

## Proximity Switches

Order code	Manufacturer code	Description
61-1410	UZC250	RETRO-REFLECT.NPN PHOTO SENSOR (C250)
61-1415	UZC2505	RETRO-REFLECT.PNP PHOTO SENSOR

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The enclosed information is believed to be correct, Information may change 'without notice' due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.	Revision A 04/07/2003

## Cylindrical Photoelectric Sensors

### Matsushita – Retroreflective Type UZC250 (NPN) & UZC2505 (PNP)

The UZC250 & UZC2505 Sensors, each package consists of a combined Projector and Receiving Sensor

#### SPECIFICATIONS

DC type sensors

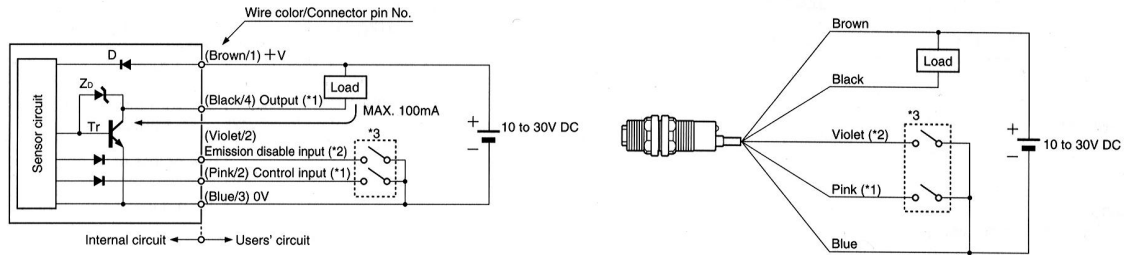
Reference No.	UZC250	UZC2505	
Sensing mode	Retroreflective (*1)	Retroreflective	
Transistor output type	NPN	PNP	
Sensing range	3m (*2)		
Sensing object	Opaque & translucent objects of min. Ø50mm (*2)		
Hysteresis	-		
Repeatability (vertical direction for a light axis)	0.1mm or less		
Supply voltage	10 to 30V DC Ripple P-P : ±10% or less		
Consumption	25mA		
Output	<b>&lt;NPN output type&gt;</b> NPN open-collector transistor Current sink: Max. 100mA Applied voltage: 30V DC or less Residual voltage: 1.5V DC or less (at 100mA current sink)	<b>&lt;PNP output type&gt;</b> PNP open-collector transistor Current source: Max. 100mA Applied voltage: 30V DC or less Residual voltage: 1.5V DC or less (at 100mA current source)	
Output operation	Selection of light-ON/Dark-ON by a control input wire		
Short-circuit protection	Equipped		
Response time	2ms or less		
Emission disable function	-		
Operation indicator	Red LED (turns on when the output is in the ON state) Thru-beam sensor is provided to the receiver		
Emission indicator	-		
Environmental resistance	Protection	IP67 (IEC)	
	Ambient temperature	-25 to +55°C (with no dew nor ice condensation), Storage: -30 to +70°C	
	Ambient humidity	35 to 85% RH, Storage: 35 to 85% RH	
	Ambient light	Sun light: 11,000 lx at the light-receiving face, Incandescent light: 3,500 lx at the light-receiving face	
	Noise	Power line: 240Vp with 0.5µs pulse duration Radiation: 300Vp with 0.5µs pulse duration (by a noise simulator)	
	Dielectric	1,000 AC applied between the live parts and enclosure for 1 min.	
	Insulation	Min. 20MΩ applied between the live parts and enclosure at 250V DC	
	Vibration	1.5mm {Max. 10G} amplitude at the frequency of 10 to 500Hz in each of X, Y and Z directions for 2 hours each in the power OFF state	
Shock	500m/s <sup>2</sup> {approx. 50G} impulse in each of X, Y and Z directions for 3 times each in the power OFF state		
Emitting element	Infrared LED (modulated)		
Material	Enclosure: PBT (grey), Lens: Polycarbonate		
Cable	0.34mm <sup>2</sup> x 4 cores with 2m of cable (3 cores for the emitter only)		
Cable extension	Extensible up to 100m by using 0.34mm <sup>2</sup> or more cable (Thru-beam sensor: each of an emitter and a receiver)		
Weight	Approx. 100g		
Accessories	Nut: 2 pcs.		

