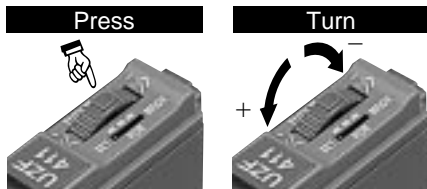


**SIMPLE OPERATION WITH INNOVATIVE JOG SWITCH SETTING AND
MANUAL SETTING TYPE**



Simple Operation UZF41/42 series

Uses an innovative highly operable jog switch.
Anyone can easily do the threshold value (sensitivity in case of **UZF42** series) setting or fine adjustment by using a single jog switch.



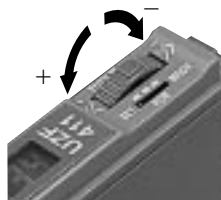
Threshold value (sensitivity in case of **UZF42** series) or each mode is set.

Threshold value (sensitivity in case of **UZF42** series) setting or fine adjustment, and selection of each mode is done.

Fine Adjustment is Possible UZF41/42 series

Fine adjustment is possible after setting the threshold value (sensitivity in case of **UZF42** series).

Simply turn the jog switch to the '+' or the '-' side for fine adjustment.



3 Types of Settings are Possible UZF41/42 series

You can select from the following three types of settings:

- 1) 2-level teaching
- 2) Limit teaching, which is highly suitable for threshold value (sensitivity in case of **UZF42** series) setting in the object absent condition, or in case a background body is present, or for minute difference detection.
- 3) Full auto-teaching, which is suitable for detecting a moving object,

Digital Display UZF41 series

Since the incident light intensity and the threshold value can be confirmed on a digital display (4 digit LCD), the threshold value can be set by seeing the numerical values. Moreover, since the display has a back light, the values can be read even in a dark place.



Level Indicators UZF42 series

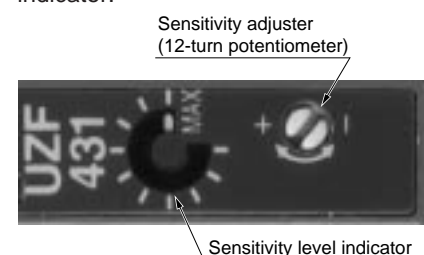
Level indicators, comprising of 10 LEDs, enable confirmation of the set sensitivity at one glance. Setting can be done while confirming the value on the level indicators.



Level indicators

12-turn Potentiometer with Indicator UZF43 series

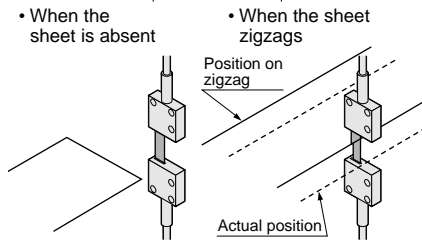
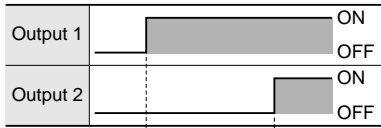
12-turn potentiometer has been incorporated for unprecedented fine adjustments. It enables detection of very fine differences. Moreover, the potentiometer position can be confirmed at a glance on the indicator.



Incorporates Two Independent Outputs UZF41 series

Since two independent outputs are incorporated, one sensor suffices even in places where, so far, two sensors had to be used.

Detection of a sheet's zigzag movement

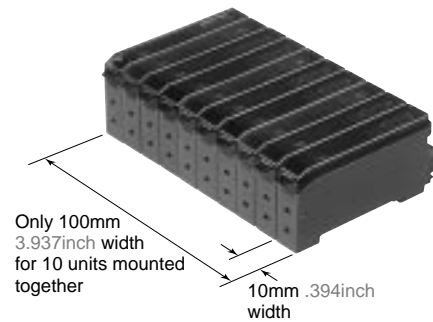


Incorporates a Convenient Timer Function

UZF41 series incorporates an ON-delay timer and an OFF-delay timer. The timer period can be selected from four values — 40ms, 100ms, 200ms and 500ms. Further, the UZF42 series and the UZF43 series incorporate a fixed 40ms (approx.) OFF-delay timer.

10mm .394inch Width Slim Size

Since the width is merely 10mm .394inch, it can be installed in a narrow space.



Close Mounting of Three Fibers is Possible

Three fibers can be mounted closely by selecting three different emission frequencies with the jog switch (frequency selection switch in case of UZF43 series).

Connector Type Available

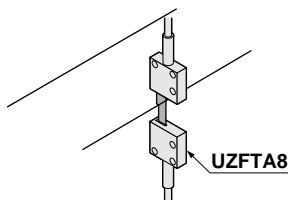
Besides the cable type, connector type sensors suitable for sensor and simple wire-saving using a sensor block and a connector attached cable, are available.



APPLICATIONS

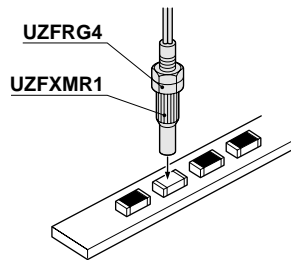
Detection of a sheet's zigzag movement

Since the UZF41 series incorporates two independent outputs, the sheet's presence/absence and its zigzag movement can be detected at the same time.



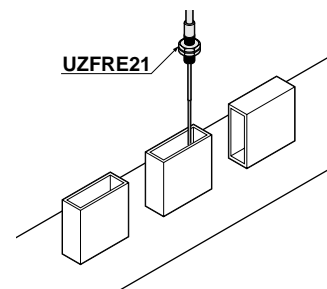
Distinguishing top/bottom surface of a chip component

Due to the small spot size, the top surface can be distinguished from the bottom surface for small components, such as the 1005 chip.



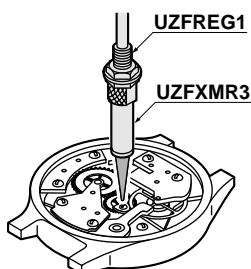
Detection of upright position of a condenser

Since the UZF41 series incorporates two independent outputs, it can detect not only the presence/absence of a condenser coming from a parts feeder, but also whether it stands upright.



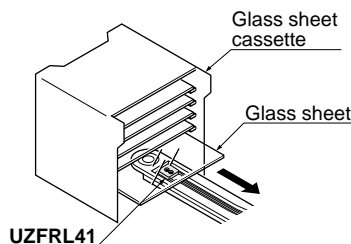
Detection of presence/absence of very small parts

It can reliably detect very small parts in a wrist watch.



Detection of presence/absence of glass sheets

It can reliably detect individual glass sheets which are normally difficult to detect.



ORDER GUIDE

For general use fiber optic cable [Thru-beam type (one set consists of two pcs.)]



	Shape of sensing probe (mm inch)	Sensing range (*1) ■ : Red LED type □ : Green LED type	Min. sensing object [on optimum condition (*2)] ① : Red LED type ② : Green LED type	Features	Fiber optic cable length	Model No.
Long sensing range	Lens applicable 	650mm 25.591inch 115mm 4.528inch	① $\phi 0.16\text{mm } \phi 0.06\text{inch}$ opaque object ② $\phi 0.08\text{mm } \phi 0.03\text{inch}$ opaque object	• Twice the sensing range as before of standard type	Freely cuttable 2m 6.562ft	UZFTB8
	Lens applicable 					UZFTF8
Standard	With sleeve 	380mm 14.961inch 60mm 2.362inch	① $\phi 0.12\text{mm } \phi 0.05\text{inch}$ opaque object ② $\phi 0.04\text{mm } \phi 0.02\text{inch}$ opaque object	• Freely cuttable type	Freely cuttable 2m 6.562ft	UZFTF89 Sleeve 90mm 3.543inch UZFTF84 Sleeve 40mm 1.575inch
						UZFTS8
Economy	Lens applicable 	600mm 23.622inch 100mm 3.937inch	① $\phi 0.16\text{mm } \phi 0.06\text{inch}$ opaque object ② $\phi 0.08\text{mm } \phi 0.03\text{inch}$ opaque object	• Low price & free-cut	Freely cuttable 2m 6.562ft	New UZFTNB8
		350mm 13.780inch 50mm 1.969inch	① $\phi 0.12\text{mm } \phi 0.05\text{inch}$ opaque object ② $\phi 0.04\text{mm } \phi 0.02\text{inch}$ opaque object		(*3)	New UZFTN8
Small sensing probe	Lens applicable 	380mm 14.961inch 60mm 2.362inch	① $\phi 0.12\text{mm } \phi 0.05\text{inch}$ opaque object ② $\phi 0.04\text{mm } \phi 0.02\text{inch}$ opaque object	• Same sensing range as the standard with a smaller sensing probe	Freely cuttable 2m 6.562ft	UZFTT8
Small diameter						UZFTF4
	With sleeve 	100mm 3.937inch 15mm .591inch	① $\phi 0.08\text{mm } \phi 0.03\text{inch}$ opaque object ② $\phi 0.03\text{mm } \phi 0.01\text{inch}$ opaque object	• Suitable for sensing in the intricate apparatus • Freely cuttable type	Freely cuttable 2m 6.562ft	UZFTF49 Sleeve 90mm 3.543inch UZFTF44 Sleeve 40mm 1.575inch
						UZFTS4
Flexible	Lens applicable Small diameter 	70mm 2.756inch 13mm .512inch	① $\phi 0.08\text{mm } \phi 0.03\text{inch}$ opaque object ② $\phi 0.04\text{mm } \phi 0.02\text{inch}$ opaque object	• Small diameter sensing probe coiled cable	2m 6.562ft	UZFTC4
	Lens applicable 	320mm 12.598inch 60mm 2.362inch	① $\phi 0.12\text{mm } \phi 0.05\text{inch}$ opaque object ② $\phi 0.05\text{mm } \phi 0.02\text{inch}$ opaque object		Freely cuttable 2m 6.562ft	UZFTP8
	Small diameter 	100mm 3.937inch 10mm .394inch	① $\phi 0.08\text{mm } \phi 0.03\text{inch}$ opaque object ② $\phi 0.03\text{mm } \phi 0.01\text{inch}$ opaque object	• Allowable bending radius : R4mm R.157inch • Bending durability : one million times min.		UZFTP4
	Small diameter 	120mm 4.724inch 18mm .709inch	① $\phi 0.08\text{mm } \phi 0.03\text{inch}$ opaque object ② $\phi 0.08\text{mm } \phi 0.03\text{inch}$ opaque object		1m 3.281ft	UZFTP2

(*1): The free-cut fibers may reduce the sensing ranges 20% lower than the above specified according to how they are cut off.

