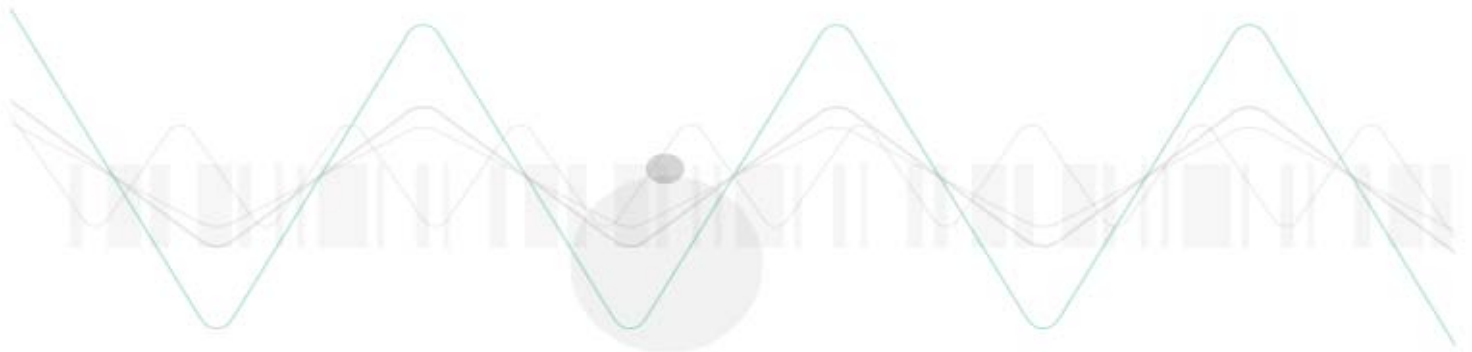
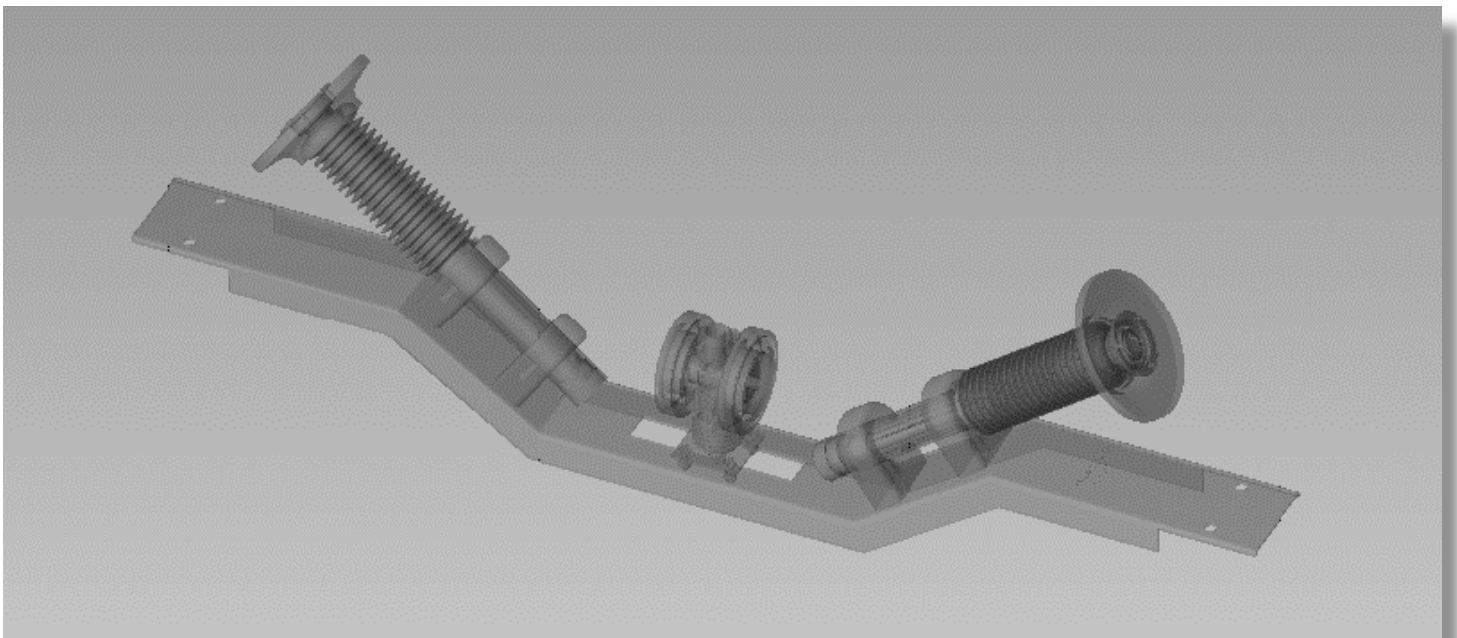


