



TOUCH IT, SAVE IT








AUTOMATION LIGHT GRID SERIES LGS



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The light grids can be configured and taught manually without software via a new kind of touch field. The innovative touch field is located in the receiver unit and permits easy step-by-step programming without a PC. The menu and OK buttons are used to move quickly and easily through the different setting options which are displayed by a series of illuminated pictograms.

For the purposes of secure operation, the touch field can be disabled with a keylock.

Push buttons		
	Menu button	Function selection
	OK button	Function confirmation
Function indicators		
	Green LED	Power on / short circuit / undervoltage / energy-saving mode / IO-Link
	Yellow LED	Switching state / excess gain / test / error state
Function status indicators level 1		
Q	Switching output	Teach-in object or display object detection
H1	Height output 1	Teach-in height 1 or display teach-in height 1
H2	Height output 2	Teach-in height 2 or display teach-in height 2
H3	Height output 3	Teach-in height 3 or display teach-in height 3
	Object position	Object detection for moving objects Object detection for static objects
	Beam crossover	Beam crossover active Beam crossover deactivated
	Object tolerance	Tolerance beam for objects active Tolerance beam for objects deactivated
F2	F2	Activate 2nd level
Function status indicators level 2		
Q	Q (F2)	Beam suppression (blanking) in case of interfering objects
H1	H1 (F2)	Inverse operation (gap detection)
H2	H2 (F2)	Light-ON or dark-ON switching mode
H3	H3 (F2)	Reset default setting



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The light grid with
the special touch:
LGS with touch field
programming



INTELLIGENT AUTOMATION LIGHT GRID WITH MANY EXTRAS

In addition to the usual standard functions, the ingenious LGS series light grids come with a range of noteworthy extra functions previously found only on much more expensive devices. These include lightning speed object detection even with beam crossover, the option of identifying objects, or remote communication via an IO-Link interface. If one or two beams are permanently obstructed due to circumstances in the application, they can be ignored with the blanking function. The signal strength is constantly corrected at every startup and during operation to compensate for influences from temperature changes or the effects of contamination.

With their wide variety of modes, customizable lengths from small to large, and broad range of resolutions, the new LGS light grids cover many automation technology applications. The additional operating modes simplify the typical automation tasks significantly, enabling new detection solutions.

Standby mode for applications where the light grids are not used in continuous operation.





AT A GLANCE

- Extremely narrow modular light grid with integral controller
- Fast, uncomplicated 3-sided mounting
- Sensing ranges up to 8 m
- Greatest flexibility with field heights from 100 mm to 3200 mm
- Super-fast object detection, including reflective objects
- Different beam spacings from 8 mm to 100 mm
- Beam crossover with no reduction in response time
- Software-free parameterization via touch field or external input
- Automatic calibration without manual teach-in
- Signal thresholds are automatically tracked in the event of ambient influences
- Can be operated on either side by two-beam synchronization
- Suppressible beam areas (blanking)
- Standby mode provides reduced power consumption and longer service life
- Immune to ambient light
- Communication option via an IO-Link interface
- Use in refrigerated warehouses down to -30 °C

The LGS light grid for standard applications, e.g. object detection or overhang control

Standard application scenarios demand cost-effective, reliable, durable technology that can be adapted easily to the requirements of the application. The LGS modular light grids meet these requirements with their powerful detection technology, combined with intelligent microprocessor evaluation. They are available in a wide variety of sizes and with different field heights and are suitable for a wide variety of tasks covering objects of all shapes and sizes, e.g. individual cartons, larger cases, or pallets. These light grids include more features than the previous standard version.

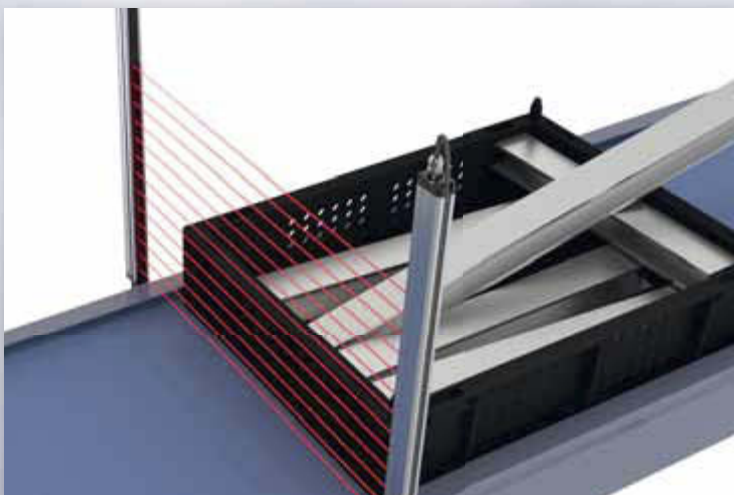




AT A GLANCE

DETECTING THE ESSENTIALS – SUPER-FAST OBJECT DETECTION, WITH THE FINEST RESOLUTION

- Super-fast object detection, even with 3-way beam crossover
- Typical response time of only 5 ms with 100 beams
- Beam crossover enables detection of even the smallest objects, down to 4 mm
- Automatic signal calibration
- Suppressible beam areas (blanking)



