

CARDET-LD100 USER MANUAL

(Dedicated for LPR system)

MAGO Technology

2026.06.24 revision

Sensor Overview

- **LD100** is a vehicle detection sensor using Pulsed LASER technology. Unlike infrared sensors, it is unaffected by sunlight and uses the Time of Flight (**TOF**) method to detect a vehicle.
- **This model is specialized for LPR** (License Plate Recognition) systems and can be easily mounted on the body of LPR units.
- Unlike standard LD models, the **LD100** **does not require a reflector** and is optimized for approach detection only, thus it does not maintain output during vehicle stop.



Product component

CARDET-LD100



Relay Controller



Bracket
Rain guard

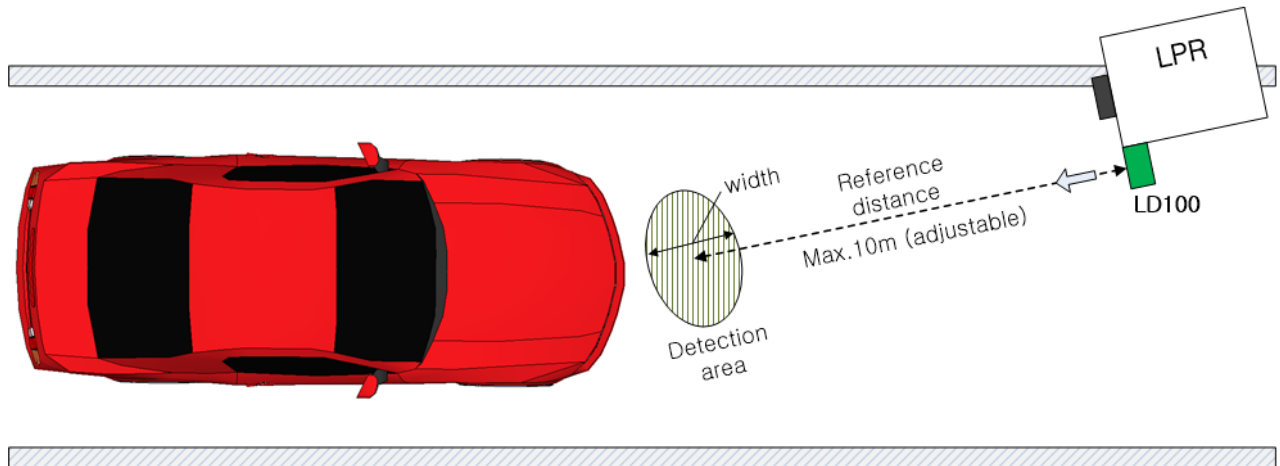


12V DC Adapter (Optional)



