

NAIS

**LONG RANGE
TRIGONOMETRIC
AREA REFLECTIVE
PHOTOELECTRIC SENSOR**

UZD352

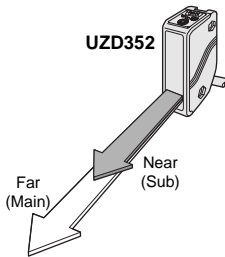
Two output type

SUPERIOR ADAPTABILITY FOR COLOR VARIATION



Two Distances (Far and Near) are Adjustable: UZD352

The **UZD352** has two sensing ranges corresponding to respective outputs, Far (Main) and Near (Sub). It plays the effective roll as much as two other sensors work.



Insusceptible to Contamination on Lens

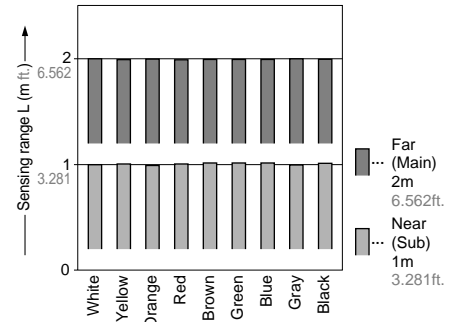
The fixed-focus sensing keeps the detectability better than diffuse reflective sensors even if the lens is contaminated by dirt, dust, mist, or smoke in an under unclean environment.

Not Affected by Color or Background

As the **UZD3** series is incorporated with the two-divided photo-diode as the receiving element with the unique circuitry, it detects every object at the same distance regardless of color of objects or background beyond the adjusted sensing range.

(However, when a background is specular, an angle of the sensor facing it must be considered.)

UZD352: Correlation between color (200 × 200mm 7.874 × 7.874inch) and sensing range



These bars indicate the sensing ranges with respective colors on condition with that the distance adjuster is set at the sensing range of Far (Main) 2m 6.562ft. and Near (Sub) 1m 3.281ft. long each with white.

Automatic Crosstalk Prevention

Until the **UZD3** series, no other fixed-focus sensing sensor has been incorporated with the automatic crosstalk prevention function so that two sets of sensors can be installed closely together or facing each other.

Water proof

The **UZD3** series has IP67 protection. No matter where it is washed down with water.

Compact

The miniaturized housing of W20 × H68 × D40mm W.787 × H2.677 × D1.575inch is designed in the fixed-focus sensing sensor even with the adjustable sensing range 2m 6.562ft long. The **UZD3** series saves you space.

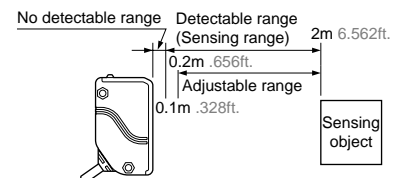


ORDER GUIDE

Type	Appearance	Adjustable range (*1)	Model No.	Output
Two output type		0.2 to 2m .656 to 6.562ft	UZD352	Two NPN open-collector transistor outputs

Note : No mounting bracket is supplied with the sensor. Please select optional mounting brackets from our options. (two types)

(*1) : The adjustable range stands for the maximum sensing range able to be set with the adjuster. The sensor can also detect an object placed at 0.1m .328ft or less distant. However, the detectable area of the Near (Sub) of the **UZD352** begins at 0.2m .656ft far from it.



OPTION

Designation	Model No.	Description
Sensor mounting bracket	UZD851	Back angled mounting bracket
	UZD852	Foot angled mounting bracket

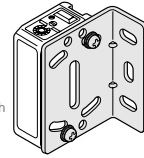
Note:

- The plug-in connector type does not allow to use some mounting brackets because of the protrusion of the connector.