(*2): The optimum condition is the condition when the sensitivity is set so that the sensing output just changes to light incident operation in the object absent condition.

(*3): Fiber cutter UZFXCT1 is not supplied as accessory along with Standard (Economy) fibers. Please procure it separately.

ORDER GUIDE

For environmental-resistant use fiber optic cable [Thru-beam type (one set consists of two pcs.)]



	Shape of sensing probe (mm inch)	Sensing range (*1) ■ : Red LED type □ : Green LED type	Min. sensing object [on optimum condition (*2)] ③ : Red LED type ⑥ : Green LED type	Features	Fiber optic cable length	Model No.			
Heat-resistant	Lens applicable 			<ul style="list-style-type: none"> Heat-resistant : 350°C 662°F Cold-resistant : -60°C -76°F 	2m 6.562ft	UZFTH7			
	With sleeve 	280mm 11.024inch 50mm 1.969inch	<ul style="list-style-type: none"> ③ $\phi 0.08\text{mm } \phi 0.003\text{inch}$ opaque object ⑥ $\phi 0.05\text{mm } \phi 0.002\text{inch}$ opaque object 				<ul style="list-style-type: none"> Silicon housing makes cable lead-around easy. Heat-resistant : 200°C 392°F Cold-resistant : -60°C -76°F 	1m 3.281ft	UZFTH6
	Lens applicable 			<ul style="list-style-type: none"> Heat-resistant : 130°C 266°F Cold-resistant : -60°C -76°F Freely cuttable type 	Freely cuttable 2m 6.562ft	UZFTH8			
	Lens applicable 	440mm 17.323inch 80mm 3.150inch	<ul style="list-style-type: none"> ③ $\phi 0.16\text{mm } \phi 0.006\text{inch}$ opaque object ⑥ $\phi 0.12\text{mm } \phi 0.005\text{inch}$ opaque object 				<ul style="list-style-type: none"> For the application in liquid chemical Heat-resistant specification (115°C 239°F) Long sensing range type with lens 	2m 6.562ft Bending R : 30mm 1.181inch	UZFTL8Y
Chemical-resistant		1,500mm 59.055inch 180mm 7.087inch	<ul style="list-style-type: none"> ③ $\phi 0.5\text{mm } \phi 0.020\text{inch}$ opaque object ⑥ $\phi 0.3\text{mm } \phi 0.012\text{inch}$ opaque object 	<ul style="list-style-type: none"> For the application in liquid chemical Heat-resistant specification (115°C 239°F) Side-view type 	2m 6.562ft Bending R : 30mm 1.181inch	UZFTV8Y			
		400mm 15.748inch 70mm 2.756inch	<ul style="list-style-type: none"> ③ $\phi 0.5\text{mm } \phi 0.020\text{inch}$ opaque object ⑥ $\phi 0.3\text{mm } \phi 0.012\text{inch}$ opaque object 						
Vacuum-resistant	Lens applicable 	230mm 9.055inch	③ $\phi 0.16\text{mm } \phi 0.006\text{inch}$ opaque object	1m 3.281ft Bending R : 30mm 1.181inch	UZFT60V				
		100mm 3.937inch	③ $\phi 0.16\text{mm } \phi 0.006\text{inch}$ opaque object						

(*1): The free-cut fibers may reduce the sensing ranges 20% lower than the above specified according to how they are cut off.

(*2): The optimum condition is the condition when the sensitivity is set so that the sensing output just changes to light incident operation in the object absent condition.

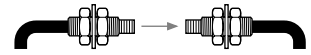
The vacuum fiber must be used with both the followings.

UZFTJ6 : Outer fibers in the atmosphere (One pair of two fibers a set)

UZFVBR1 : Terminal joints (One pair of two joints a set)

ORDER GUIDE

For special application use fiber optic cable [Thru-beam type (one set consists of two pcs.)]



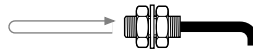
	Shape of sensing probe (mm inch)	Sensing range (*1) ■ : Red LED type □ : Green LED type	Min. sensing object [on optimum condition (*2)] ③ : Red LED type ⑥ : Green LED type	Features	Fiber optic cable length	Model No.
Long sensing range with lens		10,000mm 393.7inch 2,800mm 110.236inch	③ $\phi 0.5\text{mm } \phi 0.020\text{inch}$ opaque object ⑥ $\phi 0.5\text{mm } \phi 0.020\text{inch}$ opaque object	<ul style="list-style-type: none"> By applying large diameter lens, a long sensing range is achieved. Fiber optic cable length is 10m 32.808ft 	10m 32.808ft Freely cuttable	UZFTL9
		800mm 31.496inch 130mm 5.118inch	③ $\phi 0.16\text{mm } \phi 0.06\text{inch}$ opaque object ⑥ $\phi 0.16\text{mm } \phi 0.06\text{inch}$ opaque object	<ul style="list-style-type: none"> A long sensing range is achieved with a very small sensing probe of $\phi 2.5\text{mm } \phi 0.098\text{inch}$. 	2m 6.562ft Freely cuttable	UZFTL8
Array	Top sensing 	320mm 12.598inch 50mm 1.969inch	③ ϕ Vertical $\phi 0.7\text{mm } \phi 0.028\text{inch}$ opaque object ϕ Horizontal $\phi 0.05\text{mm } \phi 0.002\text{inch}$ opaque object ⑥ ϕ Vertical $\phi 0.2\text{mm } \phi 0.008\text{inch}$ opaque object ϕ Horizontal $\phi 0.04\text{mm } \phi 0.002\text{inch}$ opaque object	<ul style="list-style-type: none"> Arrayed beam does not miss by detecting object regardless of its position. 	2m 6.562ft Freely cuttable	UZFTA8
	Side sensing 	290mm 11.417inch 40mm 1.575inch	③ ϕ Vertical $\phi 0.7\text{mm } \phi 0.028\text{inch}$ opaque object ϕ Horizontal $\phi 0.05\text{mm } \phi 0.002\text{inch}$ opaque object ⑥ ϕ Vertical $\phi 0.2\text{mm } \phi 0.008\text{inch}$ opaque object ϕ Horizontal $\phi 0.04\text{mm } \phi 0.002\text{inch}$ opaque object			UZFTA8E
Elbow	Lens applicable 	270mm 10.630inch 45mm 1.772inch	③ $\phi 0.12\text{mm } \phi 0.005\text{inch}$ opaque object ⑥ $\phi 0.08\text{mm } \phi 0.003\text{inch}$ opaque object	<ul style="list-style-type: none"> Installation is simple as the sensing probe is bent 90 degrees and has 5mm .197inch radius. 	2m 6.562ft Freely cuttable	UZFTR8
Side-view	Small diameter 	175mm 6.890inch 18mm .709inch	③ $\phi 0.08\text{mm } \phi 0.003\text{inch}$ opaque object ⑥ $\phi 0.05\text{mm } \phi 0.002\text{inch}$ opaque object	<ul style="list-style-type: none"> Side sensing method saves installation space. 	1m 3.281ft 2m 6.562ft Freely cuttable	UZFTV22
	Sleeve part cannot be bent.	70mm 2.756inch 10mm .394inch	③ $\phi 0.08\text{mm } \phi 0.003\text{inch}$ opaque object ⑥ $\phi 0.06\text{mm } \phi 0.002\text{inch}$ opaque object			UZFTV41
		200mm 7.874inch 35mm 1.378inch	③ $\phi 0.12\text{mm } \phi 0.005\text{inch}$ opaque object ⑥ $\phi 0.05\text{mm } \phi 0.002\text{inch}$ opaque object			UZFTV82
Ultra-small diameter		7mm .276inch	③ $\phi 0.02\text{mm } \phi 0.0008\text{inch}$ opaque object	<ul style="list-style-type: none"> Ultra-small diameter, and diameter of $\phi 0.125\text{mm } \phi 0.005\text{inch}$ 	500mm 19.685inch	UZFTE1
		30mm 1.181inch	③ $\phi 0.3\text{mm } \phi 0.012\text{inch}$ opaque object	<ul style="list-style-type: none"> Ultra-small diameter, and diameter of $\phi 0.25\text{mm } \phi 0.010\text{inch}$ 	1m 3.281ft	UZFTE2
Narrow-view		160mm 6.299inch 18mm .709inch	③ $\phi 0.08\text{mm } \phi 0.003\text{inch}$ opaque object ⑥ $\phi 0.02\text{mm } \phi 0.0008\text{inch}$ opaque object	<ul style="list-style-type: none"> The spread of beam is one-sixth of conventional model, so that it doesn't cause crosstalk. 	1m 3.281ft	UZFTK22

(*1): The free-cut fibers may reduce the sensing ranges 20% lower than the above specified according to how they are cut off.

(*2): The optimum condition is the condition when the sensitivity is set so that the sensing output just changes to light incident operation in the object absent condition.