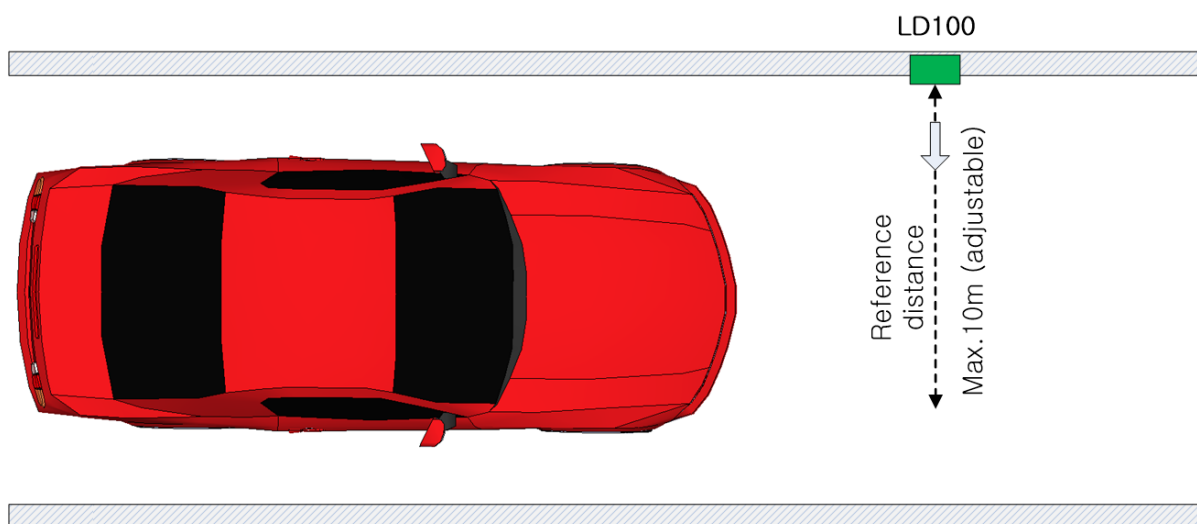
Installation

(A) For LPR mode



- Mount the sensor facing the front of incoming vehicles with license plates (Height: **60–80 cm**).
- Configure the rotary switch and DIP switches to set the **detection mode, reference distance, and width of detection area**. (Default: **LPR mode, 3m reference, ±20cm width**)
- When a vehicle enters the detection zone, the output **turns ON for a preset duration**.

