ROLAND ELECTRONIC

STEEL CORD INSPECTION
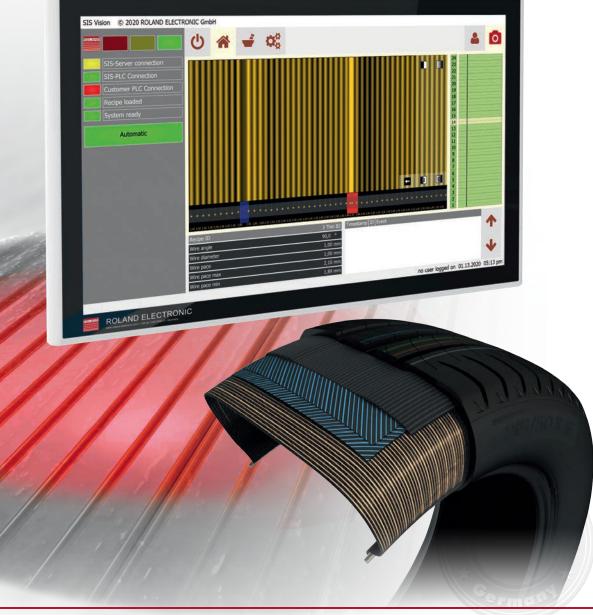
SIS VISION

- **Online quality monitoring of wire distance and wire position in steel cord at full production speed**

- **New high-resolution sensors enable a live display of EPDM / EPI**

SIS Vision	© 2020 ROLAND ELECTRONIC GmbH

SIS-Server connection
SIS-PLC Connection
Customer PLC Connection
Recipe loaded
System ready

Automatic

	3 Thin B2	
Recipe ID		90,0 °
Wire angle		1,00 mm
Wire diameter		1,00 mm
Wire pace		2,10 mm
Wire pace max		1,89 mm
Wire pace min		

Timestamp ID Event

no user logged on 01.13.2020 05:13 pm

ROLAND ELECTRONIC

Innovation **IS OUR LIFE**

SIS VISION

- Online monitoring of wire distance and wire position inside steel cord at full production speed
- New high-resolution sensors enable live display of EDPM / EPI
- Simple and easy integration into new and existing installations
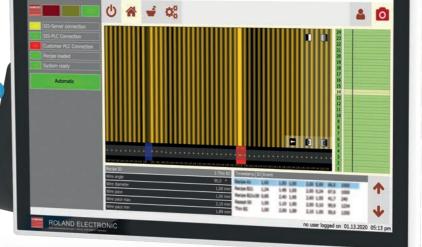- For LTR, TBR, PCR and OTR

The SIS VISION system consists of sensors, the corresponding hardware, software and a touchscreen. By selecting the number of sensors and arranging them optimally and simply in the customer's system, the entire cord width can be reliably monitored online and at full production speed.
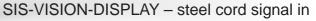
With the new technology of ROLAND ELECTRONIC, the wire distances as well as the wire position and wire density (EPDM = „Ends Per Decimeter") are reliably evaluated.

Reliable detection of material faults in steel cord: open splice or missing wire (left) double or narrow wires (middle) and locale defects, such as crossed, loose or jumped wires (right).
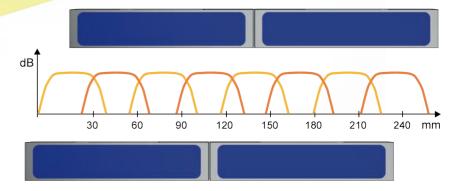
SIS-VISION-DISPLAY – steel cord signal in
- top view and
- side view
with marked faults missing wire and double wire.

Switch cabinet SIS-VISION-BOX-24

Sensor SIS-VISION-RSM

The integration is quite easy - after just a few steps, the easy-to-assemble parts can be put into operation.
The operator gets direct feedback by stopping at a pre-selected position when a defect has been detected in the steel cord. Production with suitable loop pits CONTINUEs, while faults are detected and repaired!

