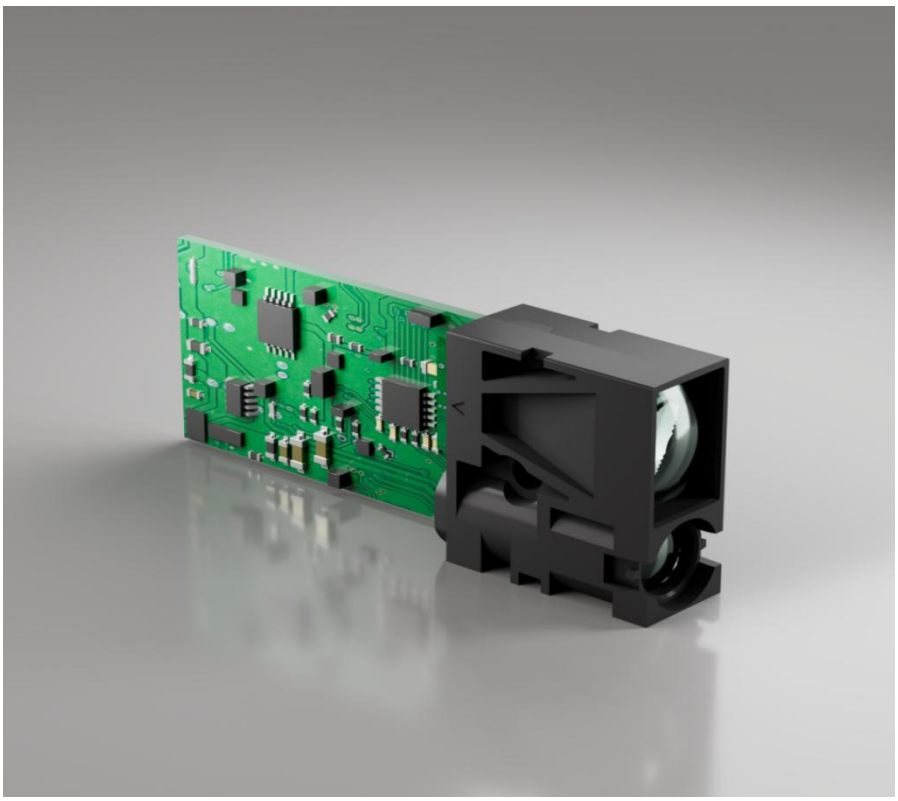
Laser Distance Module-LDL Series
Technical Data Sheet



Introduction

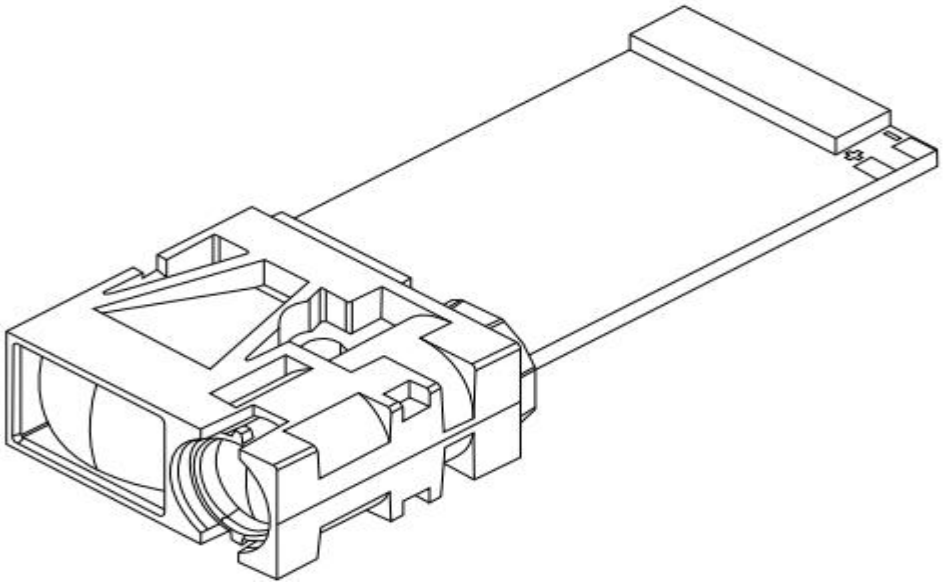
LDL-40 is a high-precision laser distance module, independently developed by Chengdu Meskernel Integrated Technology Co., Ltd. The extremely small and lightweight features (42*17*7mm, 4g) make it suitable for size and weight limited scenario and convenient for users to integrate into their systems. With low power consumption, stable performance, high accuracy and fast measurement speed, the module has been widely used in industrial automation fields.

