

Solutions for printing machines

SIMOTION TRC3000 register control

High-end solution with RGB sensor for reliably detecting even print marks with low contrast

Reliable and precise detection of print marks is the basis for a powerful register control. A powerful RGB sensor extends the range of applications for register control to address special inks, coatings and other media and materials that have a low contrast or with high degrees of reflection, which are correspondingly difficult to handle. This applies both to printing as well as also coating and laminating machines.

For the SIMOTION TRC3000 register control, Siemens works with the eltromat company, who have developed an intelligent RGB sensor for the SIMOTION motion control system. The high detection reliability of the sensor is achieved as a result of the 3-channel evaluation of the red, green and blue components of light, which are reflected from the material web.

The eltromat RGB sensor is connected to the SIMOTION controller of the printing unit via real-time PROFINET. The register control, which is fully integrated in the motion control of the printing machine, reduces engineering costs and results in an extremely high-performance and reliable control behavior. Intelligent algorithms directly integrated in the drive control are already used when setting-up the machine. They significantly minimize the amount of time and materials until the register is reached and guarantee a maximum degree of automation – the




basis to achieve a really high machine productivity. As neither additional control nor additional control cabinet is required, this solution is not only very powerful, but also especially cost effective. The open WinCC user interface, which can be adapted to address specific customer requirements, allows the register control to be easily integrated in the machine operator control in a user-friendly fashion. As a consequence, the register control can be operated and monitored throughout the machine.

Faster to print, quicker to register

- High-end register control with intelligent RGB sensor that is coupled via PROFINET IRT
- Even low contrast or reflecting wedge and block marks are reliably detected
- Closed loop control completely integrated in the printing unit control – no additional control system or control cabinet is required
- Register operator control can be integrated in the machine operator control
- Guarantees the highest degree of automation: Equipping times and macalature are significantly reduced – the printing machine productivity is increased
- Suitable for coating and laminating processes using registers
- Typical applications: rotogravure printing for packaging, flexo printing and converting

Technical data

SIMOTION TRC3000 register control

| | | |
|---|--|--|
|  | Functions | <ul style="list-style-type: none"> • Length and side register • Color register • Cut register • End-of-Press measurement |
| | Focus segment | Rotogravure printing, flexographic printing |
| | Measurement principle | <ul style="list-style-type: none"> • Intelligent fibre optic sensor • Integrated print mark measurement • RGB signal analysis • Single and double head arrangement |
| | Types of print marks |  |
| | Arrangement of print marks | <ul style="list-style-type: none"> • In-Line to web • Across (in double head arrangement) |
| | Communication | PROFINET IO with IRT |
| | Fiber optic | 3,2 m; 5 m |
| | Protection class |  IP54 II 2 G [Ex op is T4] IIB |
| | Measurement method | <ul style="list-style-type: none"> • Mark to cylinder • Mark to mark • Mark to mark for reverse printing • Automatic print mark search • Reference color or following color registration with change on the fly |
| | Number of evaluable print marks | 3 / 20 (by configuration) |
| | Web speed | max. 1000m/min |
| | Measurement resolution | ≤ 5µm |