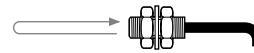
ORDER GUIDE

For general use fiber optic cable (reflective type)



	Shape of sensing probe (mm inch)	Sensing range (*1) (*2) ■ : Red LED type □ : Green LED type	Min. sensing object [at the maximum sensitivity (*3)] [③ : Red LED type ⑥ : Green LED type]	Features	Fiber optic cable length	Model No.
Long sensing range		210mm 8.268inch 40mm 1.575inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.05mm φ.002inch copper wire	• Long sensing range • Freely cuttable type	Freely cuttable 2m 6.562ft	UZFR8B
	Coaxial 	140mm 5.512inch 20mm .787inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.02mm φ.0008inch copper wire	• Suitable for green LED type	500mm 19.685inch	UZFRF5
Standard	With sleeve 	20mm .787inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.02mm φ.0008inch copper wire	• Freely cuttable type	Freely cuttable 2m 6.562ft	UZFRF8 UZFRF89 Sleeve 90mm 3.543inch UZFRF84 Sleeve 40mm 1.575inch
		120mm 4.724inch 18mm .709inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.12mm φ.005inch copper wire	• Low price & free-cut	Freely cuttable 2m 6.562ft (*4)	New UZFRN8
Economy	Small diameter 	34mm 1.339inch 3mm .118inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.3mm φ.012inch copper wire	• Same sensing range as the standard with small sensing probe	Freely cuttable 2m 6.562ft	New UZFRN4
		140mm 5.512inch 20mm .787inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.02mm φ.0008inch copper wire			UZFRF8
Small sensing probe	Small diameter 	40mm 1.575inch 5mm .197inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.05mm φ.002inch copper wire		Freely cuttable 2m 6.562ft	UZFRF4
		140mm 5.512inch 20mm .787inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.02mm φ.0008inch copper wire			UZFRS8
		40mm 1.575inch 5mm .197inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.05mm φ.002inch copper wire	• Suitable for sensing in the intricate apparatus • Freely cuttable type	Freely cuttable 2m 6.562ft	UZFRF4 UZFRF49 Sleeve 90mm 3.543inch UZFRF44 Sleeve 40mm 1.575inch UZFRS4
Small diameter	With sleeve 	40mm 1.575inch 5mm .197inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.05mm φ.002inch copper wire		Freely cuttable 2m 6.562ft	UZFRF4
		100mm 3.937inch 16mm .630inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.05mm φ.002inch stainless steel bar	• Allowable bending radius : R4mm R.157inch • Bending durability : one million times min.	Freely cuttable 2m 6.562ft	UZFRP8
Flexible	Small diameter 	16mm .630inch	③ φ0.01mm φ.0004inch gold wire			UZFRP4
	Small diameter 	23mm .906inch 2.5mm .098inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.02mm φ.0008inch copper wire		1m 3.281ft	UZFRP2

For environmental-resistant use fiber optic cable (reflective type)

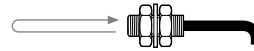


	Shape of sensing probe (mm inch)	Sensing range (*1) (*2) ■ : Red LED type □ : Green LED type	Min. sensing object [at the maximum sensitivity (*3)] [③ : Red LED type ⑥ : Green LED type]	Features	Fiber optic cable length	Model No.
Heat-resistant	Coaxial 	140mm 5.512inch 18mm .709inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.01mm φ.0004inch gold wire	• Heat-resistant : 350°C 662°F Cold-resistant : -60°C -76°F	2m 6.562ft	UZFRH7
	With sleeve 	140mm 5.512inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.01mm φ.0004inch gold wire	• Silicon housing makes cable lead-around easy. • Heat-resistant : 200°C 392°F Cold-resistant : -60°C -76°F	1m 3.281ft	UZFRH76 Sleeve 60mm 2.362inch
	Coaxial 	150mm 5.906inch 26mm 1.024inch	③ φ0.01mm φ.0004inch gold wire ⑥ φ0.06mm φ.002inch stainless steel bar	• Heat-resistant : 130°C 266°F • Cold-resistant : -60°C -76°F • Freely cuttable type	Freely cuttable 2m 6.562ft	UZFRH6
Vacuum-resistant		75mm 2.953inch	③ φ0.01mm φ.0004inch copper wire	• For the application in vacuum area • Heat-resistant : 120°C 248°F	1m 3.281ft	UZFR6V

The vacuum fiber must be used with both the followings.
UZFTJ6 : Outer fibers in the atmosphere (One pair of two fibers a set)
UZFVBR1 : Terminal joints (One pair of two joints a set)

ORDER GUIDE

For special applications use fiber optic cable (reflective type)










	Shape of sensing probe (mm inch)	Sensing range (*1) (*2) ■ : Red LED type □ : Green LED type	Min. sensing object [at the maximum sensitivity (*3)] ① : Red LED type ② : Green LED type	Features	Fiber optic cable length	Model No.
Fixed-focus board		4.5 to 12mm .177 to .472inch (Center: 8mm .315inch)	① $\phi 0.01\text{mm } \phi .0004\text{inch}$ gold wire	• Sensing performance is not affected by color or surface condition of the object.	Freely cuttable 2m 6.562ft	UZFRL4
		3 to 14mm .118 to .551inch (Center: 8mm .315inch)	① $\phi 0.2\text{mm } \phi .008\text{inch}$ gold wire	• Just 4mm .157inch thick • Glass board is securely detected.		UZFRL41
		Center: 2mm .079inch	① $\phi 0.2\text{mm } \phi .008\text{inch}$ gold wire	• Just 3mm .118inch thick • Wafer is securely detected.		UZFRL42
High precision (Coaxial)	Lens applicable Coaxial 	50mm 1.969inch 7.5mm .295inch	① $\phi 0.01\text{mm } \phi .0004\text{inch}$ gold wire ② $\phi 0.02\text{mm } \phi .001\text{inch}$ stainless steel bar	• A highly precise positioning is possible with coaxial reflective mode.	Freely cuttable 2m 6.562ft	UZFRG4
	Lens applicable Coaxial • Small diameter 	17mm .669inch	① $\phi 0.01\text{mm } \phi .0004\text{inch}$ gold wire	• Approx. $\phi 0.3\text{mm } \phi .012\text{inch}$ is achieved by means of combining with ultra-small spot lens UZFXMR3 .		500mm 19.685inch
Array	Top sensing 	110mm 4.331inch	① Vertical $\phi 0.1\text{mm } \phi .004\text{inch}$ copper wire Horizontal $\phi 0.01\text{mm } \phi .0004\text{inch}$ gold wire	• Arrayed beams meet various sensing demand.	Freely cuttable 2m 6.562ft	UZFRA8
	Side sensing 	17mm .669inch	② Vertical $\phi 0.06\text{mm } \phi .002\text{inch}$ stainless steel bar Horizontal $\phi 0.01\text{mm } \phi .0004\text{inch}$ copper wire			UZFRA8E
Elbow		85mm 3.346inch 13mm .512inch	① $\phi 0.01\text{mm } \phi .0004\text{inch}$ gold wire ② $\phi 0.2\text{mm } \phi .008\text{inch}$ stainless steel bar	• Installation is simple as sensing probe is bent 90 degrees and has 5mm .197inch radius.	Freely cuttable 2m 6.562ft	UZFRR8
Side-view	Small diameter 	25mm .984inch	① $\phi 0.01\text{mm } \phi .0004\text{inch}$ gold wire	• Side sensing method saves installation space.	Freely cuttable 2m 6.562ft	UZFRV41
	Coaxial 	45mm 1.772inch 5mm .200inch	① $\phi 0.01\text{mm } \phi .0004\text{inch}$ gold wire ② $\phi 0.5\text{mm } \phi .020\text{inch}$ stainless steel bar			UZFRV82
Ultra-small diameter		2mm .079inch	① $\phi 0.01\text{mm } \phi .0004\text{inch}$ gold wire	• Suitable for sensing in the intricate apparatus	500mm 19.685inch	UZFRE11
	Coaxial 	17mm .669inch	① $\phi 0.01\text{mm } \phi .0004\text{inch}$ gold wire	• A highly precise positioning is possible with coaxial reflective type.	1m 3.281ft	UZFRE21
Narrow-view	Coaxial 	15mm .591inch	① $\phi 0.01\text{mm } \phi .0004\text{inch}$ gold wire	• The spread of beam is one-sixth of a conventional model. It is effective for the detection in the narrow space.	1m 3.281ft	UZFRK22
Liquid level detection		—	③ (Liquid)	• Reduces malfunction due to liquid drop at the tip.	Freely cuttable 2m 6.562ft	UZFRM8Y
		Applicable pipe diameter: $\phi 6$ to $\phi 26\text{mm}$ $\phi .236$ to $\phi 1.024\text{inch}$ Pipe made of PFA (fluorine resin) or material having equivalent transparency,	③ (Liquid)	• Liquid drop on top never affects the sensing securely.		5m 16.404ft

(*1): The sensing range is specified with using white non-glossy paper (**UZFR8B**: 200×200mm 7.874×7.874inch, **UZFRL42** and **UZFRV41**: 50×50mm 1.969×1.969inch, **UZFRK22**: 10×10mm .394×.394inch, **UZFRL41**: glass sheet 25×25×1.3mm .984×.984×t.051inch, Others: 100×100mm 3.937×3.937inch)
 (*2): The free-cut fibers may reduce the sensing ranges 20% lower than the above specified according to how they are cut off.
 (*3): The minimum sensing object is obtainable with the maximum sensitivity, but at the ideal sensing distance within the rated sensing range.
 (*4): Fiber cutter **UZFXCT1** is not supplied as accessory along with Standard (Economy) fibers. Please procure it separately.

