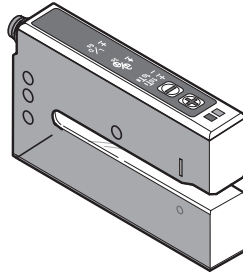


Fork design



System	Thru-beam
Type of transmission	Ultrasonic
Nominal sensing distance (Sn)	3 mm
Depth	69 mm

References

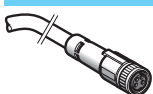
4-wire	NC or NO programmable function	<b>XUVU06M3KSNM8</b>	<b>XUVU06M3PSNM8</b>	<b>XUVU06M3NSNM8</b>
		PNP/NPN	PNP	NPN
Remote adjustment		No	Yes	
Adjustment	By numeric potentiometer (+/- buttons), static and dynamic teach modes.			
Protection of settings	By locking keypad			
Weight (kg)	0.130			

Characteristics

Product certifications	CE, IEC 60947-5-2		
Materials	Aluminium case		
Connection	M8, 4-pin connector		
Detection performance	Minimum length of label	2 mm	
	Minimum distance between 2 labels	2 mm	
	Maximum flow rate	180 m/min	
	Detection accuracy	+/- 0.20 mm at 120 m/min	
	Supply	Rated supply voltage	☐ 12...24 V with protection against reverse polarity
	Voltage limits	☐ 10...30 V (including ripple)	
	Current consumption, no-load	45 mA	
	Residual voltage		
	At 100 mA	< 2 V	
	At 10 mA	< 1 V	
Output	Maximum rated current	100 mA with overload and short-circuit protection	
	Maximum switching frequency	1500 Hz	
	Indicator light		
		Output state	Yellow LED
	Adjustment and keypad locking	Red LED	
Delay	300 µs, response and recovery		
Environment	Operating temperature	+ 5...+ 55° C	
	Storage temperature	- 20° C..+ 70° C	
	Degree of protection	IP 65	

Function table	Function	Thru-beam system	
		No label present in the beam (output inactive)	Label present in the beam (output active)
Output state (PNP or NPN) indicator: yellow LED (illuminated when sensor output is ON)	NC		
	NO		

References of pre-wired connectors



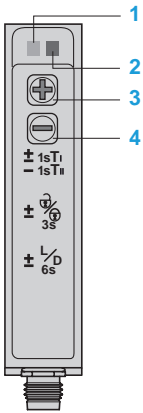
XZCP0941L●



XZCP1041L●

Type of connector	For use with forks	Type	Cable length (m)	Reference	Weight kg
Female, M8, 4 pins	XUVU06M3KSNM8, XUVU06M3PSNM8, XUVU06M3NSNM8.	Straight	2	<b>XZCP0941L2</b>	0.080
			5	<b>XZCP0941L5</b>	0.180
		Elbowed	2	<b>XZCP1041L2</b>	0.080
			5	<b>XZCP1041L5</b>	0.180

## Presentation (adjustment and indicators)



- 1 Yellow LED "ON": Output activated
- 2 Red LED "ON": Adjustments and keypad locking
- 3,4 Sensitivity adjustment
- 3 + 4 Teach mode and automatic adjustment of sensitivity (press time < 3 seconds)
- 3 + 4 Keypad locking (3 s ≤ press time < 6 s)
- 3 + 4 NO/NC (press time ≥ 6 s)

## Connections

### Connector

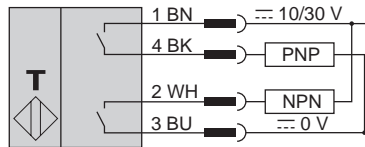


### Pin no. - colour

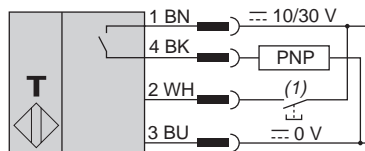
- 1 BN: Brown
- 2 WH: White (remote teaching)
- 3 BU: Blue
- 4 BK: Black

### Wiring schemes

#### PNP/NPN: XUVU06M3KSNM8

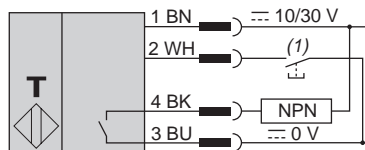


#### PNP: XUVU06M3PSNM8



(1) Remote teaching.

