

RLS provides the best price-performance magnetic encoders for Wavedrive solutions



Customer:
Wavedrive, Hungary

Industry:
Drive systems

Challenge:
Find a cost-effective encoder solution that meets the performance requirements.

Solution:
RLC2IC Miniature Incremental Magnetic Encoder Module
Orbis Rotary Absolute Magnetic Encoder Module
LM10 Incremental Magnetic Encoder

Background

Wavedrive was founded in Hungary in 2003 and has gained extensive engineering knowledge and experience in many areas of the industry over the last 20 years. The company focuses on the development of customised machines, medical devices, customised manipulators and precision drives. Wavedrive has been involved in many university projects, as almost the entire team comes from the Budapest University of Technology and Economics. The company's core competence lies in the development of precision drives, which form the backbone of most projects, as actuators in manipulators, cranes and, of course, as stand-alone products.

Since there is no large chain of command within the company, the internal development team is flexible and can adapt the systems to the needs of its customers. By working closely with the university, the team can allocate more R&D resources to university equipment, student projects and internships.

Wavedrive is a manufacturer of precision gearboxes. It produces and assembles complete units and can therefore offer its customers a complete package with many customisation options.



One of the best features of the RLS website is the part number configurator, which provided us with realistic prices after just a few minutes so that we could estimate our costs right from the start.

Róbert Krisch, Wavedrive Manager

RLC2IC is a PCB-level incremental encoder sensor system consisting of a PCB sensor and a magnetic scale or ring. It is designed for embedded motion control applications as a feedback element of the position control loop in space-constrained applications.



Challenge

Wavedrive's work projects begin with a review of the customer's specifications. In order to find a solution that keeps costs down, the biggest challenge for the team is to find the components with the best price-performance ratio. In this way, Wavedrive meets its customers' requirements without compromising on quality.

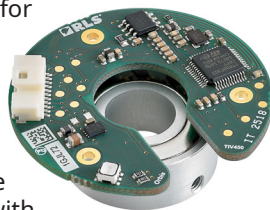
Solution

Magnetic encoders are used as position feedback devices in precision gearboxes. These can be used as actuators for robotic arms. Several encoder options are available for precision gearboxes, which can be customised for each project according to the customer's specifications. RLS offers the best encoder solution for each application and the best price to be competitive in the market.

The preferred solution for Wavedrive is a combination of an incremental ring with RLC2IC and an Orbis absolute encoder system. This solution helps to receive signals from both sides of the gearbox in order to monitor and control both the input and output shafts of the drive.

An incremental encoder is required on the motor shaft. It provides the commutation input for motion control and makes the drive units, such as the WDC-40, more accurate and efficient, especially in position control mode. An absolute encoder is required on the output shaft and makes the company's systems more reliable and precise, also making them a complete solution for robotic and healthcare applications.

Orbis™ is an absolute rotary encoder that is suitable for applications where a typical OnAxis™ encoder cannot be mounted at the end of the rotating shaft due to space constraints. The through-hole measuring principle allows for customisation with different board and magnet sizes to suit specific applications.



Wavedrive also uses the LM10 rotary incremental encoder system in its test rigs. Together with the optical encoder Resolute from Renishaw, they are a necessary component for the validation of Wavedrive's precision drive systems.



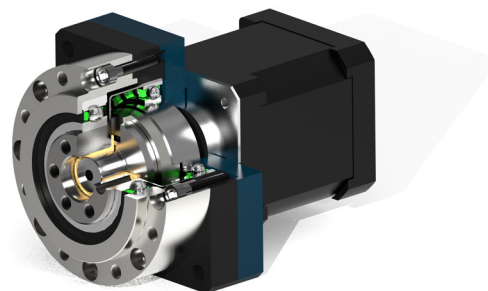
LM10 is a high-speed, non-contact magnetic encoder designed to detect linear or rotational motion in harsh environments. The LM10 features a compact, sealed readhead with a self-adhesive magnetic scale or ring.

RLS team is happy to spend time with us to understand our needs and the project to ensure the best outcome possible.

Róbert Krisch, Wavedrive Manager

Results

The RLS team supported Wavedrive right from the start. Together they identified the requirements of the project as RLS offered flexible solutions through testing, prototyping and fast delivery.



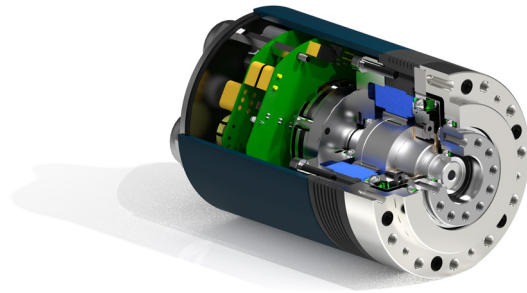
WDC-40 drive system

The RLS product portfolio is so extensive that, regardless of our project, we can always find a solution that meets our needs. The RLS support team is ready to take our project to the next level by providing us with the best solution of their encoder system.

Róbert Krisch, Wavedrive Manager

Future goals

Wavedrive is planning to use the WDC-60 precision drives in modern medical diagnostic devices. Further series will be introduced in the ConfigPro robot family, a modular, customised robot system aimed at automation companies. The company's vision is to develop a fully modular system that can meet any automation challenge with its revolutionary and fully scalable drive units.



WDC-60 drive system

About RLS

RLS d. o. o is a Renishaw associate company. RLS produces a range of robust magnetic rotary and linear motion sensors for applications such as industrial automation, metalworking, textiles, packaging, electronic chip / board production, robotics and more.

For more information visit our [website](https://www.rls.si).

About Wavedrive

Wavedrive is a manufacturer of precision gearboxes. It was founded in 2003 and over the past 20 years, the company has gained extensive engineering knowledge and experience in many areas of industry, from medicine to electromobility and custom automation systems.

For more information visit <https://Wavedrive.hu>.

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