

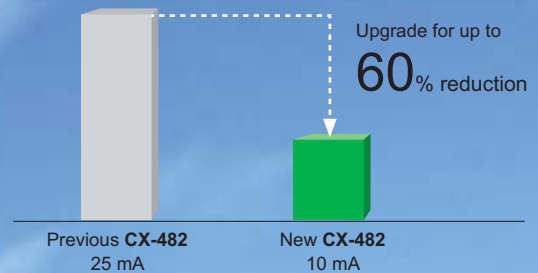


## Upgrade 1

Reducing environmental burdens further

### Up to 60% less power consumption

The **CX-400** series achieves reductions in power consumption of up to 60%, averaging 44% reduction when upgrading due to its unique design. These sensors reduce carbon emissions and contribute to environmental friendliness.



### Contributing to reduced carbon dioxide emissions

Electricity consumed by the **CX-400** series has been reduced on average 10.5 mA. Calculating 8 hours/day, 260 days (operating 5 days/week) for a total of 2,080 hours/year leads to:

The **CX-400** contributes

**Approx. 84.6 t** annually in carbon dioxide reductions to the world

## Upgrade 2

Stronger noise resistance

### Stronger inverter countermeasures

The **CX-400** has a high noise resistance then its previous model. By incorporating an inverter countermeasure circuit that appropriately shifts with peak wavelength, the sensor now resists high-frequency noise from high-voltage inverter motors and inverter lights more effectively.

## Upgrade 3

Stronger output short-circuit resistance

### Stronger inverse wiring connection protection

Strengthening the output circuit inverse polarity protection prevents sensor damage caused by mistaken output or power supply wiring.

## High Performance

High performance  
For many applications



Thanks to its unique optics and specialized design, the **CX-400**'s electronic circuits allows for consistent sensing of minute 0.4 mm **0.016 in** (the thickness of a business card) differences or 10  $\mu$ m **0.394 mil** ultra-thin film.

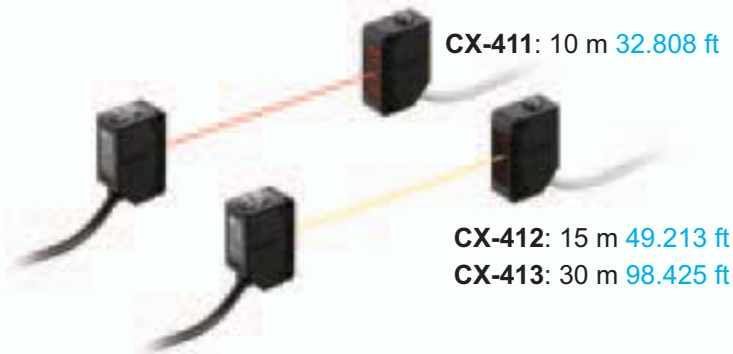
## Save

Thoroughly eliminating unnecessary waste,  
Reducing many environmental burdens



The **CX-400** series have three different cable length types and uses very simple packaging to reduce waste. The bag is made of polyethylene and does not emit toxic gasses.

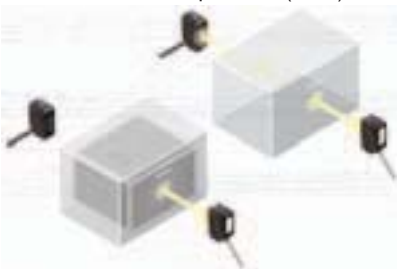
## Thru-beam type



### Strong infrared beam

CX-412/413

Remarkable penetrating ability enables applications such as package content detection come into practice. (Note)



Note: When sensing utilizing penetrating power, make sure to verify using the actual sensor.

### Strong in dust and dirt

CX-412/413

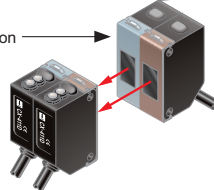
The infrared light source is strong in dust and dirt compared to the red beam type.

### Even the thru-beam type is strong at mutual interference

CX-411

Two CX-411 sensors, with their red beam light source, can be installed close together by inserting an interference prevention filter.

Interference prevention filter (Optional)

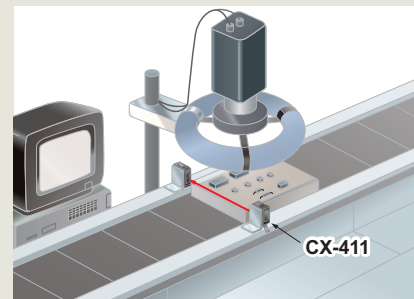


## Applications

- Detecting box collapsing within the rail of stacker crane

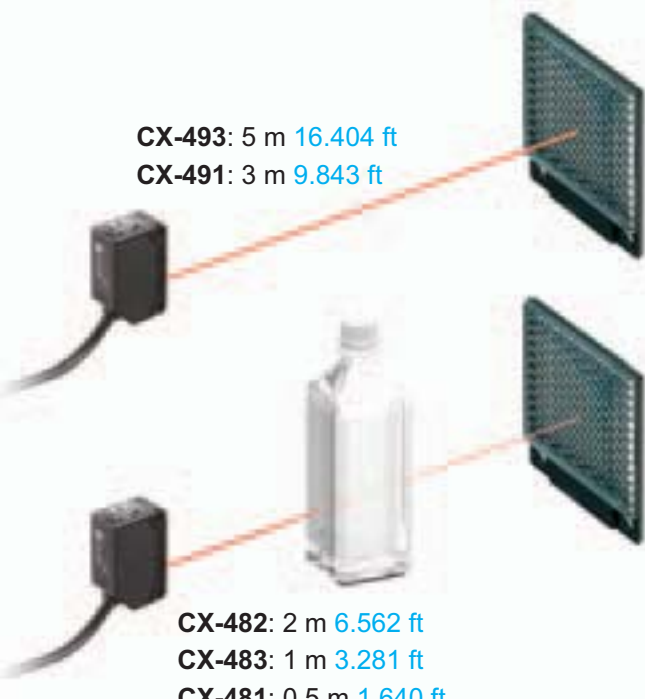


- Synchronizing sensor for image processing systems



## Retroreflective type

CX-493: 5 m 16.404 ft  
CX-491: 3 m 9.843 ft



For transparent object sensing

### Long sensing range of 5 m 16.404 ft

CX-493

A long 5 m 16.404 ft sensing range is possible with the red LED type that is easy to align with the beam axis. The sensors can be used for wide automatic door shutters.



### Retroreflective type with polarizing filters

CX-491

Built-in polarizing filters ensure stable sensing even on a mirror surface object.

### Strong against extraneous light and noise

CX-491

Hardly affected by extraneous lights or noises, these sensors provide stable sensing.

### Two sensors can be mounted close together

All models

The interference prevention function lets two sensors of any type to be mounted close together precisely.