

Steelcord Inspection System SIS-Calibrator

The SIS-Calibrator is a tool for owners of a SIS-Steel Cord Inspection System

The purpose of this tool is to verify that:

- Each sensor works correctly
- Signals of each sensor are amplified to the same signal level
- A predefined error is detected at each sensor



THE ROLAND PLUS

- ▶ SIS Accessory
- ▶ Independent verification of sensors
- ▶ No power necessary

Components of the SIS-Calibrator

- Guiding assembly (tube) customer specific length and 4 clamping rings
- Roller with a diameter of 160 mm and pendulum suspension
- 2 pcs. of bearing brackets for guiding assembly



Important Notice:

The task of sensor calibration and eventual modifications of gain factors must be executed only by a person who has been trained by a ROLAND Technician.



Function:

The surface of the roller contains an artificial cord belt with two predefined errors (Double Wire, Missing Wire). The roller is placed above one SIS sensor instead of the cord belt.

As soon as the conveyors drive is activated, the roller turns and the sensor receives the signal of the artificial cord belt. By changing the position of the roller from sensor to sensor, each sensor of the SIS System can be tested independently.

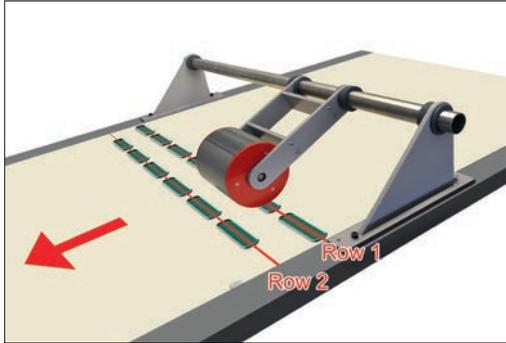


Fig 1. Calibrator mounted on the repair station. Flow of conveyor belts is from right to left (see arrow).

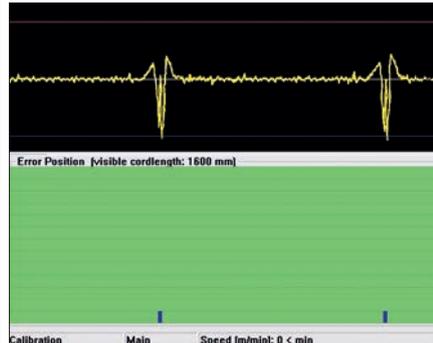


Fig 2. Resulting signals on the display of the SIS System.

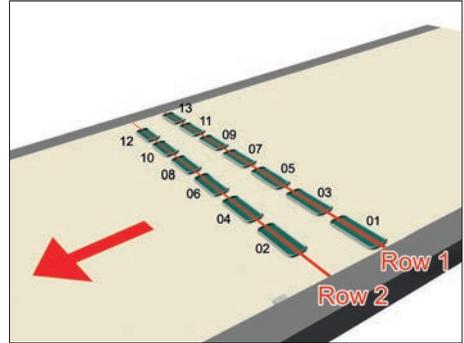
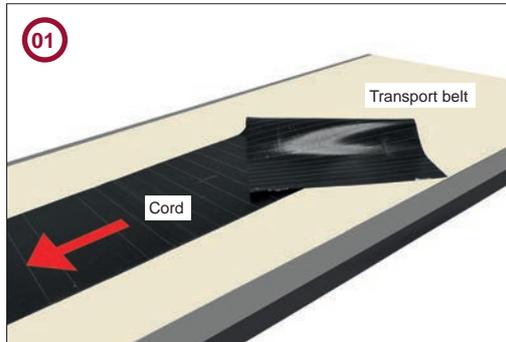


Fig 3. Begin the calibration with row 1 (sensors 1, 3, 5 ...).

Mounting and operation:



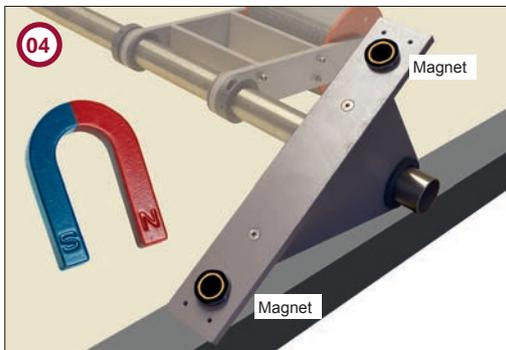
01. Remove the steel cord belt from the repair table.