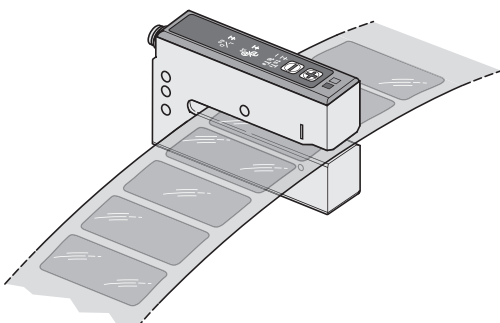
#### NPN: XUVU06M3NSNM8



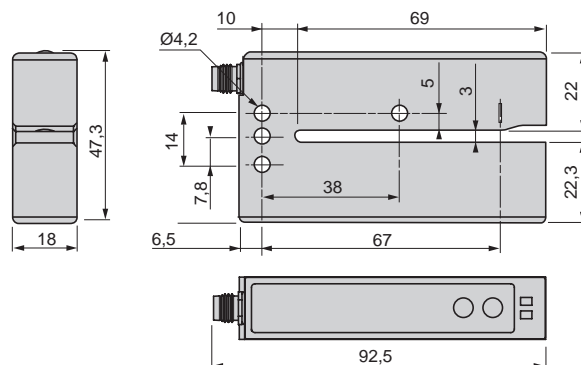
(1) Remote teaching.

## Application example

Detection of transparent labels on opaque or transparent strip



## Dimensions (in mm)



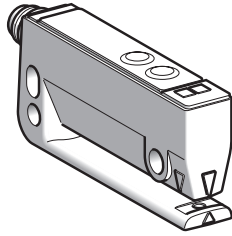
# Photo-electric sensors

OsiSense XUVE Application, packaging series

Optical fork for detection of opaque labels

DC supply. Solid-state output

## Fork design



System	Thru-beam
Type of transmission	Infrared
Nominal sensing distance (Sn)	3 mm
Depth	40 mm

## References

4-wire	NO or NC programmable function	<b>XUVE04M3KSNM8</b>	<b>XUVE04M3PSNM8</b>	<b>XUVE04M3NSNM8</b>
		PNP/NPN	PNP	NPN
Remote adjustment		No	Yes	
Adjustment		By numeric potentiometer (+/- buttons) and red LED		
Protection of settings		By locking keypad		
Weight (kg)		0.035		

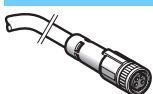
## Characteristics

Product certifications	CE, cULus	
Material	Thermoplastic case (PA12)	
Connection	M8, 4-pin connector	
Detection performance	Minimum length of label	2 mm
	Minimum distance between 2 labels	2 mm
	Maximum flow rate	200 m/min
	<b>Detection accuracy</b>	<b>+/- 50 m at 150 m/min</b>
Supply	Rated supply voltage	12...24 V with protection against reverse polarity
	Voltage limits	10...30 V ~ (including ripple)
	Current consumption, no-load	35 mA
	Residual voltage at 100 mA	< 2 V
Output	Maximum rated current	100 mA with overload and short-circuit protection
	<b>Maximum switching frequency</b>	<b>10 kHz</b>
	Indicator lights	
	Output state	Yellow LED
	Adjustment and keypad locking	Red LED
Delay (response and recovery)	50 µs	
Environment	Operating temperature	-20...+60°C
	Storage temperature	-30...+80°C
	Degree of protection	IP 65

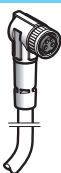
## Function table

	Function	Thru-beam system	
		No label present in the beam (output inactive)	Label present in the beam (output active)
Output state (PNP or NPN) indicator: yellow LED (illuminated when sensor output is ON)	NC		
	NO		

## References of pre-wired connectors



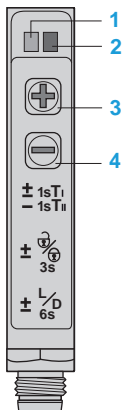
XZCP0941L



XZCP1041L

Type of connector	For use with forks	Type	Cable length (m)	Reference	Weight kg
Female, M8, 4 pins	XUVE04M3KSNM8, XUVE04M3PSNM8, XUVE04M3NSNM8.	Straight	2	XZCP0941L2	0,080
			5	XZCP0941L5	0,180
		Elbowed	2	XZCP1041L2	0,080
			5	XZCP1041L5	0,180

