

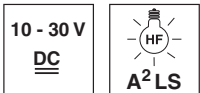
LRT 8

Luminescence scanner

en 06-2016/11 50118345

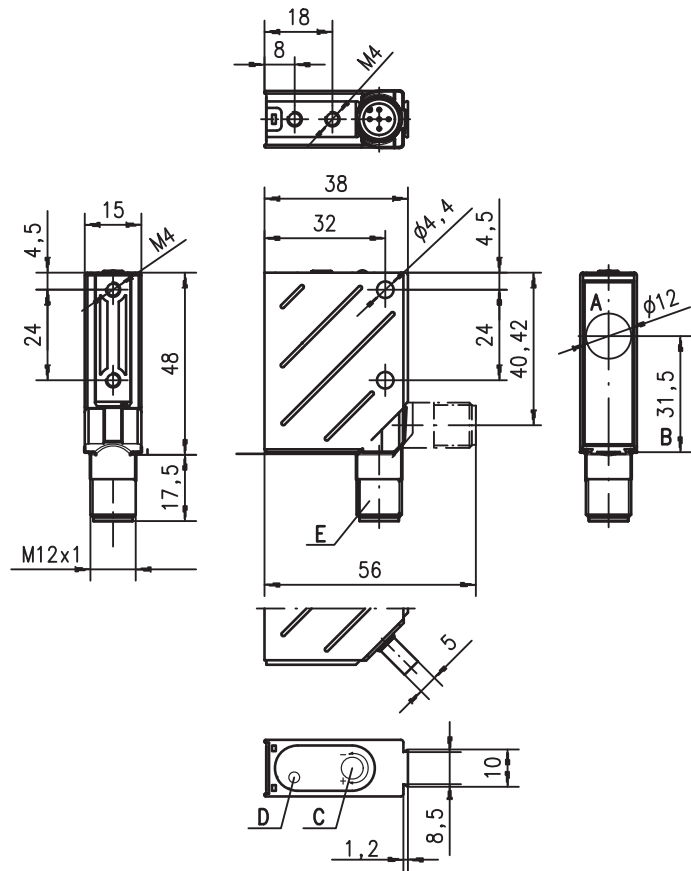


0 ... 500 mm



- Detection of luminescent objects and markings
- Various filter options
- Various light spot sizes
- High switching frequency

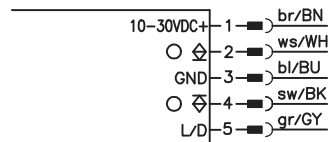
Dimensioned drawing



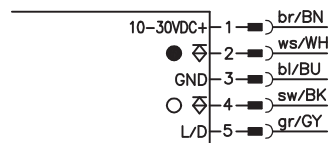
- A Transmitter and receiver
- B Optical axis
- C Operational control
- D Indicator diodes
- E Turning connector, 90° rot. angle

Electrical connection

1x PNP or 1x NPN



2 x PNP, antivalent



We reserve the right to make changes • DS_LRT8_en_50118345.fm



Accessories:

(available separately)

- M12 connectors (KD ...)
- Ready-made cables (K-D ...)
- Mounting systems
- Control guard
- Diaphragms

Specifications

Optical data

Typ. scanning range limit ¹⁾	see tables
Typ. scanning range ²⁾	see tables
Light spot diameter	see diagram
Light source	LED
Wavelength	370nm (UV light) or 470nm (blue light)
Average life ³⁾	50,000h

Timing

Switching frequency	1500Hz
Response time	0.33ms
Delay before start-up	≤ 100ms

Electrical data

Operating voltage U_B ⁴⁾	10 ... 30VDC
Residual ripple	≤ 15% of U_B
Open-circuit current	≤ 35mA (10mA)
Switching output	.../24... 1 PNP and 1 NPN transistor output, light switching
	.../44... 2 PNP transistor outputs, antivalent reversible, inverted with + U_B on PIN 5
Function	≥ ($U_B - 2V$) / ≤ 2V
Signal voltage high/low	max. 100mA
Output current	adjustable with 12-turn potentiometer
Sensitivity	

Indicators

Yellow LED	object detected
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Mechanical data

Housing	metal
Optics cover	glass
Weight (plug/cable)	70g/140g
Connection type	M12 connector, 5-pin

Environmental data

Ambient temp. (operation/storage)	-20°C ... +60°C / -40°C ... +70°C
Protective circuit ⁵⁾	2, 3
VDE safety class ⁶⁾	II, all-insulated
Protection class ⁷⁾	IP 67, IP 69K ⁸⁾
Eye safety	370nm: in acc. with EN 62471: exempt group
	470nm: in acc. with EN 62471: risk group 1
Standards applied	IEC 60947-5-2
Certifications	UL 508, CSA C22.2 No.14-13 ^{4) 9)}

