LD46 SERIES

The luminescence sensors emit ultraviolet (UV) light and receive visible light reflected from luminescent surfaces. This technology allows the detection of fluorescent marks (even invisible to the human eye) on any object independently from its material, colour or distance inside the operating range. Moreover, it avoids light interferences or reflections from non-luminescent surfaces, like glass, mirrors, shiny metal surfaces, etc. Luminescence sensors can satisfy many different applications, as for example in pharmaceutical and cosmetic industries to detect labels on glass phials or bottles, or correct medicine packaging, in woodworking and ceramic tiles production to check fluorescent selection marks; in automatic packaging to detect whitened paper or fluorescent glues, in textile industry to identify fluorescent cutting guides or labels; in mechanical industry to verify fluorescent paints, lubricants, gaskets or fittings; in vending machines or cash dispensers to check banknotes and credit cards. The high power and definition of the **LD46** sensor light spot enable the detection of critical targets with a very poor or non-homogeneous or discontinued luminescent level, as for example on raw wood, corrugated carton, fabric, ceramic tiles.





HIGHLIGHTS

- The best solution for luminescent mark detection
- High-power UV emission for improved sensitivity
- Fast switching frequency and response time
- Easy setting and clear bargraph indicator

APPLICATION

Wood



Ceramics



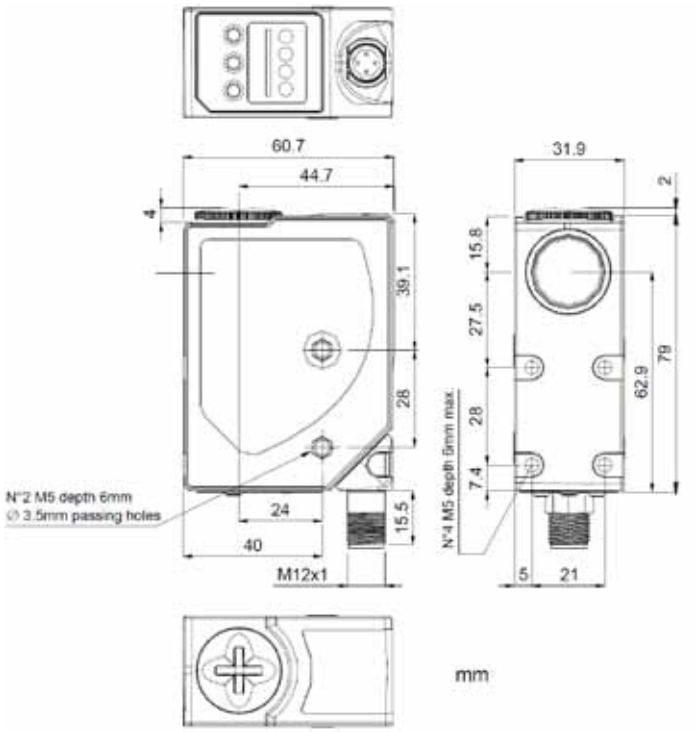
Packaging lines



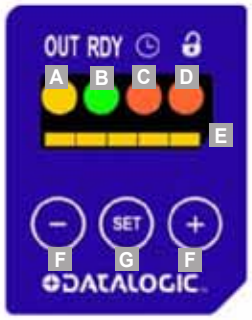
SETTING

The switching threshold setting can be easily made pressing the '+' and '-' push-buttons that increase or descrease the sensitivity level which is visualised on the bargraph indicator.
The sensor has a KEYLOCK function that deactivates the keyboard avoiding accidental sensor setting.
The keyboard is locked at the sensor powering and can be activated by pressing the SET push-button for 5 seconds until the keylock LED turns on.
The keyboard is locked again automatically if not used for 2 minutes.

DIMENSIONS



INDICATORS AND PUSH-BUTTONS



LD46-UL

- A yellow OUTPUT LED
- B green READY LED
- C orange DELAY LED
- D orange KEYLOCK LED
- E Bargraph
- F +/- push-buttons
- G SET push-button

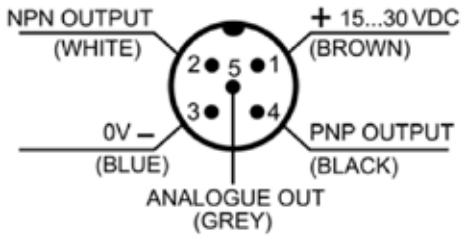
ACCESSORIES

For **dedicated accessories** refer to the **ACCESSORIES section** of this catalogue.

