

# Photoelectric Sensors with Special Properties

## Luminescence sensors BLT

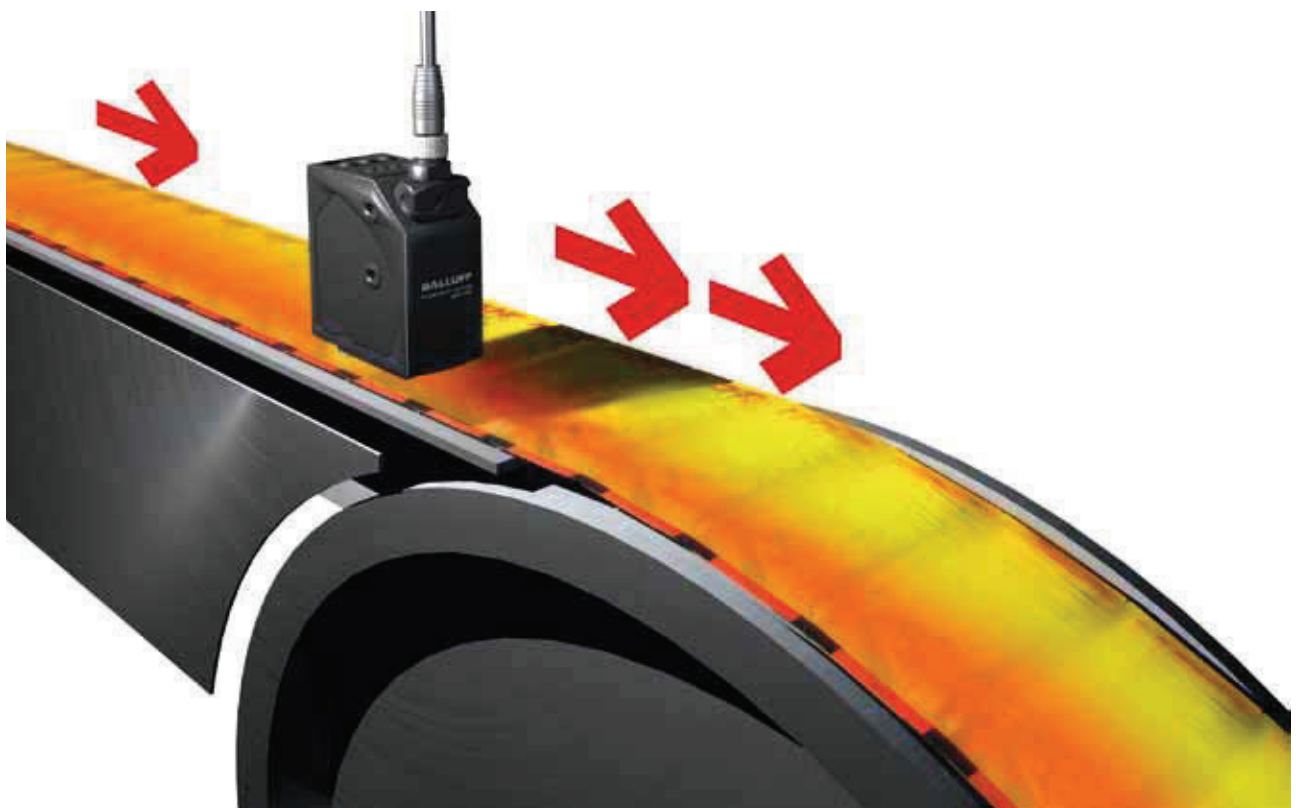
# Luminescence Sensors

Photoelectric sensors usually detect the target or the desired target features themselves. If that is not possible, the object can be marked with fluorescent substances. These markings are invisible to the human eye, but are detected by luminescence sensors with their UV light.

Luminescence sensors detect any kind of fluorescent substance, even if markings are applied lightly.

