

Photo-electric detectors

Osiris® universal detectors
a.c. or d.c. supply. 1 C/O relay output
Screw terminals

Accessories .
pages 2/118 to 2/123

References, characteristics

Compact design



System	Thru-beam 1	Reflex 1	Polarised reflex 2	Diffuse with adjustable background suppression 1	
Type of transmission	Infra-red	Infra-red	Red	Infra-red	
Nominal sensing distance (Sn)	15 m	8 m (with Ø 80 mm reflector)	6 m (with Ø 80 mm reflector)	0.7 m	1.2 m
Output cable gland (1)	n° 11 plastic (rear)	n° 11 plastic (rear)	n° 11 plastic (rear)	n° 11 plastic (rear)	n° 11 plastic (rear)

References

5-wire Light or dark programmable switching	XUJ-M100314	XUJ-M06031	XUJ-M060319	XUJ-M700318	XUJ-M120318
5-wire, time delay programmable switching	XUJ-T100314	XUJ-T06031	XUJ-T060319	XUJ-T700318	XUJ-T120318
Transmitter	XUJ-M1000	-	-	-	-
Weight (kg)	0.200	0.200	0.200	0.200	0.200

Characteristics

Product certifications	CE, CSA, UL
Ambient air temperature	Operation : - 25...+ 60 °C. Storage : - 40...+ 80 °C
Vibration resistance	7 gn, amplitude ± 1.5 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 671 conforming to NF C 20-010 / ☐ double insulated
Connection	Screw terminals, capacity : 2 x 1.5 mm ² or 1 x 2.5 mm ²
Materials	Case : PEI (2) ; window (polarised model) : PMMA
Rated supply voltage	~ 24...240 V or ~ 24...48 V
Voltage limits	~ 20...264 V or ~ 20...60 V (including ripple)
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	2 timers, independently adjustable from 0.25 to 15 seconds (deactivated when potentiometer set at zero)
Maximum voltage on output relay contacts	~ 250 V
Current consumption, no-load	≤ 30 mA
Maximum switching frequency	20 Hz
Delays	First-up : ≤ 60 ms ; response : ≤ 25 ms ; recovery : ≤ 25 ms

Function table

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	Relay energised green	Relay de-energised green	Relay de-energised yellow	Relay de-energised green	Relay de-energised yellow	Relay energised green
Dark switching	Relay de-energised green	Relay energised green	Relay energised yellow	Relay energised green	Relay energised yellow	Relay de-energised green

(1) Detectors with other types of cable output :

Cable output	Position	Suffix to be added to references stated above
n° 9 plastic cable gland	Bottom	P9
1/2" NPT	Rear	H7
20 mm ISO	Rear	H29

Example : detector XUJ-M100314 with n° 9 plastic cable gland, becomes XUJ-M100314P9.

(2) PEI : high quality synthetic resin providing excellent withstand to shocks, vibration and the effects of external agents frequently encountered in industry : alcohol, salts, petroleum, oils, grease, washing agents (diluted sodium carbonate 4 %, nitric acid 2 %), formaldehyde vapour, splashing lactic acid, etc.

Other versions

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

Photo-electric detectors

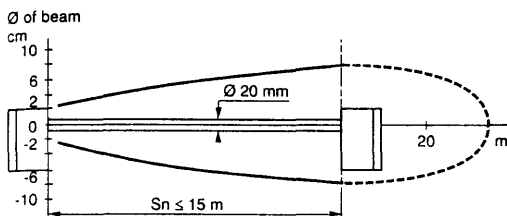
Osiris® universal detectors
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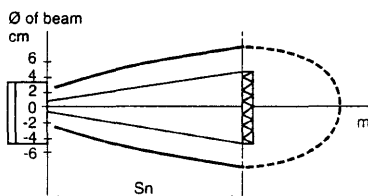
Curves, dimensions, schemes

Detection curves

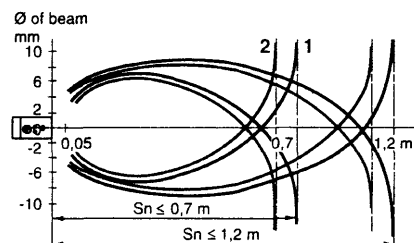
Thru-beam system



Infra-red reflex system/polarised reflex system



Diffuse system (side approach recommended)

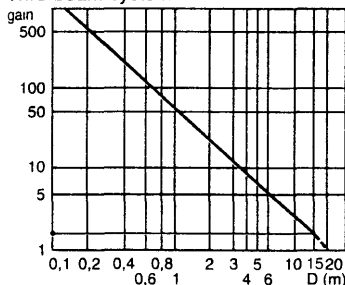


$S_n \leq 8$ m : infra-red
 $S_n \leq 6$ m : polarised

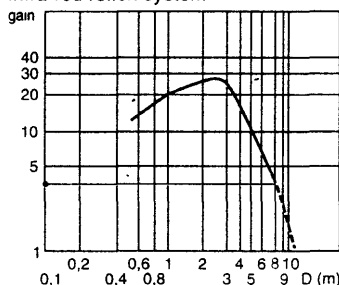
Object 20 x 20 cm
1 White 90 % 2 Black 6 %