ORDER GUIDE

Amplifiers

Type		Appearance		Model No.	Emitting element	Output	
			Display				
Digital setting	Red LED type				UZF411	Red LED	NPN open-collector transistor (Output 1, Output2)
				UZF4115	PNP open-collector transistor (Output 1, Output2)		
Auto-setting	Red LED type			UZF421	Red LED	NPN open-collector transistor (Sensing output, self-diagnosis output)	
				UZF4215		PNP open-collector transistor (Sensing output, self-diagnosis output)	
	Green LED type			UZF422	Green LED	NPN open-collector transistor (Sensing output, self-diagnosis output)	
Manual setting	Red LED type				UZF431	Red LED	NPN open-collector transistor (Sensing output, self-diagnosis output)
				UZF4315	PNP open-collector transistor (Sensing output, self-diagnosis output)		
	Green LED type				UZF432	Green LED	NPN open-collector transistor (Sensing output, self-diagnosis output)

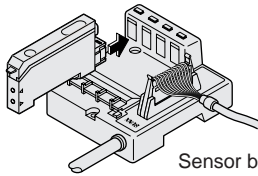
Plug-in connector type

Plug-in connector type is available. (Standard: cable type)

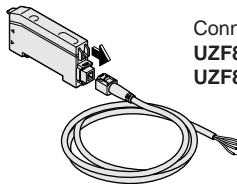
To order the plug-in connector type, add suffix 'A' at the end of the model No.

Example: Plug-in connector type of **UZF4215** is '**UZF4215A**'.

Usable with the sensor block for simple wiring **UZZ70** or **UZZ72**, or with connector attached cable **UZF851** or **UZF852**.



Sensor block for simple wiring **UZZ70/UZZ72**

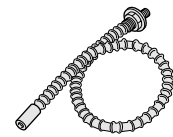


Connector attached cable
UZF851 (2m 6.562ft. long)
UZF852 (5m 16.404ft. long)

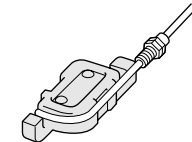
OPTION

Component	Model No.	Description		
Protective tube for Thru-beam fiber optic cable	UZF831 (0.5m 1.64ft)	For M4 thread	UZFTB8 UZFTP8 UZFTF8 UZFTH8 UZFTF89 UZFTF84	
	UZF832 (1m 3.28ft)		For M3 thread	UZFTT8 UZFTP4 UZFTF4 UZFRT4 UZFTF49 UZFRP4 UZFTF44
	UZF833 (1.5m 4.92ft)			For M6 thread
	UZF834 (0.5m 1.64ft)	For M4 thread		
	UZF835 (1m 3.28ft)		For M4 thread	UZFR8B UZFRP8 UZFRF8 UZFRH8 UZFRF89 UZFRF84
	UZF836 (1.5m 4.92ft)			
Protective tube for Reflective fiber optic cable	UZF841 (0.5m 1.64ft)	For M6 thread	UZFR8B UZFRP8 UZFRF8 UZFRH8 UZFRF89 UZFRF84	
	UZF842 (1m 3.28ft)		For M4 thread	UZFR8B UZFRP8 UZFRF8 UZFRH8 UZFRF89 UZFRF84
	UZF843 (1.5m 4.92ft)	For M4 thread		UZFR8B UZFRP8 UZFRF8 UZFRH8 UZFRF89 UZFRF84
	UZF844 (0.5m 1.64ft)			
	UZF845 (1m 3.28ft)		UZFR8B UZFRP8 UZFRF8 UZFRH8 UZFRF89 UZFRF84	
UZF846 (1.5m 4.92ft)		UZFR8B UZFRP8 UZFRF8 UZFRH8 UZFRF89 UZFRF84		
Fiber bender	UZFXB1	Sleeve head can be bent easily with adequate bending radius. (*1)		
Fiber cutter	UZFXCT1	The straight portion of the free-cut type fiber and the flexible coiled fiber can be freely cut.		

Protective tube



Fiber bender

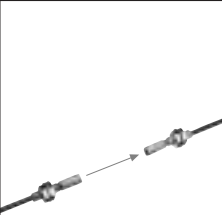
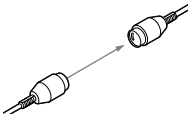



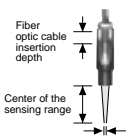
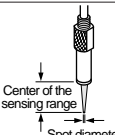
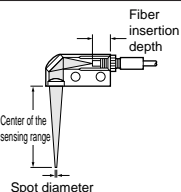


Fiber cutter



Note: Do not bend the sleeve part of any side-view fiber, ultra-small diameter probe fiber, narrow beam fiber, or narrow-view fiber.

OPTION

Component	Model No.	Description																																		
For Thru-beam fiber optic cable	Long sensing range lens	UZFXLE1	 <p>Sensing range extended more than 5 times. Ambient temperature : - 60 to + 350°C - 76 to + 662°F</p> <table border="1"> <thead> <tr> <th colspan="3">Sensing range (mm inch) [when mounting two pieces of lens]</th> </tr> <tr> <th>Fiber optic cable</th> <th>Combined amplifier</th> <th></th> </tr> <tr> <th></th> <th>Red LED type</th> <th>Green LED type</th> </tr> </thead> <tbody> <tr> <td>UZFTB8</td> <td>3,000 118.11</td> <td>650 25.591</td> </tr> <tr> <td>UZFTF8</td> <td>3,500 137.795 (*1)</td> <td>600 23.622</td> </tr> <tr> <td>UZFTT8</td> <td>3,500 137.795 (*1)</td> <td>600 23.622</td> </tr> <tr> <td>UZFTC4</td> <td>800 31.496</td> <td>220 8.661</td> </tr> <tr> <td>UZFTP8</td> <td>3,500 137.795 (*1)</td> <td>500 19.685</td> </tr> <tr> <td>UZFTH7</td> <td>2,800 110.236</td> <td>300 11.811</td> </tr> <tr> <td>UZFTH6</td> <td>1,600 62.992 (*1)</td> <td>300 11.811</td> </tr> <tr> <td>UZFTR8</td> <td>2,400 94.488</td> <td>400 15.748</td> </tr> </tbody> </table>	Sensing range (mm inch) [when mounting two pieces of lens]			Fiber optic cable	Combined amplifier			Red LED type	Green LED type	UZFTB8	3,000 118.11	650 25.591	UZFTF8	3,500 137.795 (*1)	600 23.622	UZFTT8	3,500 137.795 (*1)	600 23.622	UZFTC4	800 31.496	220 8.661	UZFTP8	3,500 137.795 (*1)	500 19.685	UZFTH7	2,800 110.236	300 11.811	UZFTH6	1,600 62.992 (*1)	300 11.811	UZFTR8	2,400 94.488	400 15.748
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For Reflective fiber optic cable	Pinpoint spot lens	UZFXMR1	 <p>Pinpoint spot of $\phi 0.5\text{mm } \phi.020\text{inch}$, detects fine small object or small mark. • Combined amplifiers : Red LED type • Applicable fiber : UZFRG4 • Center of the sensing range : $6 \pm 1\text{mm } .236 \pm .039\text{inch}$ • Ambient temperature : - 40 to + 70°C - 40 to + 158°F</p>																																	
	Zoom lens	UZFXMR2	 <p>Spot optic cable diameter is adjustable from $\phi 0.7$ to $2\text{mm } \phi.028$ to $.079\text{inch}$ changing fiber optic cable insertion depth. • Combined amplifiers : Red LED type • Applicable fiber : UZFRG4 • Ambient temperature : - 40 to + 70°C - 40 to + 158°F</p> <table border="1"> <thead> <tr> <th>Fiber optic cable insertion depth</th> <th>Center of the sensing range</th> <th>Spot diameter</th> </tr> </thead> <tbody> <tr> <td>7mm .276inch</td> <td>Approx.18.5mm .728inch</td> <td>$\phi 0.75\text{mm } \phi.030\text{inch}$</td> </tr> <tr> <td>12mm .472inch</td> <td>Approx.27mm 1.063inch</td> <td>$\phi 1.2\text{mm } \phi.047\text{inch}$</td> </tr> <tr> <td>14mm .551inch</td> <td>Approx.43mm 1.693inch</td> <td>$\phi 2.0\text{mm } \phi.079\text{inch}$</td> </tr> </tbody> </table>	Fiber optic cable insertion depth	Center of the sensing range	Spot diameter	7mm .276inch	Approx.18.5mm .728inch	$\phi 0.75\text{mm } \phi.030\text{inch}$	12mm .472inch	Approx.27mm 1.063inch	$\phi 1.2\text{mm } \phi.047\text{inch}$	14mm .551inch	Approx.43mm 1.693inch	$\phi 2.0\text{mm } \phi.079\text{inch}$																					
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Ultra-small pinpoint lens	UZFXMR3	 <p>The smallest spot diameter in the industry : $\phi 0.3\text{mm } \phi.012\text{inch}$ • Combined amplifiers : Red LED type • Applicable fiber : UZFRG4 • Ambient temperature : - 40 to + 70°C - 40 to + 158°F</p> <table border="1"> <thead> <tr> <th>Fiber optic cable model No.</th> <th>Center of the sensing range</th> <th>Spot diameter</th> </tr> </thead> <tbody> <tr> <td>UZFREG1</td> <td>$7.5 \pm 0.5\text{mm } .295 \pm .020\text{inch}$</td> <td>Approx. $\phi 0.3\text{mm } \phi.012\text{inch}$</td> </tr> <tr> <td>UZFRG4</td> <td>$7.5 \pm 0.5\text{mm } .295 \pm .020\text{inch}$</td> <td>Approx. $\phi 0.5\text{mm } \phi.020\text{inch}$</td> </tr> </tbody> </table>	Fiber optic cable model No.	Center of the sensing range	Spot diameter	UZFREG1	$7.5 \pm 0.5\text{mm } .295 \pm .020\text{inch}$	Approx. $\phi 0.3\text{mm } \phi.012\text{inch}$	UZFRG4	$7.5 \pm 0.5\text{mm } .295 \pm .020\text{inch}$	Approx. $\phi 0.5\text{mm } \phi.020\text{inch}$																									
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Zoom lens (side-view type)	UZFXMR5	 <p>UZFXMR2 is modified to side-view type to facilitate mounting in the limited space. • Combined amplifiers : Red LED type • Applicable fiber : UZFRG4 • Ambient temperature : - 40 to + 70°C - 40 to + 158°F</p> <table border="1"> <thead> <tr> <th>Fiber optic cable insertion depth</th> <th>Center of the sensing range</th> <th>Spot diameter</th> </tr> </thead> <tbody> <tr> <td>8mm .315inch</td> <td>Approx.13mm .512inch</td> <td>$\phi 0.5\text{mm } \phi.020\text{inch}$</td> </tr> <tr> <td>10mm .394inch</td> <td>Approx.15mm .591inch</td> <td>$\phi 0.8\text{mm } \phi.031\text{inch}$</td> </tr> <tr> <td>14mm .551inch</td> <td>Approx.30mm 1.181inch</td> <td>$\phi 3.0\text{mm } \phi.118\text{inch}$</td> </tr> </tbody> </table>	Fiber optic cable insertion depth	Center of the sensing range	Spot diameter	8mm .315inch	Approx.13mm .512inch	$\phi 0.5\text{mm } \phi.020\text{inch}$	10mm .394inch	Approx.15mm .591inch	$\phi 0.8\text{mm } \phi.031\text{inch}$	14mm .551inch	Approx.30mm 1.181inch	$\phi 3.0\text{mm } \phi.118\text{inch}$																						
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(*1) : Actual sensing range is set at 3,500mm 137.795inch (1,600mm 62.992inch for **UZFTH6**) depending on fiber optic cable length.