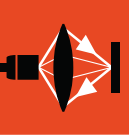
### Applications

- Logistics (marking, selecting)
- Assembly (guiding, monitoring, sorting)
- Packaging machines (to monitor cutting, folding)
- Ceramics industry (e.g. positioning parts)
- Wood industry (e.g. checking the glue bead)
- Pharmaceuticals (control tasks in the manufacturing process)
- Textiles (e.g. guiding cuts)
- Food industry



# Photoelectric Sensors with Special Properties

## Luminescence sensors BLT Product overview



Photoelectric Sensors

Photoelectric Sensors

Photoelectric Sensors with Special Properties

Analog Fork Sensors BGL\_C

Optical Window Sensors BOW

Light Grids BLG

Color Sensors BFS

Contrast Sensors BKT

**Luminescence Sensors BLT**

Optical Fiber Base Units BFB/BOS

Plastic Fiber Optics BFO

Glass Fiber Optics BFO

Photoelectric Distance Sensors for Analog Distance Measurement

Accessories for Photoelectric Sensors

Type

Type	Sensing distance	Light type		Output		Switching type		Switching frequency	U <sub>s</sub>	Connec-tion		Page
		UV light		PNP	NPN	Light switching	Dark switching			M12 plug, 4-pin	Cable	
<b>Luminescence sensors</b>									10...30 V DC			
<b>BLT0004</b>	BLT 18KF-001-P-S4	8...20 mm	■	■		■	■	1 kHz	■	■		309
<b>BLT0003</b>	BLT 18KF-001-P-02	8...20 mm	■	■		■	■	1 kHz	■		■	309
<b>BLT0009</b>	BLT 21M-001-P-S4	0...40 mm	■	■		■	■	2 kHz	■	■		311
<b>BLT0008</b>	BLT 21M-001-N-S4	0...40 mm	■		■	■	■	2 kHz	■	■		311

■ Ordering code

■ Part number



**Luminescence sensors**

# Photoelectric Sensors with Special Properties

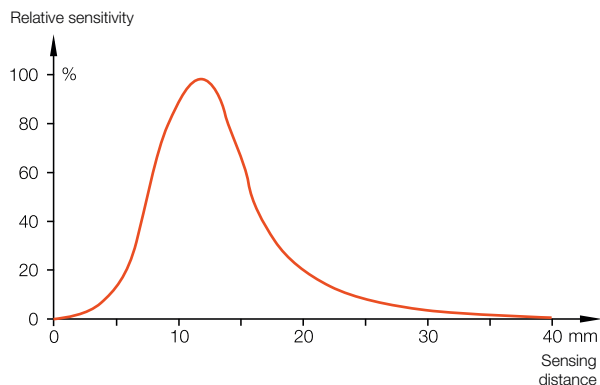
## Luminescence sensors BLT 18KF

# Luminescence Sensors

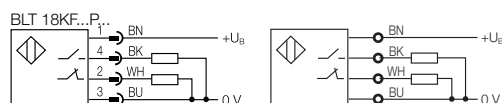
The luminescence sensor **BLT 18KF** detects any type of luminescent markings on any surface and automatically adjusts to ambient conditions. The sensor is calibrated with the simple push of a button. (Markings with a luminescence greater than the background are detected.)

A precise setting is available for slightly luminescent markings. The switching type can be freely selected in this case.

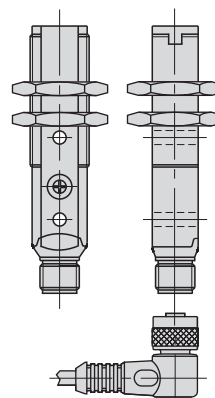
### Function diagram



### Wiring diagrams



### Connector orientation



### Recommended accessories (please order separately)

Description	Ordering code
① Mounting bracket	<b>BAM00RY</b>
② Mounting clamp	<b>BAM00T3</b>



You can find special accessories for diffuse sensors, such as **reflectors, apertures, lenses, filters and deflection heads**, in this catalog starting on page 376.

**More mechanical accessories:** You can find a large selection of mounting components of all types, such as clamping holders, mounting brackets and the Balluff mounting system BMS, in our **Accessories Line** catalog.

