

# Reliable Identification of Documents in Letter Distribution Facilities

Optical Code Reader with  
Polarization Filter Technology

## At a Glance

- Unique identification of customized documents
- High-speed code reading, even over long service lives
- Reliable reading due to polarization filter technology
- Quick data transfer
- Adjustable reading range for high levels of flexibility



## The Application

Digital printing is used in several conventional mass market applications, such as those used in the letter distribution facilities of large banks, insurance companies, and telecommunications companies. These applications involve customized postal items, such as invoices and account statements. The documents must first be individually identified so that they can be bundled together correctly later on in the process. The postprocessing workflow involves separating the documents from the roll into individual sheets and collecting all the pages that belong to a single recipient. Next, additional information, such as promotional leaflets, is added before the documents are inserted into the envelope.

## The Goal

Various processing workflows run consecutively in letter distribution facilities. This means that the system must be able to carry out code reading both at a standstill and at high transport speeds. Extremely high outputs of up to 50,000 pages per hour require outstanding reading rates and uptime. The cycle times in the machines are also very short, meaning a quick data transfer speed is crucial. The interval between the trigger point and the provision of data is generally less than 30 ms. Another challenge relates to service life, since the letter distribution facilities operated by large service providers are in action 24 hours a day on virtually every day of the year.

## The Solution

The OPC120P code reader is used to provide reliable identification of the documents. Each page features a code that contains a unique data set—this ensures that they are assigned correctly as they continue through subsequent processing steps in the letter distribution facilities. To identify each individual page and to properly control the step that follows, the code is read by each of the individual machine components. In this respect, the code readers are components of the machine control system: They send signals to the PLC and immediately trigger the appropriate open and closed-loop control processes.

An optimized decoder and powerful lighting make it possible to maintain the machines' very short cycle times. The high-speed code reading enables reliable reading, even at extremely high speeds. The polarization filter technology also guarantees clear identification. This ensures that the codes can be read reliably, even on highly reflective surfaces such as those found on promotional leaflets.

## The Advantages

High read speeds of up to 10 ms at a rate of 100 readings/s ensure smooth processes. Thanks to the wide depth of focus, just one setting can be used to read the codes—no matter what their size or how far away they are. The position of the reading range can be flexibly adjusted via the rotary encoder input, meaning the OPC120P can be adapted to suit the respective application perfectly. The code reader boasts powerful functions such as print presence detection, multi-window, and logo comparison.

### Technical Features

- Code symbologies: Data Matrix, Code 128, Code 39, EAN13, Int 2 of 5, Pharmacode
- Min. module size: 0.2 mm
- Read distance: 70 mm to 180 mm
- Object speed: 10 ms
- Evaluation frequency: up to 100 Hz
- Polarization filter technology
- Encoder input
- Interfaces: Ethernet TCP/IP, RS232, I/Os
- Degree of protection: IP67