Refer also to **Connectors** of the **General Catalogue.**

CONNECTIONS

M12 CONNECTOR

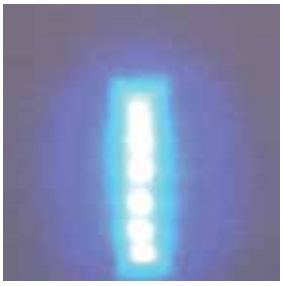


TECHNICAL DATA

TECHNICAL NOTES [1]Average life of 100.000 h with T_A = +25 °C [2]Rotatable connector block in 5 positions [3]A - reverse polarity protection B - overload and short-circuit protection		LD46-UL-715	LD46-UL-755	LD46-UL-735
Power supply:	15 … 30 Vdc, reverse polarity protection	●	●	●
Consumption:	50 mA max at 24 Vdc	●	●	●
Light emission:	LED UV, 375 nm[1]	●	●	●
Spot dimension:	2 x 8 mm at 10 mm	●		
	3 x 11 mm at 24 mm			●
	4 x 15 mm at 50 mm		●	
Operating distance:	10 … 20 mm	●		
	20 … 40 mm			●
	30 … 50 mm		●	
Setting:	manual using '+', '-' and SET push-buttons	●	●	●
Indicators:	yellow OUTPUT LED	●	●	●
	green ready LED	●	●	●
	orange delay LED	●	●	●
	orange keylock LED	●	●	●
	5-segment bargraph	●	●	●
Output type:	1 NPN output	●	●	●
	1 PNP output	●	●	●
Output current:	100 mA max.	●	●	●
Saturation voltage:	≤2 V	●	●	●
Response time:	250 µs	●	●	●
Switching frequency:	2 kHz	●	●	●
Operating mode:	light	●	●	●
Analogue output:	0.75 … 5.5 V max.	●	●	●
Timing function:	20 ms selectable	●	●	●
Auxiliary functions:	keylock	●	●	●
Connections:	M12 5-pole connector[2]	●	●	●
Electrical protection:	class 2, double insulation	●	●	●
Mechanical protection:	IP67	●	●	●
Protection devices:	A, B	●	●	●
Housing material:	aluminum	●	●	●
Lens material:	glass	●	●	●
Weight:	180 g max.	●	●	●
Operating temperature:	-10…55°C	●	●	●
Storage temperature:	-20…70°C	●	●	●
Reference standard:	EN 60947-5-2	●	●	●

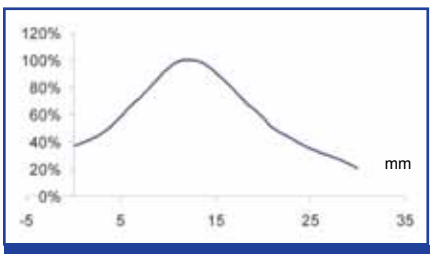
CE Ex II3DG

LIGHT SPOT

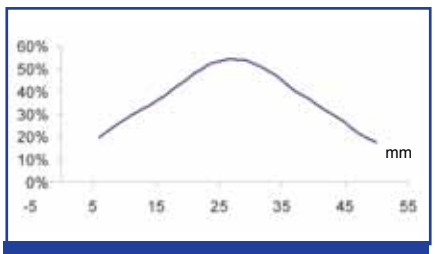


The improved UV emission power and light spot sharpness enable the detection of critical targets with a very poor or non-homogeneous luminescence level.

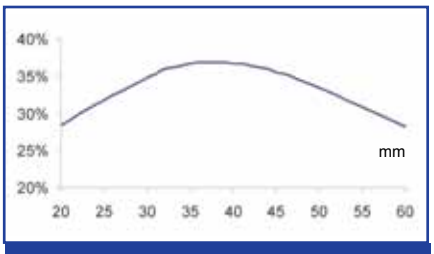
DETECTION DIAGRAMS



Standard 9 mm lens
(2 x 8 mm spot at 10 mm)



Standard 22 mm lens
(3 x 11 mm spot at 24 mm)



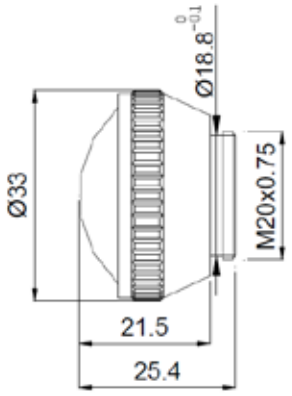
Standard 40 mm lens
(4 x 15 mm spot at 50 mm)

MODELS

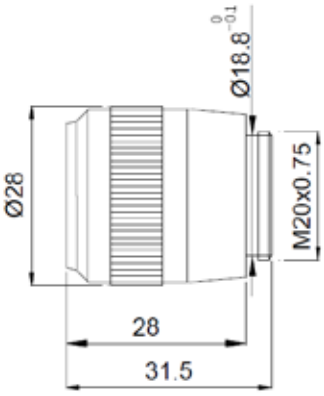
MODEL	OPERATING DISTANCE	ORDER N°
LD46-UL-715	10 - 20 mm	955201000
LD46-UL-735	30 - 50 mm	955201020
LD46-UL-755	20 - 40 mm	955201010

ACCESSORY LENSES

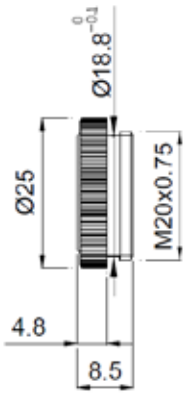
DIMENSIONS



Lens 40 mm glass



Lens 22 mm glass



Lens No.9 glass

ACCESSORY SELECTION AND ORDER INFORMATION

MODEL	DESCRIPTION	ORDER N°
Lens No.9 glass	glass lens with 9 mm focus	95ACC2670
Lens No.22 glass	glass lens with 22 mm focus	95ACC1100
Lens No.40 glass	glass lens with 40 mm focus	95ACC2740

*Please refer also to **Sensor Accessories***

The company endeavours to continuously improve and renew its products; for this reason the technical data and contents of this catalogue may undergo variations without prior notice. For correct installation and use, the company can guarantee only the data indicated in the instruction manual supplied with the products.