

VARIO

Switching light grid for object detection



The system, consisting of a transmitter and receiver, produces a monitoring field from many infrared light beams and generates a reliable switching signal as soon as objects penetrate the monitoring field. VARIO's attractive price to performance ratio, its small design and integrated evaluation unit make it an economical sensor solution for flexible use in automation.

Advantages

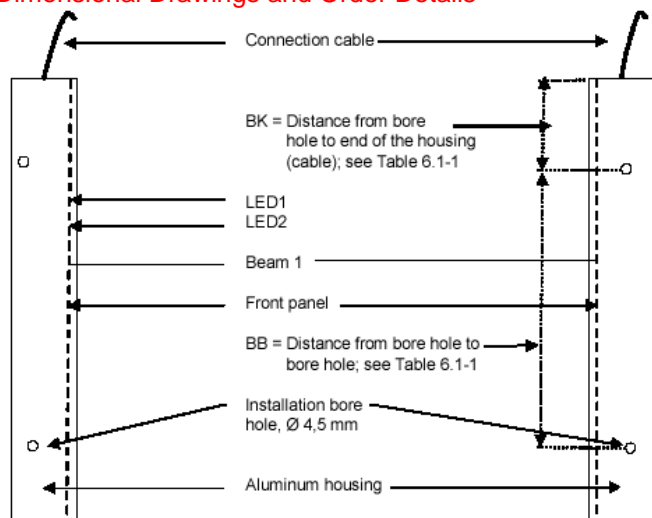
- Excellent price/performance ratio, thus providing optimal return on investment
- Large selection of different beam spacings from 5 mm to 100 mm
- Large selection of different monitoring heights from 35 mm to 3100 mm
- Very small housing dimensions thus ensuring flexibility in possible applications (10 x 27 mm or 12 x 58 mm)
- Parallel and diagonal beams offer greater reliability in detection
- Electronic calibration of light grid optimizes object detection at different ranges
- No separate evaluation unit or synchronization line required, thus reducing system and installation expenses
- Short-circuit-proof outputs increase system availability
- Time-saving installation with on-site parameter assignment

Areas of application

Overhang monitoring, process automation, material flow control, packaging technology, storage/conveyor systems, production monitoring, and many more.

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Dimensional Drawings and Order Details



Order number	Brief dscpt.	Function	Beam spacing (mm)	Height monitoring (mm)	Number of beams	Length of profile (mm)	Dim. BK	Dim. BB	Dim. GB	Dim. GT
64810000	VT5-35	Transmitter	5	35	8	120	6	108	12	58
6491000X	VR5-35	Receiver	5	35	8	120	6	108	12	58
64812000	VT5-75	Transmitter	5	75	16	160	6	148	12	58
6491200X	VT5-75	Receiver	5	75	16	160	6	148	12	58
64814000	VT5-115	Transmitter	5	115	24	200	6	188	12	58
6491400X	VT5-115	Receiver	5	115	24	200	6	188	12	58
64816000	VT5-155	Transmitter	5	155	32	240	6	228	12	58
6491600X	VT5-155	Receiver	5	155	32	240	6	228	12	58
64820000	VT12.5-88	Transmitter	12,5	88	8	260	30	200	10	27
6492000X	VT12.5-88	Receiver	12,5	88	8	260	30	200	10	27
64822000	VT12.5-188	Transmitter	12,5	188	16	360	30	300	10	27
6492200X	VT12.5-188	Receiver	12,5	188	16	360	30	300	10	27
64824000	VT12.5-288	Transmitter	12,5	288	24	460	80	300	10	27
6492400X	VT12.5-288	Receiver	12,5	288	24	460	80	300	10	27
64826000	VT12.5-388	Transmitter	12,5	388	32	560	80	400	10	27
6492600X	VT12.5-388	Receiver	12,5	388	32	560	80	400	10	27
64830000	VT25-175	Transmitter	25	175	8	360	30	300	10	27
6493000X	VT25-175	Receiver	25	175	8	360	30	300	10	27
64832000	VT25-375	Transmitter	25	375	16	560	80	400	10	27
6493200X	VT25-375	Receiver	25	375	16	560	80	400	10	27
64834000	VT25-575	Transmitter	25	575	24	760	30	700	10	27
6493400X	VT25-575	Receiver	25	575	24	760	30	700	10	27
64836000	VT25-775	Transmitter	25	775	32	960	80	400	10	27
6493600X	VT25-775	Receiver	25	775	32	960	80	400	10	27
64840000	VT50-350	Transmitter	50	350	8	560	80	400	10	27
6494000X	VT50-350	Receiver	50	350	8	560	80	400	10	27
64842000	VT50-750	Transmitter	50	750	16	960	80	400	10	27
6494200X	VT50-750	Receiver	50	750	16	960	80	400	10	27
64844000	VT50-1150	Transmitter	50	1150	24	1360	80	600	10	27
6494400X	VT50-1150	Receiver	50	1150	24	1360	80	600	10	27
64846000	VT50-1550	Transmitter	50	1550	32	1760	130	500	10	27
6494600X	VT50-1550	Receiver	50	1550	32	1760	130	500	10	27
64850000	VT100-700	Transmitter	100	700	8	970	85	400	10	27
6495000X	VT100-700	Receiver	100	700	8	970	85	400	10	27
64851000	VT100-1100	Transmitter	100	1100	12	1370	85	600	10	27
6495100X	VT100-1100	Receiver	100	1100	12	1370	85	600	10	27
64852000	VT100-1500	Transmitter	100	1500	16	1770	135	500	10	27
6495200X	VT100-1500	Receiver	100	1500	16	1770	135	500	10	27
64853000	VT100-1900	Transmitter	100	1900	20	2170	85	500	10	27
6495300X	VT100-1900	Receiver	100	1900	20	2170	85	500	10	27
64854000	VT100-2300	Transmitter	100	2300	24	2570	85	600	10	27
6495400X	VT100-2300	Receiver	100	2300	24	2570	85	600	10	27
64855000	VT100-2700	Transmitter	100	2700	28	2970	85	700	10	27
6495500X	VT100-2700	Receiver	100	2700	28	2970	85	700	10	27
64856000	VT100-3100	Transmitter	100	3100	32	3370	85	800	10	27
6495600X	VT100-3100	Receiver	100	3100	32	3370	85	800	10	27