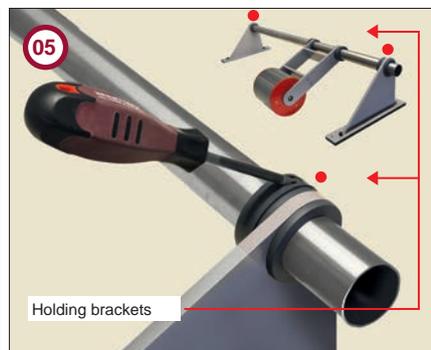
02. Assemble the components as shown.



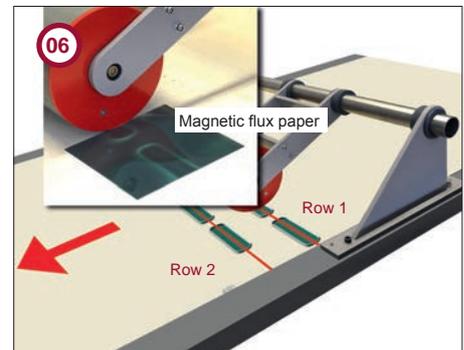
03. Moving direction orientated mounting.



04. Magnets hold the brackets on their position.



05. Fix the screws on holding brackets.

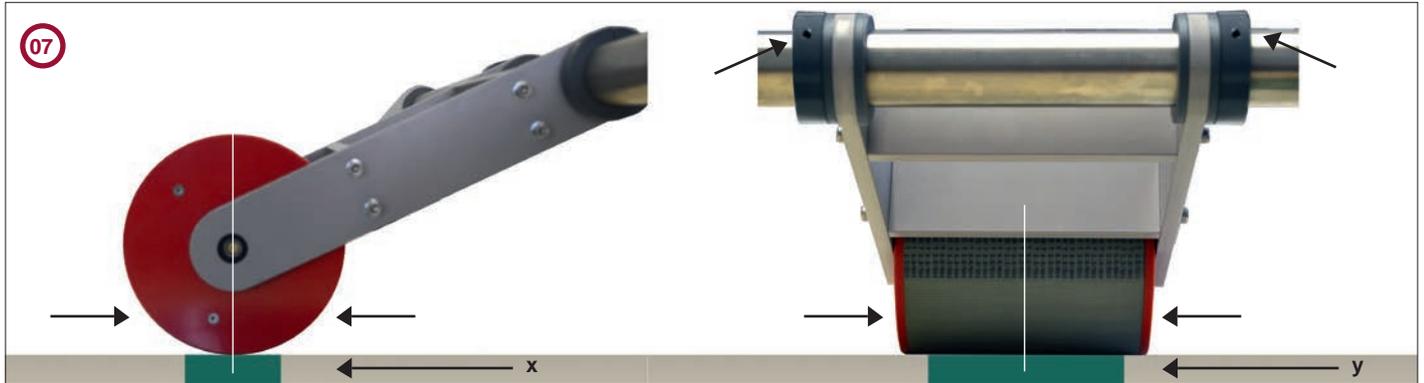


06. Locate the center of sensor No. 1. in row 1.

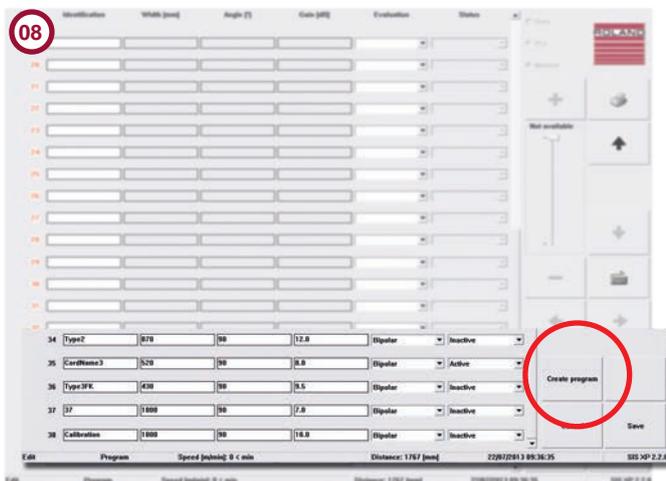
Attention! The calibration must be performed by rows.