## Presentation (adjustment and indicators)



- 1 Yellow LED "ON": Output activated
- 2 Red LED "ON": Adjustments and keypad locking
- 3,4 Sensitivity adjustment
- 3 + 4 Teach mode and automatic adjustment of sensitivity (press time < 3 seconds)
- 3 + 4 Keypad locking (3 s ≤ press time < 6 s)
- 3 + 4 NO/NC (press time ≥ 6 s)

## Connections

### Connector

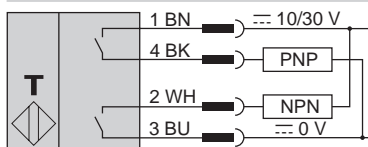


### Pin no. - colour

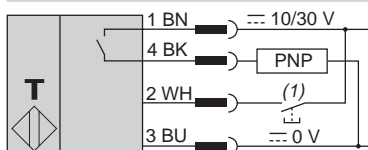
- 1 BN: Brown
- 2 WH: White (remote teaching)
- 3 BU: Blue
- 4 BK: Black

### Wiring schemes

#### PNP/NPN: XUVE04M3KSNM8

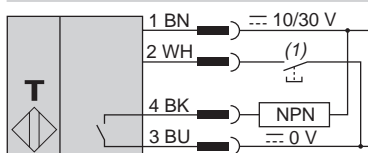


#### PNP: XUVE04M3PSNM8



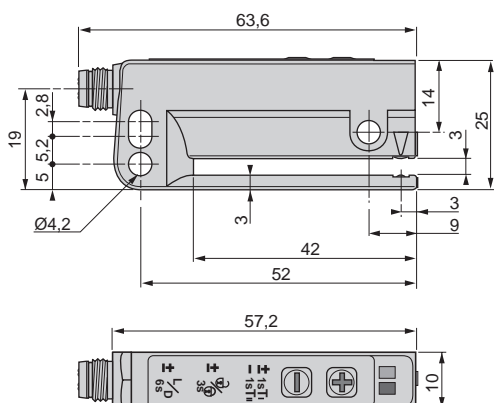
(1) Remote teaching.

#### NPN: XUVE04M3NSNM8



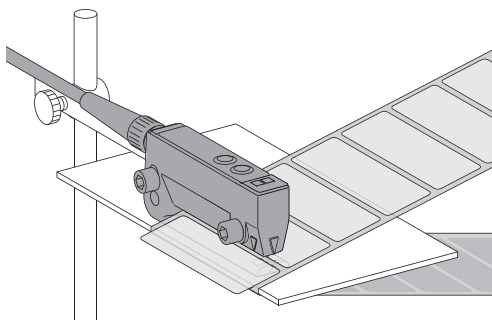
(1) Remote teaching.

## Dimensions

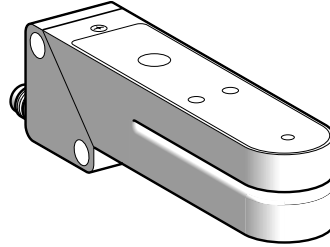


## Application example

Detection of opaque labels before application to a package



Fork design



System	Thru-beam	
Type of transmission	Infrared	Red/green
Nominal sensing distance (Sn)	2 mm	

References

3-wire, PNP and NPN	NO or NC programmable function (2)	<b>XUVK0252S</b>	<b>XUVK0252VS</b>
Weight (kg)	0.120		

Characteristics

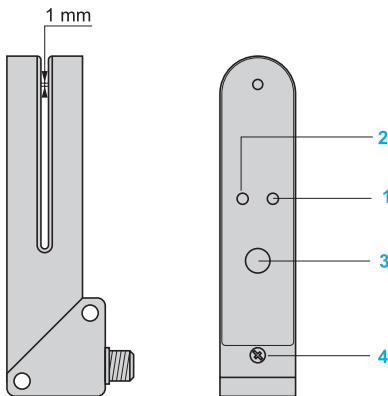
Product certifications	CE	
Ambient air temperature	For operation: 0...+ 55 °C. For storage: - 20...+ 70 °C	
Vibration resistance	Conforming to IEC 60068-2-6	Amplitude ±1.5 mm up to 55 Hz, 7 gn (f = 10...55 Hz)
Shock resistance	Conforming to IEC 60068-2-27	30 gn, duration 11 ms
Degree of protection	Conforming to IEC 60529	IP 65
Connection	M8 connector (suitable female connectors, see page 5/28)	
Materials	Case: zinc alloy; lenses: glass	
Rated supply voltage	⎓ 12...24 V with protection against reverse polarity	
Voltage limits	⎓ 10...30 V (including ripple)	
Switching capacity (sealed)	≤ 100 mA with overload and short-circuit protection	
Voltage drop, closed state	≤ 1.5 V	
Output clamping resistor	10 kΩ	
Current consumption, no-load	≤ 50 mA	
Maximum switching frequency	25 kHz	
Delays	First-up: ≤ 30 ms; response < 100 μs; recovery < 100 μs	
Indicator lights	Output state	Yellow LED
	Sensor ready	Green LED
	Read error	Red LED

