DAIDISIKE

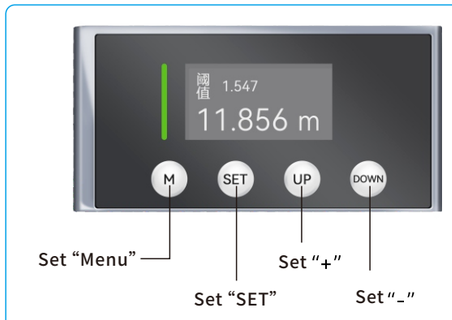
Long-Range Laser Distance Sensor

DDK-F Series

The detection distance is unaffected by the color of the object being measured.

- Self-developed phase measurement method
- Quick and Accurate Measurement with Optional Chinese/English Menu
- Set up without connecting to a computer
- Built-in baud rate and station number selection, supports networking of up to 255 devices
- Can be used with PLC or software
- Lp67 protection, dustproof and waterproof, metal body

Set up without connecting to a PC



Press SET once without detecting the product.
Press SET again after detecting the product.
Easily configure digital output settings.
Supports upper and lower limit settings.

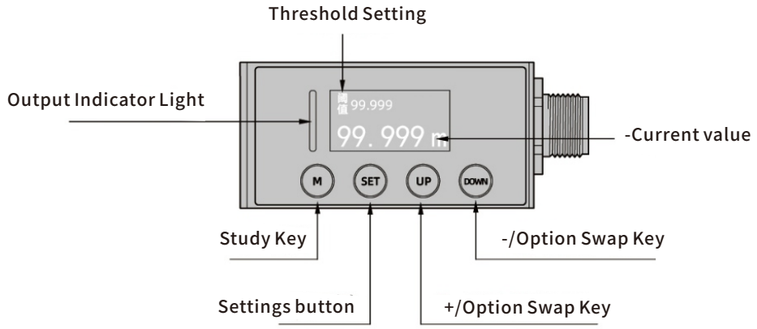
Multiple ranges and models available

- Digital inputs + RS485 + Analog inputs (current, voltage) optional
- Multiple output types to meet the needs of different devices