(B) For Beacon Light Mode

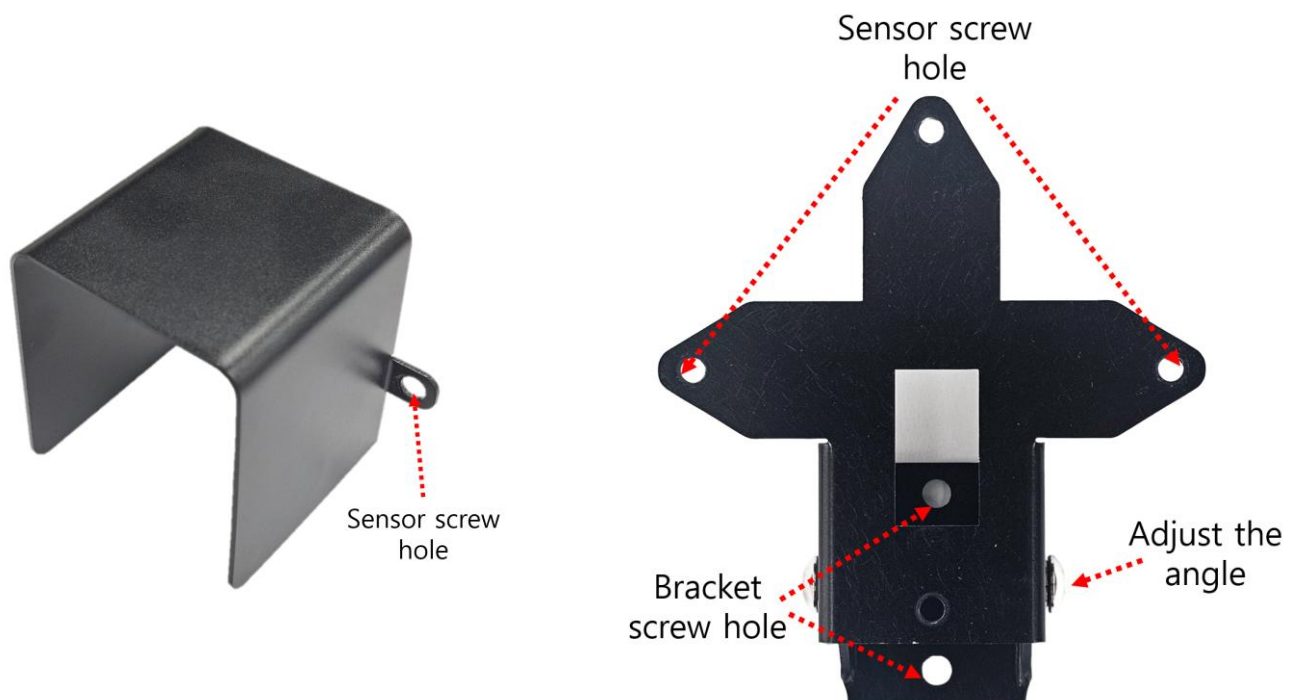


- Since the LD100 forms a detection line in front of the sensor, please install the sensor so that the detection line is positioned at your desired location (Height: 60–80 cm.)
- Set the mode and reference distance via the rotary and DIP switches. (Switch to beacon mode and adjust reference distance.)
- For beacon mode, (**0.1 ~ reference distance**) will be the detection line.
- Output turns ON for a preset time when a vehicle cuts the detection line.

(C) Cautions

- **Do not** install multiple LD sensors **directly facing each other** as interference may occur. Maintain a minimum distance of 1 meter between beam lines.
- **LD100** is a **Short Pulse (LPR-only) model**. If the function of signal retention during vehicle stop is required, use a standard LD model.

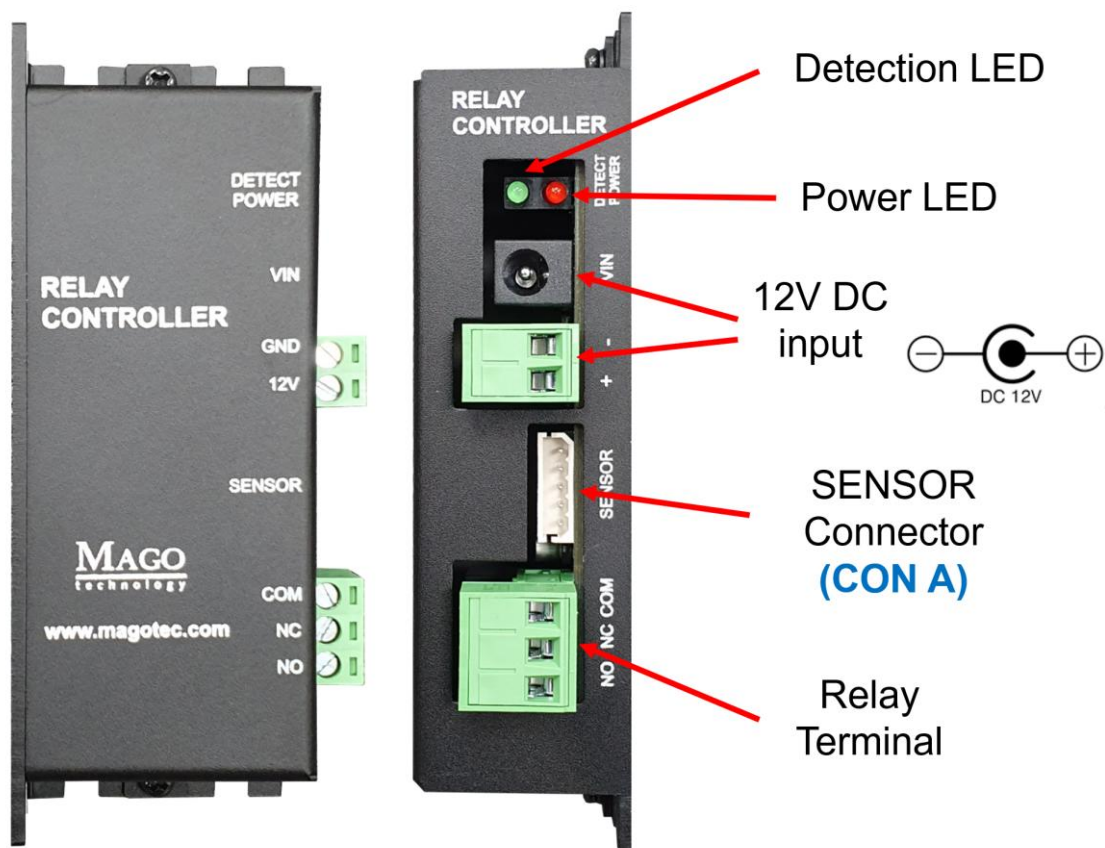
Bracket and Rain Shield Installation



- Secure the **angle bracket** to a wall or pole using the included screws.
- Attach the **rain shield** to the sensor and align the mounting holes.
- Insert the spring washer into the mounting screw, align with the hole, and tighten firmly.
- After adjusting the angle, firmly fix the angle adjustment screw to prevent movement.