By optimal arrangement of the sensors in your cutting line, an all-over control of your steel cord can be guaranteed.

Technical Data

SIS VISION Specifications	min	max	
Steel cord width:	50mm	4800mm (more on request)	
Inspection ´width at 100 % coverage ratio:		1440mm at 24 sensors	
Steel cord belt thickness:	1.0mm	10mm (more on request)	
Wire diameter:	0.5mm (less on request)	8.0mm (more on request)	
Wire angle:	15°	90°	
Conveyor belt thickness:	1.5mm	2.5mm (recommended)	
Sensor carrier sheet thickness:	1.0mm	1.5mm (recommended)	
Conveyor belt + sensor carrier sheet = typical thickness:		4.0mm	
Transport velocity at 90° wire angle:	0,5m/min	60m/min	
Transport velocity at 17° wire angle:	2,0m/min	100m/min	
Detection width of 1 sensor:		2 x 30mm	
Number of sensors:	1	24	

	SIS-VISION- BOX-24	SIS-VISION-RCIS-120-2x30	SIS-VISION-DISPLAY-XX*-KIT
Operating voltage / External fuse:	100…240VAC 50/60Hz / 6.3A slow		24VDC (min. 23VDC max. 28VDC) / 6A
Power consumption:	< 480W		< 40W
Class of protection:	IP 65		
Inrush current:	20A at 100VAC, 40A at 230VAC		< 5A
Weight:	< 40kg (88.1lbs), empty weight	0.5kg (1.1 lbs)	< 8kg (17.6 lbs)
Ambient temperature / Air humidity:	during operation: 0°C ... 50°C / max. 95% rel. air humidity		
Dimensions (LxWxH):	800 x 600 x 300 mm (31.5 x 23.6 x 11.8 in)	118 x 59 x 25 mm (4.6 x 2.3 x 0.9 in)	540 x 340 x 70 mm (without support arm) (21.2 x 13.3x 2.7 in)
			* see order information

Order information

Part number	Part description
SIS-VISION-BASE	Steel Cord Inspection System SIS VISION, contains basic equipment for the integration in the cutting and splice line.
SIS-VISION-BOX-24	Compact control cabinet with pre-assembled components from SIS-VISION-BASE and up to 24 sensor modules type **SIS-VISION-RSM**.
SIS-VISION-FIELDBUS-XX*	Extension of the classic 8Bit I/O PLC, *XX= **ET** (EtherCAT), **PN** (ProfiNet), **EN** (EtherNet/IP)
SIS-VISION-DISPLAY-XX**-KIT	Multi touch industrial display 21.5 inch with sender box, for bridging up to 100m distance between switching cabinet and display, **XX= **FP** (Front Panel), **SA** (Swivel Arm).
SIS-VISION-DISPLAY-CABLE	Cable for industrial display 21.5 inch with sender box, for bridging up to 100m distance between switching cabinet and display.
SIS-VISION-DRAWER-CS	Sensor drawer with included sensor brackets, for mounting of the sensors **SIS-VISION-RCIS-120-2x30**
Sensor unit	
SIS-VISION-RSM-120-2x30-KIT	Sensor unit for SIS VISION, consisting of **SIS-VISION-RCIS-120-2x30** (Sensor for SIS VISION with 2x30mm sensitive area), **SIS-VISION-RSM** (Sensor module for SIS VISION), **SIS-VISION-PATCH-2xM8** (Cable set) and **SIS-VISION-PATCH-2xRJ45** (Cable set)
Encoder unit	
SIS-VISION-ENC-KIT	Encoder unit for SIS VISION, consisting of encoder **SIS-VISION-ENC-10K** with 10.000 pulses per rotation and encoder cable **SIS-VISION-ENC-CABLE** with M23 female plug and 10-pole clamping connection

DIN ISO 9001   IQNet   PROFINET   Made in Germany   EtherNet/IP