SPECIFICATIONS

Fiber optic cable

Item	Type	Standard, small sensing probe, small diameter, flexible, long sensing range with lenses, array, elbow, high precision, thru-beam type of ultra-small diameter	Temperature-resistant			Chemical-resistant
			350°C 662°F type	200°C 392°F type	130°C 266°F type	
Allowable bending radius		R25mm .984inch or more (Flexible: R4mm .157inch or more, Thru-beam type of ultra-small diameter: R5mm .984inch or more)				R30mm 1.181inch or more
Ambient temperature		-40 to +70°C -40 to +158°F (UZFRE1 : -20 to +60°C -4 to +140°F)	-60 to +350°C -76 to +662°F (*1)	-60 to +200°C -76 to +392°F	-60 to +130°C -76 to +266°F	-40 to +115°C -76 to +239°F
Ambient humidity		35 to 85%RH (No dew condensation or icing allowed)				
Material	Fiber core	Acrylic	Multi-component glass (*2)		Acrylic	
	Sheath	Polyethylene (Thru-beam type of ultra-small diameter and flexible, except for UZFTC4 and UZFRP2 : Vinyl chloride)	SUS (Stainless steel)	Silicone (Inside SUS spiral tube)	Fluorine resin	Protective tube: Fluorine resin Fiber sheath: Polypropylene
	Sensing probe	Brass (Nickel plated): Threaded part of standard, threaded part of small diameter, high precision, UZFTC4 , threaded part of thru-beam type ultra-small diameter, UZFTP8 , UZFRP8 , array, threaded part of UZFTR8 SUS (Stainless steel) : UZFTS8 , small sensing probe, UZFTS4 , UZFRS4 , UZFTL8 , UZFTP4 , UZFTP2 , UZFRP4 , UZFRP2 ABS : UZFTL9 (Lens: Acrylic) Zinc alloy die-cast : Threaded part of UZFRR8		Brass (Nickel plated)	Brass (Nickel plated)	
Accessories	Threaded head fiber: 2 pcs. of nuts (thru-beam type: 4 pcs.) and 1 No. of toothed lock washer (thru-beam type: 2 pcs.) Free-cut fiber (except economy type), flexible coiled fiber, chemical-resistant fiber: 1 No. of UZFXCT1 (Fiber cutter) Small diameter free-cut fiber, high precision free-cut fiber: 2 sets of plug attachments					

(*1) If the fiber is used under -30°C -22°F, its resistable maximum temperature drops to +200°C +392°F. If the side-view lens **UZFXSV1** is put on the fiber head, the allowable maximum temperature comes down to +300°C +572°F. (The ambient temperature range of the **UZFXSV1** is from -60 to +300°C -76 to +572°F.)

(*2) If the fiber material is multi-component glass, keep it away from vibration or impact.

Fiber optic cable

Item	Type	Vacuum-resistant	Fixed-focus reflective	Side-view, narrow-view, reflective type of ultra-small diameter	Liquid level detection	
						Mountable on pipe
Allowable bending radius		R200mm 7.874inch or more (UZFT60V : R30mm 1.181inch or more)	R10mm .394inch or more	R25mm .984inch or more	Protective tube: R40mm 1.575inch or more Fiber cable: R15mm .591inch or more	R10mm .394inch or more
Ambient temperature		-40 to +120°C -40 to +248°F	-40 to +70°C -40 to +158°F (UZFRL42 : -40 to +60°C -40 to +140°C)	-20 to +60°C -4 to +140°C (UZFTV41 and UZFRV41 : -40 ~ +60°C -40 ~ +60°C)	-40 to +125°C -40 to +257°F (*1)	-40 to +100°C -40 to +212°F (*1)
Ambient humidity		35 to 85%RH (No dew condensation or icing allowed)				
Material	Fiber core	Quartz glass (*2)	Acrylic			
	Sheath	Fluorine resin	Polyethylene (Reflective type of narrow-view: Polyurethane)		Protective tube: Fluorine resin Sheath: Polypropylene	Polypropylene
	Sensing probe	Aluminium	ABS: UZFRL41 , UZFRL41 (Lens: Acrylic) Aluminium: UZFRL42 (Lens: Acrylic)	SUS (Stainless steel) Threaded part of UZFRE11 , UZFRE21 , UZFRK22 and UZFRK22 : Brass		Polyetherimido
Accessories	Threaded head fiber: 2 pcs. of nuts (thru-beam type: 4 pcs.) and 1 No. of toothed lock washer (thru-beam type: 2 pcs.) Free-cut type fiber: 1 No. of UZFXCT1 (Fiber cutter) Convergent reflective fiber, UZFRM4 and UZFRM9 : 1 set of attachments (UZFRL4 : 2 sets) UZFRM4 and UZFRM9 : 4 pcs. of tying bands and 2 pcs. of anti-slip tubes UZFRL4 : 2 pcs. of M2.6 × 12mm screws with washers and 2 pcs. of nuts					

(*1) With the liquid level detection fiber, make sure that the temperature of the liquid is also within the ambient temperature range.

(*2) If the fiber material is quartz glass, keep it away from vibration or impact.

SPECIFICATIONS

Amplifiers

Item	Model No.	Type	NPN output				PNP output				
			Digital setting	Auto-setting		Manual setting		Digital setting	Auto-setting	Manual setting	
			Red LED type	Red LED type	Green LED type	Red LED type	Green LED type	Red LED type			
			UZF411	UZF421	UZF422	UZF431	UZF432	UZF4115	UZF4215	UZF4315	
Supply voltage	12 to 24V DC \pm 10% Ripple P-P 10% or less										
Current consumption	45mA or less	50mA or less		45mA or less		45mA or less	50mA or less	45mA or less			
Sensing output (Note 1)	NPN open-collector transistor					PNP 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) 					<ul style="list-style-type: none"> • Maximum source current: 100mA • Applied voltage: 30V DC or less • Residual voltage: 1V or less (at 100mA source current) 0.4V or less (at 16mA source current) 					
	Output operation	Switchable, either Light-ON or Dark-ON, with jog switch			Switchable, either Light-ON or Dark-ON, with selection switch		Switchable, either Light-ON or Dark-ON, with jog switch		Switchable, either Light-ON or Dark-ON, with selection switch		
Short-circuit protection	Incorporated										
Self-diagnosis output	NPN open-collector transistor					PNP open-collector transistor					
	<ul style="list-style-type: none"> • Maximum sink current: 50mA • Applied voltage: 30V DC or less • Residual voltage: 1V or less (at 50mA sink current) 0.4V or less (at 16mA sink current) 					<ul style="list-style-type: none"> • Maximum source current: 50mA • Applied voltage: 30V DC or less • Residual voltage: 1V or less (at 50mA source current) 0.4V or less (at 16mA source current) 					
	Output operation	ON in unstable sensing condition					ON in unstable sensing condition				
Response time	Emission Frequency 1	0.5ms or less									
	Emission Frequency 2	0.65ms or less									
	Emission Frequency 3	0.75ms or less									
Sensitivity setting	2-level teaching/Limit teaching/ Full auto-teaching			Potentiometer setting		2-level teaching/Limit teaching/ Full auto-teaching		Potentiometer setting			
Sensitivity adjuster	_____			12-turn potentiometer with indicator		_____		12-turn potentiometer with indicator			
Timer function	Incorporated with ON-delay timer/OFF-delay timer, switchable, either effective or ineffective (Note 2)	Approx. 40ms fixed OFF-delay timer, switchable, either effective or ineffective				Incorporated with ON-delay timer/OFF-delay timer, switchable, either effective or ineffective (Note 2)	Approx. 40ms fixed OFF-delay timer, switchable, either effective or ineffective				
Interference prevention function	Incorporated (Three units of sensors can be mounted closely.)										
Environmental resistance	Ambient temperature	0 to +50°C +32 to +122°F Storage: -20 to +70°C -4 to +158°F	-10 to +50°C +14 to +122°F (No dew condensation or icing allowed), Storage: -20 to +70°C -4 to +158°F				0 to +50°C +32 to +122°F Storage: -20 to +70°C -4 to +158°F	-10 to +50°C +14 to +122°F (No dew condensation or icing allowed), Storage: -20 to +70°C -4 to +158°F			
	Ambient humidity	35 to 85%RH, Storage: 35 to 85%RH									
	Ambient illuminance (Extraneous light immunity)	Sunlight: 10,000 lx at the light-receiving face, Incandescent light: 3,000 lx at the light-receiving face									
	EMC	Emission: EN50081-2, Immunity: EN50082-2									
	Voltage withstandability	1,000V AC for one min. between all live terminals connected together and enclosure (Note 3)									
	Insulation resistance	20M Ω , or more, with 250V DC megger between all live terminals connected together and enclosure (Note 3)									
	Vibration withstandability	10 to 150Hz frequency, 0.75mm amplitude in X, Y, and Z directions for two hours each (unenergized)									
	Shock withstandability	98m/s ² acceleration (10G approx.) in X, Y, and Z directions for five times each (unenergized)									
Emitting element	Red LED (modulated)		Green LED (modulated)		Red LED (modulated)		Green LED (modulated)		Red LED (modulated)		
Material	Enclosure: Heat-resistant ABS, Case cover: Polycarbonate										
Cable	0.2mm ² 4 core cabtyre cable 2m 6.652ft. long										
Cable extension	Extension up to total 100m possible with 0.3mm ² (or above) cable										
Weight	70g 2.47oz approx.										
Accessories	UZF811 (Amplifier mounting bracket): 1 No. Adjusting screw-driver (Manual setting type only): 1 No.										

