

NAIS

SQUARE-SHAPED FRONT SENSING PROXIMITY SENSOR

UZQ310

HIGH PERFORMANCE AND LOW PRICE



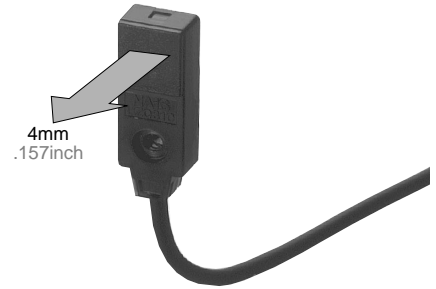
High Performance and Low Price

The **UZQ310**, the package of ten saves you cost where used in large quantities.

CAUTION : Ten **UZQ310** sensors are supplied as one package, also ten **UZQ833** optional mounting brackets are.

Long Sensing Range

4mm .157inch sensing range. The **UZQ310** securely detects an object wavering.

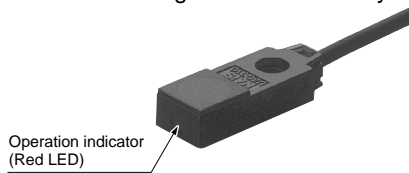


Waterproof

IP67 protection. The sensor can be washed down.

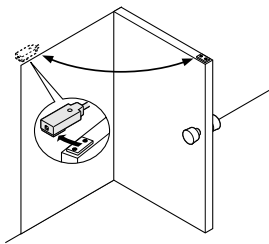
Bright Operation Indicator

The visible operation indicator notifies you of the sensing condition distinctly.

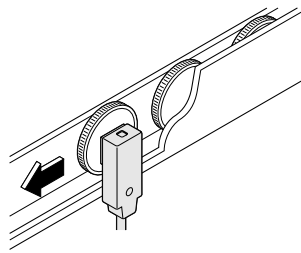


APPLICATIONS

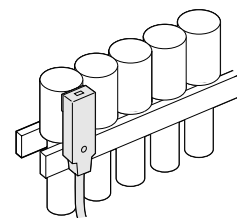
Conforming door tightly closed



Detecting coins rolling down



Detecting metal parts feed



ORDER GUIDE

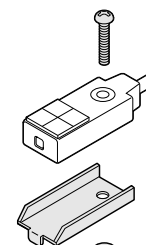
Appearance	Sensing range (*1)	Model No.
	<p>Maximum operation distance </p>	UZQ310

(*1) : The maximum operation distance stands for the distance that the sensor can detect the standard sensing object at the maximum.
 The secure sensing range stands for the sensing range in which the sensor can stably detect the standard sensing object even if there are ambient temperature drifts and/or supply voltage fluctuations.

OPTION

Designation	Model No.
Sensing mounting bracket	UZQ833

Sensor mounting bracket



Screw, nut, flat washer, spring washer and rubber washer are attached one each.

CAUTION : The **UZQ310** sensors are available at ten units a package.

CAUTION : The **UZQ833** mounting brackets are available at ten units a package.

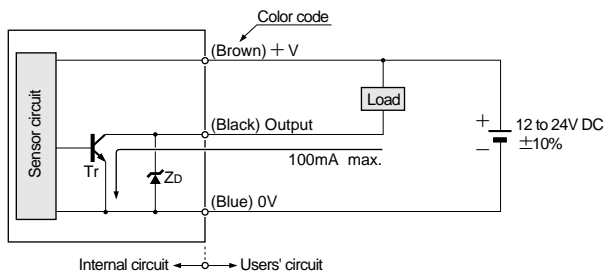
SPECIFICATIONS

Type	Square-shaped-front sensing	
Item	Model No.	UZQ310
Max. operation distance (*1)	4mm .157inch ± 0.5mm .020inch	
Secure sensing range (*1)	0 to 3mm .118inch	
Standard sensing object	Iron steel 20×20×t1mm .787×.787×t.039inch	
Hysteresis	20% or less of operation distance	
Supply voltage	12 to 24V DC±10% Ripple P-P 10% max.	
Current consumption	10mA or less	
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) 	
	Utilization category	DC-12 or DC-13
	Output operation	Approach ON
Max. response frequency	500Hz	
Operation indicator	Red LED (lights up when the output is activated)	
Environmental resistance	Pollution degree	3 (Industrial environment)
	Protection	IP67 (IEC)
	Ambient temperature	-10 to + 55°C +14 to 131°F Storage: -25 to + 70°C -13 to 158°F
	Ambient humidity	45 to 85%RH, Storage: 35 to 95%RH
	EMC	Emission : EN50081-2. Immunity : EN50082-2
	Voltage withstandability	1,000V AC for one min. between all terminals connected and enclosure
	Insulation resistivity	50MΩ or more at 250V DC Megger between all terminals connected and enclosure
	Vibration-proof	10 to 55Hz frequency, 1.5mm .059inch amplitude, and X, Y, and Z directions each for two hours (unenergized)
	Shock-proof	1,000m/s ² acceleration {approx. 100G}, and X, Y, and Z directions each for three times (unenergized)
Sensing range variation	Temperature characteristic	Within ±15% of sensing range at 20°C 68°F in -10 to + 55°C +14 to 131°F temperature range
	Voltage characteristic	Within ± 2% at ± 10% fluctuation of the supply voltage
Material	Case : Polyarilate	
Cable	Cabtyre cable 1m 3.281ft. long with three 0.18mm ² conductors	
Cable extension	Maximum extension is 100m 328.084ft. overall with an equivalent cable with conductors are 0.3mm ² or more	
Weight	Approx. 20g .71oz	

