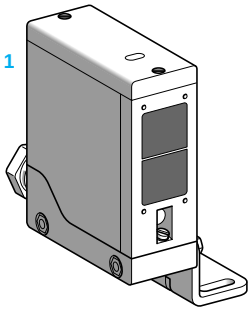
Osiris® specific application detectors, mechanical handling series
Plug-in case
d.c. supply. Solid state output

Accessories :
pages 2/118 to 2/123

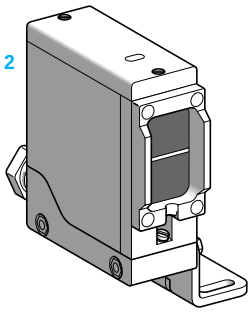
References, characteristics

Compact design

1



2



System	Thru-beam 1	Reflex 1	Diffuse 1	Diffuse with adjustable background suppression 2
Type of transmission	Infra-red	Infra-red	Infra-red	Infra-red
Nominal sensing distance (Sn)	**30 m**	**15 m** (with Ø 80 mm reflector)	**2 m**	**2 m**
Output cable gland (1)	n° 13 plastic	n° 13 plastic	n° 13 plastic	n° 13 plastic

References

3-wire, PNP and NPN	Light or dark programmable switching	**XUE-H307534**	**XUE-H10753**	**XUE-H017535**	**XUE-H753538**
Transmitter		**XUE-H3000**	–	–	–
Weight (kg)		0.400	0.400	0.400	0.400

Characteristics

Product certifications		CE. CSA, UL			
Ambient air temperature	Operation	- 25…+ 70 °C			- 25…+ 55 °C
	Storage	- 40…+ 80 °C			- 40…+ 70 °C
Vibration resistance		7 gn, amplitude ± 0.6 mm (f = 10…55 Hz), conforming to IEC 68-2-6			
Shock resistance		30 gn, duration 11 ms, conforming to IEC 68-2-27			10 g
Degree of protection		IP 67 conforming to IEC 529 and IP 673 conforming to NF C 20-010			IP 671 to NF C 20-010
Connection		Screw terminals, capacity : 2 x 1.5 mm² or 1 x 2.5 mm²			
Materials		Case : ABS ; lens : PMMA ; mounting plate/base : PBT			
Rated supply voltage		**⎓ 12…48 V with protection against reverse polarity**			**⎓ 12…24 V**
Voltage limits		⎓ 10…58 V (including ripple)			⎓ 10…30 V
Switching capacity (sealed)		**≤ 200 mA with overload and short-circuit protection**			
Voltage drop, closed state		≤ 1.5 V			≤ 2 V
Current consumption, no-load		≤ 35 mA			≤ 50 mA
Maximum switching frequency		300 Hz			100 Hz
Delays	first-up	70 ms	15 ms	15 ms	30 ms
	response	1.5 ms	1.5 ms	1.5 ms	8 ms
	recovery	1.5 ms	1.5 ms	1.5 ms	8 ms

Function table

Output state (PNP and NPN) indicators : yellow LED (illuminated when detector output is ON), green LED (verification of correct operation)

Function	Thru-beam and reflex systems				Diffuse system			
	No object present in the beam		Object present in the beam		No object present in the beam		Object present in the beam	
Light switching	green	yellow	green	yellow	green	yellow	green	yellow
Dark switching	green	yellow	green	yellow	green	yellow	green	yellow

(1) Detectors with 1/2" NPT cable output : add the suffix **H7** to the references stated above.
Example : detector **XUE-H307534** with 1/2" NPT cable output, becomes **XUE-H307534H7**.

Other versions

Reflex system detectors for use in low temperature applications (down to - 40 °C).
Please consult your Regional customer centre.

