

FX-300 SERIES

FIBER SENSORS

LASER SENSORS

PHOTOELECTRIC SENSORS

MICRO PHOTOELECTRIC SENSORS

AREA SENSORS

LIGHT CURTAINS / SAFETY COMPONENTS

PRESSURE / FLOW SENSORS

INDUCTIVE PROXIMITY SENSORS

PARTICULAR USE SENSORS

SENSOR OPTIONS

SIMPLE WIRE-SAVING UNITS

WIRE-SAVING SYSTEMS

MEASUREMENT SENSORS

STATIC ELECTRICITY PREVENTION DEVICES

LASER MARKERS

PLC

HUMAN MACHINE INTERFACES

ENERGY CONSUMPTION VISUALIZATION COMPONENTS

FA COMPONENTS

MACHINE VISION SYSTEMS

UV CURING SYSTEMS

Selection Guide

Fibers

Fiber Amplifiers

FX-500

FX-100

FX-300

FX-410

FX-311

FX-301-F7/
FX-301-F

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Related Information

■ SC-GU1-485..... P.1009~

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■ General precautions P.1458~

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panasonic.net/id/pidsx/global


* Passed the UL 991 Environment Test

* UL 61010C-1 compatible, Passed the UL 991 Environment Test based on SEMI S2-0200.
[Category applicable for semiconductor manufacturing: TWW2, Process Equipment]
[Applicable standards: UL 61010C-1]
[Additional test / evaluation standards as per intended use: UL 991, SEMI S2-0200]



PNP output type available



Timer



Interference prevention



Light intensity monitor



Automatic sensitivity setting

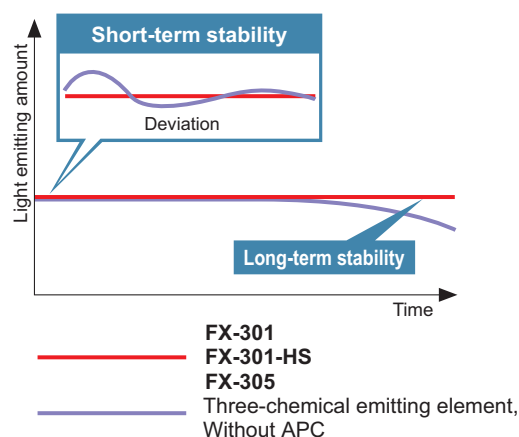
Constant advances achieving significant improvement of sensing performance

Stable sensing over long and short periods

FX-301 **FX-301-HS** **FX-305**

In addition to a “four-chemical emitting element” which suppresses changes in the light emitting element over time so that a stable level of light emission can be maintained over long periods, a “APC (Auto Power Control) circuit” has also been adopted afresh. The light emitting amount can be controlled in minute degrees so that even changes occurring over very short periods can be handled, allowing stable sensing performance by suppressing deviations in light emitting amounts caused by changes in the ambient environment that could not previously be suppressed.

• Stable sensing comparison

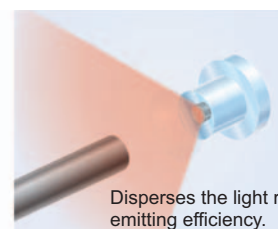


Even greater sensing range

All models

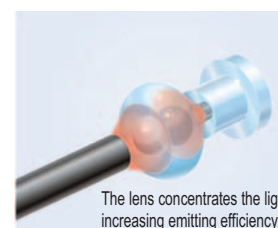
Adoption of a “double coupling lens” that increases emission efficiency to its maximum limits and greatly increases sensing range. Sensing ranges with small diameter fibers and ultra-small diameter fibers, which have become very popular due to the miniaturization of chip components, have been increased by 50 % over previous values achieved with other amplifiers.

• Conventional fiber sensors (Without lens)



Disperses the light reduces emitting efficiency.

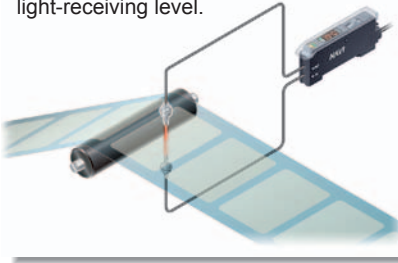
• Double coupling lens



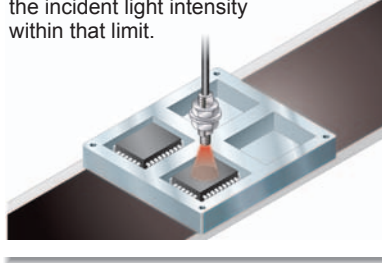
The lens concentrates the light, greatly increasing emitting efficiency.