DETECTS THE HEIGHT YOU REQUIRE – HEIGHT CONTROL



The LGS light grid for complex applications, e.g. height or sag monitoring

This is where the extra features come into play. Additional operation modes are included in the light grids that significantly simplify automation in many situations and enable new detection solutions. Light grids are equipped with three separate height switching outputs for height and sag monitoring. After the reference points are taught, the light grids are able to detect or report three height profiles. Adjustment of the height measurement can be performed directly at the receiver without software. Simply move the object to be detected into the beam path or interrupt the highest beam. This applies to 3 different heights with separate switching outputs. Up to 8 heights can be evaluated with the IO-Link interface

AT A GLANCE

DETECTS THE HEIGHT YOU REQUIRE – SOFTWARE-FREE ADJUSTMENT AND HEIGHT MONITORING

- Set heights without PC
- Super-fast object detection, even with 3-way beam crossover
- 3 separate outputs on receiver for height monitoring
- A beam bundle (at least 1 beam) can be assigned to each of the 3 outputs
- Suppressible beam areas (blanking)



The LGS light grid for special applications, e.g. object identification

Here, the extra features really come into their own. The light grids feature integrated object detection, so that objects cannot only be detected, but also identified. The objects can be recognized by their geometry. Due to flexible teach-in options, such as inverted teach-in, not only are solid objects identifiable, but also those with gaps and openings, e.g. body components in the automobile industry. Object identification operates at a standstill and for moving objects.





AT A GLANCE

RELIABLE DETECTION – OBJECT IDENTIFICATION THROUGH INTEGRATED OBJECT DETECTION


- Any object can be taught at the push of a button
- The position is learned automatically when the object is taught
- The object position can be defined as floating or fixed
- Inverted teach-in function for gaps and openings



IO-Link: Configuration/troubleshooting via PACTware software

All units have integral IO-Link capability for potential networking. Communication via IO-Link either permits the devices to be operated independently or advanced functions can be configured, such as remote configuration and online diagnostics.

Parameters and configuration:	Sensor identification data:	Diagnostic data:
<ul style="list-style-type: none"> Switching signal object parameter Height control 1 to 8 Suppression area 1 and 2 Direction of detection Light ON/dark ON Suppression of small objects GAB OFF delay time Response threshold Hysteresis Excess gain threshold Output configuration (push-pull, NPN, PNP) 	<ul style="list-style-type: none"> Sensor device information Service functions Operating information Device features Communication features 	<ul style="list-style-type: none"> Process data (detection field status, contamination, synchronization) Diagnostic measurement data for the position and height of the object



AT A GLANCE

- Communication via IO-Link interface
- Configuration and diagnostic options
- Special feature: measurement of object size using obstructed beams

Reliable operation under all conditions: low temperature version

For freezer applications, e.g. in the food industry, special light grids are available that are suitable for ambient temperatures of -30 to +60 °C. The emitter and receiver units have their own temperature stabilization.

AT A GLANCE

- For use in cold storage warehouses
- Ambient temperatures -30 °C to 60 °C
- Models with option/146
- Emitter and receiver are independently temperature-compensated

TECHNICAL DATA

Effective operating range	0.3 m ... 6 m (standard) 0.5 m ... 8 m (option /35)
Field height	min. 100 mm, max. 3200 mm (in 100 mm steps)
Beam spacing	8 mm ; 17 mm ; 25 mm ; 50 mm ; 100 mm
Beam crossover	3-way beam crossover
Optical resolution	without beam crossover: 8 mm / with beam crossover: 4 mm
Operating controls	2 pushbuttons on the receiver for configuration
Operating display	Green LED: Power on / short circuit / undervoltage / energy-saving mode / IO-Link
Function display	Yellow LED: Switching state / excess gain / test / error
Response time	typically 5 ms with 100 beams
Operating voltage	18 V DC ... 30 V DC, class 2
Switching mode	Light-ON/dark-ON switching, adjustable
Switch output (detection field)	1 push-pull output, short-circuit and reverse polarity protected
Switching outputs (height checking)	3 push-pull outputs, short-circuit and reverse polarity protected
Test input and range input	Emitter with test input and range switching
Function input	for external configuration
Degree of protection	IP67
Operating temperature	-10 °C ... +60 °C (standard) -30 °C ... +60 °C (option /146)
Connection	200 mm pigtail with M12 connector

INNOVATIVE ACCESSORIES FOR SIMPLEST INSTALLATION

Innovative quick-tighten mounting brackets are available for simple mounting and quick replacement of the light grid. They permit mounting on all three sides of the profile without tools. Other flexible mounting options are available thanks to a continuous M6 groove on the back of the profile and the option for the customer to make thru-holes for M4 screws.