Relay Controller Connection

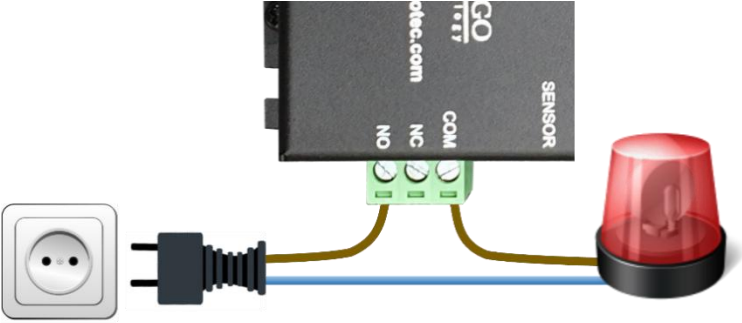
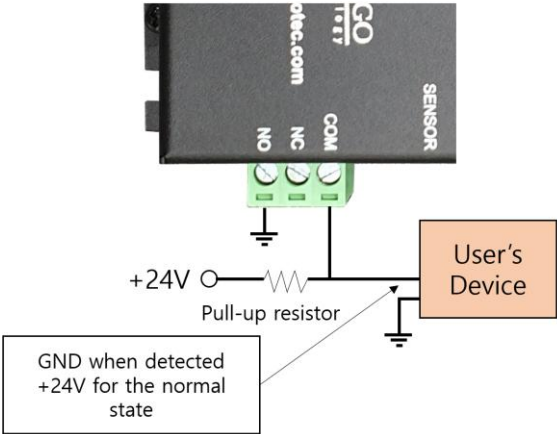
- Connect the sensor output terminal to connector (**CON A**) and connect a **12V** power adapter. The sensor will boot in about 1–3 seconds and begin detection.
- Use the relay contacts (dry contact) to control external devices. **COM** is connected to **NC** (Normally Closed) when idle, and to **NO** (Normally Open) **when a vehicle is detected**.



- Ensure voltage, current, and load capacity **do not exceed the maximum values**. The manufacturer is not responsible for damage due to overcurrent or wiring faults.

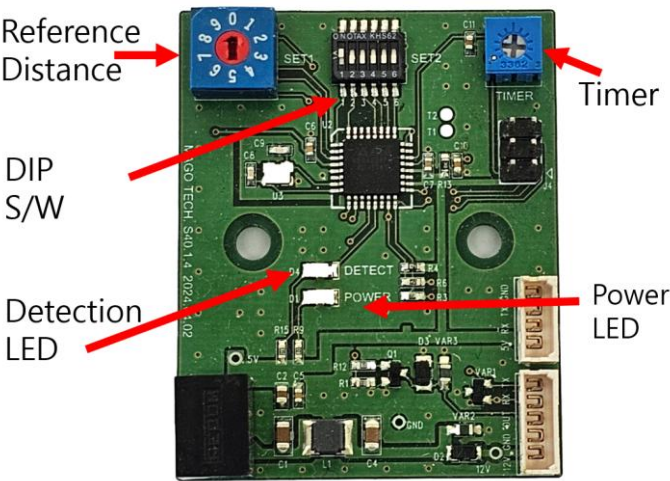
Load	Max. Voltage	Max. Current	Max. Capacity
DC	30V	3A	90W
AC	220V	2A	440W

- When connecting to an external device or beacon, use the **COM** and **NO** terminals with external power. The example diagram is for reference only. Operation is not guaranteed under all environments.