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

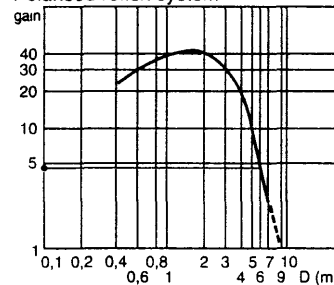
Thru-beam system



Infra-red reflex system



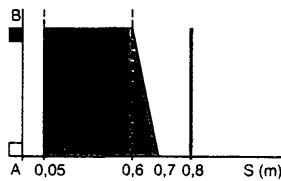
Polarised reflex system



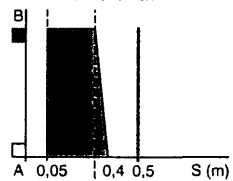
Variation of usable sensing distance S (Diffuse system)

XUJ-M700318

Potentiometer at maximum

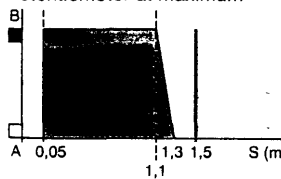


Potentiometer at minimum

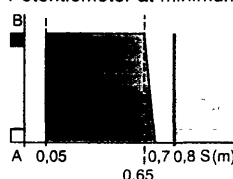


XUJ-M120318

Potentiometer at maximum



Potentiometer at minimum

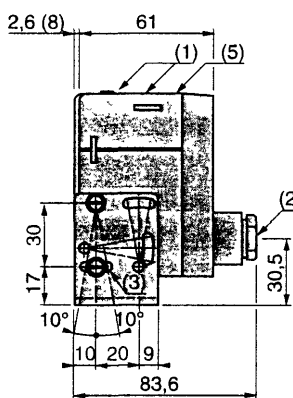


A-B : Object reflection coefficient
 ■ Black 6 %, □ Grey 18 %, □ White 90 %
 ■ Sensing range, □ Non detection zone

With reflector XUZ-C80

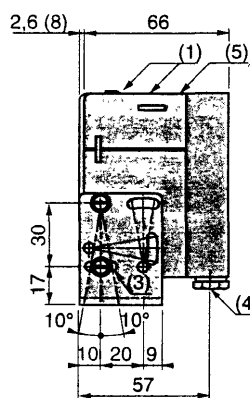
Dimensions

XUJ-●●●●●●●●

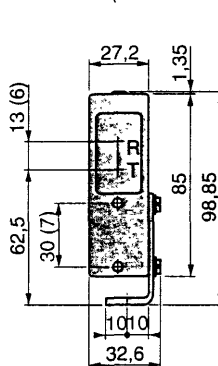


With reflector XUZ-C80

XUJ-●●●●●●●●P9

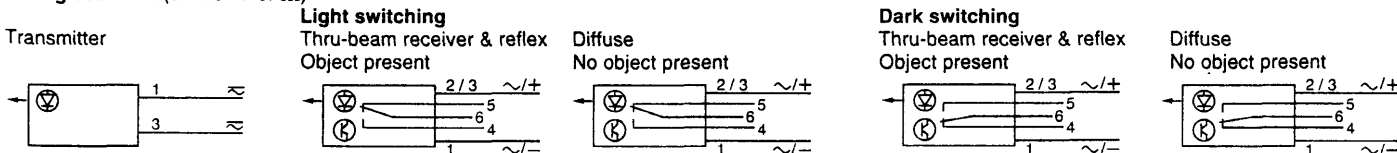


Front face (common view)



- (1) LED
- (2) n° 11 plastic cable gland
- (3) 1 elongated hole $\varnothing 4 \times 14$
- (4) n° 9 plastic cable gland
- (5) Sensitivity and time delay adjustment potentiometers
- (6) Receiver (R) and Transmitter (T) are reversed on diffuse system detectors with background suppression
- (7) Front fixing ($\varnothing 4$ screws and inserts supplied)
- (8) Applicable only to polarised reflex system detectors

Wiring schemes (5-wire ~ or ≡)

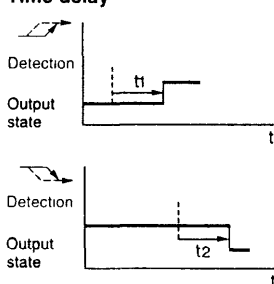


Terminal connections

1 C/O relay output

- 1 ⓪ - A1 (~/-)
 - 2 ⓪ - A2 (~/+)
 - 3 ⓪ - A2 (~/+)
 - 4 ⓪ -
 - 5 ⓪ -
 - 6 ⓪ -
- Dark switching
Light switching
~ 250 V, 2 A maximum

Time delay



Verification of correct operation

Thru-beam and reflex systems

