

Magnetic Rotary Encoders Ensure Synchronous Roller Movement in Printing Presses

Every day, millions of people pick up and read a newspaper. To make this possible, printing presses run nonstop at full speed. It's important that this production is reliable and trouble-free. Powerful magnetic rotary encoders support this high-speed process.



Powerful magnetic rotary encoders ensure reliable and trouble-free operation in printing presses.

The application

Newsprint flies through the **offset press** at an approximate speed of 50 kilometers an hour. At this velocity, the **movement** of numerous **rollers** must be coordinated with **absolute precision** to ensure that the webs do not tear or crinkle, and that the information is printed in the right place. Any deviations put the process in jeopardy.

The goal

Printing presses are among the most complex and expensive machines in existence. In order to recoup the purchase costs of these machines, the presses should be run with as few breaks as possible. Maintenance times should be kept as short as possible. In the presses, the **rotation** of the **rollers** is **monitored using rotary encoders**. Despite **strong vibrations** and ever-present **ink dust**, rotary encoders must remain both **precise** and **reliable** in their operation.

The solution



ENA58IL series magnetic rotary encoder

The **ENA58IL series** from Pepperl+Fuchs is the **first line of magnetic rotary encoders** that **meet the requirements of high-performance printing presses**. Due to their resistance to shock and vibrations, and their ability to **withstand harsh environments** of dirt and dust, they are highly reliable. Using a **Wiegand sensor** allows a more **compact design** and eliminates the need for gears.

The benefits

Due to their **short cycle time** of less than **80 microseconds**, the **ENA58IL series magnetic rotary encoders** are the ideal solution for **high-speed operation** in **printing presses**. With an **accuracy of 0.1 degrees** and a **16 bit resolution**, the magnetic rotary encoders provide **exact data position**, ensuring the rollers run synchronously. The devices generate an induction voltage with every axis rotation, which supplies power to the electronics. This eliminates the need for a built-in battery that has to be changed at regular intervals. Using this **intrinsic energy**, the magnetic rotary encoders are able to provide exact data position even in the event of a power failure. Thus, the press can continue to run immediately after a restart without any recalibration. Additionally, **interfaces for SSI, EtherCAT, and PROFINET** ensure seamless communication.