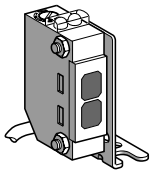
Photo-electric sensors

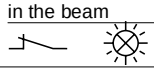
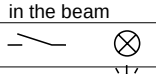
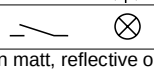
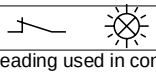
Osiris® Application, packaging series
Colour mark readers (1)
d.c. supply. Solid-state output

Miniature design



System		**Diffuse**	
Type of transmission		Red	Green
Nominal sensing distance (Sn)		**15 mm**	**15 mm**
References			
3-wire, PNP	Light or dark programmable switching	**XUM H15353R**	**XUM H15353G**
3-wire, NPN	Light or dark programmable switching	**XUM J15353R**	**XUM J15353G**
Weight (kg)		0.080	0.080
Characteristics			
Product certifications		CE, UL, CSA	
Ambient air temperature		Operation : - 25…+ 55 °C. Storage : - 30…+ 70 °C	
Vibration resistance		7 gn, amplitude ± 1.5 mm (f = 10…55 Hz), conforming to IEC 60068-2-6	
Shock resistance		50 gn, 3 axes, 3 times, conforming to IEC 60068-2-27	
Degree of protection		IP 67 conforming to IEC 529	
Connection		Pre-cabled, diameter 4.5 mm, length 2 m, wire c.s.a. : 6 x 0.2 mm²	
Materials		Case : ABS/PC ; lens : PMMA/PC ; cable : PVC	
Minimum detectable width of mark		1 mm	1 mm
Maximum linear speed of mark		2 m/s (for 2 mm wide mark)	2 m/s (for 2 mm wide mark)
Max. horizontal inclination of reader (to eliminate stray reflection)		30°	15°
Detectable colours		Since the light source of the XUR is monochromatic red or green, this can cause problems when reading marks in the yellow, orange, red and white bands (in the case of red beam transmission) or light green, yellow and white bands (in the case of green beam transmission). Correct operation can only be assured by the use of a colour other than those stated above for the respective transmission beam colours.	
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	
Current consumption, no-load		⩽ 35 mA	
Maximum switching frequency		500 Hz	
Delays		Response : 1 ms ; recovery : 1 ms	

Function table

Function	Detection of light mark on light background		Detection of light mark on light background	
	No mark present in the beam	Mark present in the beam	No mark present in the beam	Mark present in the beam
Light switching				
Dark switching				

Output state (PNP or NPN) indicator : yellow LED (illuminated when detector output is ON)

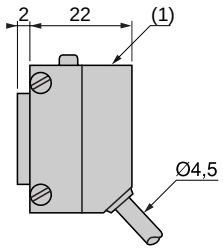
(1) Applications : detection of contrasting colours on matt, reflective or embossed surfaces. Colour mark reading used in conjunction with automatic packaging, batching or tube filling machinery, labelling machines, heat sealing machines, thermo-formers, printing machines, etc.

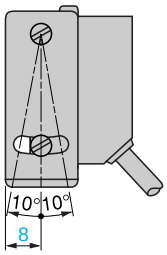
Accessories:
page 37012/2

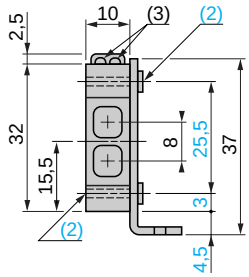
Photo-electric sensors

Osiris® Application, packaging series
Colour mark readers (1)
d.c. supply. Solid-state output

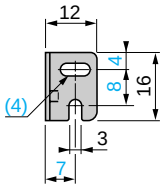
Dimensions







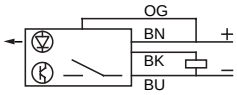
Bracket fixing



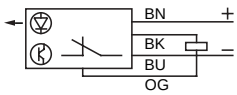
(1) Sensitivity adjustment
(2) Elongated hole Ø 3 x 4
(3) LED
(4) Elongated hole Ø 3 x 7

Wiring schemes (3-wire ⎓)

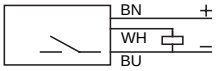
Light switching (no mark present)
PNP output



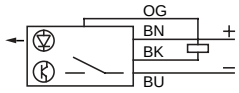
Dark switching (no mark present)
PNP output



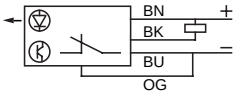
Test output
PNP output (I max. = 50 mA)



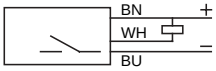
NPN output



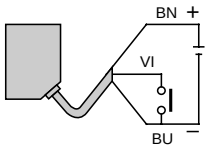
NPN output



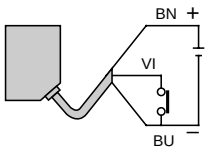
NPN output (I max. = 50 mA)



Beam break test (violet wire)
Beam made



Beam broken



Cable connections

Solid state output

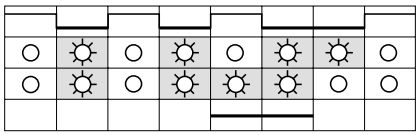
- (–)	BU	(Blue)
- (+)	BN	(Brown)
- (OUT)	BK	(Black)
- (Prog.)	OG	(Orange)
- (R.check)	VI	(Violet)
- TEST	WH	(White)

Test output

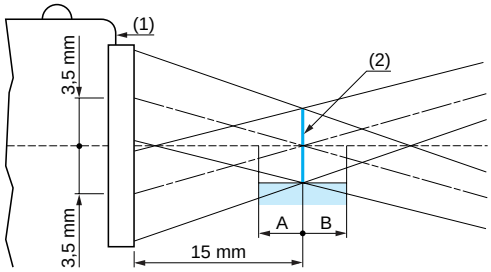
No mark present
Mark present

Yellow LED

Red LED



Setting-up



optical axis

Depth of field	A	B
XUM ●15353R (red transmission)	3 mm	3 mm
XUM ●15353G (green transmission)	1 mm	1 mm

(1) Lens face of reader
(2) Diameter of light spot at 15 mm = 2 mm (side view)
A-B : Recommended operating zone

Accessories:
page 37012/2