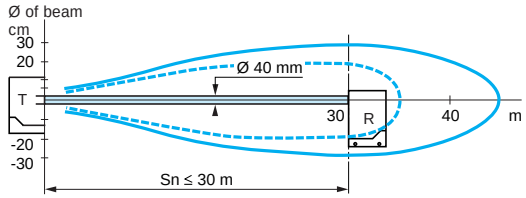
Osiris® specific application detectors, mechanical handling series
Plug-in case
d.c. supply. Solid state output

Curves, dimensions, schemes

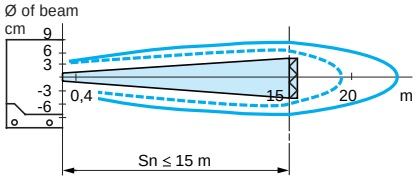
Accessories :
pages 2/118 to 2/123

Detection curves

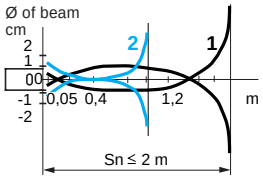
Thru-beam system



Reflex system



Diffuse system
(side approach recommended)



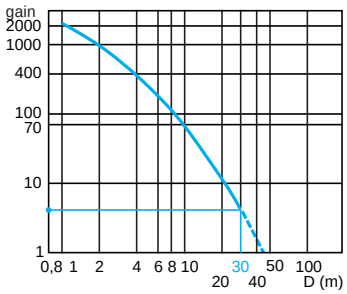
Object 20 x 20 cm
1 White 90 %. **2** Grey 18 %

— Approaching zone, yellow LED illuminated

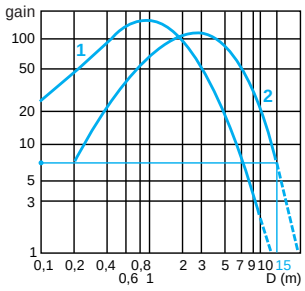
- - - Operating zone, green LED illuminated.

Excess gain curves (ambient temperature : + 25 °C)

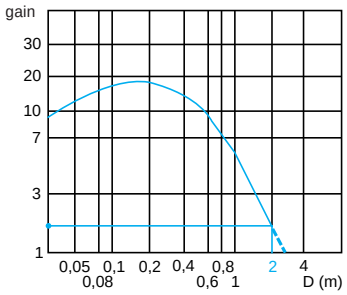
Thru-beam system



Reflex system



Diffuse system



1 XUZ-C24 **2** XUZ-C80

Object 20 x 20 cm, white 90 %

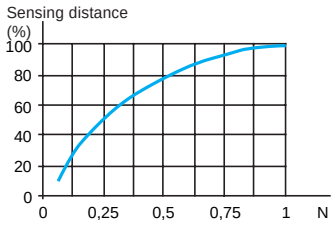
Variation of sensing distance Sn (Diffuse system)

Related to size of object

— White 90 %
- - - Grey 18 %

C : side of square object

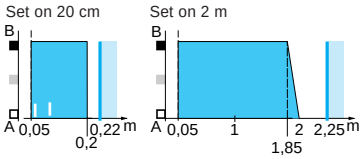
Related to sensitivity adjustment



N : number of turns on potentiometer (see page 2/86)

Detection differential (H) when the object approaches from the front at the nominal sensing distance : H ≤ 20 % of Sn

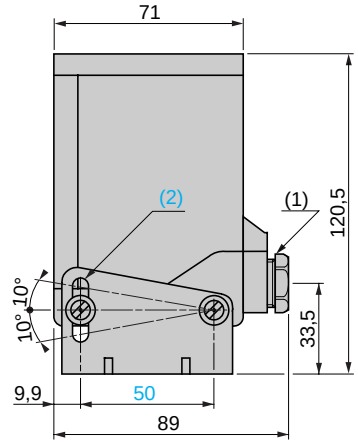
Variation of the usable sensing distance S



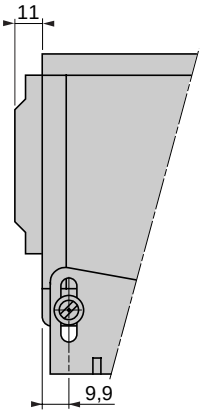
Black 6 %
Grey 18 %
White 90 %
Sensing range
Non detection zone

