

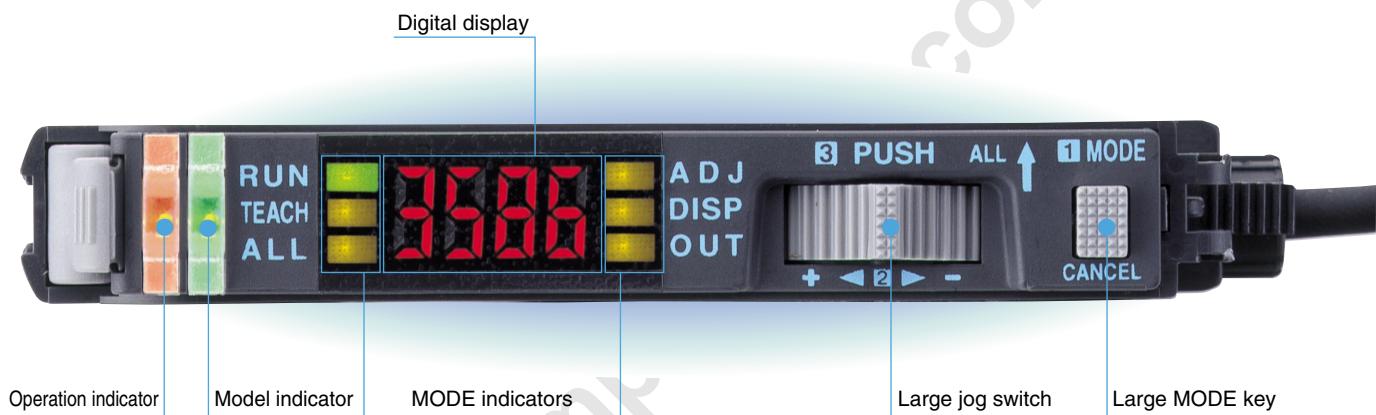
DIGITAL FIBER SENSOR For leak / liquid fibers only

New

FX-301-F

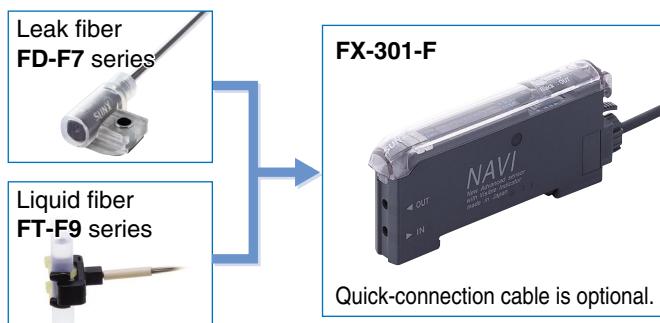
Easy operation even for beginners

Optimum settings can be realized with simple operations.



Use Only with Leak or Liquid Fiber

FX-301-F is designed for use with only leak fiber, **FD-F7** series or liquid fiber, **FT-F9** series. You can set the optimum conditions with simple operations.



Flashing Function Incorporated

When the leak fiber is connected (F7 mode), if a leak is detected, you will recognize which fiber detects the leak at one sight because the emitter will start flashing.

Long Life and No Adjustment Required with a Newly Developed LED

The new 'LED using four chemical elements' used in **FX-301-F** minimizes light deterioration with time and enables stable detection for a very long period.

Easy to Operate with Individual / Collective Teaching Mode

Individual teaching mode (TEACH)

After you select **FD-F7** series or **FT-F9** series by the jog switch, the optimum threshold level is automatically set by just pressing the jog switch.

Collective teaching mode (ALL)

You can set the optimum sensitivity for all cascaded units in one step by the optical communications function. Further, since the settings are also copied to all the units, cumbersome setting operation is considerably reduced.



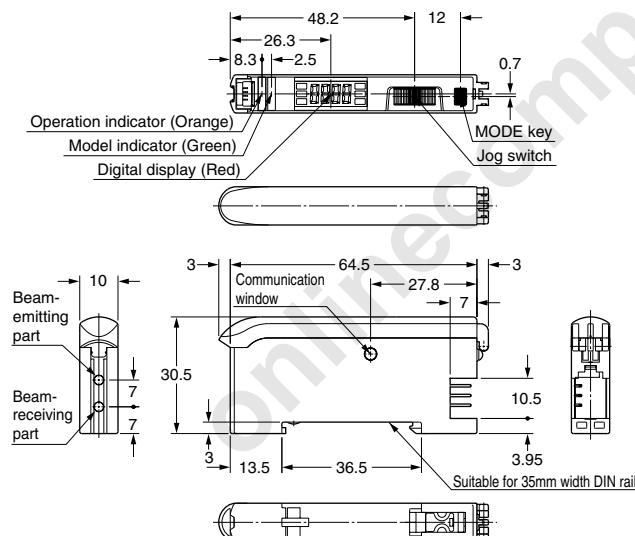
Collective teaching mode is possible for 16 units max.

