



Laser applications for industrial trucks

Greater safety and precision –
fewer accidents and lower costs

Lasers as positioning aids

Despite increasing automation, a very large proportion of personnel costs in intralogistics is associated with driving industrial trucks. As such, great efforts are being made to improve the performance of stock placement and retrieval processes. It is not unusual that a forklift driver needs several minutes to place a pallet at a height of 10 meters, for example. The positioning laser systems support the approach to storage bins, positioning at height and precise positioning of goods.



Optical aid for stacking

Particularly when performing tasks such as placing europallets in the upper levels of tray warehouses, for example, the driver has to rely on a camera. This is where the lasers help to maintain the correct depth, height and precise distances to ensure clean stacking. Even when registering

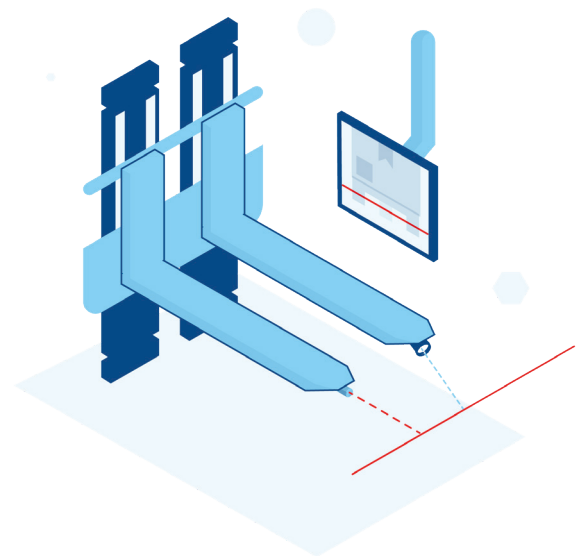
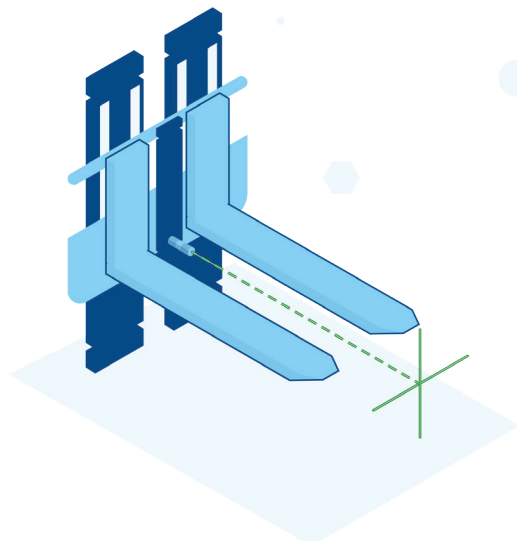
pallets that are positioned one in front of another, the laser “remembers” where it has to stop in order to avoid touching the next pallet. Another strength of laser-controlled industrial trucks resides in loading goods. Using lasers makes stacking child’s play.

Technical solution

1. The line laser drives with you

The solution is realised by installing a line laser into the fork which projects a horizontal line forwards. This in turn is filmed by a camera integrated into the other fork and displayed on the monitor in the driver’s cab.

From our ZM18 series, we recommend at least 10 mW red or green line lasers, for example the Z10M18B-F-638-Ig90 or Z10M18B3-F-520-Ig90.



2. Visualisation using cross lasers

A different technical solution is offered by installing a green cross laser between the forks, for example. It can provide the driver with the optical assistance needed particularly when storing in very high tray warehouses.



Technical solution

Mounting between the forks is performed with a red or green cross laser such as ZM18 laser with cross of 5x5° up to 60x60° fan angle. The special "L90" version with angular optics, which bends the beam by 90°, enables flexible attachment – meaning that the laser can be fitted horizontally or vertically and does not take up much space.

Laser projections of lines, crosshairs, or shapes created flexibly from construction data simplify and speed up the work steps required, increase manoeuvring quality, and drastically lower the risk of accidents with industrial trucks.

How can this be achieved?

There are two common methods of emitting warnings.

1. The forklift truck issues the warning to the driver, similarly to how a car beeps when driving in reverse

2. The forklift truck emits an external warning, which can be done using markings, flashing lights, and signals. Red or green line lasers make the driving path visible in front of and behind the forklift truck. When visualising the danger externally using lighting, it is always important to create strong light contrasts with the ambient light. The use of strong red and green lasers from the ZM18 series offers clear advantages over conventional dot lasers.

This guarantees collision-free movement of the forklift truck between automated guided vehicle systems, objects, and people.

Moving safely with Z-LASER.