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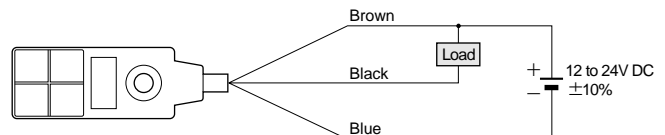
I/O CIRCUIT AND WIRING DIAGRAMS

I/O circuit diagram



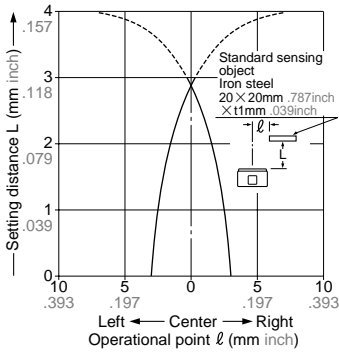
Symbol...Z_D: Surge absorption zener diode
Tr : NPN output transistor

Wiring diagram

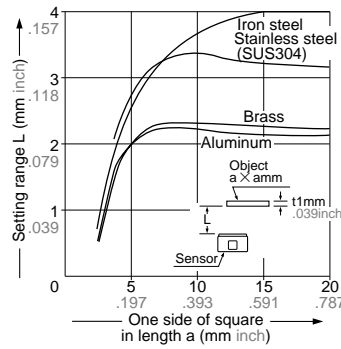


SENSING FIELDS (TYPICAL)

Sensing field



Correlation between object size and sensing range



As an object size becomes smaller than the standard (iron steel 20 × 20 × 1mm .787 × .787 × t.039inch), the sensing range shortens.

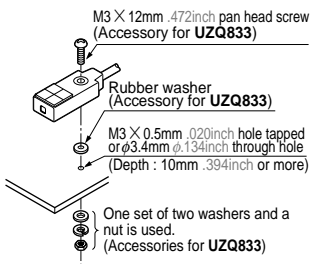
PRECAUTIONS FOR PROPER USE



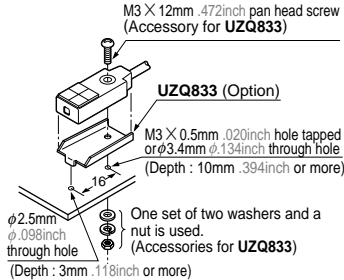
These products are **not** safety sensors and are **not** designed or intended to be used to protect life and prevent bodily injury or property damage.

Mounting

<One point fixing>



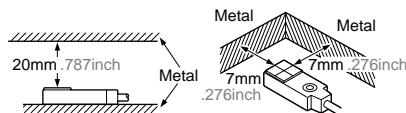
<Two point fixing>



- The tightening torque should be 0.5N·m {5.1kgf·cm} or less.
- To mount the sensor with a nut, the through hole diameter should be $\phi 3.4\text{mm } \phi.134\text{inch}$.
(With the attached mounting screw and nut, the thickness of a mounting plate should be 2.3mm .091inch or less.)

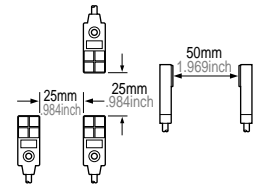
Influence by surrounding metal

- When there are metals near the sensor, keep the separation distance specified below at the minimum.



Crosstalk prevention

- When two or more sensors are installed in parallel or face to face, keep the separation distance specified on the right at the minimum to avoid crosstalk.



Sensing range

- The sensing range is specified with using the standard sensing object. With a non-ferrous object, the sensing range is obtained by multiplying the correction coefficient specified on the right. (When an object is plated, the sensing range differs.)

Correction coefficient

Model No.	UZQ310
Metal	
Iron steel	1
Stainless steel (SUS304)	Approx. 0.78
Brass	Approx. 0.55
Aluminum	Approx. 0.53

Wiring

- The UZQ310 does not incorporate a short-circuit protection at the output. Do not connect it directly to a power source or a capacitive load.

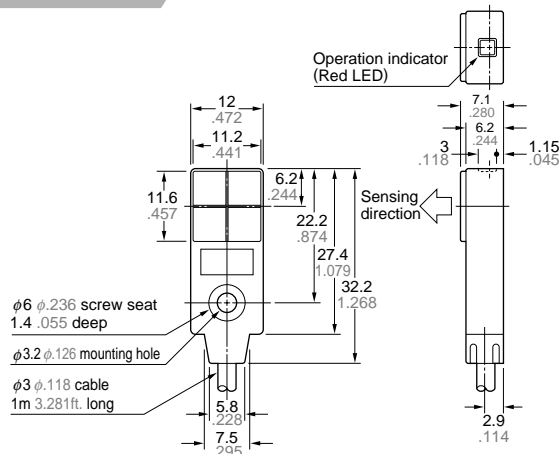
Others

- The transient time duration is 10ms after power-up.

DIMENSIONS (Unit : mm inch)

UZQ310

Sensor



UZQ833

Sensor mounting bracket (Option)