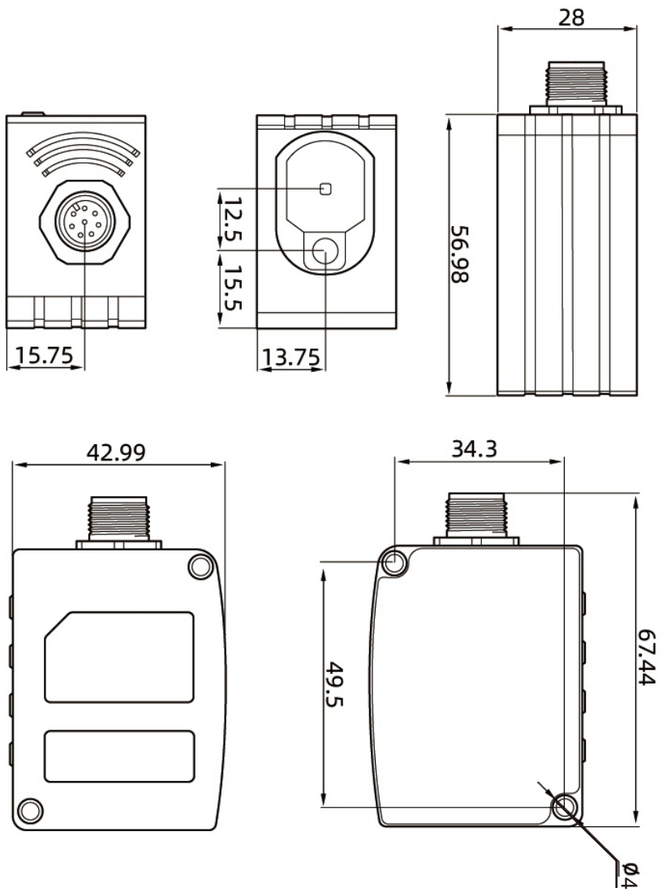
Product Specifications

Model	NPN + Analog + 485	DDK-F100NM-485	DDK-F200NM-485	DDK-F500NM-485
	PNP + Analog + 485	DDK-F100PM-485	DDK-F200PM-485	DDK-F500PM-485
	Measurement Distance	0.1–1m	0.1–2m	0.1–5m
	NPN + Analog + 485	DDK-FM10NM-485	DDK-FM20NM-485	DDK-FM50NM-485
	PNP + Analog + 485	DDK-FM10PM-485	DDK-FM20PM-485	DDK-FM50PM-485
	Measurement Distance	0.1–10m	0.1–20m	0.1–50m
Resolution		1mm		
Measurement Error		+(2mm+d* one in ten thousand)★		
Laser Type		Red semiconductor laser Class II laser 655+10nm <1mW		
Power Supply Voltage		12V-24VDC ±10% ripple, P-P 10%		
Current Consumption		≤50mA @24V		
Control Output		NPN or PNP open-drain output Open-drain collector transistor output Maximum current: 50mA Applied voltage: Less than 30V DC Residual voltage: Less than 1.5V Leakage current: Less than 0.1mA		
Output Action		Normally open/normally closed switchable		
Short-Circuit Protection		Self-resetting type		
Analog Voltage Output		Output Range: 0-5V (Alarm: 5.2V) Output Impedance: 100 ohms		
Analog Current Output		Output Range: 4-20mA (Alarm: 0mA) Output Impedance: 300 ohms max		
Response Time		50–200ms		
External Input		NPN Non-Contact Input		
Protection Structure		Ip67		
Operating Temperature		-10°C to +45°C (Note: No condensation or ice formation)		
Storage Temperature		-20℃~+60℃		
Operating Humidity		35%~85%RH		
Ambient Illuminance		Incandescent lamp: Illuminance on illuminated surface below 3000 lux		
Operating Altitude		Below 2000 meters		
Cable		With 8-core composite cable 2m		
Material		Aluminum parts		
Weight		Approximately 150g		
		★ Indicates the measured distance. In harsh environments, such as excessive sunlight, significant temperature fluctuations, or reflective surfaces,		
		Measurements in low-light conditions may exhibit significant errors; in such situations, using a target reflector yields more effective results.		

Panel Description

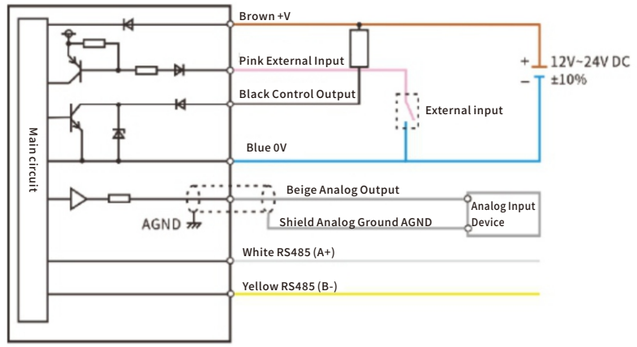


Dimension Parameters

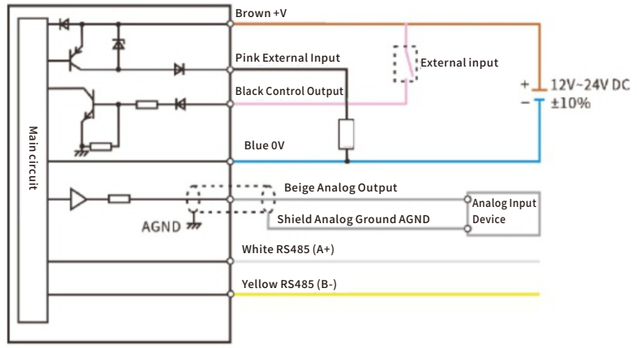


Output circuit

NPN + RS485 + Analog Input



PNP + RS485 + Analog Input

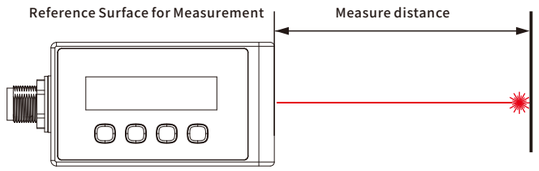


Industrial Laser Distance Sensor

DDA-Y/DDB-Y Series

Product Introduction

DDA-Y/DDB-Y Series Industrial-Grade Laser Sensors deliver precise and stable distance measurement, suitable for integration into various industrial applications. A red laser beam is projected onto a reflective surface, enabling non-contact measurement based on the returned signal.