(\*1) A reflector is not supplied with the retroreflective sensor

(\*2) The sensing range and sensing object of the retroreflective sensor is the figure a UZZ112 reflector

## Typical Wiring Diagrams

### NPN Output Type (UZC250)



- \*1 Output and control input are not equipped for the emitter of the thru-beam sensor.
- \*2 Emission disable input is equipped for the emitter of the thru-beam sensor only
- \*3 Non-voltage contact or NPN open-collector transistor

#### Emission disable input

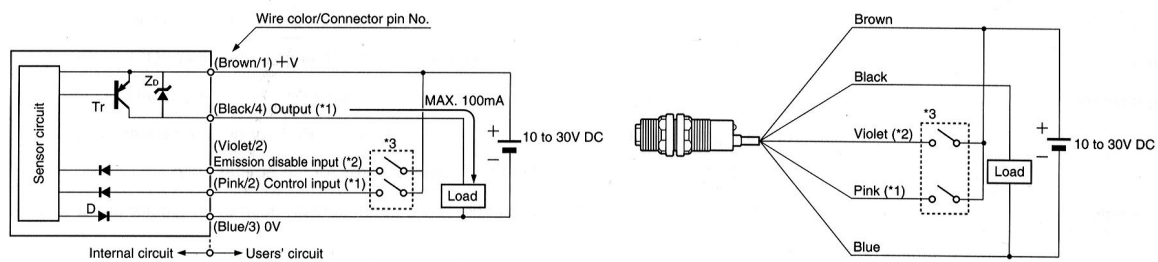
Low (0 to 2.5V): Emission disable  
High (6 to 30V or open): Emission

#### Control input

Low (0 to 1.5V): Dark-ON  
High (6 to 30V or open): Light-ON

Symbol... D : Reverse polarity protection diode  
Z<sub>D</sub> : Surge absorption zener diode  
Tr : NPN output transistor

### PNP Output Type (UZC2505)



- \*1 Output and control input are not equipped for the emitter of the thru-beam sensor.
- \*2 Emission disable input is equipped for the emitter of the thru-beam sensor only
- \*3 Non-voltage contact or PNP open-collector transistor

#### Input for emission disable

Low (0 to 1.5V or open): Emission  
High (3 to 30V or open): Emission disable

#### Control input

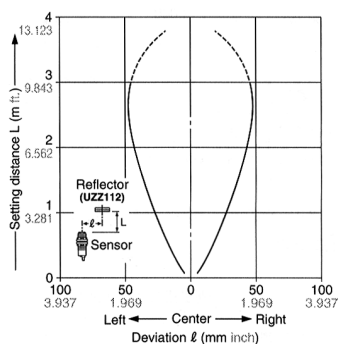
Low [Max. (supply voltage -6V) or open]: Light-ON  
High [Min. (supply voltage -1.5V) or open]: Dark-ON

Symbol... D : Reverse polarity protection diode  
Z<sub>D</sub> : Surge absorption zener diode  
Tr : PNP output transistor

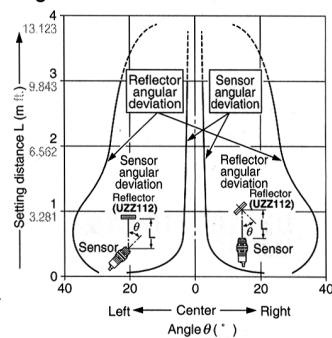
## SENSING FIELDS

### UZC220 & UZC2505 Retroreflective

#### Parallel deviation



#### Angular deviation



## Dimensions

