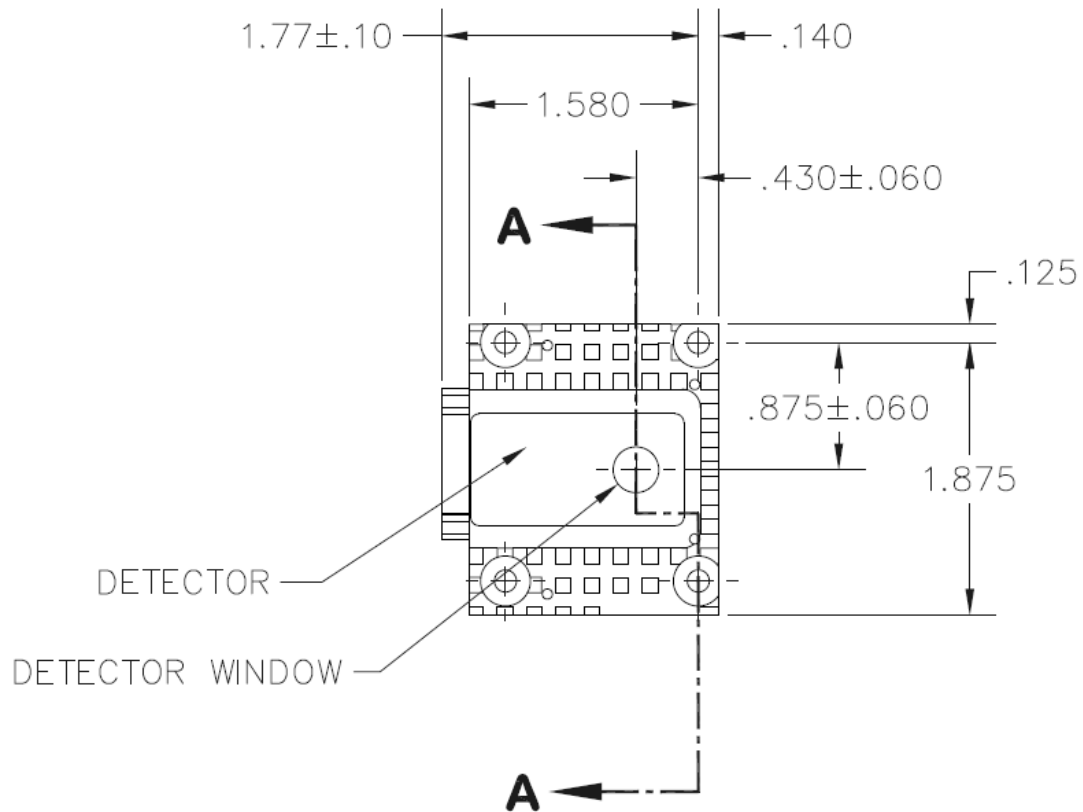
Size Weight

2.0" x 2.1" x 1.1"
3.2oz



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.

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Dimensions are in inches