Sensor mounting bracket

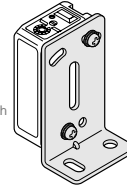
• UZD851

Material : SPCC
Includes two screws
of M4 × 25mm .984inch
and two M4 nuts



• UZD852

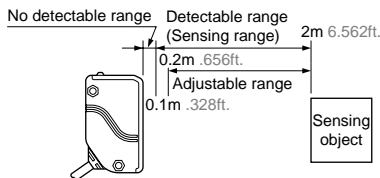
Material : SPCC
Includes two screws
of M4 × 25mm .984inch
and two M4 nuts



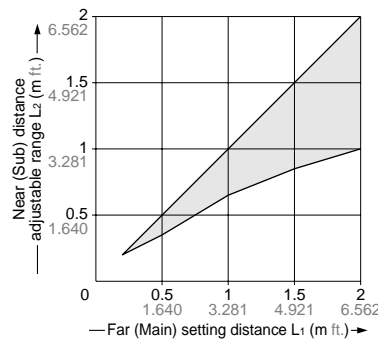
SPECIFICATIONS

Type	Distance-adjustable & Long-range Trigonometric area reflective sensing Mode Two output type
Item	Model No. UZD352
Adjustable range (*1)	Far (Main): 0.2 to 2m .656 to 6.562ft., Near (Sub): Refer to the diagram (*2)
Sensing range (with white non-glossy paper and adjuster in max.)	Far (Main): 0.2 to 2m .656 to 6.562ft., Near (Sub): 0.2 to 2m .656 to 6.562ft. [Near (Sub) distance adjuster in max.]
Hysteresis	10% or less at operation distance
Repeatability	Beam axial: 10mm .394inch or less, Perpendicular to beam axis: 1mm .039inch or less
Supply voltage	10 to 30V DC Ripple P-P: 10% or less
Current consumption	90mA or less
Output	<Far (Main) output, Near (Sub) output> NPN open-collector transistor <ul style="list-style-type: none"> • Maximum sink current: 100mA • Applied voltage: 30V DC or less • Residual voltage: 1V or less (at 100mA sink current) 0.4V or less (at 16mA sink current)
Output operation	Switchable either Sense-ON or Sense-OFF
Short-circuit protection	Incorporated
Response time	2ms or less
Operation indicator	Far (Main) output: Red LED [lights up when the Far (Main) output is activated] Near (Sub) output: Red LED [lights up when the Near (Sub) output is activated]
Distance adjuster	Far (Main): Mechanical 2-turn adjuster with pointer, Near (Sub): Variable adjuster
Cable	Cabtyre cable 2m 6.562ft. long with four 0.3mm ² conductors

(*1): The adjustable range stands for the maximum sensing range able to be set with the adjuster. The sensor can also detect an object placed at 0.1m .328ft. or less distant. However, the detectable area of the Near (Sub) of the **UZD352** begins at 0.2m .656ft. far from it.



(*2): The Near (Sub) distance adjustable range, L_2 , is regulated by setting of the Far (Main) distance, L_1 , as the table below. Do not set it at 0.2m .656ft. or nearer as unstable detecting. **UZD352** Near (Sub) distance adjustable range.

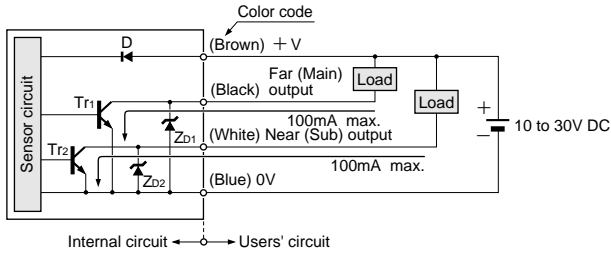


UZD352	
Far (Main) setting distance L_1 (m ft.)	Near (Sub) distance adjustable range L_2 (m ft.)
2 6.562	1 to 2 3.281 to 6.562
1.5 4.921	0.85 to 1.5 2.789 to 4.921
1 3.281	0.65 to 1 2.133 to 3.281
0.5 1.640	0.35 to 0.5 1.148 to 1.640
0.2 .656	0.2 .656

I/O CIRCUIT AND WIRING DIAGRAM

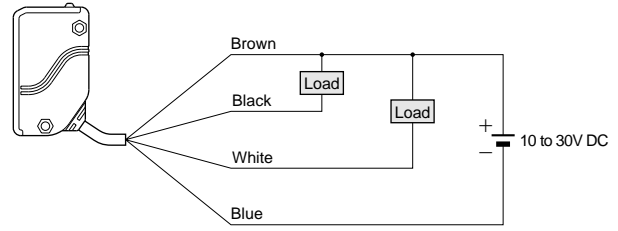
UZD352 Two output type

I/O circuit diagram



Symbol...D : Reverse polarity protection diode
 Zd1, Zd2: Surge absorption zener diode
 Tr1, Tr2 : NPN output transistor

