

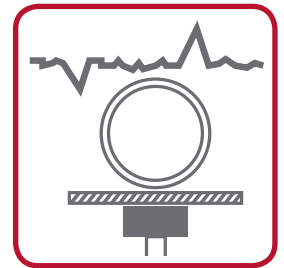
## Steel Cord Inspection System Field Concentrator SIS FKR-2-M

The SIS Field Concentrator is an  
Add-on for the  
Steel Cord Inspection System SIS G3

- Concentrates the Magnetic Field of the SIS Sensors
- Improves the detection of faults in the Steel Cord
- Increases the sensitivity up to 100%
- Suppresses vertical faults (vertical displacement)
- Electrical adjustable height of the rollers from 0 to 10 mm in steps of 0.01 mm
- Distance for loading of new cord belt material approx. 100 mm
- Designed for a sensor row spacing of 109 mm
- Length of the rollers is customized depending on the width of the conveyor belt

### THE ROLAND PLUS

- ▶ SIS G3 Accessory
- ▶ Concentration of the Magnetic Field
- ▶ Improved Fault Detection



## Description:

By applying the FKR-rollers, the magnetic field of the SIS sensor is amplified and respectively concentrated. Thereby the sensor signal is amplified whereas the noise signal is only marginally influenced. This leads to a considerable improvement of the signal to noise ratio (SNR).

The rolling device is positioned by an electric motor over the cord belt material with a distance to the material which is equivalent to the thickness of the cord belt material. During operation the rollers are stationary and do not touch the tire cord. If a step slice or a undulated splice touches the rollers, each roller is rotatable and individually spring-mounted so that no clamping of the material will occur.

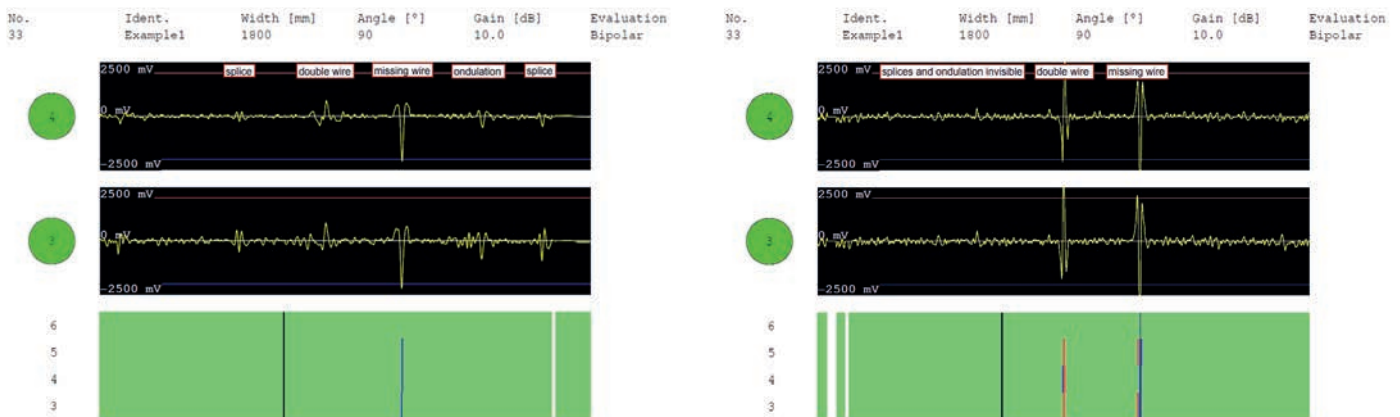
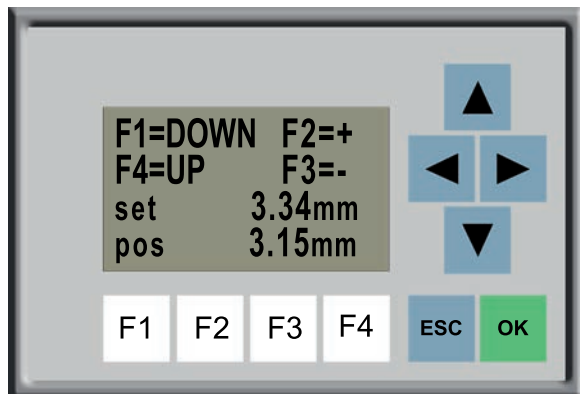