### Suitable connectors (please order separately)



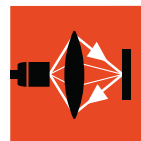
Size	Design	Cable material	Color	Length	Ordering code
M12, 4-pin	Straight	PUR	Black	2 m	<b>BCC032F</b>
M12, 4-pin	Straight	PVC	Gray	2 m	<b>BCC0367</b>
M12, 4-pin	Angled	PUR	Black	2 m	<b>BCC032Y</b>
M12, 4-pin	Angled	PVC	Gray	2 m	<b>BCC036N</b>

Connectors without LED are suitable for PNP and NPN sensors.

**More electrical accessories:** You can find a large selection of plug connectors and connector cables in a wide variety of cable materials, colors and lengths in our **Industrial Networking and Connectivity** catalog.

# Photoelectric Sensors with Special Properties

## Luminescence sensors BLT 18KF



Photoelectric  
Sensors

Photoelectric  
Sensors

Photoelectric  
Sensors with  
Special Prop-  
erties

Analog Fork  
Sensors BGL\_C

Optical Window  
Sensors BOW

Light Grids BLG

Color Sensors  
BFS

Contrast Sensors  
BKT

**Luminescence  
Sensors BLT**

Optical Fiber  
Base Units BFB/  
BOS

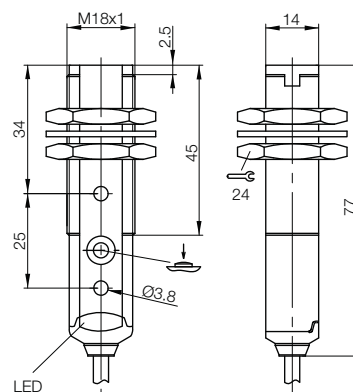
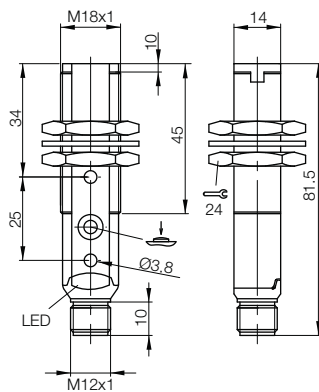
Plastic  
Fiber Optics BFO

Glass Fiber  
Optics BFO

Photoelectric  
Distance  
Sensors  
for Analog  
Distance  
Measurement

Accessories for  
Photoelectric  
Sensors

Series	BLT	BLT
Working range	8...20 mm	8...20 mm
PNP NC/NO	<b>Ordering code</b> BLT0004	<b>BLT0003</b>
	Part number BLT 18KF-001-P-S4	BLT 18KF-001-P-02
Supply voltage $U_S$	10...30 V DC	10...30 V DC
No-load supply current $I_0$ max.	$\leq 25$ mA	$\leq 25$ mA
Output current	100 mA	100 mA
Switching type	Light and dark switching	Light and dark switching
Polarity reversal/short-circuit protected	Yes/Yes	Yes/Yes
Settings	Teach-in	Teach-in
Emitter, light type	LED, UV	LED, UV
Wavelength	370 Nm	370 Nm
Light spot diameter	approx. 3 mm at 20 mm	approx. 3 mm at 20 mm
Output function indicator	Yellow LED	Yellow LED
Power/error indicator	Green/red LED	Green/red LED
Response time	0.5 ms	0.5 ms
Switching frequency	1 kHz	1 kHz
Degree of protection as per IEC 60529	IP 67	IP 67
Ambient temperature $T_a$	-25...+55 °C	-25...+55 °C
Permissible ambient light	EN 60947-5-2	EN 60947-5-2
Material	Housing PBT	PBT
	Optical surface PMMA	PMMA
Connection	M12 connector, 4-pin	2 m PVC cable, 4x0.14 mm <sup>2</sup>