SPECIFICATIONS

Type	NPN output	PNP output	
Item	Model No.	FX-301-F	FX-301-P-F
Supply voltage	12 to 24V DC $\pm 10\%$	Ripple P-P 10% or less	
Power consumption	Normal operation: 960mW or less (Current consumption 40mA or less at 24V supply voltage) ECO mode: 600mW or less (Current consumption 25mA or less at 24V supply voltage)		
Output	NPN open-collector transistor • Maximum sink current: 100mA (Note 1) • Applied voltage: 30V DC or less (between output and 0V) • Residual voltage: 1.5V or less [at 100mA (Note 1) sink current] • Residual voltage: 1.5V or less [at 100mA (Note 1) source current]	PNP open-collector transistor • Maximum source current: 100mA (Note 1) • Applied voltage: 30V DC or less (between output and +V) • Residual voltage: 1.5V or less [at 100mA (Note 1) source current]	
Output operation	Leak setting (F7 mode): OFF with detection of leak Liquid setting (F9 mode): Using the jog switch, choose the signal OFF condition between absence of liquid and presence of liquid.		
Short-circuit protection	Incorporated		
Response time	250 μ s or less (Note 2)		
Sensitivity setting	Individual / collective teaching		
Operation indicator	Orange LED (lights up when the output is ON)		
Model indicator	Green LED [lights up during liquid setting (F9 mode)]		
Fine sensitivity adjustment function	Incorporated		
Timer function	Delay timer [used only for liquid setting (F9 mode)] (Timer setting selectable from 10ms, 100ms, 1,000ms, and none)		
Ambient temperature	0 to +50°C (If 8 to 16 units are connected in cascade: 0 to +45°C) (No dew condensation), Storage: -20 to +70°C		
Emitting element	Red LED (modulated)		
Material	Enclosure: Heat-resistant ABS, Case cover: Polycarbonate		
Cable extension	Extension up to total 100m is possible with 0.3mm ² , or more, cable.		
Weight	20g approx.		

Notes: 1) 50mA, if five, or more, amplifiers are connected in cascade.
2) When detecting leak (output OFF) during leak setting (F7 mode), since the sensor flashes the emitted light, only the response action for turning the signal back to ON is delayed (1 sec. approx.).
3) Please refer to FX-301 catalog or FIBER SENSOR GUIDE BOOK for the options.

DIMENSIONS (Unit: mm)



All information is subject to change without prior notice.



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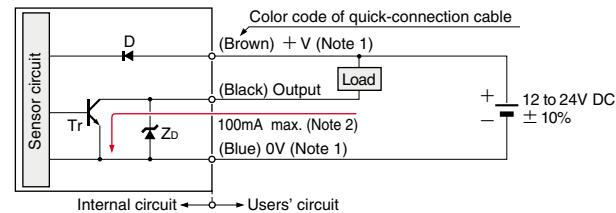
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I/O CIRCUIT DIAGRAMS

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FX-301-F

NPN output

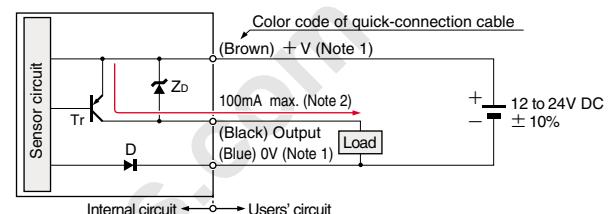


Notes: 1) The quick-connection sub cable does not have +V (brown) and 0V (blue).
2) 50mA max., if five amplifiers, or more, are connected in cascade.
3) Never connect several amplifiers in series (AND).

Symbols ...D: Reverse supply polarity protection diode
ZD: Surge absorption zener diode
Tr: NPN output transistor

FX-301P-F

PNP output



Notes: 1) The quick-connection sub cable does not have +V (brown) and 0V (blue).
2) 50mA max., if five amplifiers, or more, are connected in cascade.
3) Never connect several amplifiers in series (AND).

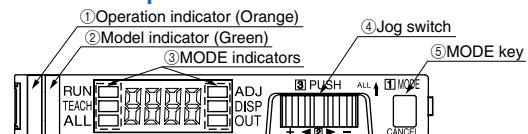
Symbols ...D: Reverse supply polarity protection diode
ZD: Surge absorption zener diode
Tr: PNP output transistor

PRECAUTIONS FOR PROPER USE



This product is not a safety sensor. Its use is not intended or designed to protect life and prevent body injury or property damage from dangerous parts of machinery. It is a normal object detection sensor.

Functional description



- ① Operation indicator (Orange) ... Lights up when the output is ON.
- ② Model indicator (Green) ... Lights up during liquid setting (F9 mode).
- ③ MODE indicator ... RUN (Green): Lights up during normal sensing operation.
TEACH (Yellow): Lights up when the individual teaching mode is selected.
ALL (Yellow): Lights up when the collective teaching mode is selected.
ADJ (Yellow): Lights up when the threshold value fine adjustment mode is selected or the sensitivity switching function is activated.
DISP (Yellow): Lights up when the digital display setting mode is selected or the timer function is activated.
OUT (Yellow): Lights up when the forced output mode is selected or the NO/NC switching function is activated.
- ④ Jog switch ... Moving this switch in the '+' or '-' direction, allows different items to be viewed for selection and pressing the switch then confirms the selected setting.
- ⑤ MODE key ... This key is used to select operating modes and to cancel settings during the configuration process.