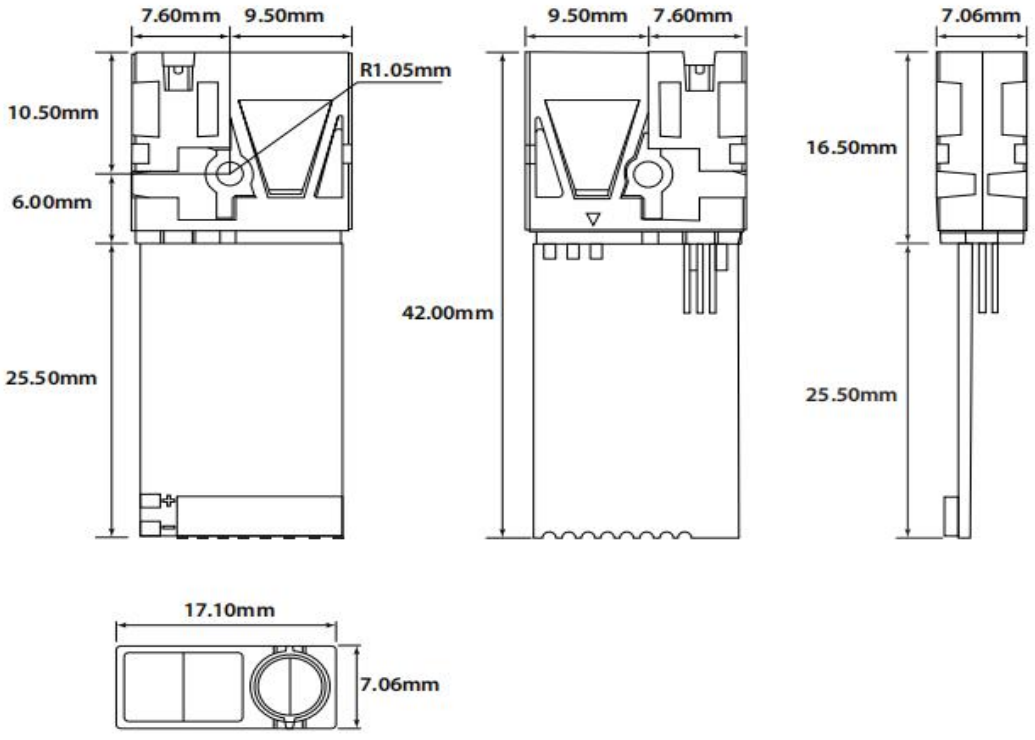
Meskernel provides a series of customization service including but not limited to range, accuracy, baud rate, frequency, communication interface, temperature, etc., if you have any customization request, please feel free to contact us.

