

DDA-Y / DDB-Y

Technical Brochure | English Reference Edition

DAIDISIKE English reference edition - 23 September 2026. Prepared from the supplied Chinese 2-page product brochure. Diagram labels are translated into English; original technical figures and dimensions are retained. The supplier-confirmed mounting-hole spacing is identified separately on page 9. This is not a newly validated specification or certification.

READ BEFORE USE: Apply the model table and its operating-condition notes. Original wiring illustrations may show generic hardware or legacy labels. Confirm the exact sensor and adapter pinouts before wiring; analog output is available on DDB-Y, not DDA-Y.

Original page 1 - Header and product overview

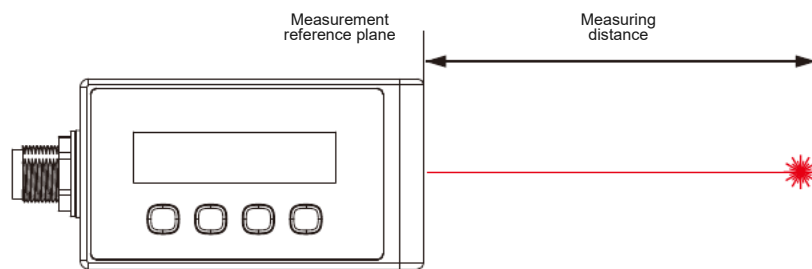
DAIDISIKE

Laser Distance Sensor - DDA-Y / DDB-Y Series

Industrial Laser Distance Sensor

DDA-Y / DDB-Y Series

Product Introduction



Measurement illustration with English labels. Left: measurement reference plane. Right: measuring distance.

The DDA-Y / DDB-Y series of industrial-grade laser sensors provides accurate, stable distance measurement and can be integrated into a wide range of industrial applications. A red laser beam is directed onto the reflecting surface, and non-contact measurement is performed using the returned signal.

Measurement illustration labels:

- Measurement reference plane
- Measuring distance

Product Features

- Phase-based distance measurement with high accuracy and fast measurement speed.
- Built-in display and menu allow configuration without connecting a computer.
- Output interfaces: RS232 / RS485, two switching outputs, and voltage / current output.
- Supports networking of up to 64 devices and PLC programming.
- IP67 protection and a die-cast metal housing provide stable performance outdoors and in harsh environments.

Applications

- Industrial measurement of position, displacement, thickness and distance

- Industrial automation and intelligent production management
- Measurement for overhead cable installation and railway overhead contact lines
- Material level / liquid level detection
- Slope and dam deformation monitoring
- Building safety monitoring

Original page 1 - Product Specifications

Variant A

Item	DDA-Y10	DDA-Y20	DDA-Y30	DDA-Y50	DDA-Y100
Measuring distance	0.2-10 m	0.2-20 m	0.2-30 m	0.2-50 m	0.2-100 m
Voltage / current output	None	None	None	None	None
Voltage output error	None	None	None	None	None
Current output error	None	None	None	None	None

Variant B - With voltage / current output

Item	DDB-Y10	DDB-Y20	DDB-Y30	DDB-Y50	DDB-Y100
Measuring distance	0.2-10 m	0.2-20 m	0.2-30 m	0.2-50 m	0.2-100 m
Voltage / current output	See common Variant B output settings below	Same	Same	Same	Same
Voltage output error	0.2% + 0.5 mV	0.2% + 0.5 mV	0.2% + 0.5 mV	0.2% + 0.5 mV	0.2% + 0.5 mV
Current output error	0.2% + 0.005 mA	0.2% + 0.005 mA	0.2% + 0.005 mA	0.2% + 0.005 mA	0.2% + 0.005 mA

Common Variant B output settings: selectable 0-5 V / 0-10 V / 4-20 mA / 0-20 mA / 0-24 mA output. See Note 2.

