



VARIO B

Switching light curtains

Part No. 501 07954



5m



- Throughbeam principle with high performance reserve and integrated evaluation
- Automatic beam calibration after installation
- Configurable function scope (switching threshold, warning function, beam suppression, detection range)
- Additional diagonal beam evaluation for increasing the detection reliability and resolution
- Beam spacings 5 / 12.5 / 25 / 50 / 100mm
- Broad range of models; cable and M8 models, PNP and NPN models



We reserve the right to make changes • DB\_varioB\_gb.fm

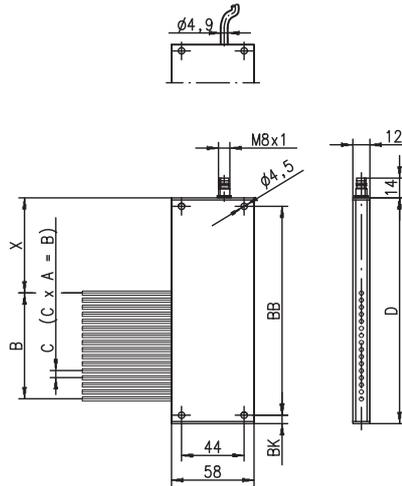
Accessories:

(available separately)

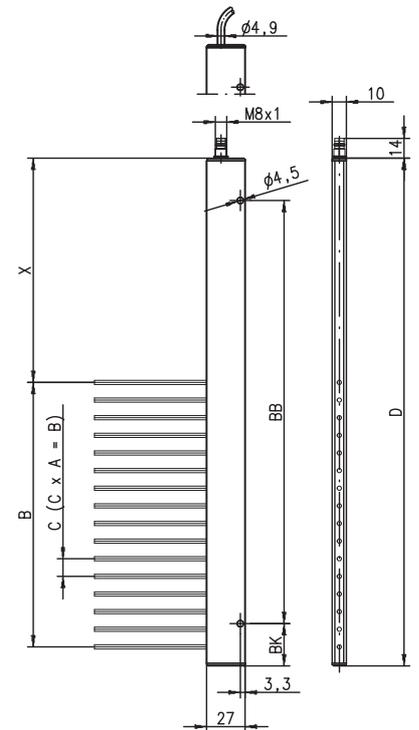
- PC - interface module VB-Int-232  
Part No. 501 07711
- Cable with M8 connector
- PC - configuration software VARIOsoft, download from:  
<http://www.leuze.de/downloads/los/08/variosoft.zip>

Dimensioned drawing

VARIO with beam spacing = 5 mm



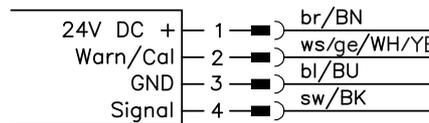
VARIO with beam spacing > 5 mm



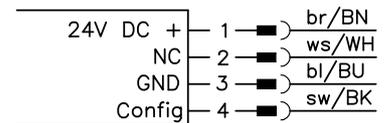
- A** Beam spacing
  - B** Measurement field length
  - C** Number of beams
  - D** Profile length
  - BB** Distance bore hole - bore hole
  - BK** Distance bore hole - profile edge
  - X** Distance first beam - profile edge
- see dimension table on page 3!**

Electrical connection

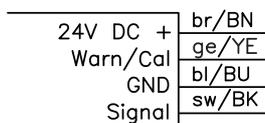
Receiver / M8



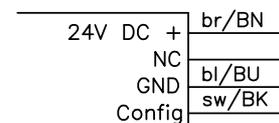
Transmitter / M8



Receiver / cable



Transmitter / cable



## Specifications

### Optical data

Operating range	0.7 ... 5 m
Maximum number of beams	96
Light source	LED (modulated light)
Wavelength	880 nm
Permissible angular deviation	±10° (between the transmitter bar and receiver bar)

### Time behaviour

Cycle time	parallel beam analysis: 1 ms but min. 30 ms parallel and diagonal beam analysis: 2 ms but min. 60 ms
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### Electrical data