Dimensions

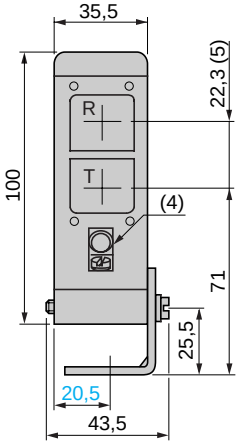
XUE-H●0●●●●, XUE-H017535



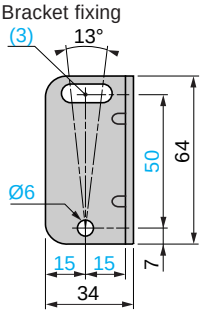
XUE-H753538



Front face (common view)



Bracket fixing



(1) n° 13 plastic cable gland
(2) 1 elongated hole Ø 6 x 23
(3) 1 elongated hole Ø 6 x 18
(4) LED

(5) Receiver (R) and Transmitter (T) are reversed on diffuse system detectors with background suppression.

Programming

See page 2/87

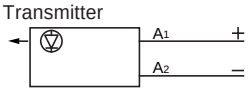
Terminal connections

Solid state output

Transmitter	Thru-beam receiver, reflex and diffuse
A1	+
	-
A2	P (PNP output)
	N (NPN output)

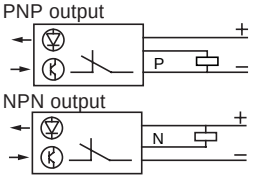
Wiring schemes (3-wire ⎓)

Transmitter

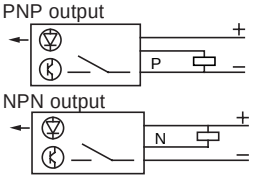


Light switching (no object present)

Thru-beam receiver & reflex

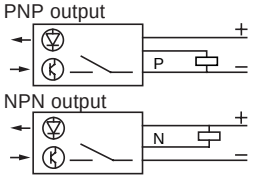


Diffuse

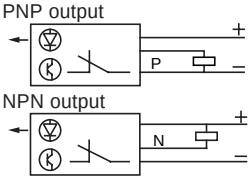


Dark switching (no object present)

Thru-beam receiver & reflex



Diffuse

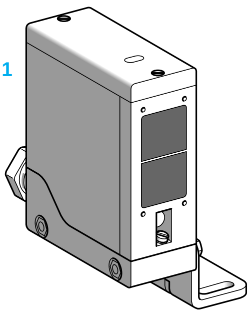


Osiris® specific application detectors, mechanical handling series
Plug-in case
a.c. or d.c. supply. 1 C/O relay output

Accessories :
pages 2/118 to 2/123

References, characteristics

Compact design

1


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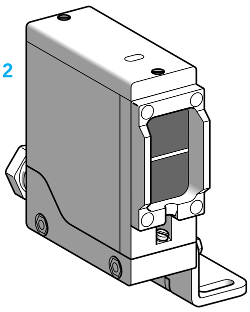


System	Thru-beam 1	Reflex 1	Polarised reflex 2	Diffuse 1
Type of transmission	Infra-red	Infra-red	Red	Infra-red
Nominal sensing distance (Sn)	**30 m**	**15 m** (with Ø 80 mm reflector)	**0.2 to 10 m** (with Ø 80 mm reflector)	**2 m**
Output cable gland (1)	n° 13 plastic	n° 13 plastic	n° 13 plastic	n° 13 plastic

References

5-wire	Light or dark programmable switching	**XUE-F300314**	**XUE-F10031**	**XUE-F080319**	**XUE-F010315**
5-wire, time delay	Light or dark programmable switching	**XUE-T300314**	**XUE-T10031**	**XUE-T080319**	**XUE-T010315**
Transmitter		**XUE-H3000**	–	–	–
Weight (kg)		0.400	0.400	0.400	0.400

