

January 6, 2020

Press Release

Motorising an Automated Guided Vehicle.

Automated Guided Vehicles (AGVs) are most often used in industrial applications to transport heavy materials around warehouses or factories. It is critical AGVs don't fail. The choice of motorisation is key. If you're thinking about motorising an AGV we have five fundamental points to bear in mind and introduce maxon's IDX drive.

1. Choose compact motorisation

Compactness is an important factor in warehouses both in the machinery used and the storage solutions themselves. Customer demands have increased and 24-hour delivery is becoming the norm. As things stand, warehouses can no longer afford to be far from major delivery areas. The price per m2 on the outskirts of a town is not the same as it is in the middle of the countryside, so logistics firms are opting for high-rack storage solutions. This means they need ergonomic robots that can move vertically and reach required heights. However, it is difficult, if not impossible, to have a compact AGV if the motor is bulky, therefore it is essential to choose compact motorisation. Drives must also be able to fit into restricted spaces, as they are sometimes integrated into existing trucks. A small footprint is a major issue for applications in logistics.

2. Focus on true plug-and-play solutions

Essentially, robots were designed to help humans, and motorising an AGV is no exception. maxon's IDX compact drives have all possible connectivity options as standard and are adjustable to suit individual needs. When you plug the IDX drive in, it works immediately, because they are delivered pre-programmed – a true plug-and-play solution.

When you place an order for an IDX motor, you define all the parameters you need through our online configurator. How the product communicates, what cables are needed, the electronics you choose, the motor power, whether or not you want a brake, etc. You can program everything online in just a few clicks. That way, the motor is configured to suit you and is delivered ready to use.

Motors with integrated electronics can be managed remotely because they are connected. The communication buses used can communicate both with the EtherCAT and CANopen systems, and in the future with IoT networks, too. Robots can therefore be programmed by computer and controlled remotely, which makes maintenance much simpler. This means you can work at one time on your entire fleet of AGVs, to run diagnostics or carry out an update, for example.

3. Prioritise safety

AGVs operate in close proximity to operators, staff and other AGVs. It is therefore necessary to maintain safe human/ machine interaction, encompassing all of the safety measures. Robots have movement and optical sensors allowing them to detect the presence of humans and avoid any risk of collision. This safety-

oriented approach applies also to motorisation. To avoid any danger from overheating, for instance, IDX drives have two integrated temperature sensors, one inside the motor and the other within the electronics. If there is a problem, the motor is secured immediately, without waiting until the whole envelope has overheated. Most motors on the market lack this responsiveness because they have sensors only for the electronics. The motorisation of AGVs can be a technical challenge. To meet customer needs, maxon has designed an exceptionally compact motor, with performance 25% better than its competitors, while keeping pricing competitive.

4. Base the design on modularity

Not all AGVs do the same job. Some will carry loads of 1 tonne or more, while others will lift loads of around 100kg; some will travel in a straight line, while others will have an integrated steering function.

Motorisation requirements vary with each application, and that is why it's essential to have a modular solution as a base. It's imperative to choose the type of motor, power rating, electronics, connectivity, type of communication, the protection rating of the motor, and whether or not a brake or an encoder is required.

All these parameters can be easily configured online. Maxon's innovative configuration tool is unique in the market; customers benefit from highly organised production that can develop a drive solution to match requirements in just 19 days.

5. Opt for fast delivery

Today, responsiveness is fundamental and expected as standard. maxon is well aware of the challenges in the AGV sector and guarantees delivery of IDX solutions in 19 days.

Irrespective of how you use your AGV, with maxon's capabilities and tooling, you can be sure you will have the right motorisation. Find out more about maxon's [IDX compact drive](#).

maxon motor Australia tel. +61 2 9457 7477.

Length of this update: 781 words

The press release is available on the internet at: www.maxongroup.net.au



© maxon Group

Although the IDX motor has a diameter of only 56 mm, its performance is equivalent to that of a motor with a footprint 25% bigger. The IDX motorization thus combines performance and reduced footprint.

maxon motor Australia Pty Ltd

Unit 1, 12-14 Beaumont Road
Mt Kuring-Gai NSW 2080

Tel: +61 2 9457 7477

sales.au@maxongroup.com

www.maxongroup.net.au

Twitter @maxongroupAus

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.