Fig.: By the usage of the SIS FKR-2-M Field Concentrator, the sensor signal substantially increases (see above right)

## Mounting:

The device is screwed on the frame of the repair table by four M8 bolts. Care must be taken especially to the exact positioning of the two rollers over the sensor rows.

## Operation:



The operation consists of four keys (F1-F4).

- F1 - moves the rollers to the operating position
- F2 - increases the operating position by 0.01 mm
- F3 - reduces the operating position by 0.01 mm
- F4 - moves the rollers in maintenance position / material insert (max. height)

F2 and F3 are protected against incorrect operation and are activated by continuous pressing (> 5 sec) for a period of 2 min.

If the rollers are not in operating position, the PLC output 1 will be opened.

If the rollers are in their operating position, the output is switched (Ready).

## ATTENTION:

The operating position affects the sensitivity of the sensors. Do not change the operating position without having a good reason and without consultation with the quality assurance. If the operating position has been changed, the settings of the amplification values must be checked and changed if necessary.

## SAFETY:

To protect against contusions, the entrance and exit of the rollers, light curtains are mounted on both sides. There is also an emergency button above the operator display. When triggered, the two PLC outputs / E-Stop1 and / E-Stop2 are opened, see wiring diagram (right).

## ATTENTION:

One of the two PLC signals must result in the immediate stop of the conveyor belt.

# FIELD CONCENTRATOR SIS FKR-2-M

## Technical data

| Field concentrator SIS FKR-2-M |   |
|--------------------------------|---|
| Operating voltage:             | 24 VDC 5 A  |
| Power consumption:             | 120 W   |
| Weight:                        | approx. 110 kg at 1300 mm length  |
| Dimensions:                    | *CS x 400 mm (Base 600 mm) x 500 mm (W x D x H) *CS = Customer specific |
| Switching capacity:            | PLC IN/OUT max. 1A 24VDC  |