Characteristics

Product certifications	CE, CSA, UL
Ambient air temperature	Operation : - 25...+ 70 °C. Storage : - 40...+ 80 °C
Vibration resistance	7 gn, amplitude ± 0.6 mm (f = 10…55 Hz), conforming to IEC 68-2-6
Shock resistance	30 gn, duration 11 ms, conforming to IEC 68-2-27
Degree of protection	IP 67 conforming to IEC 529 and IP 673 conforming to NF C 20-010 / ⧈ double insulated
Connection	Screw terminals, capacity : 2 x 1.5 mm² or 1 x 2.5 mm²
Materials	Case : ABS ; lens : PMMA ; mounting plate/base : PBT
Rated supply voltage	**∼ or ⎓ 24...240 V. Transmitter : ∼ 24...240 V or ⎓ 12...48 V**
Voltage limits	∼ 20...264 V or ⎓ 20...58 V (including ripple) Transmitter : ∼ 20…264 V or ⎓ 10…58 V
Switching capacity	**2000 mA (cos φ = 1), 500 mA (cos φ = 0.4) for a contact life of 1 million operating cycles at an operating rate of 1 operating cycle per second, at 250 V**
Time delay (see page 2/87)	Monostable, on-delay or off-delay (programmable). 2 adjustable ranges : 0.03 to 1 s or 1 to 60 s
Maximum voltage on output relay contacts	∼ 250 V
Current consumption, no-load	≤ 35 mA, relay energised
Maximum switching frequency	30 Hz
Delays	First-up : ≤ 60 ms (≤ 120 ms for thru-beam system) ; response : ≤ 16 ms ; recovery : ≤ 16 ms

Function table

Output state of relay contact indicators : yellow LED (illuminated when relay energised), green LED (verification of correct operation)

Function	Thru-beam and reflex systems: No object present in the beam	Thru-beam and reflex systems: Object present in the beam	Diffuse system: No object present in the beam	Diffuse system: Object present in the beam
Light switching	14(18) 11(15) 12(16) Relay energised; green (on), yellow (on)	14(18) 11(15) 12(16) Relay de-energised; green, yellow	14(18) 11(15) 12(16) Relay de-energised; green, yellow	14(18) 11(15) 12(16) Relay energised; green (on), yellow (on)
Dark switching	14(18) 11(15) 12(16) Relay de-energised; green (on), yellow	14(18) 11(15) 12(16) Relay energised; green, yellow (on)	14(18) 11(15) 12(16) Relay energised; green, yellow (on)	14(18) 11(15) 12(16) Relay de-energised; green (on), yellow

Note : The terminal numbers enclosed in brackets correspond to those of the time delay detectors.

(1) Detectors with 1/2" NPT cable output : add the suffix **H7** to the references stated above.
Example : detector **XUE-F300314** with 1/2" NPT cable output, becomes **XUE-F300314H7**.

Other versions

Reflex system detectors for use in low temperature applications (down to - 40 °C).
Please consult your Regional customer centre.

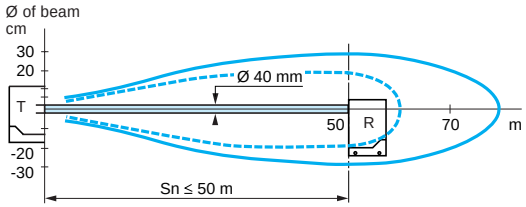
Osiris® specific application detectors, mechanical handling series
Plug-in case
a.c. or d.c. supply. 1 C/O relay output

Curves, dimensions, schemes

Accessories :
pages 2/118 to 2/123

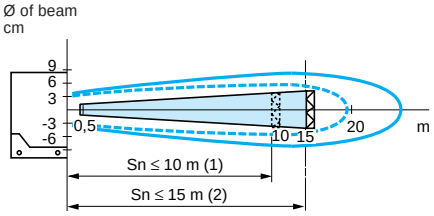
Detection curves

Thru-beam system



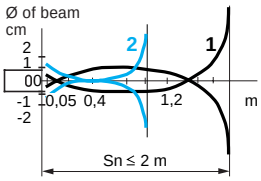
Approaching zone, yellow LED illuminated
Operating zone, green LED illuminated.