Common Specifications

Item	Specification
Communication interface	RS232 / RS485, switchable
Measurement frequency	1 Hz-40 Hz
Laser type	Class II, 660 ±15 nm, ≤1 mW
Measurement resolution	1 mm
Measurement error	±(2 mm + d x 0.01%); see Note 1
Indicator light	Red laser
Spot size	At 1 m: Ø6 mm; at 10 m: Ø8 mm; at 20 m: Ø12 mm; at 30 m: Ø16 mm
Display	128 x 32 dot-matrix display
Backlight off time	30 minutes; can be set to always on
Operating modes	Measurement off; continuous measurement
Transistor switching outputs	2 outputs; do not exceed DC 36 V / 0.5 A; see Note 3
Power supply	DC 15-30 V
Power consumption	<3.0 W
Protection rating	IP67
Housing material	Die-cast zinc alloy
Operating temperature	-10°C to 50°C
Storage temperature and humidity	-20°C to 60°C; 20%-85% RH
Overheat protection	Measurement stops when the housing temperature exceeds 70°C and resumes when it falls below 70°C.
Dimensions	88.45 x 40 x 59.3 mm, including connector base

Note 1: This specification applies when **Speed Grade** is set to **1**. **d** denotes the actual distance. Harsh conditions, such as excessive sunlight or large changes in ambient temperature, may cause greater measurement error. A target reflector plate can improve performance under these conditions.

Note 2: Only one of the current output and voltage output can be active at a time. They cannot be output simultaneously.

Note 3: Applying external DC voltage or current to the transistor switching outputs above the specified limits may permanently damage the instrument.

Source page 1 right-side category tab: **Laser Displacement Sensor**.

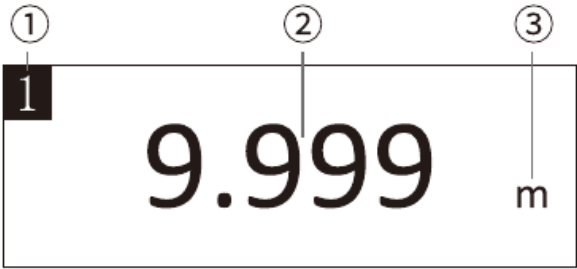
Original page 2 - Header and Control Panel

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Laser Distance Sensor - DDA-Y / DDB-Y Series

Control Panel

Display



Original display example: 1 station number, 2 measured distance, 3 distance unit.

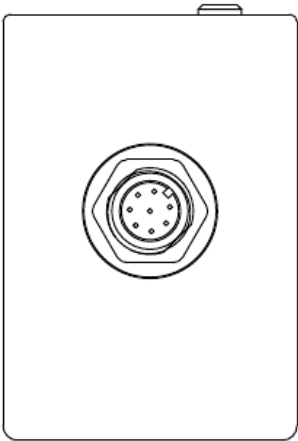
The display illustration shows station **1**, a distance of **9.999**, and unit **m**.

- 1. Station number
- 2. Measured distance
- 3. Distance unit

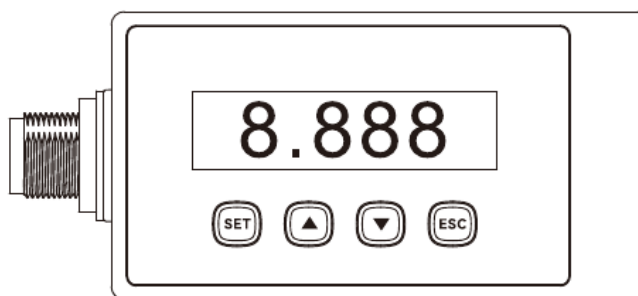
Buttons

Button	Short press	Long press
SET	Confirm in settings mode	Enter parameter settings mode
ESC	Return in settings mode	Set the backlight on / off
▲	Adjust the selected option	Move the adjustment position forward
▼	Adjust the selected option	Move the adjustment position backward

