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Press Release

E-commerce and automation.

Motorised solutions are used all throughout the e-commerce chain.

A strong advocate of e-commerce, the maxon Group offers DC motor solutions that are specifically adapted to each stage of the chain – especially with the IDX compact DC motor drive for increasingly faster and safer e-commerce transactions.

Where there is e-commerce, there is inevitably logistics management. After all, what could be more efficient than a network-connected fleet of AGVs to travel around huge warehouses and find the required product in record time? These automated guided vehicles have enabled the computerisation of all these internal transport tasks. They are able to retrieve goods at height in vertical warehouses before transporting them to the conveying chain. In order to meet the high productivity requirements of order preparation, these AGVs must:

- Be compact and offer high power density. The robots must occupy as little space as possible in order to adapt to the confined spaces. Therefore, they need compact motors without compromising on power.
- Implement SS1 safety regulations to avoid obstacles and collisions with human operators. In terms of the drive, this involves using integrated temperature sensors in the motor as well as electronics to prevent the risk of overheating.
- Be connected to the other AGVs in the fleet, in order to be manoeuvred simultaneously within the same space. This connectivity is enabled by EtherCAT, CANopen or I/O bus communication
- With or without electronics, the IDX 56M DC motors meet all the criteria, whether used for a traction, lifting or steering system.

Conveyors

Whether rollers or belts, conveyors take care of transporting goods to the operations area, where they are scanned, for instance. During this stage, maintenance challenges are decisive, as the slightest breakdown would result in huge losses. Choosing a reliable, connected drive system to minimise maintenance operations is therefore key. This way, motors with integrated electronics can be controlled remotely and perform diagnostics or an update at one time, without having to be near the machine.

With its communication buses, the range of IDX 56L DC motors from maxon can be controlled remotely, simplifying all your maintenance operations.

Packaging machines

To arrive safely at their destination, goods need to be correctly packaged and labelled. Depending on the size and shape of the product, the packaging machines take care of this stage using multi-axis systems.

Generally equipped with several independent motors, these machines need a master to synchronise all the operations in the chain: a master controller. There are also major challenges here in terms of compact size, maintenance and connectivity.

The ZUB master controller from maxon allows IDX 56M or 70 DC motors to operate in complete harmony: while one retrieves a box, the other is already preparing the tape to seal the parcel.

Once the parcel is ready, all that remains is to transport it from the warehouse to the customer's address. There are different automated delivery solutions available for this purpose.

During the social distancing era, operatorless tele-guided robots have proved their worth. They are able to travel from point A to point B completely autonomously in order to complete their delivery assignment. The recipient can access their order via a single click on their smartphone or by using a QR code. As these AGVs are intended to come into contact with the customer, the design aspect is important. EC Flat DC motors from maxon are the preferred motor type for the cover, as they are especially adapted to confined spaces.

Assistance AGVs

The primary task of these robots is to help delivery people by carrying parcels for them. As is the case for autonomous delivery AGVs, the motors of these robots must be even more compact than those used in logistics, particularly for the wheels. IDX can be used for this purpose, or even the new maxon wheel drive concept – motorised wheels with integrated electronics.

Delivery drones

Providing the ultimate contactless delivery solution, drones have also taken off during the Covid-19 crisis. However, they are subject to many regulations with regard to weight limits and restricted perimeters. To support this new form of delivery, maxon has developed a new range of drive systems specially designed for drones, which satisfy the strictest safety requirements. With their minimal power consumption, these Dc motor systems offer higher overall performance and therefore longer flight duration.

Already a massive trend at the start of the 2020s, e-commerce has successfully revealed its might during the Covid-19 crisis. In this context, the rapid development that it has undergone over the last ten years is not expected to slow down; quite the opposite in fact. To move things increasingly faster while maintaining a high safety level, the sector must be able to rely on automation technologies that offer increasingly higher performance. With these challenges in mind, the maxon Group is continually innovating in order to offer drive solutions that are adapted to logistics 4.0.

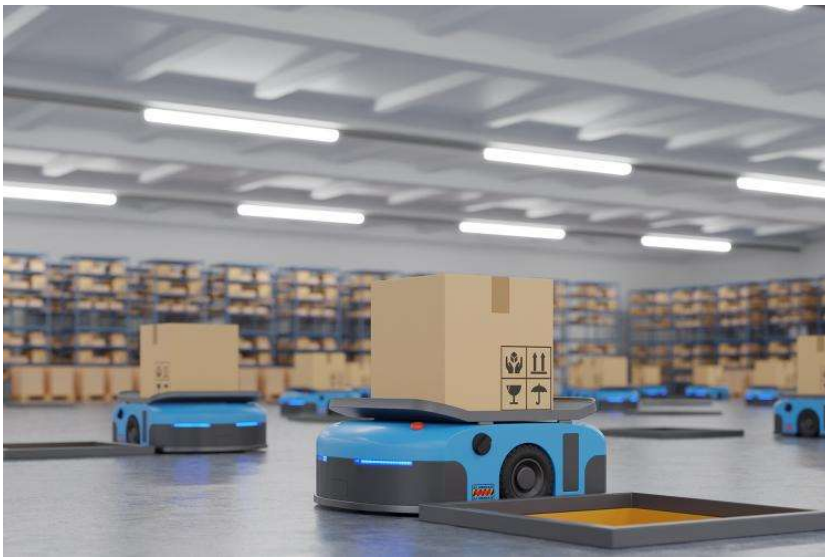
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MiniMACS6-AMP-4/50/10-IF1 EtherCAT controller from Zub



Automated warehousing systems



DX 56 L, 56 mm, brushless DC motor with integrated electronics, EtherCAT © maxon Group

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The Swiss specialist for quality drives

maxon is a developer and manufacturer of brushed and brushless DC motors, as well as gearheads, encoders, controllers, and entire mechatronic systems. maxon drives are used wherever the requirements are particularly high: in NASA's Mars rovers, in surgical power tools, in humanoid robots and in precision industrial applications, for example. To maintain its leadership in this demanding market, the company invests a considerable share of its annual revenue in research and development. Worldwide, maxon has more than 3000 employees at nine production sites and is represented by sales companies in more than 30 countries.