Options

L/D input	$U_B/0V$ or not connected
Inverted/not inverted	
L/D delay	< 0.5ms

- 1) Typ. scanning range limit: max. scanning range achievable on object with maximum size and max. luminescence effect
- 2) Typ. scanning range: max. scanning range achievable on a typical object (see table)
- 3) At +25°C
- 4) For UL applications: for use in class 2 circuits according to NEC only
- 5) 2=polarity reversal protection, 3=short circuit protection for all outputs
- 6) Rating voltage 250VAC
- 7) In end position of the turning connector (turning connector engaged)
- 8) IP 69K test acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives, acids and bases are not part of the test
- 9) These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/CYJV7 or PVVA/PVVA7)

Remarks

Operate in accordance with intended use!

- ⚠ This product is not a safety sensor and is not intended as personnel protection.
- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with the intended use.

Tables

Scanning range limit

Sensor	Typ. scanning range limit
LRT 8/24.00-50-...	0 ... 100mm
LRT 8/24.04-50-...	0 ... 100mm
LRT 8/24.16-80-...	0 ... 120mm
LRT 8/24.04-100-...	0 ... 300mm
LRT 8/44.04-100-...	0 ... 300mm
LRT 8/24.14-150-...	0 ... 500mm
LRT 8/44.14-150-...	0 ... 500mm
LRT 8/24.10-150-...	0 ... 500mm

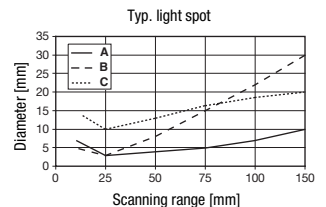
Scanning range

Sensor LRT8/24...	Object (white paper)	Typ. scanning range
.04-50-...	10mm x 10mm	0 ... 70mm
	20mm x 20mm	0 ... 100mm
	50mm x 50mm	0 ... 150mm
.04-100-...	10mm x 10mm	0 ... 100mm
	20mm x 20mm	0 ... 150mm
	50mm x 50mm	0 ... 220mm
.14-150-...	10mm x 10mm	0 ... 200mm
	20mm x 20mm	0 ... 300mm
	50mm x 50mm	0 ... 400mm

Sensor LRT8/24...	RED Lyra chalk, mark (5mm x 30mm) on	Typ. scanning range
.00-50-...	Wood, light, wet	0 ... 80mm
	OSB	0 ... 60mm
	Paper, black	0 ... 40mm
	Paper, white	0 ... 60mm
	Piece of chalk	0 ... 130mm
.10-150-...	Wood, light, wet	0 ... 350mm
	OSB	0 ... 300mm
	Paper, black	0 ... 150mm
	Paper, white	0 ... 300mm
	Piece of chalk	0 ... 500mm

Sensor LRT8/24...	Yellow mark (10mm x 30mm) on	Typ. scanning range
.16-80-...	Paper, light	0 ... 100mm
	Paper, dark	0 ... 40mm

Diagrams



- A LRT 8/24.14...-S12, LRT 8/44.14...-S12, LRT 8/24.16...-S12
- B LRT 8/24.04...-S12, LRT 8/44.04...-S12
- C LRT 8/24.10...-S12

Order guide

Selection table		Order code →							
Equipment ↓		LRT 8/24.04-50-S12 Part no. 50041840	LRT 8/24.04-100-S12 Part no. 50109343	LRT 8/44.04-100-S12 Part no. 50124694	LRT 8/24.14-150-S12 Part no. 50119032	LRT 8/44.14-150-S12 Part no. 50124693	LRT 8/24.00-50-S12 Part no. 50041839	LRT 8/24.10-150-S12 Part no. 50119033	LRT 8/24.16-80-S12 Part no. 50116732
Target application	detection of all visible luminescence	●	●	●	●	●			
	detection of white paper	●	●	●	●	●			
	detection of yellow print marks								●
	detection of red marks on wood						●	●	
Light spot	large	●	●	●			●		
	small				●	●		●	●
Typical scanning range limit ¹⁾ (in mm)		100	300	300	500	500	100	500	120
Switching outputs	1 x PNP, 1 x NPN, light switching	●	●		●		●	●	●
	2 x PNP, antivalent			●		●			
Filter for the detection of	blue 400 ... 500 nm								
	blue 400 ... 750 nm	●	●	●	●	●			
	red 590 ... 750 nm						●	●	●
	yellow 550 ... 750 nm								●
	green 520 ... 750 nm								
Transmitter	UV 370nm	●	●	●	●	●			●
	blue 470nm						●	●	

1) Typ. scanning range limit: max. scanning range achievable on objects with maximum size and max. luminescence effect.
Typ. scanning range: see tables.