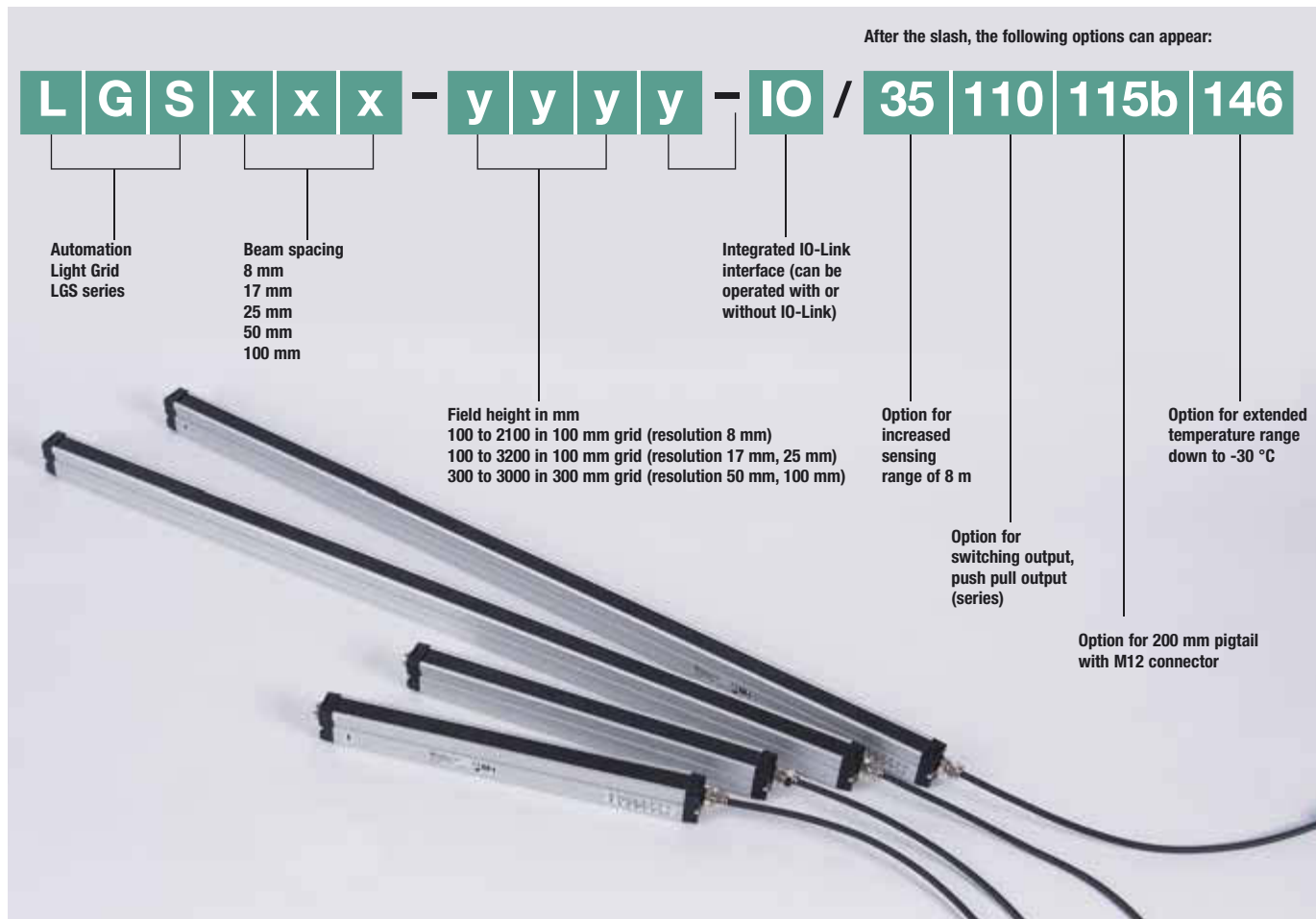
OMH-SLCT-01



OMH-LG-01

WHATEVER YOU WANT: FROM SMALL TO LARGE

The modular light grids consist of an emitter and a receiver strip which cover a detection area with infrared light beams with a field height between 100 mm and 3200 mm. Beam spacings of 8, 17, 25, 50 and 100 mm parallel beam distances are available. Individual type designations reflect the specific requirements.



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