Increased safety thanks to positioning lasers

Personal protection plays a major role in every driving environment. According to the German Social Accident Insurance Institution for Trade and Logistics (BGHW), safety is a highly relevant topic when handling industrial trucks. Fatal accidents in the workplace are on a consistent downward trend, except if they are caused by forklift trucks. The figures in this case are alarming and have been stagnant for years. Collisions make up 65% of industrial truck accidents. There is an urgent need to react appropriately and promptly here and to recognise obstacles in time (even when manoeuvring backwards).

ZM18 family

The positioning lasers of the ZM18 family are predestined for many different uses and mounting options, even at low installation heights.

The tried and tested product series is really simple to mount as well as being dust- and waterproof. With a Ø 20 mm laser head and M18 thread, they can be fitted easily offer a simple focusing mechanism, and outputs of up to 200 mW. The well-engineered products stand for reliable line straightness with precise, homogeneous line shaping.



Safely on the move - thanks to Z-LASER

Even though automated guided vehicle systems are performing more and more tasks in industry 4.0, forklift trucks are still indispensable in our factories.

The expectations for forward-looking economic handling of industrial trucks are growing; they need to be safe and precise, robust and intelligent.

With the help of our specific laser systems, positioning by forklift trucks can be optimised and the accident risk reduced.



Optimise your industrial trucks with positioning laser systems!

- Are you looking for a cost-effective, functional solution for the exact positioning of goods in tray warehouses or during loading?
- Time savings, optimum use of space, and intuitive control are issues in your company?
- You don't want to forego safety in your logistics and want to cut the accident risk by 60%?

We offer an extensive product portfolio and individual solution approaches with personal consulting.

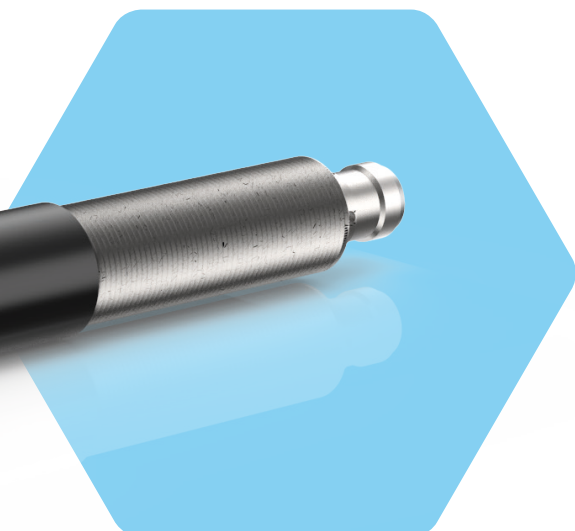


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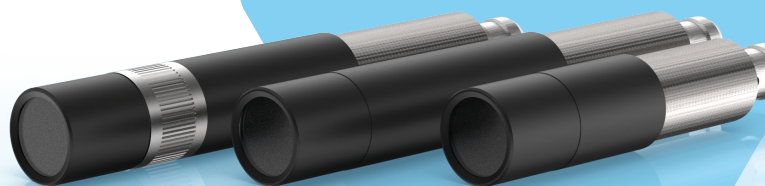
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Product Family ZM18

The perfect allrounder

The ZM18 family is a long-proven product line that is useful as a positioning aid and in image processing applications. With a Ø20mm laser head and an M18 thread, they are easy to mount and can be used in a variety of ways.

The ZM18 lasers are available in blue, green, red, or infrared wavelengths and offer various electronic features. The modular product selector allows the assembly of product features either for a standard positioning task as well as for a high-end machine vision application with demands towards the communication and modulation of the laser. A easy-to-use focusing mechanics, optical output power up to 200mW, and the IP67 water and dust protection are standard features of this product family.



Easy
Installation



Output Power
up to 200 mW



Shock
Resistant



IP 67



Different
Wavelengths
available

Highlights

- Manual or fixed focus
- TTL modulation up to 500 kHz
- Analog intensity control
- Optical output power up to 200 mW
- Wavelengths from 405 - 830 nm
- Industrial standard
- IP67

Order Code

Z??	-	M18	-	?	-	?	-	?	-	?
Output power		Product family		Electronic		F-focusable		Wavelength		Optic

„Quality is when customers return to us
- not lasers.“

- Kurt-Michael Zimmermann,
Founder Z-LASER GmbH

Our mission is to develop laser sources and laser projectors of the highest quality for our customers. Since founding Z-LASER in 1985 in Freiburg, we supply the industry with top functional and easy-to-use laser systems.

Z-LASER is a socially responsible company that cares about the well-being of people and its environment. A significant part of the energy requirement is gained through the in-house solar system. Furthermore, we only supply civil applications.

Lasertechnology
from Freiburg
made in Germany

Contact us.
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to advise you!



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