(*1) The digital setting fiber sensor **UZF41** series is equipped with two independent outputs (Output 1, Output 2).

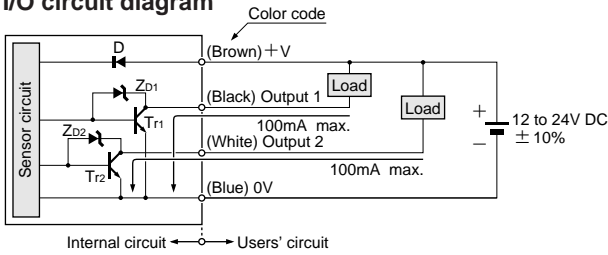
(*2) The timer period of ON-delay timer and OFF-delay timer can be selected from 40ms, 100ms, 200ms and 500ms. Also, independent settings can be made for Output 1 and Output 2.

(*3) The voltage withstandability and the insulation resistance values given in the above table are for the amplifier only.

I/O CIRCUIT AND WIRING DIAGRAM

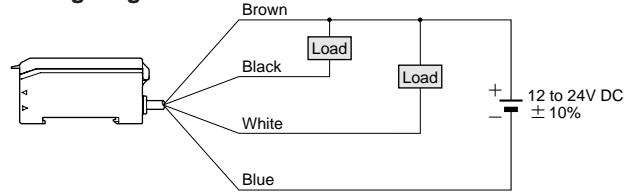
UZF411 □ NPN output

I/O circuit diagram

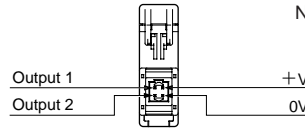


Symbol ... D: Reverse polarity protection diode
 Z_{D1}, Z_{D2}: Surge absorption zener diode
 Tr₁, Tr₂: NPN output transistor

Wiring diagram



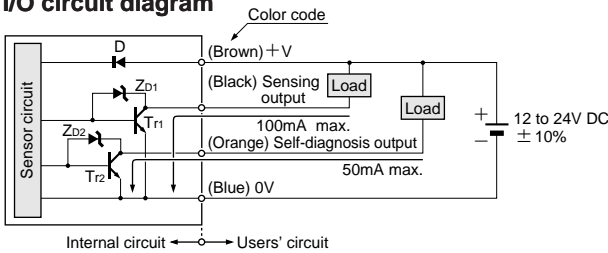
Pin position for connector type (Note)



Note: In case the optional connector attached cable **UZF85** □ is connected to the connector type sensor, the color of Output 2 wire is orange.

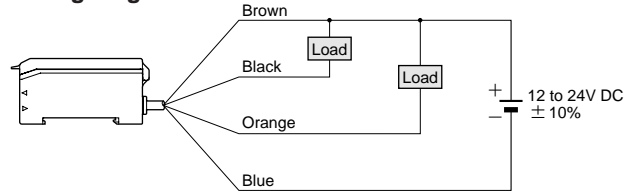
UZF421 □ UZF431 □ NPN output

I/O circuit diagram

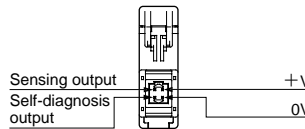


Symbol ... D: Reverse polarity protection diode
 Z_{D1}, Z_{D2}: Surge absorption zener diode
 Tr₁, Tr₂: NPN output transistor

Wiring diagram

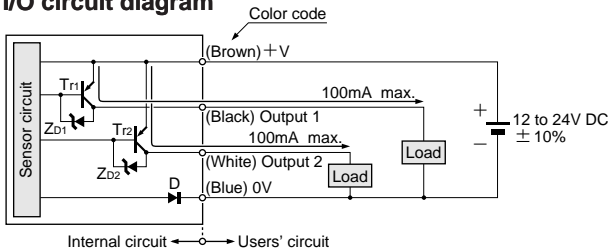


Pin position for connector type



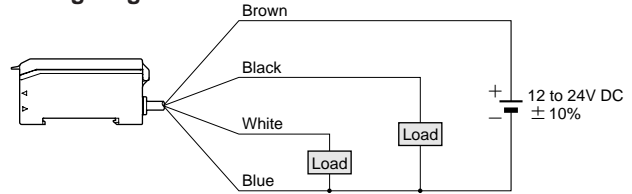
UZF415 □ PNP output

I/O circuit diagram

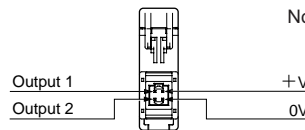


Symbol ... D: Reverse polarity protection diode
 Z_{D1}, Z_{D2}: Surge absorption zener diode
 Tr₁, Tr₂: PNP output transistor

Wiring diagram



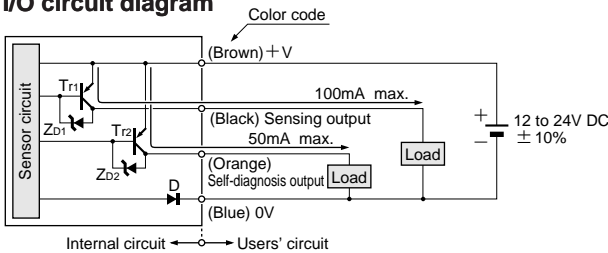
Pin position for connector type (Note)



Note: In case the optional connector attached cable **UZF85** □ is connected to the connector type sensor, the color of Output 2 wire is orange.

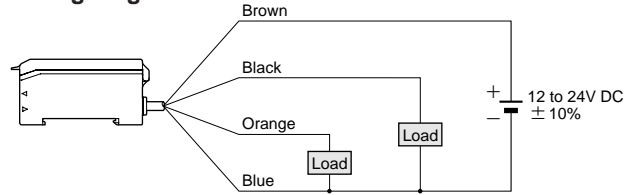
UZF4215 □ UZF4315 □ PNP output

I/O circuit diagram

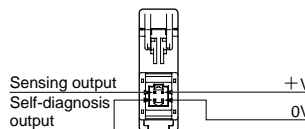


Symbol ... D: Reverse polarity protection diode
 Z_{D1}, Z_{D2}: Surge absorption zener diode
 Tr₁, Tr₂: PNP output transistor

Wiring diagram



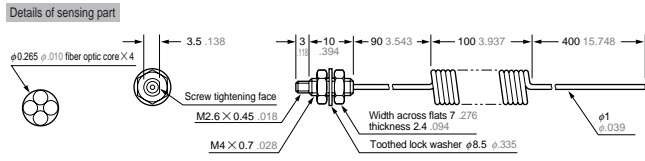
Pin position for connector type



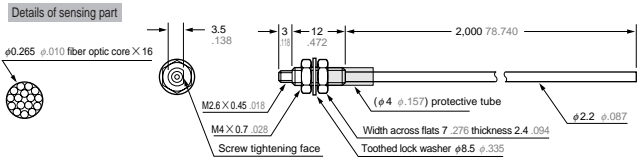
DIMENSIONS (Unit : mm inch)

Thru-beam fiber optic cable

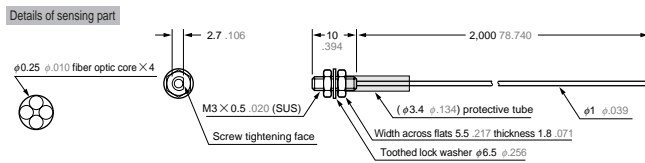
UZFTC4 With attachment



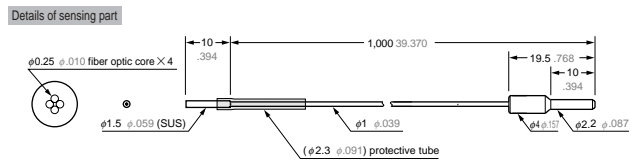
UZFTP8 Freely cuttable



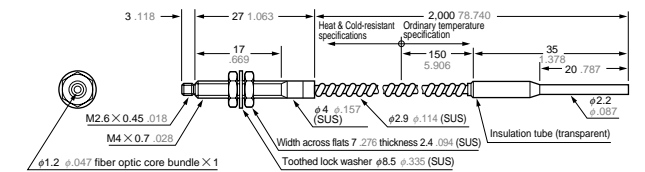
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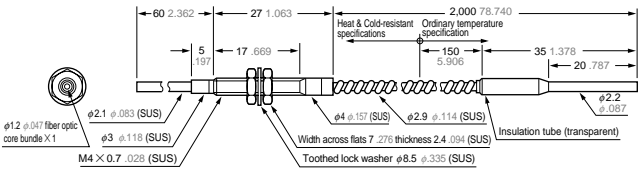
UZFTP2