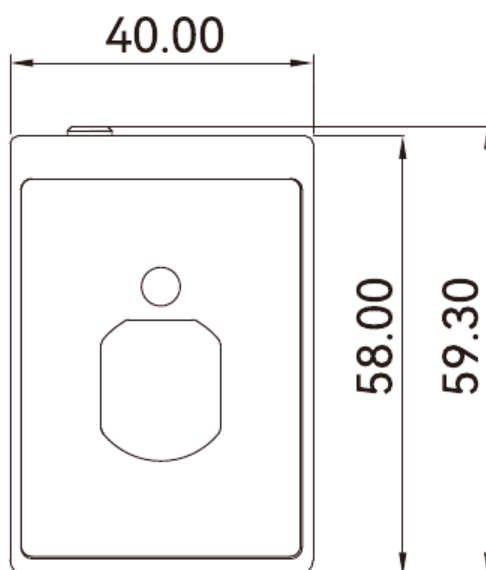
Dimensions



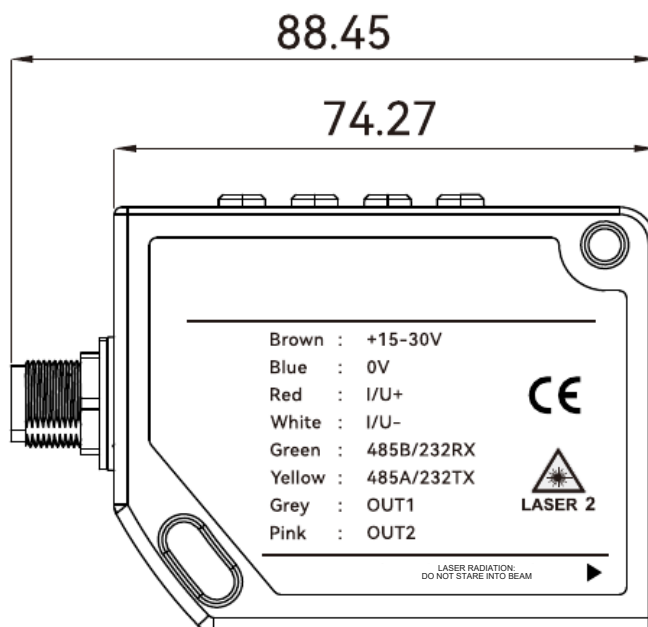
Connector side - original engineering artwork.



Front view - original engineering artwork.



Laser emission side. Dimensions retained in mm.



Side view. WARNING: laser output; do not look directly into the beam. Original dimension values and drawing geometry are retained.

Drawing captions:

- Connector side
- Front view of main unit

- Laser emission side
- Side view of main unit

Dimension labels, retained exactly: **40.00, 58.00, 59.30, 88.45, 74.27.**

The main front-view display example reads **8.888**. Its four buttons are labeled **SET**, **▲**, **▼**, **ESC**.

Main side-view printed terminal legend:

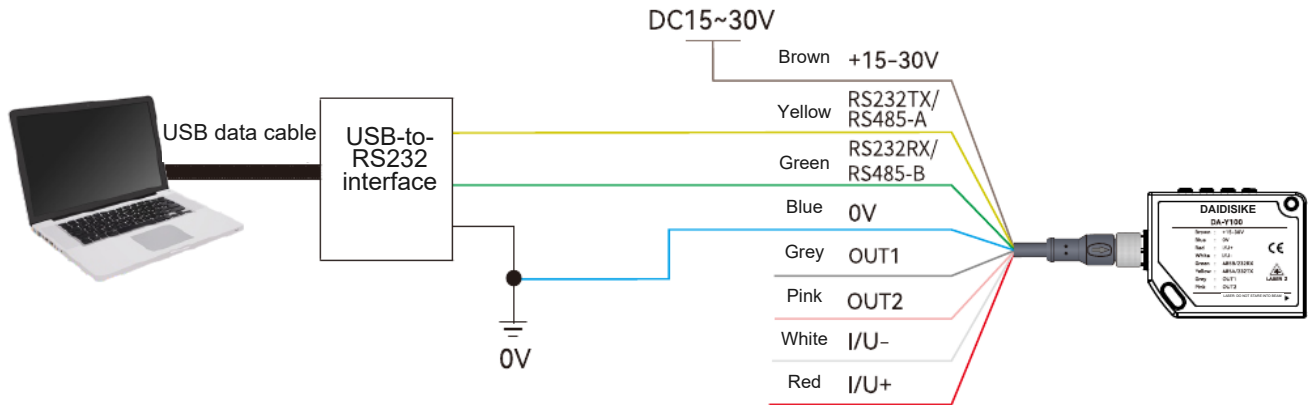
Wire color	Label
Brown	+15-30V
Blue	0V
Red	I/U+
White	I/U-
Green	485B/232RX
Yellow	485A/232TX
Grey	OUT1
Pink	OUT2