Function table	Function	Thru-beam system	
		No label present in the beam	Label present in the beam
Output state (PNP or NPN) indicator: yellow LED (illuminated when sensor output is ON)	NC		
	NO		

(1) Applications: the infrared transmission beam sensor **XUVK0252S** is suitable for the detection of all types of opaque labels; the red/green transmission sensor **XUVK0252VS** is suitable for the detection of all types of labels of different colours.

(2) This sensor is adjustable using teach mode: the NC or NO function is selected when performing the first stage of teaching for setting-up the sensor (see programming using teach mode, page 5/67).

### Presentation

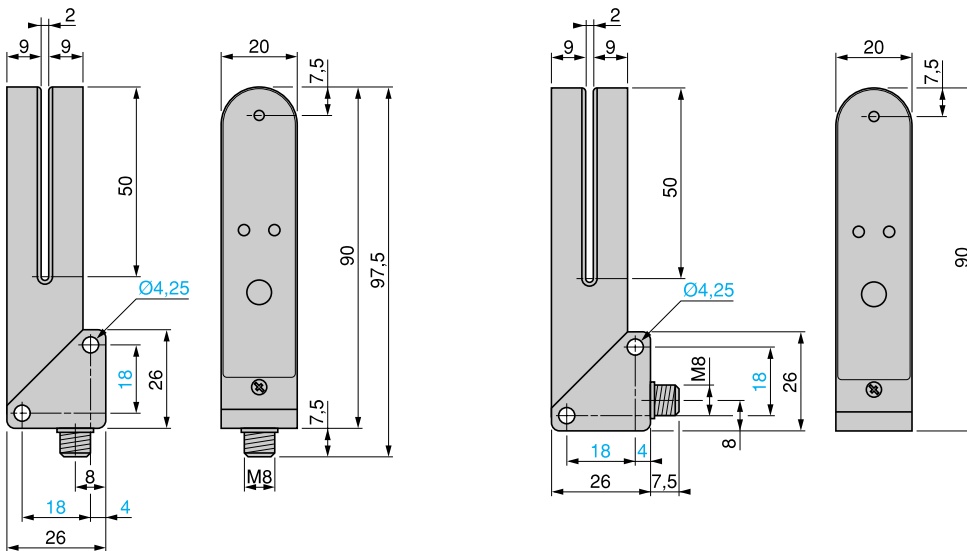


### Programming using teach mode

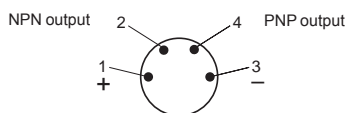
- Place the label to be detected in the beam of the optical fork. Press the SET button and hold down until the green LED 2 goes out,
- When the green LED 2 flashes, the detector has "learned" the label. Following this, place the backing to which the label is affixed in the beam of the optical fork. Press the SET button and hold down until the green LED 2 goes out,
- When the green LED 2 illuminates as a steady light teaching is completed and the sensor is ready for operation.

- 1 Yellow LED, output state indicator
- 2 Dual colour green/red LED, Ready/Error
- 3 Teach mode programming SET button
- 4 Locking screw

### Dimensions



### Connector scheme (sensor connector pin view)



# Photo-electric sensors

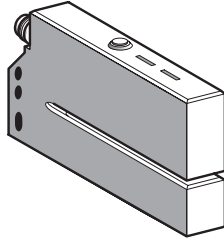
OsiSense XU Application, packaging series

Optical fork with teach mode

For detection of labels

DC supply. Solid-state output

## Fork design



<b>System</b>	Thru-beam	
<b>Type of transmission</b>	Infrared, continuous	
<b>Nominal sensing distance (Sn)</b> (Passageway)	3 mm	5 mm

## References

<b>4-wire, PNP and NPN</b>	NO or NC programmable function (1) Automatic adjustment using teach mode	<b>XUYFA983003COS</b>	<b>XUYFA983005COS</b>
<b>Weight (kg)</b>		0.07	0.07