Begin with row 1. Continue the calibration for all sensors of one row until you are done and then continue with row 2.

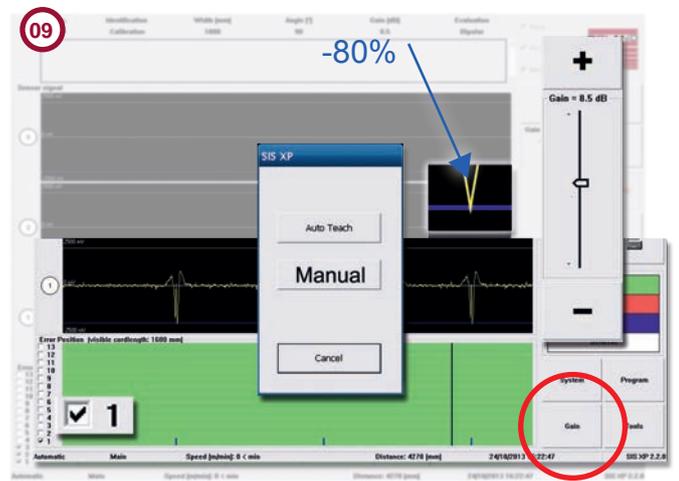
Assuming you have positioned the calibrator above one sensor, you must perform the following steps on the SIS. Repeat following steps for calibration accordingly for a calibration of each sensor.



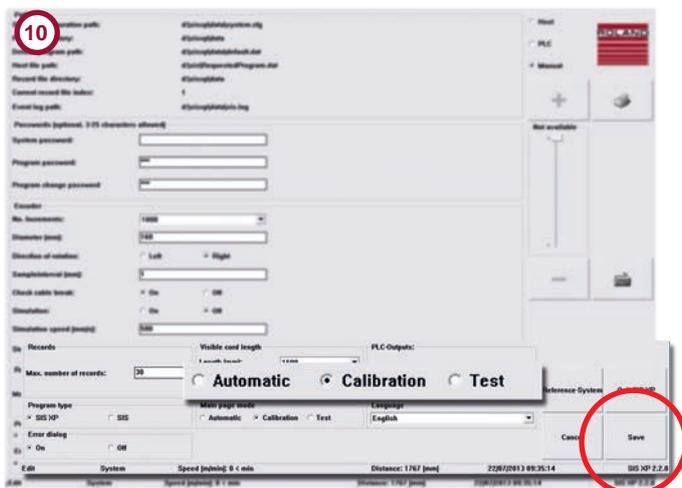
07: Center the roller over the sensor in x- and y-axis and tighten the clamping rings.



08. Create a **new program** with full cord width (1800 mm) and activate.



09. Run the conveyor belt and start the machine. Select sensor 1 and deactivate all others. Change **Gain** till Missing Wire (MW) reaches -80% threshold.



10. Select „**Calibration**“ in system configuration menu.



11. Select the sensor for calibration (A), click on sensor button (B), adjust gain value for the selected sensor (C); each signal of the Missing Wire (MW) signal (D) must reach the negative threshold.

- 13. Adjust all sensors on row 1 by performing step 07 and step 11 for sensors 1, 3, 5 ...
- 14. Adjust all sensors on row 2 by performing step 07 and step 11 for sensors 2, 4, 6 ...