Additional label text on this drawing: **CE, LASER 2.**

Warning on this drawing: Laser radiation. Do not stare into the beam!

Original page 2 - Output Circuits

RS232 Wiring



DAIDISIKE-adapted RS232 illustration with the source DA-Y100 model marking retained. Generic I/U terminals in this drawing do not establish DDA-Y analog output. DDA-Y has no analog output; use the model table and wire legend.

Source artwork note: Only the brand and diagram labels are adapted; the legacy DA-Y100 marking and all original terminals are retained. This generic illustration does not change the model table: DDA-Y has no voltage / current output; DDB-Y provides that output.

Diagram labels:

- USB data cable
- USB-to-RS-232 interface
- DC 15-30 V

- 0 V

Sensor wire labels:

Wire color	Signal
Brown	+15-30 V
Yellow	RS232TX / RS485-A
Green	RS232RX / RS485-B
Blue	0 V
Grey	OUT1
Pink	OUT2
White	I/U-
Red	I/U+

Note: Cross-connect RXD and TXD between the computer and the instrument.

RS232 D-Sub Connector Pin Assignment



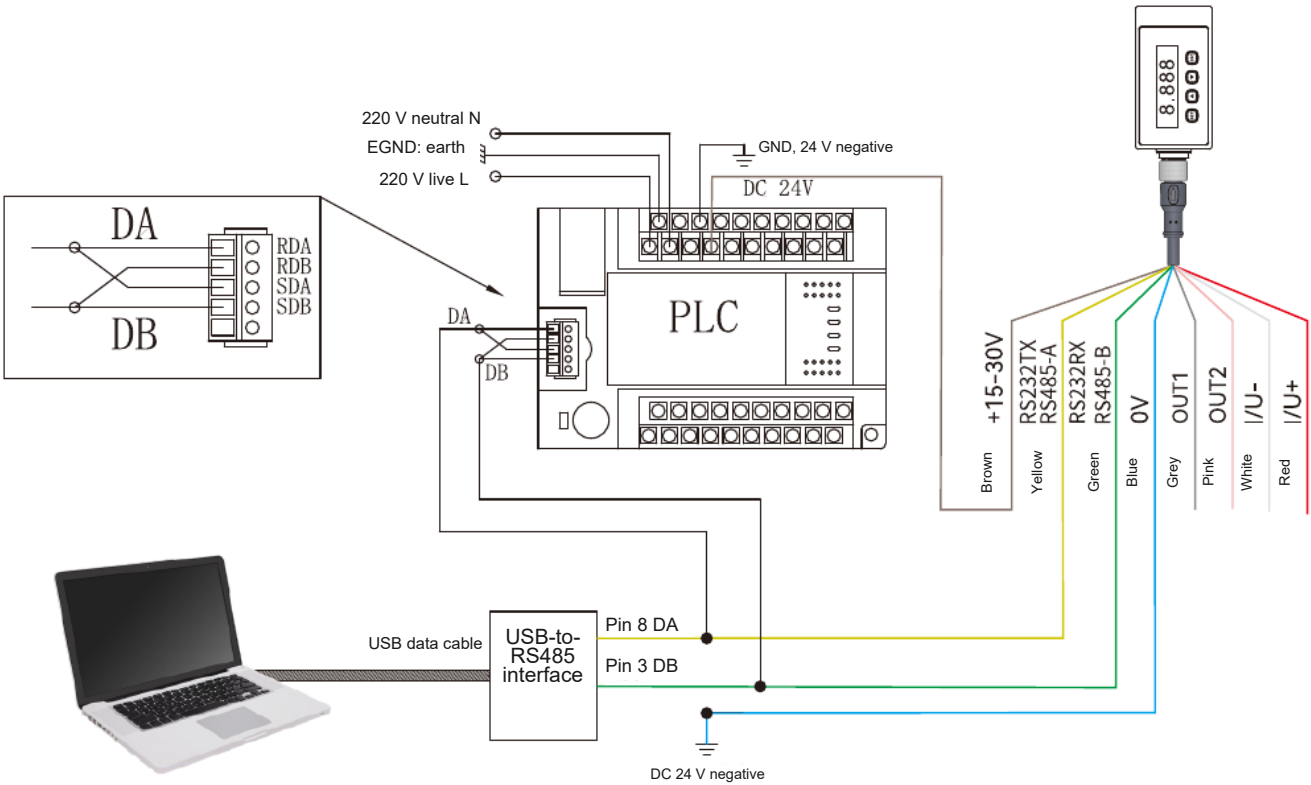
Source connector views: female sockets left, male pins right. Verify adapter pinout and viewing orientation before wiring.

