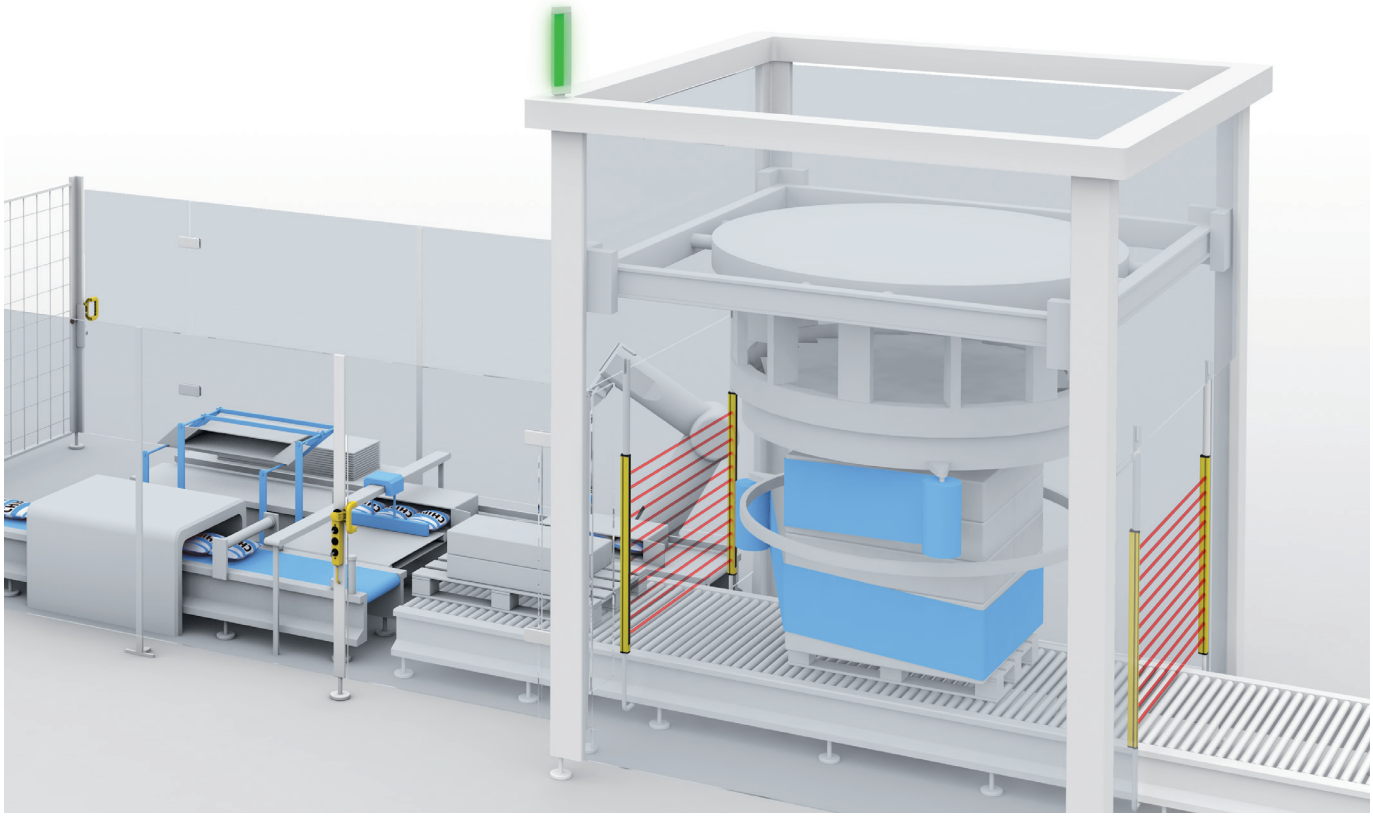
Flexible problem solving

EFFICIENT SOLUTIONS FOR PALLET WRAPPING MACHINES

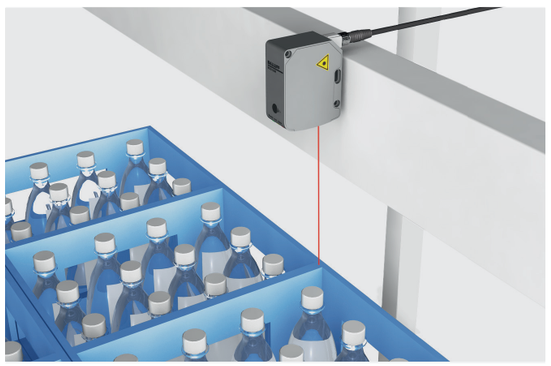
Careful and fast, clean and secure, variable and flexible. These are the requirements faced in the packaging process on a daily basis. On the pallet wrapper for example, for implementing demanding stretch wrap applications. To master tasks like this on the turntable, Balluff offers you modern, efficient solutions. Read about these in our application examples on the next pages.

