

LM-3000-F

LASER METER

**STATE-OF-THE-ART LASER METER
NON-CONTACT, PRECISE, RELIABLE, LEVEL & DISTANCE
MEASUREMENT AND POSITIONING**



FEATURES

- **VISIBLE LASER ALIGNMENT**
- **MILL-DUTY, WATER-COOLED POSITIVE-PRESSURE, AIR-PURGED HOUSING**
- **DIGITAL and ANALOG OUTPUT**
- **24VDC or 100 TO 240VAC, 50Hz / 60 Hz**
- **UP TO 50HZ UPDATE RATE**
- **PRECISE DIGITAL SET UP VIA RS-232 PORT/BLUETOOTH WIRELESS**

APPLICATIONS:

For cranes, ladles, slabs, blooms, billets, coils, etc., in melt shops, continuous casters, reheat furnaces, hot and cold mills

- **Positioning of Coke Plant Vehicles**
- **Torpedo Car Positioning**
- **Torpedo Car Level Measurement**
- **Positioning of Ladles or Cranes**
- **Mold Level Measurement**
- **Width Measurement**
- **Thickness Measurement**
- **Loop Control**



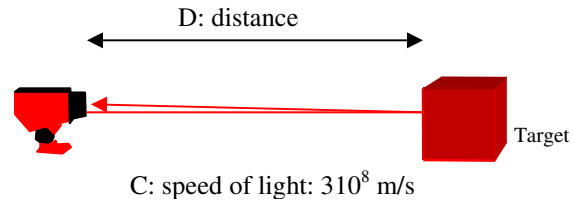
MADE IN THE USA

DESCRIPTION:

The LM-3000-F is based on the time-of-flight principle:

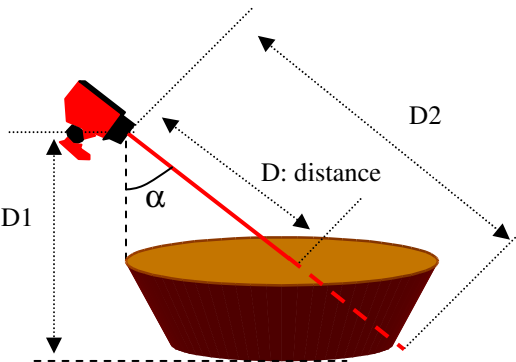
A pulse is generated from the source, transmitted to the target, and returned to the receiver by reflection and/or scattering. The round-trip time is measured. For laser and radar the distance is computed based on the speed of light. Ultrasonic uses the speed of sound to calculate the distance.

$$\text{Distance} = \frac{\text{time of flight} \times \text{speed of light}}{2}$$

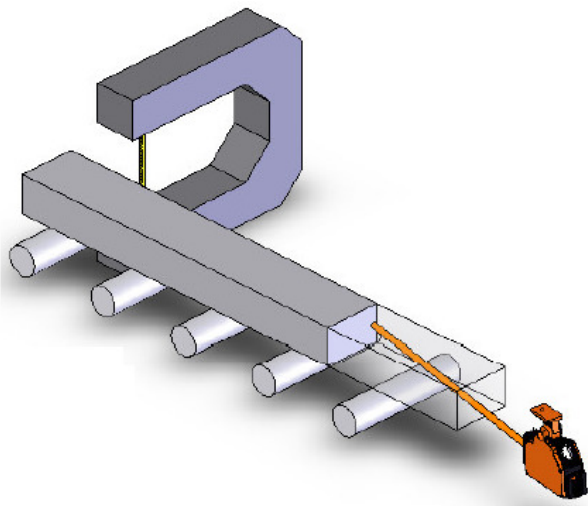


LEVEL MEASURING PRINCIPLE

- Measure of D1.
- Measure of D2.
- Then: $\alpha = \arccos \frac{D1}{D2}$.
- LEVEL = $D1 - D \times \cos \alpha$

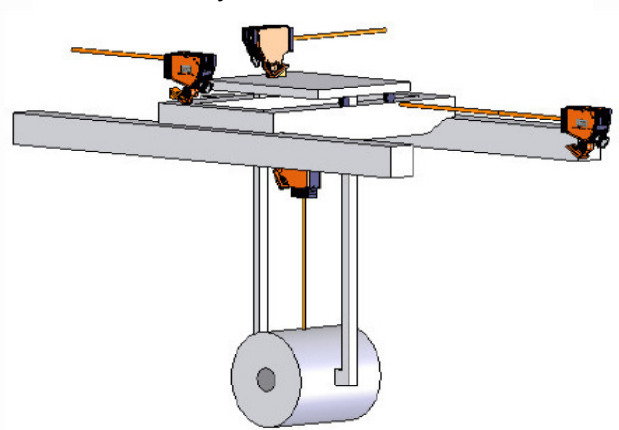


EXAMPLE APPLICATIONS:



Cut-to-Length ingot on roller table at saw

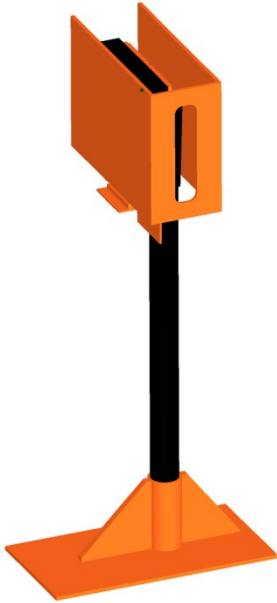
Crane & Load Positioning and Collision Avoidance System



SPECIFICATIONS:

