SIEMENS

Solutions for printing machines

SIMOTION TRC5000 register control

Camera-based high-performance solution for dot marks

Powerful register control is a precondition for high printing quality and minimum wastage. Machines automated with the Simotion Motion Control system benefit from direct register control integration into the drive control system. This enables particularly high control dynamics and precision – and a very high degree of automation, which notably accelerates print job setup.

The SIMOTION TRC5000 register control uses an intelligent CCD camera to detect dot marks. As opposed to sensor-based systems, all register marks are detected simultaneously in one picture and measured with high precision. Particularly high control accuracy and repeatability are achieved in conjunction with the system-integrated register control. The system is based on the open Simotion Print Standard automation software for printing machines.

Using the camera-based register control, the register mark field can be freely positioned on the sheet. The arrangement of the individual register marks is freely selectable within the detection area. This means that less trimming of the edges is required using the SIMOTION TRC5000 compared to with conventional register controls.

Operation and visualization of the register control are carried out via the WinCC operator control and monitoring system and can therefore be fully integrated into the machine operating system. The live camera imaging makes print job setup even easier.

Sensor-based register controls are available for Simotion Print Standard applications with wedge or block marks: SIMOTION TRC1000 with a monochrome sensor as an entry-level solution for standard requirements and SIMOTION TRC3000 with an RGB sensor as a high-end solution for sophisticated requirements.

Faster to print, quicker to register

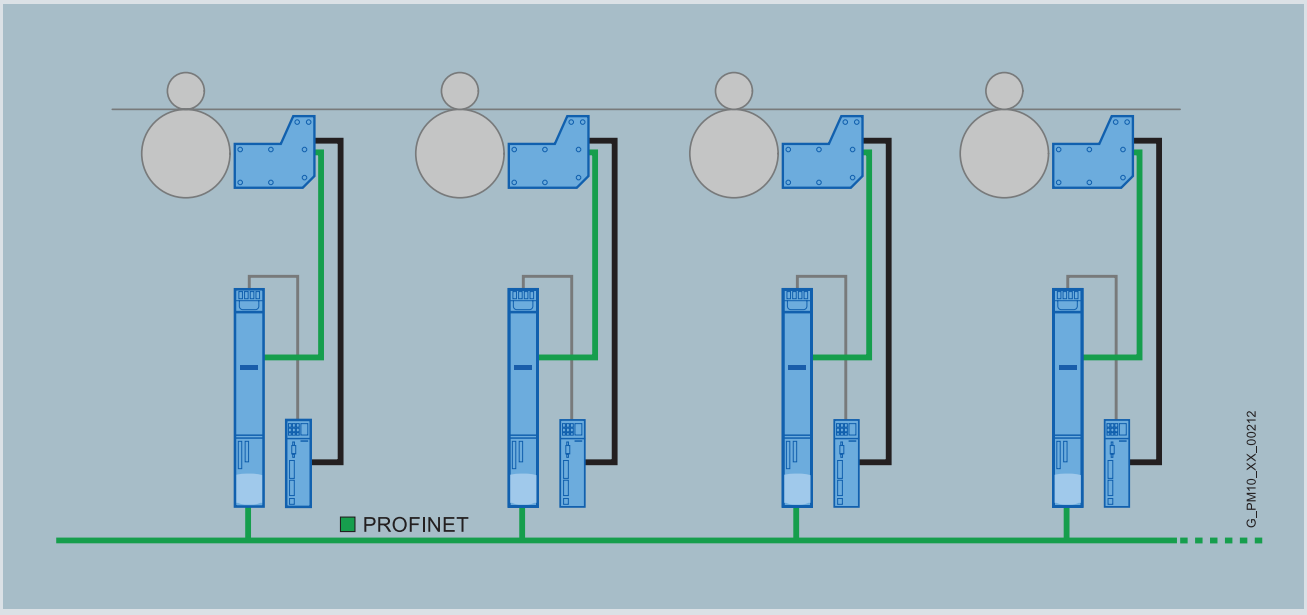
- Less edge trimming due to flexible print mark geometry and small dot marks
- Simple and rapid print job setup with live camera imaging.
- Integrated in the control and startup sequence – no additional CPU or control cabinet
- High control dynamics for high process quality
- Can be used in rotogravure, offset, flexo and screen printing machines
- The register operator control can be integrated into the machine operator control

Technical data

SIMOTION TRC5000 register control

Camera

Functions	• Length and side register • Color register • Cut register • End-of-Press measurement
Focus segment	Offset- and flexographic printing
Measurement principle	Intelligent CCD-camera with DSP-processor for print mark measurement
Types of print marks	Dot mark ≥ 1 mm Dot mark ≥ 0,2 mm (Offset printing)
Arrangement of print marks	– In-Line and across to web – Measuring window positioned in printed area
Communication	Ethernet and TM41-Trigger pulse
Lighting	Integrated white light LED window
Protection class	IP65 II 2 G Ex d IIB T5 Gb
Measurement method	• Web to cylinder • Web to web • Reverse side printing with a second camera • Automatic print mark search
Number of evaluable print marks	16 and ≤ 5 reference mark
Web speed	Max. 1000 m/min
Measurement resolution	≤ 10 µm



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