RS232 uses three wires: **RX (green)**, **TX (yellow)** and **GND (blue)**.

- RS232 female connector (sockets)
- RS232 male connector (pins)

Both source pinout drawings assign **pin 2 = RXD**, **pin 3 = TXD**, and **pin 5 = GND**. The remaining numbered positions are shown without assigned signals. Preserve the male / female viewing orientation shown in the original drawing.

RS485 Wiring



PLC / PC RS485 example with English diagram labels; original wire paths and pin assignments are retained. Mains terminals shown are for the PLC, not the sensor. Installation must be performed by qualified personnel.

Example: The diagram above shows wiring for joint commissioning of a Mitsubishi PLC (**FX3U-16M**), a computer and the distance sensor. In the diagram, the instrument receives **24 V** power from the PLC. If a PLC **24 V** supply is unavailable, use a separate external **DC 15-30 V** power supply.

Diagram labels:

English label
220 V neutral N
EGND to earth ground
220 V live L
GND, 24 V negative
DC 24 V
PLC
DA
DB
RDA / RDB / SDA / SDB
USB data cable
USB-to-RS-485 interface

English label

Pin 8: DA

Pin 3: DB

DC 24 V negative

RS485 sensor wire labels are the same eight color / signal pairs shown in the RS232 wiring section above. The drawing connects **yellow RS485-A** to **DA**, **green RS485-B** to **DB**, and **blue 0 V** to the common negative. The brown wire supplies **+15-30 V**.

The inset PLC terminal drawing shows **RDA** connected to **SDA (DA)** and **RDB** connected to **SDB (DB)**.

RS485 D-Sub Connector Pin Assignment



Source adapter views: female sockets left, male pins right. Adapter specifications can differ between manufacturers.

- RS485 female connector (sockets)
- RS485 male connector (pins)

Both source pinout drawings assign **pin 3 = DB**, **pin 5 = GND**, and **pin 8 = DA**. The remaining numbered positions are shown without assigned signals. Preserve the male / female viewing orientation shown in the original drawing.

Note: Specifications may differ between manufacturers.

Source page 2 right-side category tab: **Laser Displacement Sensor**.

Source record

Supplied Chinese brochure, 2 pages. Original source file retained unchanged. Translation does not merge specifications from other documents.

SHA-256: 2825cc0eba7c9cc54fe082fc2747bd550b4dc39537b9632add2cf2220c0d8764

SUPPLIER-CONFIRMED MOUNTING NOTE - 23 SEPTEMBER 2026
Mounting-hole spacing: 46.78 mm, confirmed by the supplier for the current DDA-Y / DDB-Y series. This is a separate supplement, not a dimension transcribed from this brochure's original drawings. Original drawing values and geometry are unchanged. Verify the ordered hardware version before machining.