Infra-red reflex system/polarised reflex system



(1) Polarised
(2) Infra-red

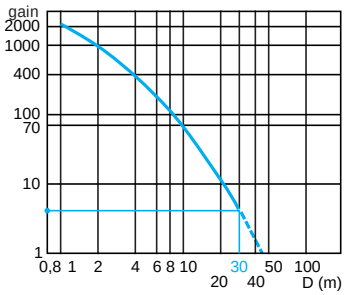
Diffuse system
(side approach recommended)



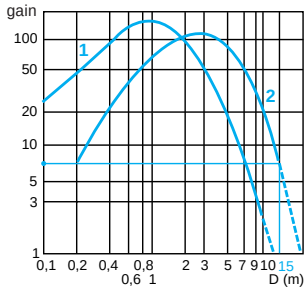
Object 20 x 20 cm
1 White 90 %. **2** Grey 18 %

Excess gain curves (ambient temperature : + 25 °C)

Thru-beam system

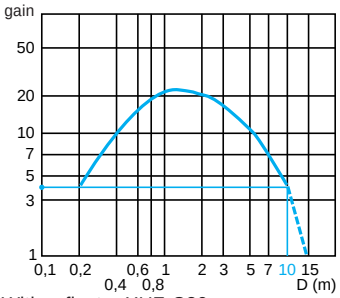


Infra-red reflex system



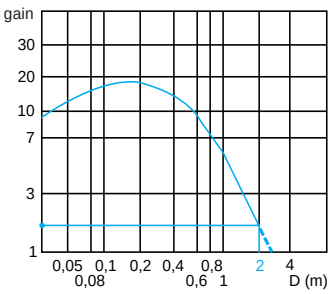
1 XUZ-C24 **2** XUZ-C80

Polarised reflex system



With reflector XUZ-C80

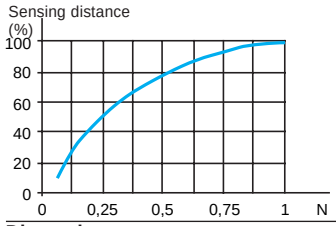
Diffuse system



Object 20 x 20 cm, white 90 %

Variation of sensing distance Sn (Diffuse system)

Related to sensitivity adjustment



N : Number of turns on potentiometer
(see page 2/86)

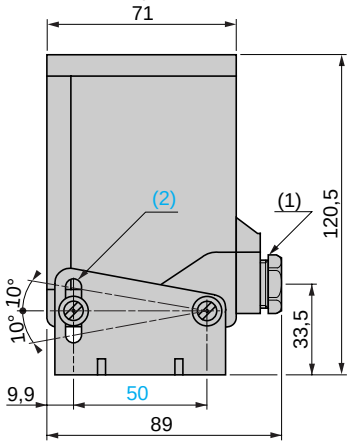
Related to size of object

C : Side of square object

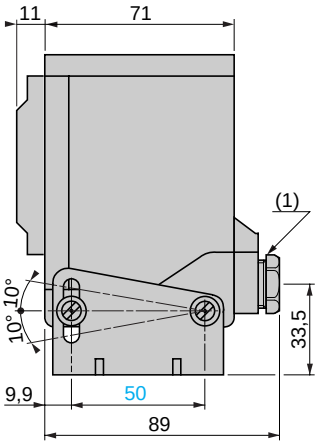
Detection differential (H) when the object approaches from the front at the nominal sensing distance :
H ≤ 20 % of S
White 90 %
Grey 18 %

Dimensions

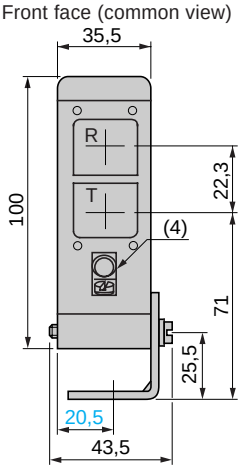
XUE-●●00●●●, XUE-●010315



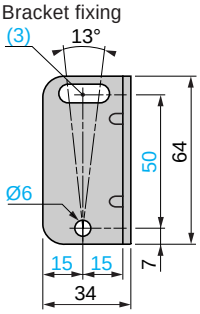
XUE-●080319



Front face (common view)



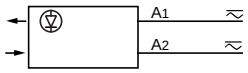
Bracket fixing



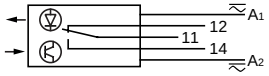
(1) n° 13 plastic cable gland
(2) 1 elongated hole Ø 6 x 23
(3) 1 elongated hole Ø 6 x 18
(4) LED

Wiring schemes (5-wire ∿ or ⎓)

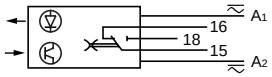
Transmitter



Thru-beam receiver, reflex and diffuse
1 C/O relay output (standard model)