Product Features

- Phase-based distance measurement delivers high accuracy and fast speed;
- Features a built-in display and menu system, enabling setup without connecting to a computer.
- Output Interface: RS232/RS485
  2-channel digital output with voltage/current output;
- Supports networking up to 64 units and PLC programming;
- IP67-rated metal die-cast housing
  ensures stability even in outdoor and harsh environments.

Product Applications

- ◇ Industrial measurement of position, displacement, thickness, distance, etc.
- ◇ Industrial automation and intelligent production management
- ◇ Aerial Cable Installation Surveying, Railway Overhead Contact System Surveying
- ◇ Material/Liquid Level Detection
- ◇ Slope/Dam Deformation Monitoring
- ◇ Structural Safety Monitoring

Product Specifications

Project	Model A				
Model	DDA-Y10	DDA-Y20	DDA-Y30	DDA-Y50	DDA-Y100
Measurement Range	0.2–10m	0.2–20m	0.2–30m	0.2–50m	0.2–100m
Voltage/Current Output	None				
Voltage Output Error	None				
Current Output Error	None				
Project	**Model B (with voltage and current output)**				
Model	DDB-Y10	DDB-Y20	DDB-Y30	DDB-Y50	DDB-Y100
Measurement Range	0.2–10m	0.2–20m	0.2–30m	0.2–50m	0.2–100m
Voltage/Current Output	Configurable output: 0-5V/0-10V/4-20mA/0-20mA/0-24mA*Note 2				
Voltage Output Error	0.2%+0.5mV				
Current Output Error	0.2%+0.005mA				

Communication Interface	RS232/RS485 (switchable)
Measurement Frequency	1Hz–40Hz
Laser Type	Class II,660±15nm,≤1mW
Measurement Resolution	1mm
Measurement Error	±(2 mm + d × 0.0001)*Note 1
Indicator Light	Red laser
Spot Size	@1m∅6mm;@10m∅8mm; @20m∅12mm;@30m∅16mm;
Display	128x32 dot matrix display
Backlight Timeout	30 minutes (can be set to stay on)
Operating Mode	Measurement off, continuous measurement
Transistor Switch Output	2 channels (not exceeding DC 36V 0.5A)*Note 3
Power Supply	DC15 ~ 30V
Power Consumption	< 3.0W
Protection Rating	IP67
Enclosure Material	Die-cast zinc alloy
Operating Temperature	-10°C ~ 50°C
Storage Temperature and Humidity	-20°C ~ 60°C，20% ~ 85%RH
Overheat Protection	Temperature measurement shuts off when body temperature exceeds 70°C and resumes below 70°C
Dimensions	88.45 x 40 x 59.3 mm (including mounting bracket)

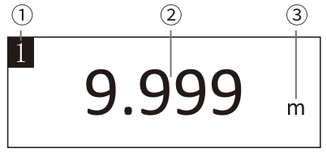
*Note 1: When the【Speed Level】is set to 1. “d” denotes the actual distance. In adverse conditions, such as intense sunlight or significant ambient temperature fluctuations, measurement results may exhibit substantial errors. In such scenarios, using the device with a target reflector yields superior performance.

*Note 2: Only one output type—current or voltage—can be active at any given time; both cannot be output simultaneously.

*Note 3: Exceeding the specified voltage or current limits for the DC power supply connected to the transistor switch output may cause permanent damage to the instrument.

Layout Notes

Display

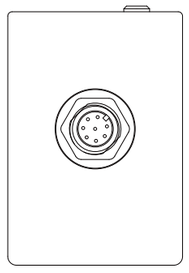


① Station Number
② Measured Distance
③ Distance Measurement Unit

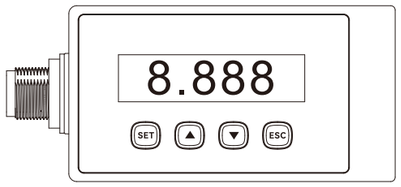
Button

Button	Short press	Long press
SET	Confirm in Setup Mode	Enter Parameter Settings Mode
ESC	Return from Setup Mode	Backlight Switch Settings
▲	Adjust Option Content	Adjust Position Forward
▼	Adjust Option Content	Adjust Position Backward