Operating voltage $U_B$ <sup>1)</sup>	24VDC (+20%; -15%)
Power consumption	approx. 8 W (total)
Outputs <sup>2)</sup>	semiconductor outputs
	/4: PNP
	/2: NPN
Output current	max. 200 mA

### Indicators

Control LEDs	2 x status LEDs in receiver bar, 1 x status LED in transmitter bar
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### Mechanical data

Light curtain housing	aluminium, natural anodising, front cover made of plastic, dark red. (Do not use any cleaning agents containing solvents!)
Profile cross section	12 x 58 mm at 5 mm beam spacing 10 x 27 mm at other beam spacings
Connection	receiver: 4-pin, transmitter 3-pin <b>,4000:</b> cable variants, round lines with PVC sheathing Ø 4.9 mm, length 4 m, with ferruled ends <b>-S8:</b> M8 connector, 4-pin
Core cross section	0.34 mm <sup>2</sup>

### Environmental data

Ambient temperature (operation)	-10°C ... +45°C
Humidity	up to 90 % relative, non-condensing
Interference rejection – ambient light	operation with no interference with the effect caused by a halogen light source, 500 W, outside the ±15° angular range of the beam axis at a distance of ≥ 1 m. operation with no interference with sunshine up to 200,000 LUX outside the ±25° angular range of the beam axis.
Protection class	IP 54
Standards applied	EN 61000-6-3/4 and EN 60947-5-2, EN 61000-6-1/2 and EN 60947-5-2, EN 61000-4-2

### Options

Automatic calibration

- 1) 2=polarity reversal protection, use a grounded voltage supply!  
2) 2=polarity reversal protection, 3=short-circuit protection for all transistor outputs

## Order guide

The products of the **VARIO B** series are characterised by a broad range of models.

Please order the desired light curtain using the **type code on page 4!**

**Beam spacing A** and **measurement field length B** of a transmitter/receiver pair must be the same!

**Transmitter bar**

**Receiver bar**

### Designation

VBT ...

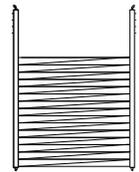
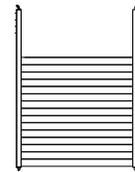
IVBR ...

## Tables

Measurement function	Light switching	Dark switching
	Parallel beam method	<b>00</b>
Parallel+diagonal beam method	<b>01</b>	<b>03</b>

00 / 02

01 / 03



## Remarks

- A VB-INT-232 interface module (Part No. 501 07711) is necessary for configuring the VARIO B light curtains using a PC and the VARIOsoft configuration software.
- Download the VARIOsoft configuration software:  
<http://www.leuze.de/downloads/los/08/variosoft.zip>