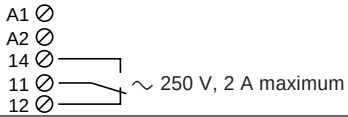
Time delay model



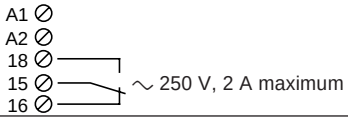
Terminal connections

Transmitter

Thru-beam receiver, reflex and diffuse
Relay output (standard model)



Time delay model



Programming and time delay

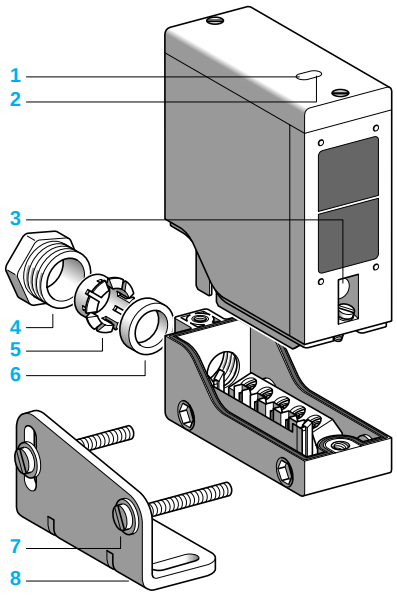
See pages 2/86 and 2/87

Osiris® specific application detectors, mechanical handling series
Plug-in case

References, characteristics : pages 2/82 and 2/84
Dimensions, schemes : page 2/83 and 2/85

Presentation

Thru-beam, reflex and diffuse system detectors



Indicator lights

XUE detectors have 3 LED indicators to facilitate initial setting-up :

2 LEDs for adjustment and alignment :

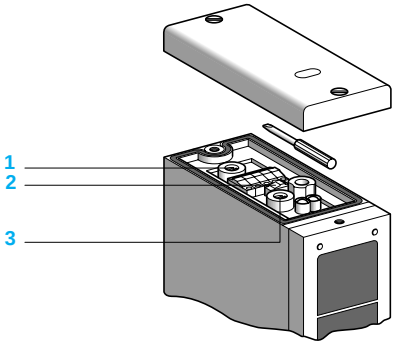
1 yellow LED : output switching threshold, low reception level, limited safety margin,

2 green LED : reception level correct, optimum safety margin, recommended adjustment.

1 LED for indication of output state :

3 red LED : illuminated when detector output is ON for solid state output detectors and relay energised for relay output detectors.

4 n° 13 plastic cable gland
5 Clamping collar, capacity 10 - 12 / 6 - 8 mm
6 Seal 10 - 12 / 6 - 8 mm
7 2 M5 screws
8 Fixing bracket



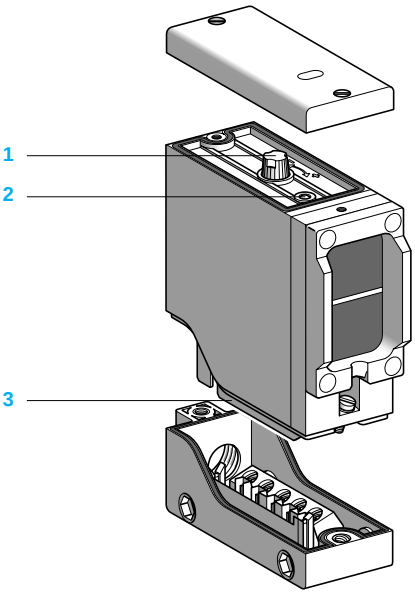
Sensitivity and time delay adjustments

1 Time delay adjustment potentiometer (for XUE-T)
1 turn, with stop.

2 Programming selector for light or dark switching.

3 Potentiometer for adjustment of the signal reception level to suit the application.
1 turn, with stop.

Diffuse system detectors with background suppression



1 Control knob for adjustment of the maximum sensing distance.

2 LED for indication of output state (illuminated when the detector output is ON).

3 Programming selector for light or dark switching.

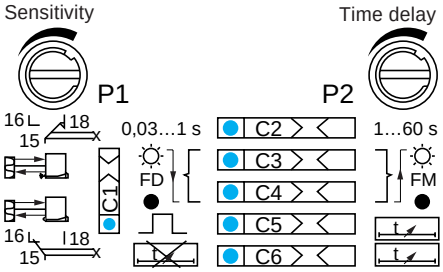
Osiris® specific application detectors, mechanical handling series
Plug-in case
Time delay, programming time delay output

