



# Optimising Rope Winding Accuracy with RM36 Encoders

## CASE STUDY

### Customer:

Robco Engineering A/S,  
Denmark

### Industry:

Machinery

### Challenge:

Accurate measurement of rotational movement in rope winding applications to ensure consistent process control.

### Solution:

RM36 rotary magnetic encoder

## BACKGROUND

Industrial machinery plays a critical role in modern manufacturing, where precision, reliability, and continuous operation are essential. In applications such as rope and yarn processing, even small variations in rotational movement can impact product quality, making accurate control and measurement a key requirement.

Within rope production, processes such as winding and twisting depend on consistent speed and positioning to ensure uniformity and performance of the final product. These systems often operate in demanding industrial environments, where durability and long service life are equally important.

**Robco Engineering A/S** is a Danish manufacturer of machinery for rope production, winding, and twisting applications. The company originates from a rope manufacturing factory and has been developing specialised machinery since 1978, when it began supplying rope making machines and twisters to customers worldwide.

Today, the company focuses entirely on designing and producing high-quality equipment for rope and yarn processing. Its portfolio includes rope making machines, winders, and twisting systems used across a wide range of industries. These include textile manufacturing and agricultural production, where durability and performance are essential.



Robco Engineering's twisting machine

## CHALLENGE

In rope winding applications, accurate measurement of rotational movement is essential. The number of rotations determines the volume of material on the roll, making precise feedback critical for process control.

To ensure consistent product quality, Robco Engineering required a reliable way to measure rotational speed and position within their systems. This requirement is further complicated by the environments in which the machines operate. Many systems are used in demanding conditions, including high humidity and elevated temperatures, where consistent performance must be maintained.

At the same time, the solution needed to support long operating lifetimes. As many of Robco Engineering's machines remain in use for decades, robustness and durability were key requirements.

## SOLUTION

To meet these requirements, Robco Engineering selected the **RLS RM36 rotary magnetic encoder**. The RM36 is integrated into the motor system, where it provides accurate rotational feedback and enables precise counting of revolutions. This allows the system to calculate the number of rotations on each roll, enabling accurate determination of the rope volume and ensuring consistent winding.

Designed for harsh industrial environments, the RM36 uses a non-contact magnetic sensing principle. This reduces mechanical wear and ensures reliable operation over long periods of time.

The encoder proved particularly well suited to Robco Engineering's application, where machines are often exposed to high humidity and temperature variations. This is especially important as many systems operate in countries with such conditions. It also integrates effectively with the selected motor solution, supporting stable and reliable performance.

In addition to its technical performance, the RM36 offered a cost-effective solution with a proven track record. This made it a strong choice compared to alternative technologies.



RLS RM36 rotary magnetic encoder

## RESULTS

The integration of the RM36 encoder has provided Robco Engineering with a dependable and efficient solution for rotational measurement.



The encoder has supported the company's goal of using a robust and reliable component in machines designed for long service life. In addition, choosing the RM36 helped Robco Engineering achieve a cost reduction compared to alternative solutions.



Integration of the RLS RM36 encoder into their machines

## FUTURE GOALS

Robco Engineering continues to explore new ways to integrate encoder technology into its systems.

One potential development is the use of external encoders in combination with a lever mechanism to measure the thickness of rope rolls. This approach would enable more precise monitoring of the winding process and support further optimisation of machine performance.

Building on a positive collaboration, Robco Engineering also plans to continue working with RLS on future projects.

## ABOUT ROBCO ENGINEERING A/S

Robco Engineering A/S is a Danish manufacturer of machinery for rope production, winding, and twisting applications. Its portfolio includes rope making machines, winders, and twisting systems designed for a wide range of industrial applications. The company is known for the quality and durability of its machines, many of which remain in operation for decades.

For more information visit [robco-eng.com](https://robco-eng.com)

## ABOUT RLS

RLS 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.

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