## Dimensions

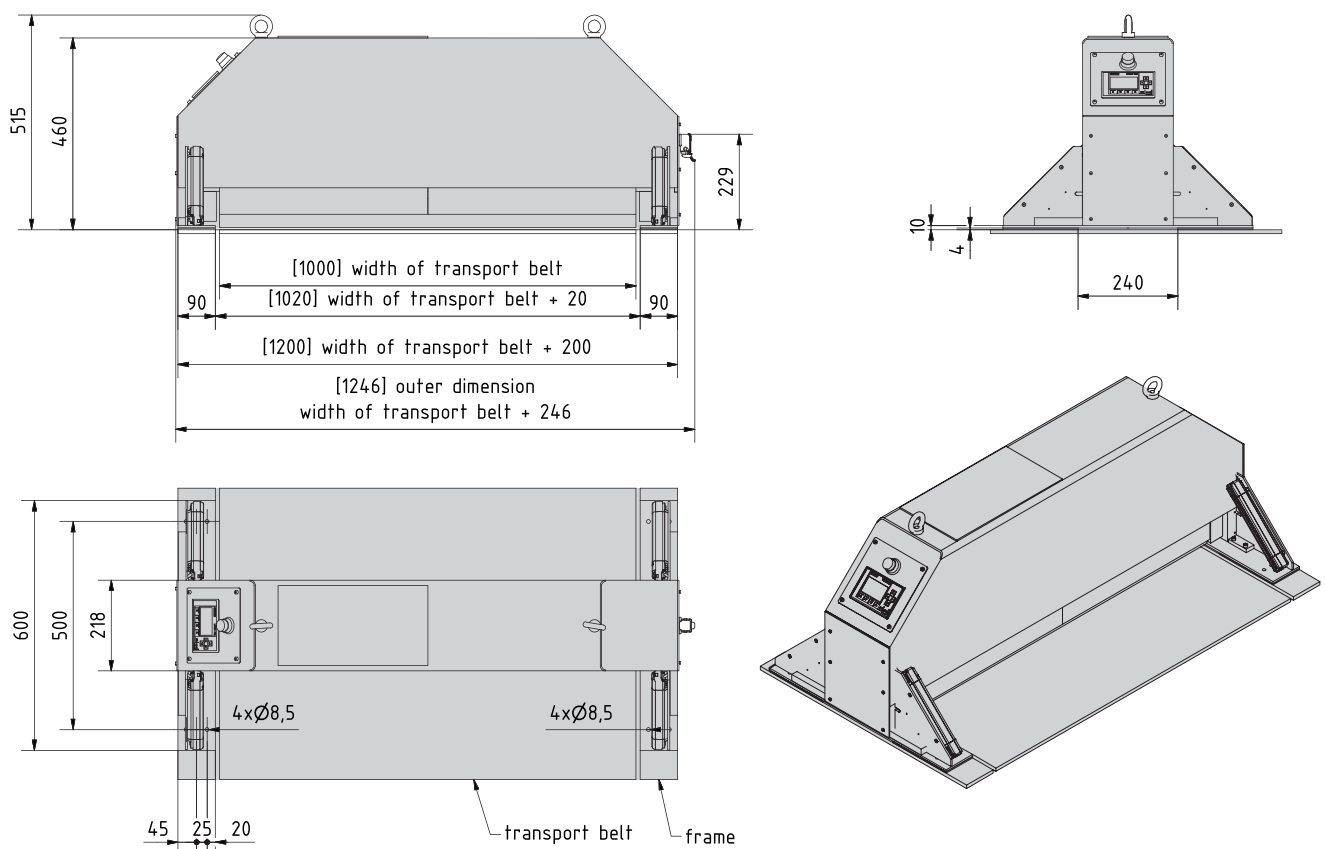
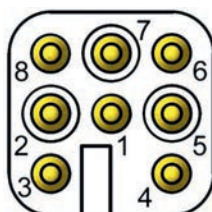


Fig.: Dimensions of the Field Concentrator SIS FKR-2-M. All dimensions in mm.

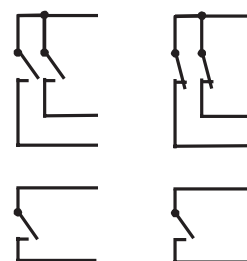
View on contact  
mating site at  
FKR-2-M



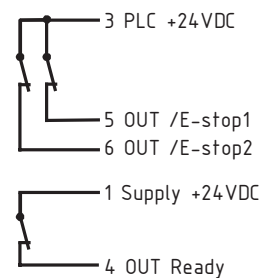
- 1 Supply +24VDC 5A 2,5mm<sup>2</sup>
- 2 Supply GND 2,5mm<sup>2</sup>
- 3 PLC +24VDC
- 4 OUT Ready
- 5 OUT /E-stop1
- 6 OUT /E-stop2
- 7 NC (Optional: IN /UP-DOWN)
- 8 NC\*

