

Project Note

# Feeder Control for High-Speed Postage Meter



**A versatile feeder for letters of variable thickness and format was needed in order to use a high-speed postage meter. Zühlke developed the entire drive control system with the communication by CAN bus.**

## Task

A versatile feeder for letters of variable thickness and format was needed in order to use a high-speed postage meter. Essentially, this feeder was to perform the functions of separating the individual letters and measuring the formats. The unit was to have a modular design and was to incorporate the option of being able to be operated with dynamic letter scales and with further system units. Moreover, letter speed and position had to be synchronised with great precision among the transport units.

## Implementation

After the drive design was fined, work began on developing the entire drive control system. The resulting control electronics consisted of a compact unit based on a single chip from Texas Instruments (DSP TMS320F2406A). A DC motor acted as the main drive, supported by a series of electromagnetic couplings. Various optical sensors were used for paper detection.

Communication with the postage meter and the other system units was handled by a CAN bus using the transmission protocol CanOpen. After the initial implementation was completed, other development partners who had been working in parallel with us on other system units were able to be assisted in their work. The electronic components were further developed to the production stage and taken through the certification process (CE mark, UL).

## Technical Data

Feed capacity:  
15,000 letters per hour

Drive output:  
50W DC motor

Build-in options:  
moistening and  
letter sealing

## Customer Benefits

- Zühlke's expertise in drive engineering, micro-controllers and DSP technology resulted in compact and cost-optimised solutions, from the idea stage to the production stage.
- Zühlke operates independently of all manufacturers, allowing it to cooperate freely and efficiently with external electronics producers as well as with other development partners.



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