

### **SMARTSCAN** 100% Inspection System



100% inspection system for the label industry on moving webs

### **Requirements in the label industry**

100% inspection systems are becoming ever more important due to the high requirements in the labeling market. Only they can guarantee quality control over the entire web width for the detection of typical defects in label processing - from the beginning of the web through to the end. The consequence of the challenging requirements is that, in many areas, goods may not reach the ultimate consignee without a 100% check. This hurdle presents many printers with a major challenge, which can now be solved with SMARTSCAN.

#### Sample defects in the label industry



Missing label



Unremoved matrix





Damaged label



Printing defect/impurity





# Higher quality and productivity due to the 100% inspection system SMARTSCAN

SMARTSCAN is a 100% inspection system, developed specially for narrow-web printing and finishing machines. The 100% check reliably detects printing defects, damage to the material and missing labels. In addition, splice points or inserted flags are detected specially and are displayed to the operator as such.

Rewinders can be activated using output signals, in order to locate defects for repair. However, signal lamps can also be activated or other events triggered, for example, to warn the operator as quickly as possible. The 100% web monitoring integrated in SMARTSCAN as standard displays a static image of the moving web to the machine operator. The special illumination concept also shows strongly reflective areas, such as shiny films, in a homogeneous manner.

With its unique operating concept, SMARTSCAN opens up new avenues in the industry. The system is set up with just two button-presses and works wholly independently. This means that external training courses are no longer necessary and the commissioning time is reduced to a minimum. Its compact design means that SMARTSCAN can be integrated quickly and without major work in all production machines. The interface for the operator is a touch monitor, which displays all the functions clearly.

#### Main functions

- + Camera system for 100% inspection of presses and finishing machines in the labeling and narrow web sector
- + Continuous inspection of the entire width and length of the web
- +100% web monitoring with zoom function
- + Detection of printing defects, missing labels, unremoved matrix, splice points and flags
- + Counting function for labels and defects
- + Report function of inspection runs
- + Signal output for customer-side defect location or to activate signal lamps



### **Benefits of SMARTSCAN**

- + Low-cost entry in the field of 100% inspection for equipment of all production machines
- + Revolutionary operating concept saves time and money
- + Special LED illumination concept guarantees safe defect detection
- Replacement of external hardware (sensors and stroboscope) saves time and money and is beneficial to health
- + Color cameras with fault-resistant and rapid Ethernet communication
- + Upgrade option for later adjustments
- + Simple system integration (no external technician required)
- + Prepared remote maintenance function + global E+L service availability



#### The highlights at a glance







The unique, rapid operating concept means that no time is wasted in operating the system and that the operator can focus on their actual work. There is no need for timewasting training courses.

## 2 Special illumination concept

The special illumination concept and the special algorithms for defect evaluation mean that SMARTSCAN is suitable both for paper labels and challenging applications such as transparent labels, clear-on-clear labels or glossy films. Almost every label shape or alternating labels are reliably evaluated and checked.



- + No need for missing label sensors and their long-winded alignment
- + No harm to the health of the operators thanks to the lack of stroboscopes
- + Flag and splice sensors are no longer required





Thanks to the cost reduction and production increase, the procurement costs amortize within the shortest period.



### **Application concepts**



#### **SMARTSCAN** in finishing

- + Simple system integration in all standard rewinding and finishing machines
- +Inspection speeds of up to 250 m/min
- + Precise location of the defects for repair purposes
- + 24 Volt signal outputs for simple integration



SMARTSCAN on a finishing rewinder

#### SMARTSCAN in the print shop

- + Simple system integration in all standard printing presses
- +Location of the system behind the die cutter to detect printing defects, removed labels or matrix
- +24 Volt signal outputs to activate signal lamps for rapid alarming of the operators



### **User Interface/Technical data**



#### Tecnical data

100% inspection system SMARTSCAN			
Web width (mm)	330 mm (13") 430 mm (17")		
Field of view (mm)	350 mm	450 mm	
Resolution	0.2 mm	0.3 mm	
Dimensions (camera unit) LxWxH	420 mm x 192 mm x 433.5 mm	520 mm x 192 mm x 516 mm	
Max. speed	250 m/min		
Max. web offset	±10 mm		
Camera resolution	2 megapixels		
Chip	RGB (color)		
Camera interface	Ethernet		
Operating system	Windows 7 Embedded		
Monitor	21.5" LED touchscreen (HD resolution)		
Monitor connection	HDMI		
Operating voltage	100 – 240 V AC, 50 – 60 Hz		
Current consumption	3.5 A		
Temperature range	0 °C to +45 °C		
Protection class	IP 20		
Voltage for inputs/outputs	24 V DC		
Max. current consumption of outputs	150 mA		
Typical defects (Samples)	Damaged labels, colour variations, misreç	jistration, die-cut defects, insects, etc.	



## Questionnaire

### General data

Customer		
Street		
Zip code	City/town	
Country	Internet	
Telephone	Fax	
Contact person		
Telephone	e-mail	
Project		

#### Technical data

Type of machine	Press	Rewinder	
Make			
Web width	Max mm		
Web speed	Max m/min		
Type of web	Die-cut labels		Uncut labels
	Flexible packaging/film		
Web surface	□ Transparent		Not transparent
Ambient temperature	٥°		
Operating voltage	🗅 230 V AC	□ 110 V AC	□ V AC

#### **Technical features**

Function	□ SMARTSCAN (gross defect inspection)	□ SMARTSCAN S (fine defect inspection)
Web run	□ Left to right	□ Right to left

#### Comments







Head Office

Erhardt+Leimer GmbH Albert-Leimer-Platz 1 · 86391 Stadtbergen, Germany Phone: +49(0)8 21/24 35-0 info@erhardt-leimer.com · www.erhardt-leimer.com

#### **Subsidiaries**

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