The technology shown here is part of our innovative Smart Automation and Monitoring Systems (SAMS), consisting of various individually selectable devices. The key feature is that all of the devices are based on a uniform, standardized operating, configuration and diagnostics concept and offer numerous additional functions. This makes for a powerful system that is flexible and easy to use.

SAMS can also enhance your overall performance. The interoperation of many components lets you exploit the full potential of the system. Then you can bring together and utilize all the relevant data from your production line using the same structure. Additionally, data obtained by SAMS components supports your condition monitoring and predictive maintenance program. The result is greater output, more machine uptime and outstanding productivity.



Pallet wrapper

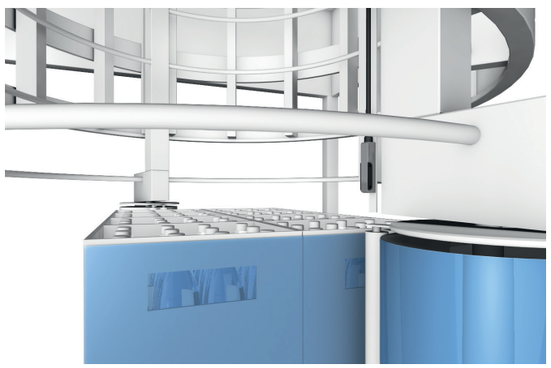


MONITORING STACK HEIGHTS ON THE PALLET

Our BOD photoelectric distance sensors check pallet heights with extraordinary accuracy over great distances and regardless of material or surface properties. You can set measuring ranges on the distance sensor for flexible use with varying pallet heights. The IO-Link interface provides comprehensive parameterization and diagnostics functions. It is simple and intuitive to operate using keys and the display.

Features

- Reliable regardless of material or surface properties
- Comprehensive parameterization and diagnostics functions via IO-Link
- Simple, intuitive operation with keys and display
- Maximum protection with Laser Class 1
- Long service life thanks to rugged housing with higher enclosure ratings

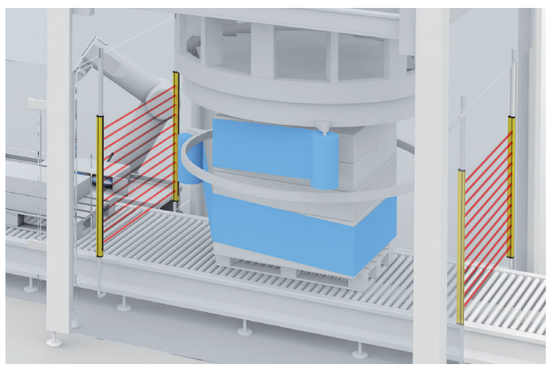


EXACT POSITIONING OF THE STRETCH WRAP

When wrapping the product with stretch wrap, conserving material is key. To this end the wrap needs to be precisely positioned. Our BML magnetic encoder with 1 µm resolution is an ideal solution. Its non-contacting measuring principle makes it wear-free and simple to use. And the compact housing means you can locate it anywhere even when space is at a premium.

Features

- Simple to use, wear-free, non-contact
- Space-saving and easy to integrate thanks to compact form factor

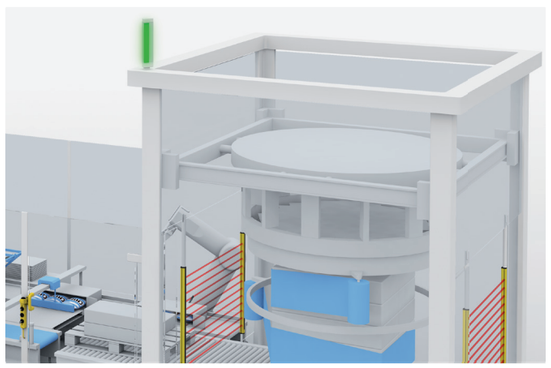


SAFETY FOR MAN AND MACHINE

Our BGL opto-electronic protective devices reliably protect your employees and your product. The invisible field of these infrared safety curtains prevents unintended access to hazardous areas. The light beam is interrupted, for example, when a worker gets too close to a running machine. This immediately generates the safety shutoff command, stopping the drive on the wrapping machine. Our opto-electronic protective devices open up new application possibilities. The light curtains can be easily integrated into your system, for example, by muting, blanking or cascading.