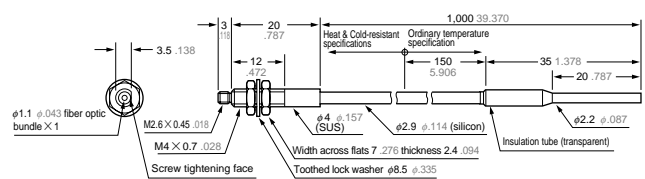
UZFTH7



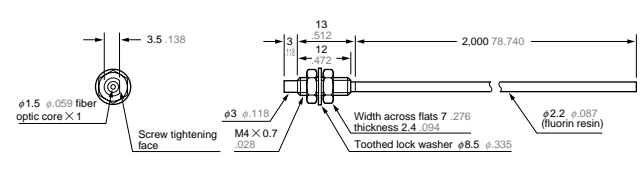
UZFTH76



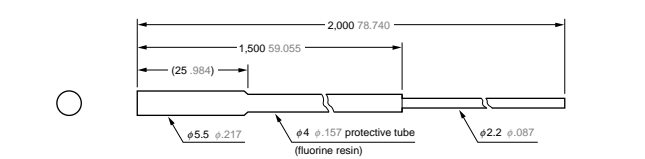
UZFTH6



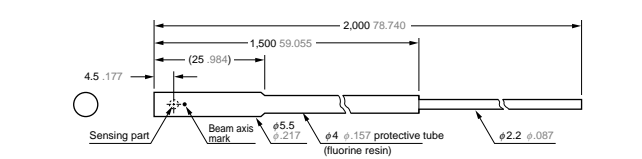
UZFTH8 Freely cuttable



UZFTL8Y



UZFTV8Y

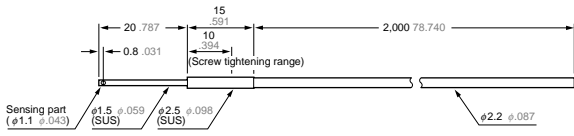


(SUS) : Stainless Steel

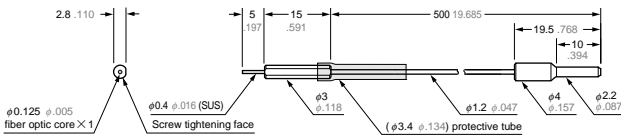
DIMENSIONS (Unit : mm inch)

Thru-beam fiber optic cable

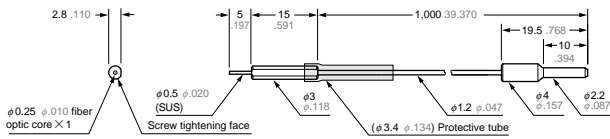
UZFTV82 Freely cuttable



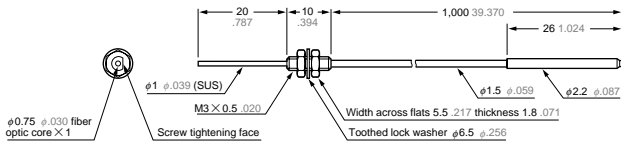
UZFTE1



UZFTE2

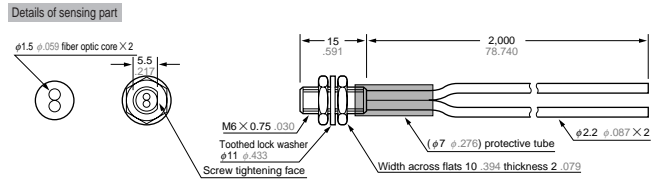


UZFTK22

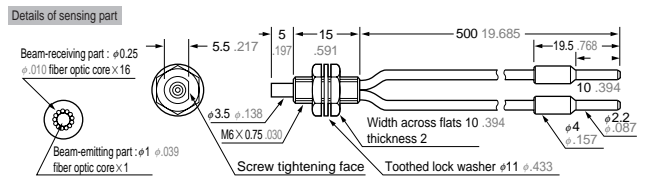


Reflective fiber optic cable

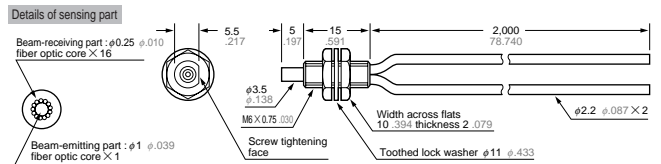
UZFR8B Freely cuttable



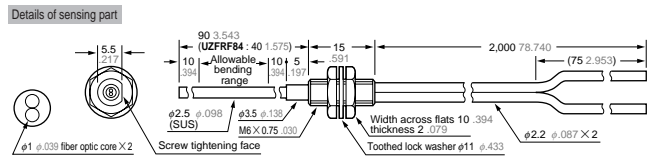
UZFRF5



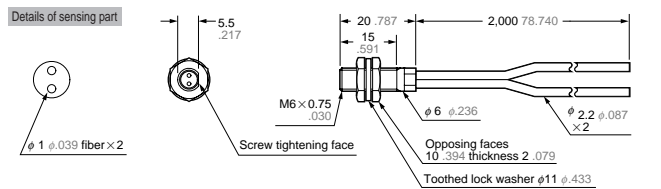
UZFRF8 Freely cuttable



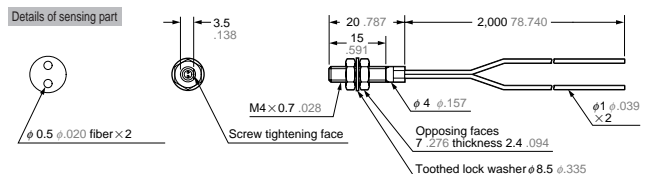
UZFRF89
UZFRF84 Freely cuttable



UZFRN8 Freely cuttable



UZFRN4 Freely cuttable With attachment



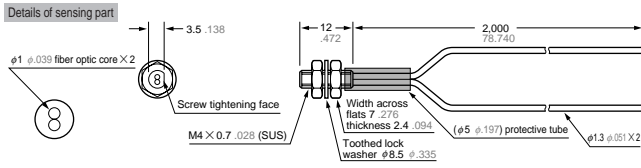
(SUS) : Stainless Steel

DIMENSIONS (Unit : mm inch)

Reflective fiber optic cable

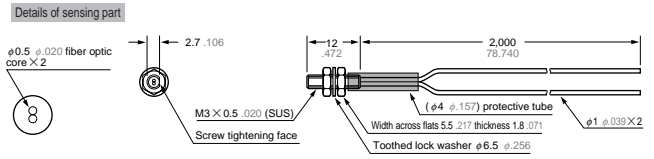
UZFR T8

Freely cuttable With attachment



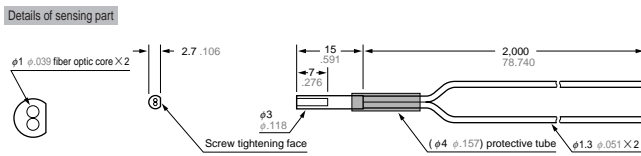
UZFR T4

Freely cuttable With attachment



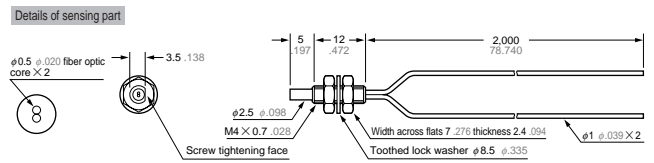
UZFR S8

Freely cuttable With attachment



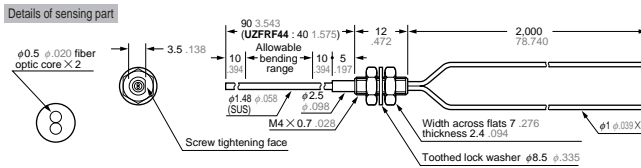
UZFR F4

Freely cuttable With attachment



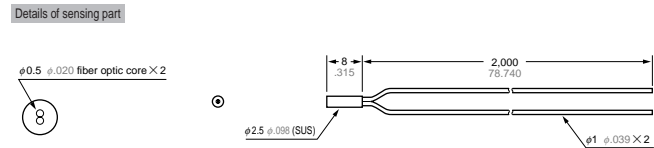
UZFR F49 UZFR F44

Freely cuttable With attachment



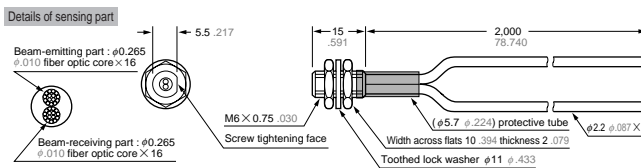
UZFR S4

Freely cuttable With attachment



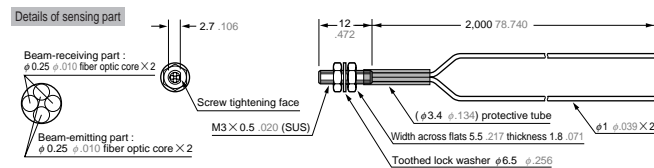
UZFR P8

Freely cuttable

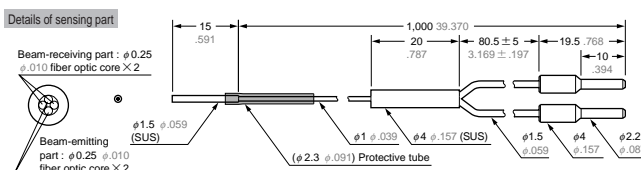


UZFR P4

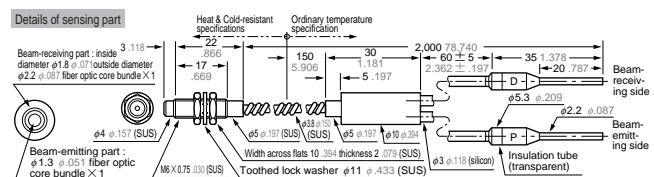
Freely cuttable With attachment



UZFR P2



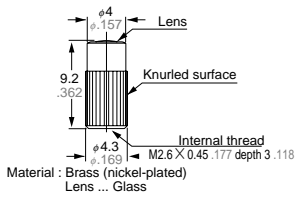
UZFR H7



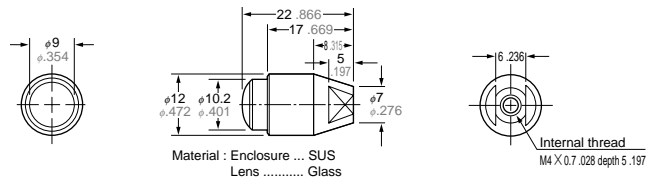
(SUS) : Stainless Steel

DIMENSIONS (Unit : mm inch)