\*reserved for future use

Emergency stop



Ready-to-operate



PLC IN/OUT max. 1A 24VDC

Fig.: Wiring diagram of the Field Concentrator SIS FKR-2-M

## Application

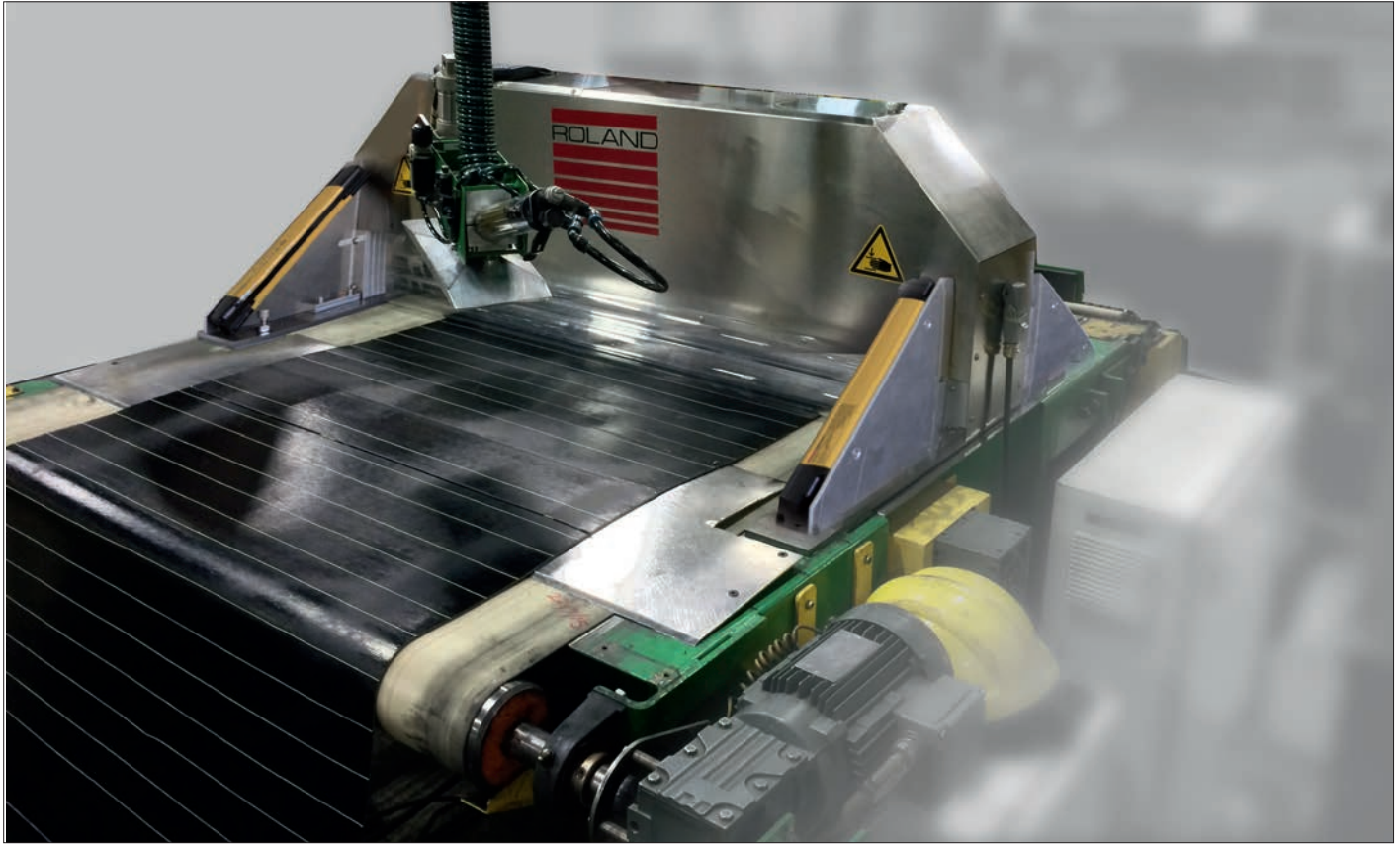


Fig.: Repair station with the SIS Field Concentrator

## Order information

| Order specification | Description        |
|---------------------|--------------------|
| <b>SIS FKR-2-M</b>  | Field Concentrator |

Revision 1.3, June 2018 - Subject to technical modification and error

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