# Photoelectric Sensors with Special Properties

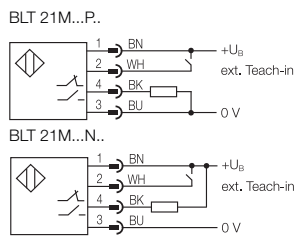
## Luminescence sensors BLT 21M

# Luminescence Sensors

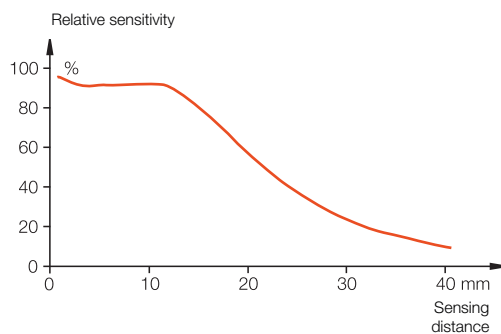
The luminescence sensor **BLT 21M** detects any type of luminescent markings on any surface and automatically adjusts to ambient conditions. The sensor is calibrated with the simple push of a button. (Markings with a luminescence greater than the background are detected.)

A precise setting is available for slightly luminescent markings. The switching type can be freely selected in this case.

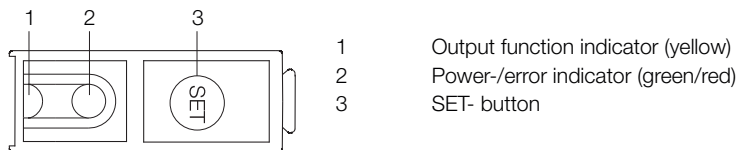
### Wiring diagrams



### Function diagram

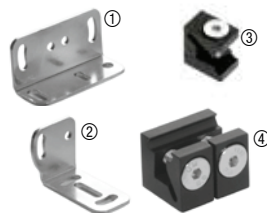


### Indicators and operating elements



### Recommended accessories (please order separately)

Description	Ordering code
① Mounting bracket	<b>BAM00T9</b>
② Mounting bracket	<b>BAM00TA</b>
③ Clamping holders	<b>BAM00TF</b>
④ Clamping holders	<b>BAM00TH</b>



### Suitable connectors (please order separately)

Size	Design	Cable material	Color	Length	Ordering code
M8, 4-pin	Straight	PUR	Black	2 m	<b>BCC02N2</b>
M8, 4-pin	Straight	PVC	Gray	2 m	<b>BCC02PL</b>
M8, 4-pin	Angled	PUR	Black	2 m	<b>BCC02NC</b>
M8, 4-pin	Angled	PVC	Gray	2 m	<b>BCC02PZ</b>



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# Photoelectric Sensors with Special Properties

## Luminescence sensors BLT 21M



Photoelectric  
Sensors

Photoelectric  
Sensors

Photoelectric  
Sensors with  
Special Proper-  
ties

Analog Fork  
Sensors BGL\_C

Optical Window  
Sensors BOW

Light Grids BLG

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**Luminescence  
Sensors BLT**

Optical Fiber  
Base Units BFB/  
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Plastic  
Fiber Optics BFO

Glass Fiber  
Optics BFO

Photoelectric  
Distance  
Sensors  
for Analog  
Distance  
Measurement

Accessories for  
Photoelectric  
Sensors

Series		<b>BLT</b>
Working range		<b>0...40 mm</b>
PNP NC/NO	<b>Ordering code</b>	<b>BLT0009</b>
	Part number	BLT 21M-001-P-S4
NPN NC/NO	<b>Ordering code</b>	<b>BLT0008</b>
	Part number	BLT 21M-001-N-S4
Supply voltage $U_s$		10...30 V DC
No-load supply current $I_0$ max.		$\leq 30$ mA
Output current		100 mA
Switching type		Light and dark switching (adjustable in precise mode)
Polarity reversal/short-circuit protected		Yes/Yes
Settings		Teach-in
Emitter, light type		LED, UV
Wavelength		370 Nm
Light spot diameter		ca. 1.5 mm at 10 mm
Output function indicator		Yellow LED
Power/error indicator		Green/red LED
Response time		250 $\mu$ s
Switching frequency		2 kHz
Time function		20 ms off-delay
Degree of protection as per IEC 60529		IP 67
Ambient temperature $T_a$		-10...+55 °C
Permissible ambient light		EN 60947-5-2
Material	Housing	GD-Zn/Al
	Optical surface	Glass
Connection		M12 connector, 4-pin