References, characteristics : pages 2/82 and 2/84
Dimensions, schemes : pages 2/83 and 2/85

Presentation

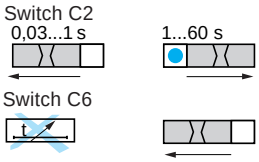
Time delay

Time delay detectors enable the following functions to be obtained :
- time delay as an object enters or leaves the detection zone,
- monostable as an object enters or leaves the detection zone.



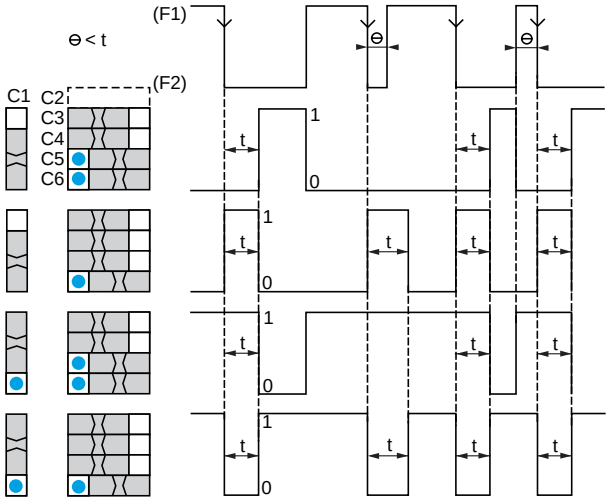
C1 : selection of light or dark switching.
C2 : selection of time delay range.
C3 and C4 : beam broken or beam made.
C5 : time delay or monostable programming.
C6 : override for time delay function.

Time delay adjustment :
- by potentiometer P2 (1 turn),
- range selection by switch C2.



Switch C6 enables overriding of the time delay function, if required. The output function then becomes equivalent to that of the XUE-F.

Programming time delay output



Time delay on breaking of the beam :

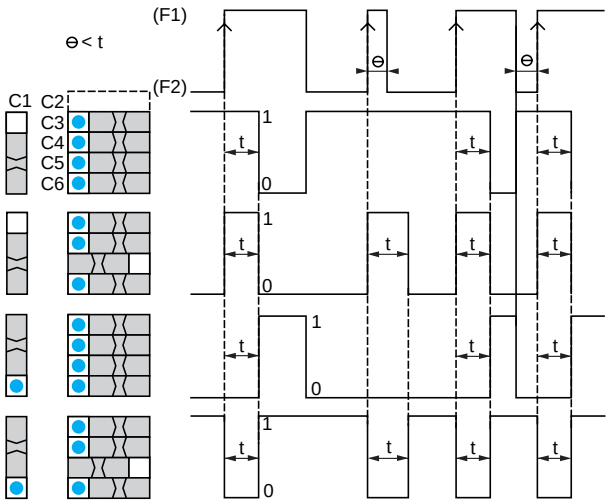
F1 : beam intact (1) F2 : beam broken (2)
0 : relay de-energised 1 : relay energised

Dark switching with output delay, duration : t

Dark switching with monostable period, duration : t

Light switching with output delay, duration : t

Light switching with monostable period, duration : t



Time delay on making of the beam :

F1 : beam intact (1) F2 : beam broken (2)
0 : relay de-energised 1 : relay energised

Dark switching with output delay, duration : t

Dark switching with monostable period, duration : t

Light switching with output delay, duration : t

Light switching with monostable period, duration : t

(1) Receiver light : on thru-beam and reflex system detectors the light beam is intact (no object present), on diffuse system detectors light is being reflected back to the receiver from the object (object present).

(2) Receiver dark : on thru-beam and reflex system detectors the light beam is broken (object present), on diffuse system detectors light is not being reflected back to the receiver from the object (no object present).