SYSTEM	
WAVE LENGTH LASER POINTER	650nm
WAVE LENGTH MEASUREMENT PULSE	905nm
POINTER OPTICAL POWER	1mW average
CLASS	Pointer: Class2 Measurement Pulse: Class1
DIVERGENCE	0,6 mrad
SIGNALS	
DETECT RELAY	None
ANALOG OUTPUT	4-20 mA DC
DIGITAL OUTPUT RATE	5 s/r to 50 r/s
ELECTRICAL	
POWER SUPPLY	100 to 240 VAC / 15 W (50-60 Hz) or 24 VDC / 8 W
POWER CONSUMPTION	20 VA or 10 VA for 24V
SHIELDED CABLE	2 Meter, high-temperature Teflon cable
CONNECTOR	Quick disconnect 15-pin HARTING plug with ground shield
SERIAL LINK DIGITAL COMMUNICATION	RS232 or Optional RS485
MECHANICAL	
HOUSING	Cast aluminium housing rating IP66 (NEMA 4)
WATER / AIR COOLING	Water / Air-cooling jacket
PROTECTIVE HOOD	Hood with positive pressure air purge: 4-16 liters/min at 2 bars (0.14 -0.56 ft3/min at 29 PSI)
MOUNTING	Fully adjustable foot mount swivel stand
OPERATING TEMPERATURE	-28°C to 60°C (-18°F to 140°F) Above 60°C (140°F) auxiliary cooling is required: 1-2 bars (14.5 - 29 PSI) at 1-2 liters/min (0.035 - 0.07 ft3/min)
INSIDE TEMPERATURE ALARM	Alarm via Digital Output
TOTAL WEIGHT	Approx. 12.25 kg / 27 Lbs.

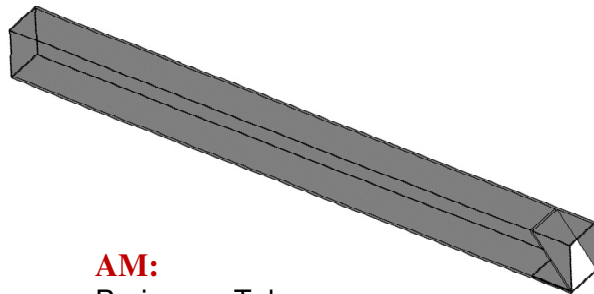
ACCESSORIES & OPTIONS:



HS500:
Adjustable stand, support
and swivel heat shield
(pipe not included)



KHC500:
Kevlar Jacket



AM:
Periscope Tubus

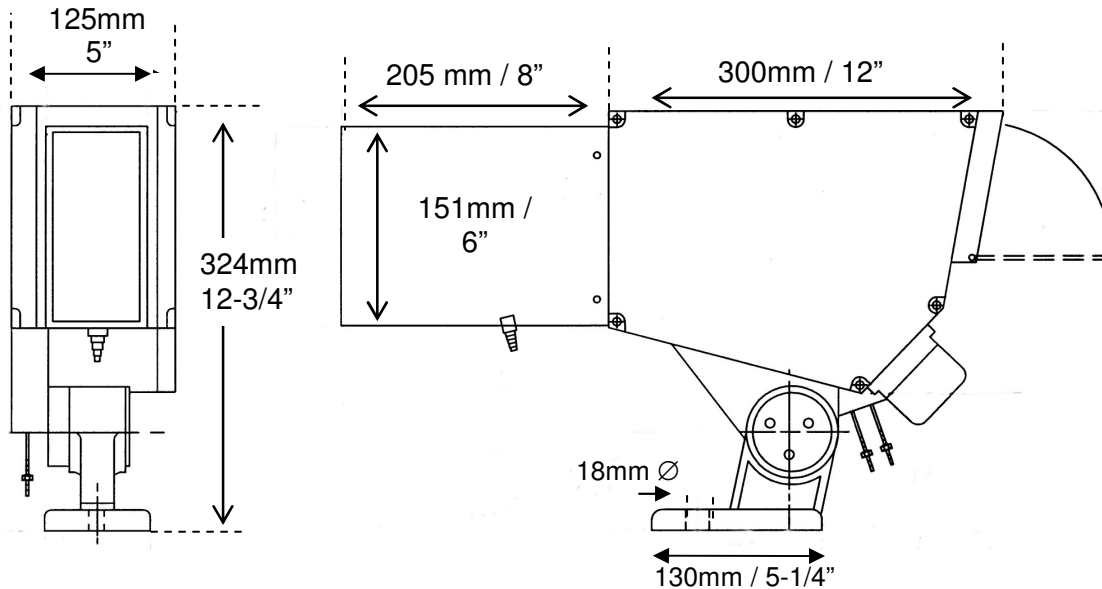


CB3000:
Connection Box with LED display



PDA-3000-PC:
1 Bluetooth transceiver (for sensor) +
Bluetooth transceiver (for PC or Laptop)

DIMENSIONS:



ORDERING INFORMATION:

	Version	Input Voltage	Digital Output
LM-3000-	- F (Standard)	- AC: 100-240 V AC	- RS232 Standard
	- S	- DC: 24V DC	- RS485 Optional

NOTE:

- S: for slab casters, & positioning ladles/torpedo cars in melt shops, EAF, etc.

➡ **Example Model Number: LM3000-F-FL-AC-RS485**

All sensors are equipped with a 2 meter Teflon-shielded cable with Harting Connector. Please specify if additional length is required.

ACCESSORIES & OPTIONS:

	Stand	Connection Box	Kevlar Jacket	Bluetooth
Accessories:	• HS500	• CB3000	• KHC500	• PDA3000-PC

	Periscope Tubus
Options	• AM

For Assistance, please call ASC Technical Center (1) 412-242-5903
 Email: sales@americansensors.com