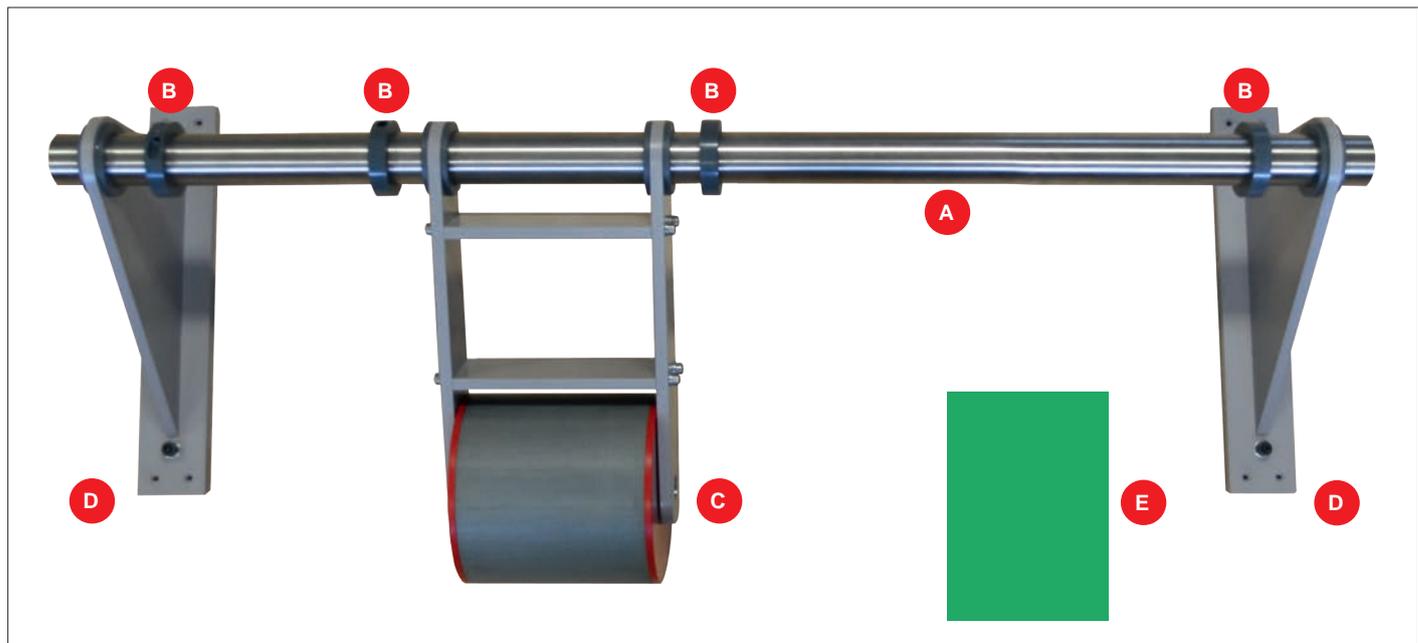
Press „**Done**“ (E) after the calibration for all sensor is completed. Switch back to „**Automatic**“ mode (step 10).

Technical data

Control unit			
Supply voltage:	No power necessary	Drive:	The roller is driven by the conveyor belt of the repair station
Working width: (Guiding assembly length)	Customer specific	Material:	Aluminum (Bearing bracket, tube and pendulum suspension) Plastic (Roller)
Cord belt width:	Customer specific	Weight:	Approx. 17 kg (37.47 lbs)
Temperature:	0° - 50°C (32° - 122°F) operating and storage	Mounting:	Magnet fixed bearing brackets
Suited for:	Steel cord belts, only 90°		

Artificial cord description			
Wire diameter:	0.8 mm	Wire to wire space:	2.5 mm
Gap / spacing:	1.7 mm		

Fault detection	
Missing wire:	1 missing 0.8 mm wire, gap/spacing = 5 mm



Revision 1.2, March 2017 - Subject to technical modification and error

Order Information

	Description
SIS-CALIBRATOR	Calibration system with following components:
	- Guiding assembly (tube) with customer specific length (A)
	- 4 clamping rings (B)
	- Roller with a diameter of 160 mm and pendulum suspension (C)
	- 2 bearing brackets (D)
	- Magnetic flux paper (E)

ROLAND ELECTRONIC GMBH

Otto-Maurer-Strasse 17
Phone: +49(0)7236-9392-0
info@roland-electronic.com

75210 Keltern / Germany
Fax: +49(0)7236-9392-33
www.roland-electronic.com