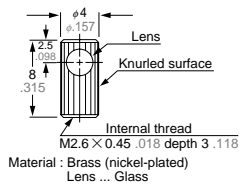
UZFXLE1 Long sensing range lens (option)



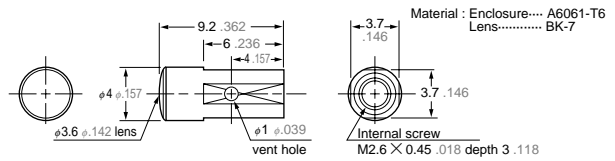
UZFXLE2 Ultra-long sensing range lens (option)



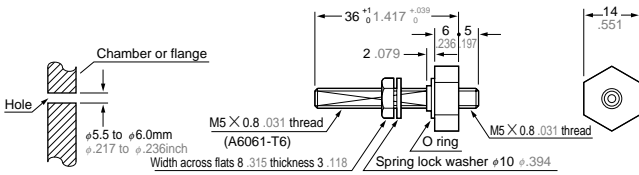
UZFXSV1 Side-view lens (option)



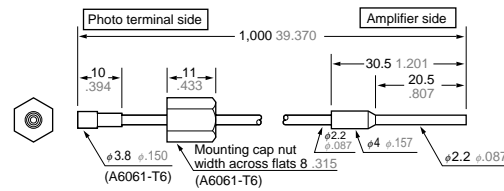
UZFVLE1 Long sensing range lens (for vacuum-resistant fiber optic cable)



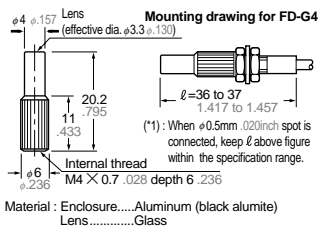
UZFVBR1 Photo terminal (for vacuum-resistant fiber optic cable)



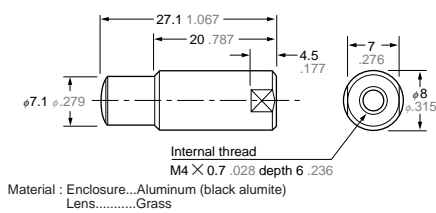
UZFTJ6 Fiber optic cable at atmospheric side (for vacuum-resistant fiber optic cable)



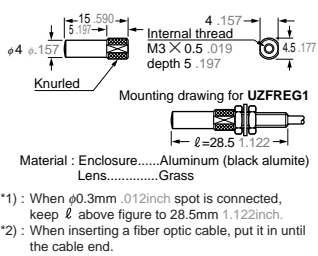
UZFXMR1 Pinpoint spot lens (option)



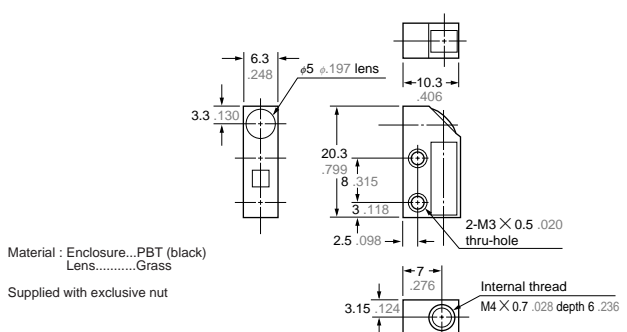
UZFXMR2 Zoom lens (option)



UZFXMR3 Ultra-small pinpoint spot lens (option)



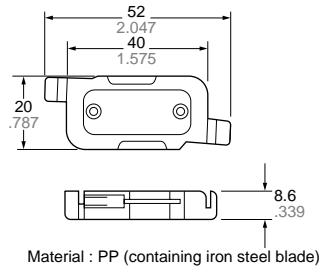
UZFXMR5 Zoom lens (option)



(SUS) : Stainless Steel

DIMENSIONS (Unit : mm inch)

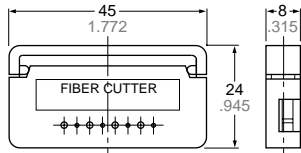
UZFXB1 Fiber bender (Option)



UZFXCT1 Fiber cutter

(Accessory for every free-cut fiber or coiled fiber)

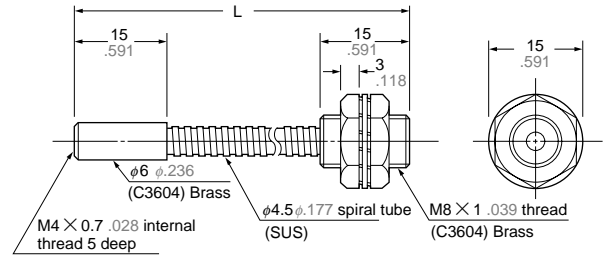
(Accessory with free-cut fiber (except economy type), flexible coiled fiber, chemical-resistant fiber, **UZFRL41**, **UZFRL42** or liquid level detection fiber)



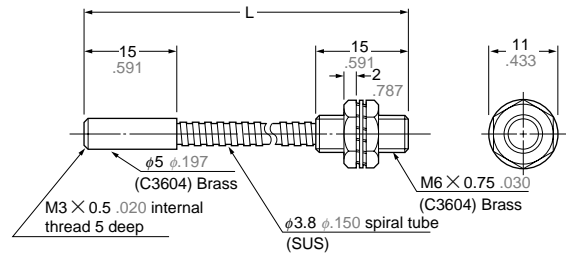
Material : ABS

UZF83□, UZF84□ Protective tube (Option)

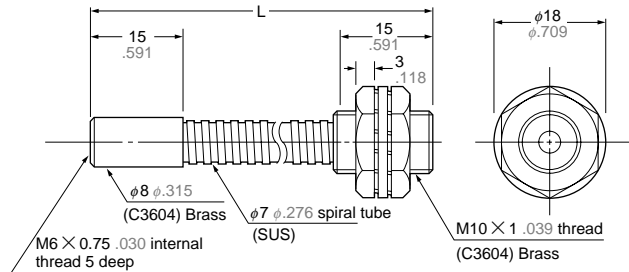
UZF831, UZF832, UZF833
UZF844, UZF845, UZF846



UZF834, UZF835, UZF836



UZF841, UZF842, UZF843



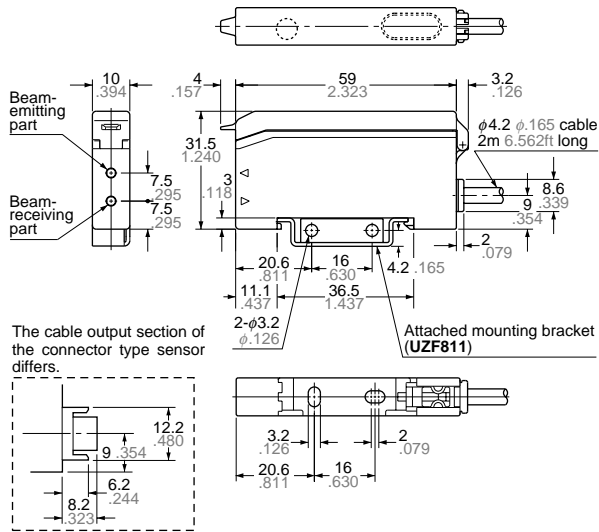
Model No.	Length L (mm inch)
UZF831, UZF834, UZF844, UZF841	500 ⁺¹⁰ ₀ 19.685 ⁺³⁹⁴ ₀
UZF832, UZF835, UZF845, UZF842	1,000 ⁺¹⁰ ₀ 39.37 ⁺³⁹⁴ ₀
UZF833, UZF836, UZF846, UZF843	1,500 ⁺¹⁰ ₀ 59.055 ⁺³⁹⁴ ₀

(SUS) : Stainless Steel

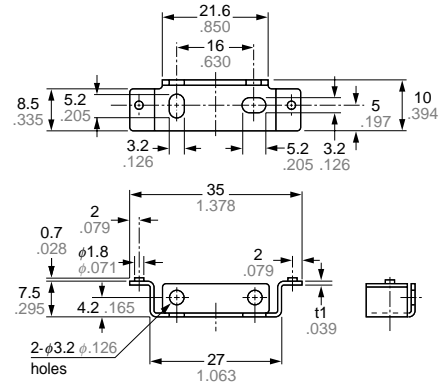
DIMENSIONS (Unit : mm inch)

UZF41 □ UZF42 □
UZF43 □ Amplifier

Assembled dimensions with attached mounting bracket

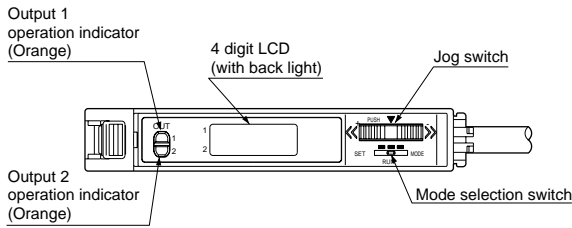


UZF811 Amplifier mounting bracket
(Accessory for amplifier)

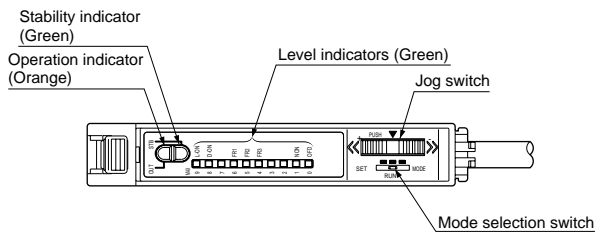


Display part

UZF41 □



UZF42 □



UZF43 □