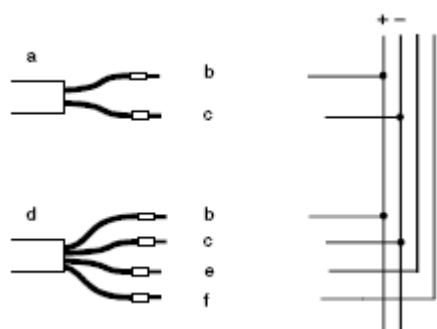
Replace the eighth place in the order number for receivers as follows:

- X = 0=light switching, parallel beam
- X = 1=light switching, parallel and diagonal beam
- X = 2=dark switching, parallel beam
- X = 3=dark switching, parallel and diagonal beam

- BK= Bore hole to housing end (cable)
- BB= Bore hole to bore hole
- GB= Width of housing
- GT= Depth of housing

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Electrical Connection



- a) Transmitter
- b) brown = plus
- c) blue = minus
- d) Receiver
- e) black = signal
- f) yellow = warning

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Technical Data

Light grid housing	Aluminum, natural anodized, front pane cover made of synthetic materials, dark red. (Do not use any cleaning agents containing solvents!)
Profile cross section	12 x 58 mm at beam spacing of 5 mm 10 x 27 mm at other beam spacings
Connection	Permanently connected lines 4 m in length, ready-made with wire sleeves.
Transmitter	2-wire round line, \varnothing approx. 4.9 mm; PVC coating for solid mounting. Light wave length approx. 880 nm
Receiver	4-wire round line, \varnothing approx. 4.9 mm; PVC coating for solid mounting.
Permissible angular deviation	$\pm -10^\circ$ (between the transmitter bar and receiver bar)
Operating voltage	24 V DC (+20%; -15%), protected against reverse polarity. Use a grounded power supply!
Interference immunity extraneous light	Operation with no interference with the effect caused by a halogen light source, 500 W, outside the $\pm 15^\circ$ 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 $\pm 25^\circ$ angular range of the beam axis.
Power consumption	Approx. 8 W (total)
Outputs	Short-circuit-proof semi-conductor outputs PNP switching current, max. 200 mA
Operating temperature	-10 °C to 45 °C
Humidity	Up to 90 % relative, non-condensing
Range	Approx. 0.7 ... 4 m (with standard parameter settings)
Response time	Parallel beams: Approx. 100 ms Diagonal beams: Approx. 200 ms
Maximum number of beams	32
Protection type	IP54 (others available on request)