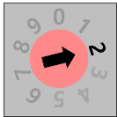
examples	description
220V Beacon light	
Connection to user's device with pull up resistor	

LD100 Configuration

- Open the sensor case to configure operation mode, reference distance and width, and also timer settings.
- Always power off the sensor before making changes, and **reset power after configuration.**



❖ Setting of reference distance

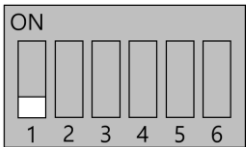
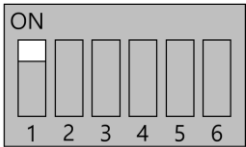
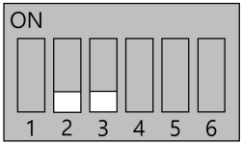
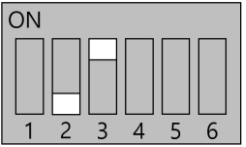
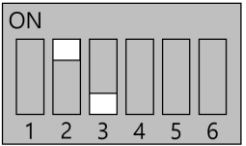
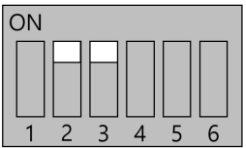
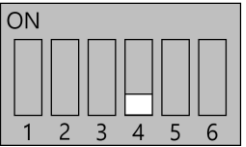
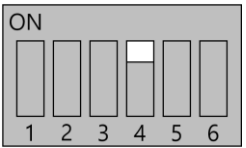
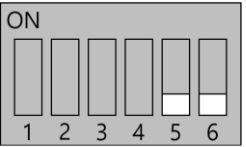
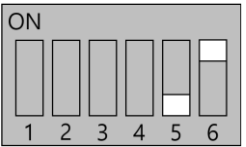
	Number	Reference distance
Setting reference distance Rotary S/W  Default: 2	0	2m
	1	2.5m
	2	3.0m (default)
	3	3.5m
	4	4.0m
	5	4.5m
	6	5.0m
	7	6.0m
	8	8.0m
	9	10.0m

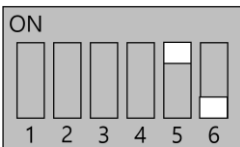
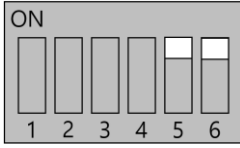
❖ Timer Settings

	Mode	On pulse duration (Short Pulse)
	LPR	Output ON time = 0.3 to 2 sec
	Beacon	Output ON time = 0.3 to 30 sec

*Note: **LD100** does not support signal retention during vehicle stop.

❖ DIP S/W Settings

	ON / OFF	Description
Mode		LPR mode (Short pulse): Detection range: (reference distance $\pm$ width)
		Beacon mode (Short pulse): Detection range: (0.1~ reference distance)
Width of detection area		width: $\pm 20\text{cm}$
		width: $\pm 10\text{cm}$
		width: $\pm 30\text{cm}$
		width: $\pm 40\text{cm}$
Output Re-loading Time		Reloading time for next detection: 1 sec.
		Reloading time for next detection: 0.5 sec.
Minimum detection time for output		Min. detection time for output: 30ms
		Min. detection time for output: 20ms

		Min. detection time for output: 50ms
		Min. detection time for output: 100ms

❖ The minimum detection time is the duration required for the sensor's output to switch to ON.

Specification

Supply Voltage	12V
Current Consumption (Sensor head)	90mA
Temperature	-20 ~ 60°
Booting time	1~3 sec.
Min. distance between sensor and car	0.3m
Detection range	0.3m ~ 10m
Cable length for the sensor head	Max. 80m (Using 1A adaptor)
LASER class	CLASS 1

Safety Precautions

- Warranty: 1 year from shipment (excluding user error and natural disasters).
- The sensor may malfunction due to fog, environmental factors, or improper installation. The manufacturer is not responsible for such issues.
- Do not look directly into the laser sensor.

Technical Support

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