Specification

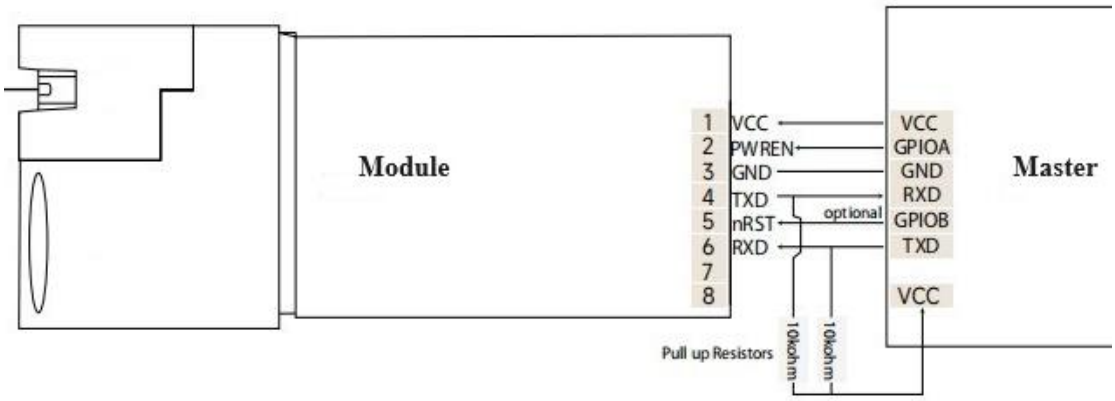
Optical specifications	
Part No.	LDL-40
Range	0.03-10m/20m/40m (Reflectivity: 1.0, Interference light intensity: 3kLux)
Accuracy	±1mm (Reflectivity: 0.2-1.0, Interference light intensity: 1kLux)
Frequency	3Hz (Reflectivity: 1.0, Interference light intensity: 1kLux, Distance: 0.03-10m)
Laser Type	610-690nm, Visible Red
Laser Class	Class II (IEC 60825-1:2014), <1mw
Laser Spot	<8mm@10m <20mm@20m <40mm@40m
Measurement Method	Phase-shift principle
Electrical specifications	
Input Voltage (Dry cell)	2.5V~3.6V, 3.3V is recommended
Input Voltage (Lithium Cell)	3.5V~4.2V, 4.0V is recommended
Current (Dry cell)	Laser on: < 50mA@3.3V Continuous measurement mode: <100mA@3.3V Stand by: < 30mA@3.3V
Current (Lithium Cell)	Laser on: < 50mA@3.3V Continuous measurement mode: <80mA@4.0V Stand by: < 30mA@3.3V
Communication specifications	
Communication Level	TTL (3.3V)
Interface	USART, RS232, RS485
Baud Rate	Auto detection: Default 115200 bps, can be set to 9600~115200 bps
	Fixed baudrate: Default 115200 bps, can be customized as 4800 bps, 9600 bps, 19200 bps, 38400 bps, 115200 bps
Other specifications	
Dimensions	42*17*7mm (L*W*H)
Weight	4g±0.5g
Working Temperature	0~40 ℃ (32-104 ℉)
Storage Temperature	-25~60 ℃ (-13~140 ℉)
Certification	CE / FCC / RoHS / FDA
Warranty	12 months

Appearance and Dimension





Pin Layout and Definition



PIN No.	PIN Name	Function	Default Value	Description
1	VCC	Power Input	Decided by power supply	Dry cell input requirement: >300mA@DC 3.3V
				Lithium Cell input requirement: >300mA@DC 4.0V
2	PWREN	Input	Low	Power on enable pin, high level trigger, VIH=2.0V, VIL=0.5V
3	GND	Ground	Decided by ground	Power supply ground
4	TXD	Output	High	Serial port transmit pin, default open drain
5	nRST	Input	High	Reset pin, low level trigger (optional)
6	RXD	Input	High	Serial port receive pin

Note

1. Under poor conditions (such as: dark color, bad reflectivity or atmospheric visibility, strong ambient light, etc.), the measurement accuracy will have an error of ±1mm+50PPM.
2. Please use the target plate when there is strong sunlight or the target with poor reflection.
3. Before using the product, please read the relevant chapters of installation and operation carefully to prevent damage to the sensor, please contact us if you need more information.
4. Free of Responsibility: INCORRECT using condition and storage condition, and service life of the module is exhausted during warranty period, the warranty will be TERMINATED.