Features

- Protection fields and detection capability can be configured for any unique process
- For applications up to PLe (Safety Category 4)
- Protection field height up to 1500 mm (finger, hand and body protection)
- User-friendly diagnostics thanks to LEDs for reducing downtimes



OPERATING STATUS DIAGNOSTICS

If you need seamless visualization of the production sequence on your production line, the SmartLight tower light provides the perfect solution. The SmartLight displays trends and tendencies, so that you can continually monitor various stages. The various modes – run light, stack light and level mode – can be set without making any mechanical changes. Use the controller to choose between Running Light and Color Gradient or the display of up to five color segments.

Features

- Highly flexible: can be changed on-the-fly – no mechanical reconfiguration necessary
- Simple to install and can be retrofitted anywhere
- Multi-color, bright LEDs with a broad color spectrum – individually definable
- IIoT capable thanks to IO-Link

PRODUCT PORTFOLIO

	BOD0020		BML06HC	BLG0009
Series	23K		–	–
Dimensions	51 × 23 × 52.4 mm		16 × 18.6 × 54 mm	35 × 1364 × 41.2 mm
Interface/interface coding	IO-Link 1.1, PNP/NPN/Auto-Detect NO/NC		IO-Link 1.1;Analog Sin/Cos (1 Vpp)/binary	–
Principle of operation	Photoelectric distance sensor		Cable with M8 socket	–
Principle of optical operation	Light time-of-flight		–	–
Beam characteristic	Collimated		–	–
Principle of optical operation	Laser red light		–	–
Light type	Aluminum		–	–
Light spot size	5.5 × 7 mm at 5 m		–	–
Range	100...5000 mm		–	50 m
Accuracy	±0.6 % FS		–	–
Repeat accuracy	0,024 %FS		–	–
Resolution	≤ 5 mm		1 µm	–
Connection	Connector, M12×1 male, 4-pin		–	–
Housing material	ABS		–	Aluminum, painted (yellow RAL 1003)
Operating voltage U_b	18...30 VDC		18...30 VDC	–
Approval/Conformity	CE, cULus, EAC, Ecolab, WEEE		cULus, CE, EAC, WEEE	TÜV, cULus, CE, WEEE
Measuring range	–		8190 mm	–
Read distance	–		0.01...1.3 mm	–
Ambient temperature	–		–10...70 °C	–10...55 °C
Performance Level	–		–	e
Safety category (EN ISO 13849-1)	–		–	4
SIL (IEC 61508)	–		–	3
SIL CL (EN 62061)	–		–	3
Response time max.	–		–	16 ms
Operating principle	–		–	non-contact (photoelectric)
Light beams, number	–		–	4
Protective field height (Hp)	–		–	1215 mm
Connection 1	–		–	Emitter: M12x1 male, A-coded
Connection 2	–		–	Receiver: M12×1 male
Switching output	–		–	2×PNP OSSD
Ingress protection	–		–	IP65

PRODUCT PORTFOLIO

	BNI0081		BNI005H
Dimensions	60 x 60 x 309 mm		16 × 18.6 × 54 mm
Interface/interface coding	IO-Link 1.1		Profinet I/O
Principle of operation	Indicator light		Active splitter
Function indicator	Running light mode, level mode, segment mode, Flexi mode		–
Fast Start-Up (FSU)	–		yes
Connection (COM 1)	–		M12x1 female, 4-pin, D-coded
Connection (COM 2)	–		M12x1 female, 4-pin, D-coded
Connection (power supply IN)	–		7/8" male, 5-pin
Connection (power supply OUT)	–		7/8" female, 5-pin
Connection slots	–		8x M12x1 female, 5-pin, A-coded
Connection	M12x1 male, 4-pin		–
Housing material	PC, transparent, zinc plated, Cu8a, Ni10s, Crr die-cast zinc		–
Operating voltage U_b	18...30.2 VDC		18...30.2 VDC
Approval/Conformity	–		cULus, CE, EAC, WEEE
Ambient temperature	-5...50 °C		–5...70 °C
Digital inputs	–		16x PNP, Type 3
Digital outputs	–		16x PNP
Configurable inputs/outputs	–		yes
Output current max.	–		2 A
Current sum US, sensor	–		9.0 A
Current sum UA, actuator	–		9.0 A
IO-Link version	–		1.1
Port-class	–		Type A
Auxiliary interfaces	–		8x IO-Link
Predefined colors	Yellow, white, green, blue, red, orange, configurable		–
Process data cycle min.	5 m		–
Process data OUT	3 bytes		–
Mounting	1-hole screw mount		–
Transfer rate	COM2 (38.4 kBaud)		–
Ingress protection	IP65		IP67
Segments, number max.	5		–
Setting	Function indicator		–

NOTES

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