Wiring diagram

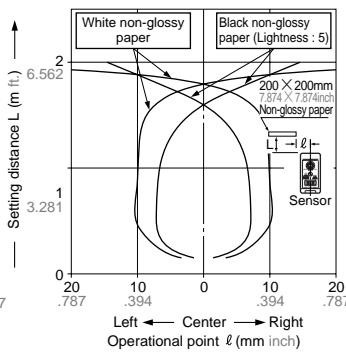
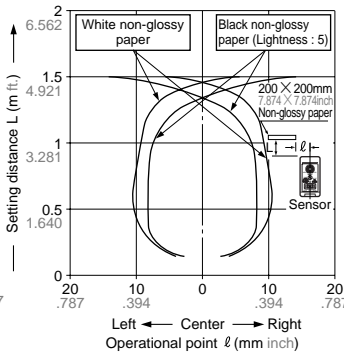
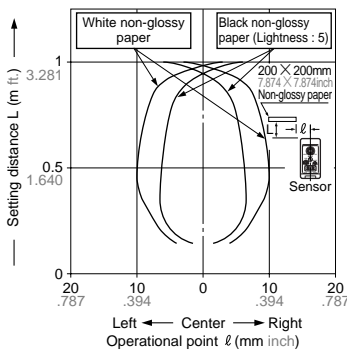


SENSING FIELDS (TYPICAL)

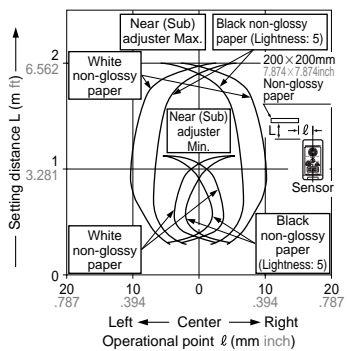
UZD352

Sensing field

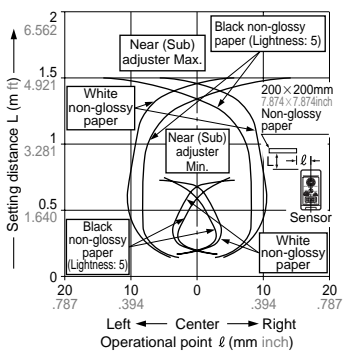
- Far (Main) [Far (Main) setting distance at 1m 3.281ft.]
- Far (Main) [Far (Main) setting distance at 1.5m 4.921ft.]
- Far (Main) [Far (Main) setting distance at 2m 6.562ft.]



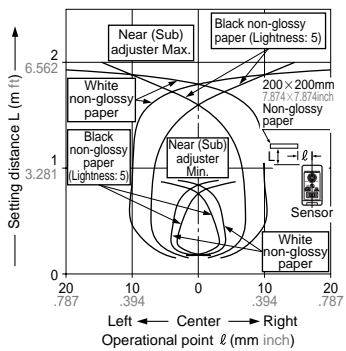
- Near (Sub) [Far (Main) setting distance at 1m 3.281ft.]



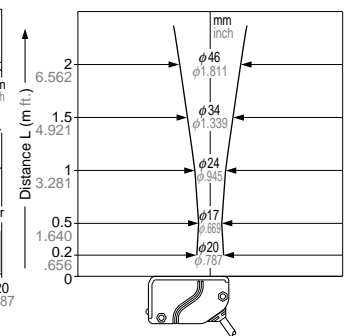
- Near (Sub) [Far (Main) setting distance at 1.5m 4.921ft.]



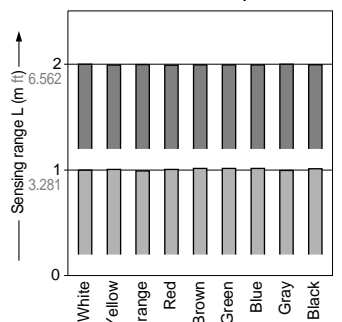
- Near (Sub) [Far (Main) setting distance at 2m 6.562ft.]