## Characteristics

<b>Product certifications</b>	CE, cULus	
<b>Ambient air temperature</b>	For operation	- 20...+ 60 °C
	For storage	- 30...+ 80 °C
<b>Degree of protection</b>	Conforming to IEC 60529	IP 65
<b>Connection</b>	M8, 4-pin connector (for pre-cabled version please consult our Customer Care Centre)	
<b>Materials</b>	Anodised aluminium	
<b>Rated supply voltage</b>	≡ 12...24 V with protection against reverse polarity	
<b>Voltage limits</b> (including ripple)	≡ 10...30 V	
<b>Switching capacity</b> (sealed)	≤ 100 mA with overload and short-circuit protection	
<b>Immunity to ambient light</b>	Natural light	3000 lux
	Incandescent bulb	3000 lux
<b>Voltage drop, closed state</b>	< 2 V	
<b>Current consumption, no-load</b>	40 mA	
<b>Maximum switching frequency</b>	10 kHz	
<b>Delays</b>	Response: 50 µs; recovery: 50 µs	
<b>Indicator lights</b>	Green LED: no object present Red LED: keypad locking and adjustments.	

Function table	Function	Thru-beam system	
		No label present in the beam	Label present in the beam
<b>Output state (PNP or NPN) indicator: green LED</b> (illuminated when sensor output is ON)	NC		
	NO		

(1) By reversing supply connections.

# Photo-electric sensors

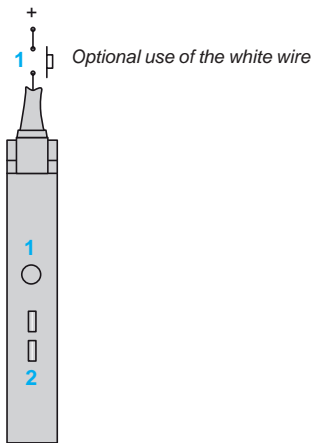
OsiSense XU Application, packaging series

Optical fork with teach mode

For detection of labels

DC supply. Solid-state output

## Presentation (adjustment and indicators)



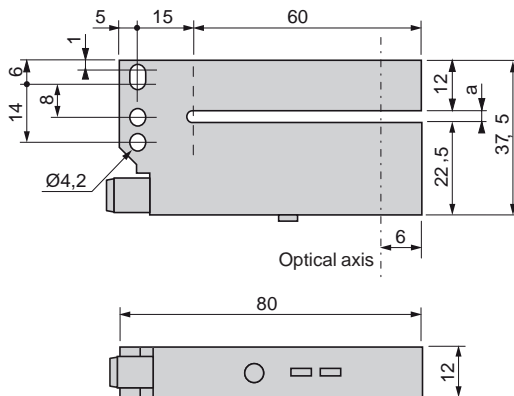
Teaching is performed on the item to which the label is affixed

### 1 Teach mode button

- 1 press: standard teaching (red LED flashes for 2 s)
- 2 presses: fine teaching (green LED flashes for 2 s)
- 1 prolonged press: keypad locking (red LED on)

### 2 Red LED and green LED flash: short-circuit or object too opaque.

## Dimensions



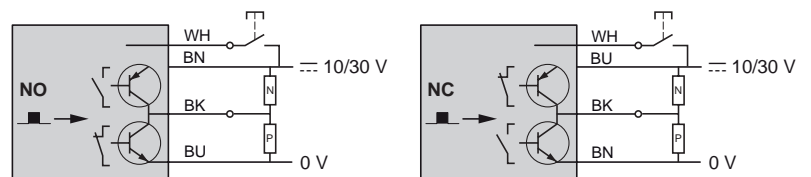
Reference	a (passageway)
XUYFA98●●●3COS	3
XUYFA98●●●5COS	5

## Wiring schemes (sensor connector pin view)

### Connector

#### Pin n° - colour

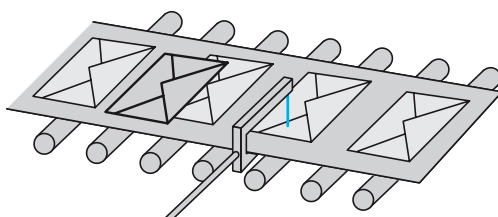
- 1 **BN**: Brown
- 2 **WH**: White (input)
- 3 **BU**: Blue
- 4 **BK**: Black (PNP and NPN outputs)



■ → Object detected  
If the white wire is not used, connect to 0 V.

## Application examples

### Detection of overlapping envelopes



### Detection of labels on belt

