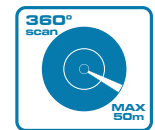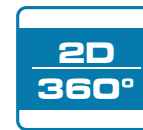# OLEI

Sensing Reality!

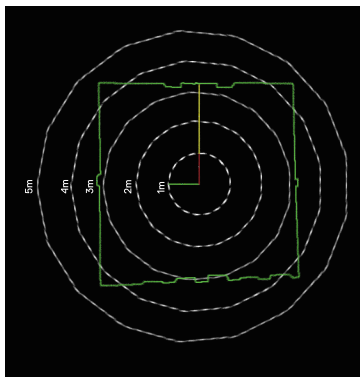# LR-1F 2D LiDAR Sensor

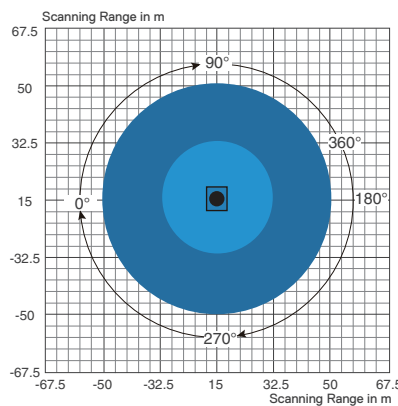Robotics | Security | Industrial | Intelligent logistics | Automotive | Mapping

Introduction

▶ LR-1F is an upgrade product from our 1B version, which is developed with more application requirements that require 360° continuous scanning. In addition to meeting the full-angle scanning range, we have also achieved farther measurement distances through optimized optical design.

▶ LR-1F is designed for applications in various industrial scenes, such as Robotics, Security and Surveillance, Industrial automation and Smart logistics. It can also be used for space mapping systems such as mobile mapping.

▶ OLEI strives to provide a reliable, high quality, rugged sensor product with industry-leading engineering manufacturing facilities, Professional-grade calibration laboratory, and Stringent environmental condition verification processes.

2D 360°

360° scan MAX 50m

Sample Data

Scanning Range

Scanning Range in m

90° | 360° | 180° | 0° | 270°

Scanning Range in m

■ Scanning Range Max.: 50m
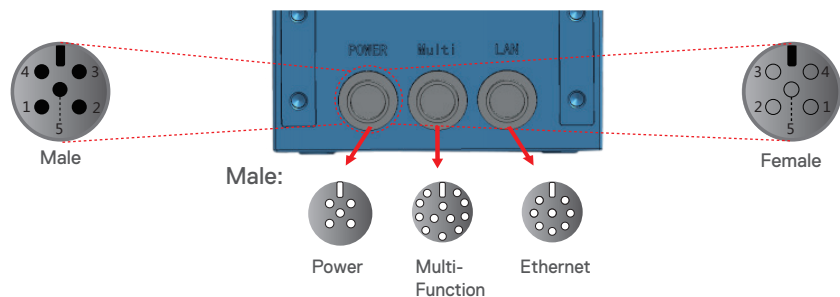
■ Scanning Range Typical: 15m(10%wb)
For Objects up to 10% Remission

Electrical Definition

NO.	Definition	Color	Remark
1	GND	Black	
2	GND	Gray	
3		Blue	Do not connect
4		White	Do not connect
5	VCC	Brown/Red	

Power

POWER Multi LAN

Male

Male:

Power | Multi-Function | Ethernet

Female

LR-1F 2D LiDAR Sensor

ÖLEI

◼ Specification Table

Basic Specification:

Item	Unit	LR-1FA
Laser Wavelength	nm	905， Class I
Laser class		I
Channels		1
Scanning angle	º	360
Scanning Frequency	Hz	10~25
Angular resolution	º	0.056±5%@10Hz 0.14±5%@25Hz
Measurement range	m	0.2~15m@10% bw 0.2~50m@80% wb 0.2~50m@ reflector
Response time	ms	130ms@10Hz
Distance Resolution	mm	1
Accuracy	mm	Absolute Accuracy：<±30mm Repeat accuracy :<±15mm

Output:

Item	Unit	Specification
Ethernet Connection		100Mbps Ethernet
Reflection Data		5%-100%
Identification of		YES
Switching inputs	ea	-
Switching outputs	ea	1
Optical Indicators	Type	RGB×4

Mounting & Connection:

Item	Unit	Specification
Connection		5-pin, M12x1 connector, A-coded (supply) 12-pin, M12x1 connector, A-coded (MultiPort) 8-pin, M12x1 socket, A-coded (LAN) Standard:Back side connection; Bottom connection for option
Dimensions	mm	94×97×116
Operating voltage	VDC	10~32
Power consumption	W	7 @15Hz
Weight	g	＜750g

Environment：

Item	Unit	Specification
IP Degree of protection		IP66
Operating temperature	℃	-20~+50
Storage temperature	℃	-30~+70
Ambient light limit	LUX	＜120000
Air humidity	RH	<95%
Mounting		Bottom or Back

Compatible test standard:

Item	Unit	Specification
EMC		IEC 61000-6-2:2016-08 /IEC 61000-6-3:2006-07
Vibration resistance		IEC 60068-2-6:2007
Shock resistance		IEC 60068-2-27:2008
Basic Software		OLAMViewer
Function Software		N/A

◼ Outline and Mounting

OLEI is constantly striving to improve its high-quality products, the Specification subject to change without notice.

Doc.#: DSEN-LR1F-201908