Emitting beam

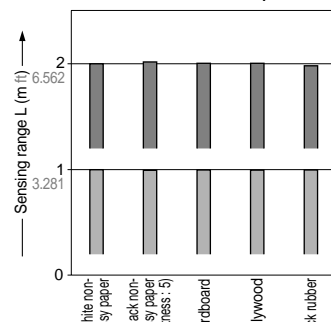


Correlation between color (200×200mm 7.874×7.874inch) and sensing range



These bars indicate the sensing ranges with respective colors on condition with that the distance adjuster is set at the sensing range of Far (Main) 2m 6.562ft and Near (Sub) 1m 3.281ft long each with white.

Correlation between material (200×200mm 7.874×7.874inch) and sensing range



These bars indicate the sensing ranges with respective objects on condition with that the distance adjuster is set at the sensing range of Far (Main) 2m 6.562ft and Near (Sub) 1m 3.281ft long each with white non-glossy paper.

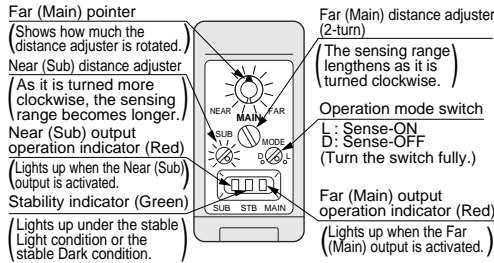
PRECAUTIONS FOR PROPER USE



These products are **not** safety sensors and are **not** designed or intended to be used to protect life and prevent bodily injury or property damage.

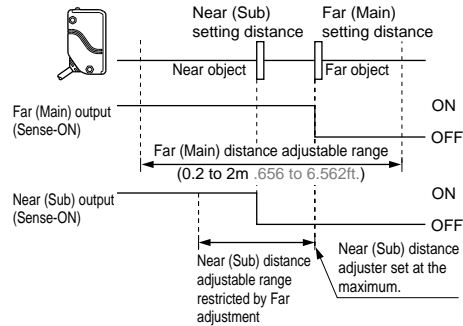
Distance adjustment

<Adjusters>



Notes:

- Turn the distance adjuster gradually and lightly with the attached screw-driver. If the distance adjuster is over-turned or pressed heavily, it may be damaged.
- The Far (Main) distance adjustment should be prior to the Near (Sub) distance adjustment. If not, the set Near (Sub) distance adjustment you have set is forced to change by the following Far (Main) distance adjustment.



<Adjusting procedure>

Far (Main)

Procedure	Description	Distance adjuster
(1)	Turn the Far (Main) distance adjuster counterclockwise fully to the minimum distance of approx. 0.2m .656ft.	 Fully turned
(2)	Locate your sensing object at the far place that you expect the sensor to detect. Turn the Far (Main) adjuster gradually clockwise and find out the point (A) where the sensor goes into the Light condition.	
(3)	Remove the object. Turn the Far (Main) adjuster clockwise until the sensor goes into the Light condition again. Once it switches on, turn the adjuster back a little until the sensor goes into the Dark condition where the point (B) is identified. (If the sensor does not go into the Light condition over the scale without the object, the point (B) shall be identified as the maximum point in the scale.)	
(4)	Settle the Far (Main) adjuster at the center between the point (A) and (B) as the optimum sensing point to detect your object.	

Near (Sub)

Procedure	Description	Distance adjuster
(5)	Turn the Near (Sub) distance adjuster counterclockwise fully to the minimum distance.	 Fully turned
(6)	Locate your sensing object at the near place that you expect the sensor to detect. Turn the Near (Sub) adjuster gradually clockwise and find out the point (C) where the sensor goes into the Light condition.	
(7)	Remove the object. Turn the Near (Sub) adjuster clockwise until the sensor goes into the Light condition again. Once it switches on, turn the adjuster back a little until the sensor goes into the Dark condition where the point (D) is identified. (If the sensor does not go into the Light condition over the scale without the object, the point (D) shall be identified as the maximum point in the scale.)	
(8)	Settle the Near (Sub) adjuster at the center between the point (C) and (D) as the optimum sensing point to detect your object.	

DIMENSIONS (Unit: mm inch)

UZD352