APPLICATIONS**Detecting the presence or absence of labels**

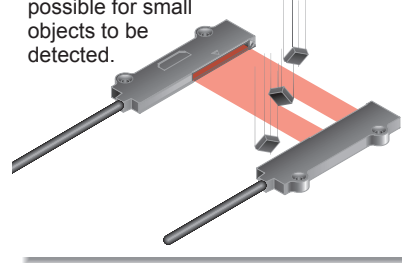
The light-emitting amount selection function can even stabilize detection of transparent labels that saturate the light-receiving level.

**Detecting the presence or absence of ICs on a tray**

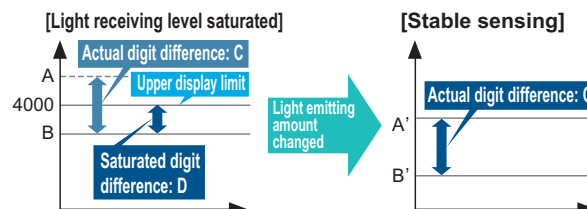
You can set upper and lower limits for the threshold values using the window comparator mode and turn ON / OFF the incident light intensity within that limit.

**Detecting the passage of small objects**

The differential sensing mode will only detect rapid changes in the amount of light, which makes it possible for small objects to be detected.

**Light-emitting amount selection**

If the light receiving level becomes saturated during close-range sensing or when sensing transparent or minute objects, you can adjust the light emitting amount of the sensor to stabilize sensing **without needing to change the response time**. Sensing that previously required the response time or fibers to be changed can now be set much more easily using this function.



Light emitting amount can be changed without changing response time

Large display 9999**FX-305**

Large display with 4 digits (9999). With a greater difference in digit value than previous models, threshold values can be set in units of 1 digit up to maximum 9999. Threshold setting can now be done more easily and accurately.

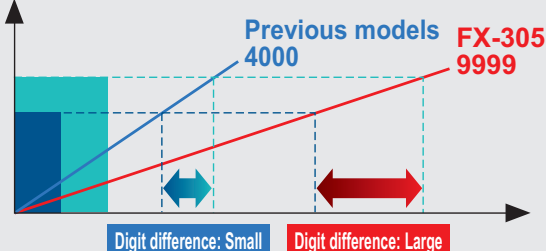


(During STDF, LONG and U-LG modes)

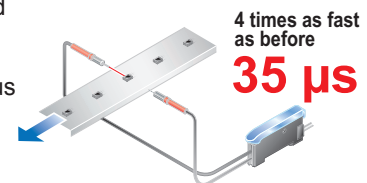
**2.5 times
previous
models**

Digit difference comparison

Example Digit difference between **object A** and **object B**

**Ultra high-speed
35 μ s response****FX-301-HS** **FX-305**

Ultra high-speed 35 μ s response. Even small objects moving at high speeds can be sensed. In addition, at 65 μ s the **FX-301** standard type and **FX-305** high-function type is also twice as fast as previous models.

**Ultra high-speed type FX-301-HS**

(H-SP mode)

35 μ s**Standard type FX-301, High-function type FX-305**

(H-SP mode)

65 μ s**Previous model****150 μ s****FIBER SENSORS****LASER SENSORS****PHOTOELECTRIC SENSORS****MICRO PHOTOELECTRIC SENSORS****AREA SENSORS****LIGHT CURTAINS / SAFETY COMPONENTS****PRESSURE / FLOW SENSORS****INDUCTIVE PROXIMITY SENSORS****PARTICULAR USE SENSORS****SENSOR OPTIONS****SIMPLE WIRE-SAVING UNITS****WIRE-SAVING SYSTEMS****MEASUREMENT SENSORS****STATIC ELECTRICITY PREVENTION DEVICES****LASER MARKERS****PLC****HUMAN MACHINE INTERFACES****ENERGY CONSUMPTION VISUALIZATION COMPONENTS****FA COMPONENTS****MACHINE VISION SYSTEMS****UV CURING SYSTEMS****Selection Guide****Fibers****Fiber Amplifiers****FX-500****FX-100****FX-300****FX-410****FX-311****FX-301-F7 / FX-301-F**