## VARIO B

## Switching light curtains

## Dimension table

Part master	Beam spacing A	Measurement field length B	Number of beams C	Profile length D	BK	Number of bore holes	BB	Profile thickness	Profile depth	Distance X
VB-5-35	5	35	8	120	6	4	108	12	58	67.5
VB-5-75	5	75	16	160	6	4	148	12	58	67.5
VB-5-115	5	115	24	200	6	4	188	12	58	67.5
VB-5-155	5	155	32	240	6	4	228	12	58	67.5
VB-5-195	5	195	40	280	6	4	268	12	58	67.5
VB-5-235	5	235	48	320	6	4	308	12	58	67.5
VB-5-275	5	275	56	360	6	4	348	12	58	67.5
VB-5-315	5	315	64	400	6	4	388	12	58	67.5
VB-12.5-88	12.5	88	8	260	30	2	200	10	27	158.5
VB-12.5-188	12.5	188	16	360	30	2	300	10	27	158.5
VB-12.5-288	12.5	288	24	460	80	2	300	10	27	158.5
VB-12.5-388	12.5	388	32	560	80	2	400	10	27	158.5
VB-12.5-488	12.5	488	40	660	80	2	500	10	27	158.5
VB-12.5-588	12.5	588	48	760	30	2	700	10	27	158.5
VB-12.5-688	12.5	688	56	860	80	2	700	10	27	158.5
VB-12.5-788	12.5	788	64	960	80	2	800	10	27	158.5
VB-25-175	25	175	8	360	30	2	300	10	27	165
VB-25-375	25	375	16	560	80	2	400	10	27	165
VB-25-575	25	575	24	760	30	2	700	10	27	165
VB-25-775	25	775	32	960	80	3	400	10	27	165
VB-25-975	25	975	40	1160	80	3	500	10	27	165
VB-25-1175	25	1175	48	1360	80	3	600	10	27	165
VB-25-1375	25	1375	56	1560	30	4	500	10	27	165
VB-25-1575	25	1575	64	1760	130	4	500	10	27	165
VB-25-1775	25	1775	72	1960	80	4	600	10	27	165
VB-25-2175	25	2175	88	2360	140	5	520	10	27	165
VB-25-2375	25	2375	96	2560	80	5	600	10	27	165
VB-50-350	50	350	8	560	80	2	400	10	27	190
VB-50-750	50	750	16	960	80	3	400	10	27	190
VB-50-1150	50	1150	24	1360	80	3	600	10	27	190
VB-50-1550	50	1550	32	1760	130	4	500	10	27	190
VB-50-1950	50	1950	40	2160	80	5	500	10	27	190
VB-50-2350	50	2350	48	2560	80	5	600	10	27	190
VB-50-2750	50	2750	56	2960	80	5	700	10	27	190
VB-50-3150	50	3150	64	3360	80	5	800	10	27	190
VB-100-700	100	700	8	970	85	3	400	10	27	250
VB-100-1100	100	1100	12	1370	85	3	600	10	27	250
VB-100-1500	100	1500	16	1770	135	4	500	10	27	250
VB-100-1900	100	1900	20	2170	85	5	500	10	27	250
VB-100-2300	100	2300	24	2570	85	5	600	10	27	250
VB-100-2700	100	2700	28	2970	85	5	700	10	27	250
VB-100-3100	100	3100	32	3370	85	5	800	10	27	250

A = beam spacing

B = measurement field length

C = number of beams

D = profile length

BK = distance bore hole to profile edge (connector/cable end)

BB = distance bore hole to bore hole

X = distance profile edge to first beam (connector/cable end)

Tolerance of the beam positions: ± 2mm

All dimensions in mm !



### Type code

#### Type code VARIO B - transmitter

**VBT** - 12.5 -  788 .4000

Type:

VBT VARIO B transmitter

Beam spacing A in mm:

- 5
- 12.5
- 25
- 50
- 100

Measurement field length B in mm:

see following table "Measurement field length"

Electrical connection:

- S8 M8 connector
- ,4000 cable, length in mm

#### Type code VARIO B - receiver

**IVBR / 4** - 12.5 -  788 - 00 .4000

Type:

IVBR VARIO B receiver with warning output

Output circuit:

- 2 NPN
- 4 PNP

Beam spacing in mm:

- 5
- 12.5
- 25
- 50
- 100

Measurement field length in mm:

see following table "Measurement field length"

Measurement function:

- 00 light switching, parallel beam analysis (HP)
- 01 light switching, parallel and diagonal beam analysis (HD)
- 02 dark switching, parallel beam analysis (DP)
- 03 dark switching, parallel and diagonal beam analysis (DD)

Electrical connection:

- S8 M8 connector
- ,4000 cable, length in mm

#### Measurement field length

		Measurement field length B [mm]										
Beam spacing A [mm]	5	35	75	115	155	195	235	275	315			
	12.5	88	188	288	388	488	588	688	788			
	25	175	375	575	775	975	1175	1375	1575	1775 <sup>1)</sup>	2175 <sup>1)</sup>	2375 <sup>1)</sup>
	50	350	750	1150	1550	1950	2350	2750	3150			
	100	700	1100	1500	1900	2300	2700	3100				

1) only with PNP switching output, available as cable version and with measurement function 00!