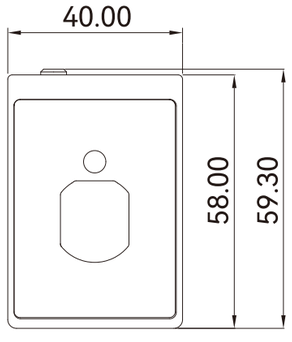
Dimension Parameters



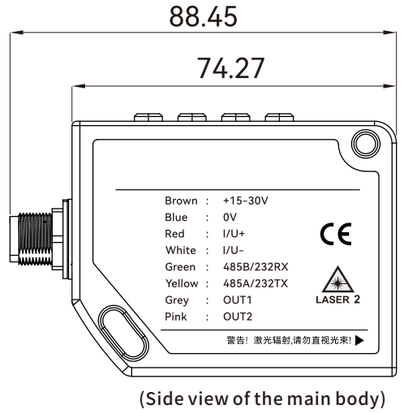
(Joint surface)



(Front view of the main body)



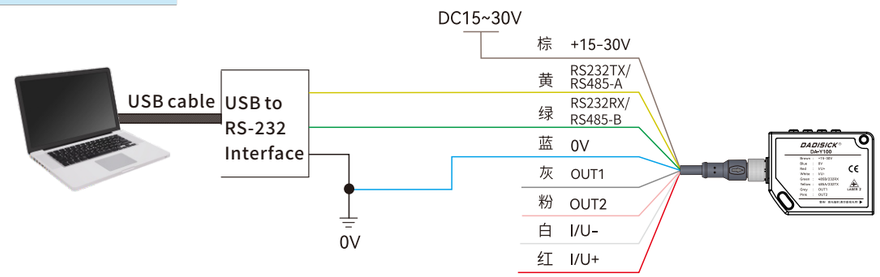
(Laser emission surface)



(Side view of the main body)

Output circuit

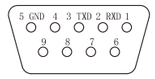
Rs232 Wiring Method



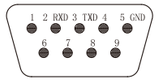
Note: RXD and TXD on the computer and instrument ends require cross-wiring.
D-Sub connector RS232 pin definitions:

Rs232 has three wires: RX (Green) TX (Yellow) GND (Blue)

232 Female Connector (Socket Type)

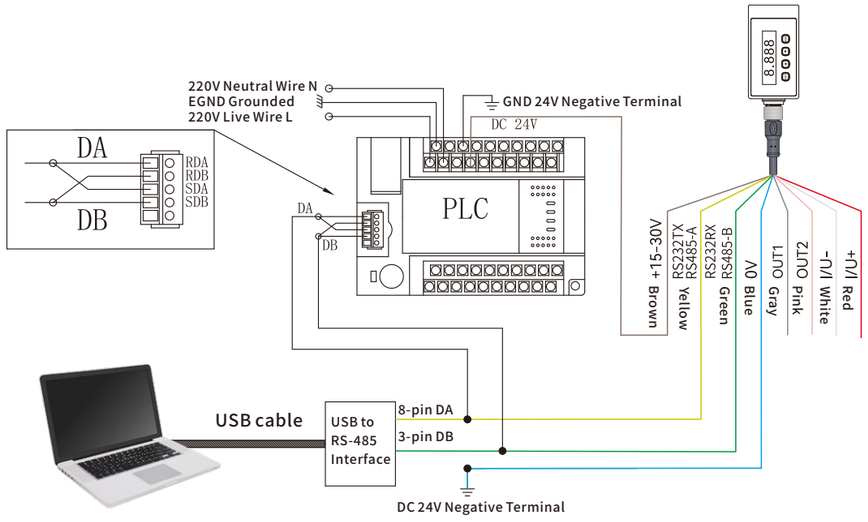


232 male connector (pin type)



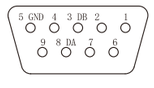
Rs485 Wiring Method

For example, the figure below shows a Mitsubishi PLC (FX3U-16M). Note: The instrument's power supply in the figure is provided by the PLC's 24V output. If the PLC's 24V power supply is unavailable, an alternative DC power supply of 15–30V can be connected.

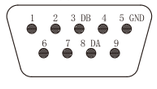


D-Sub Connector RS485 Pin Assignment

485 Female Connector (Socket Type)



485 Male Connector (Pin Type)



(Note: Specifications may vary by manufacturer)

激光位移传感器