## Belt Rip Monitoring System:



## Systemdescription:

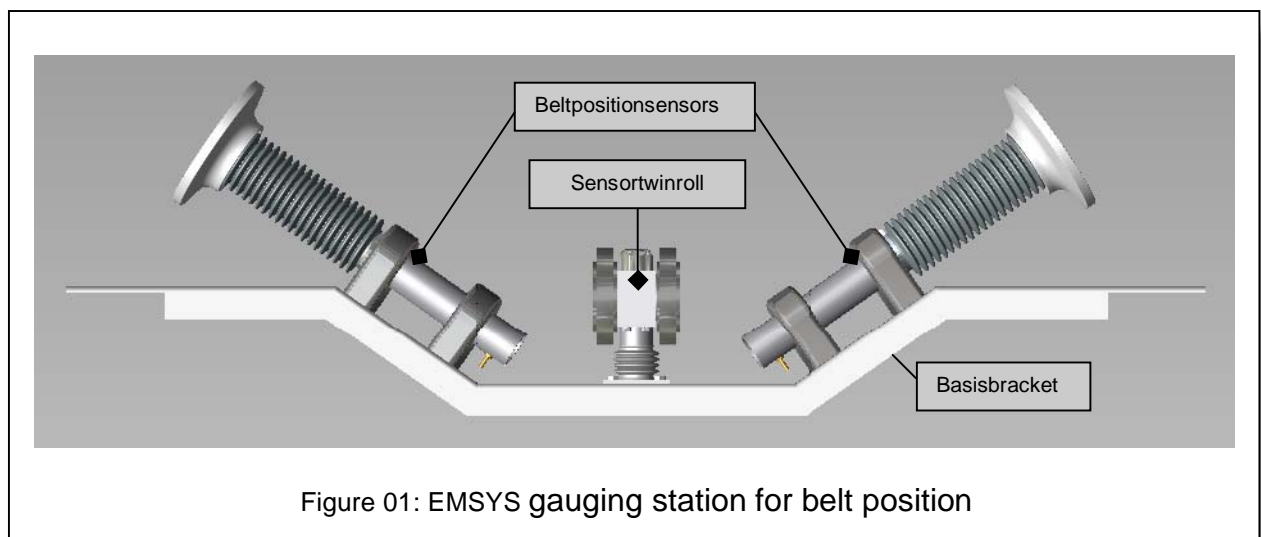
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The EMSYS Belt-Rip Monitoring System is a compact and rugged monitoring unit for belt conveyor, designed for downhole and non downhole conditions.

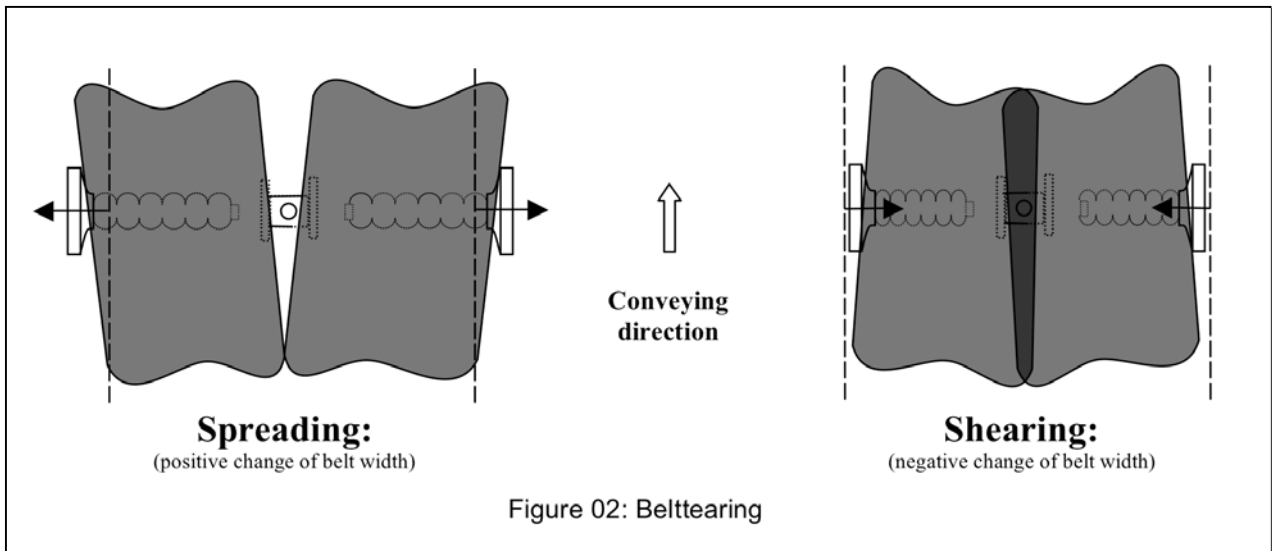
An EMSYS Belt-Rip Monitoring System exists of:

- one gauging station for belt position with
  - two Beltpositionensensors,
  - one Sensortwinroll,
  - one Basisbracket,
- one control unit STG-300

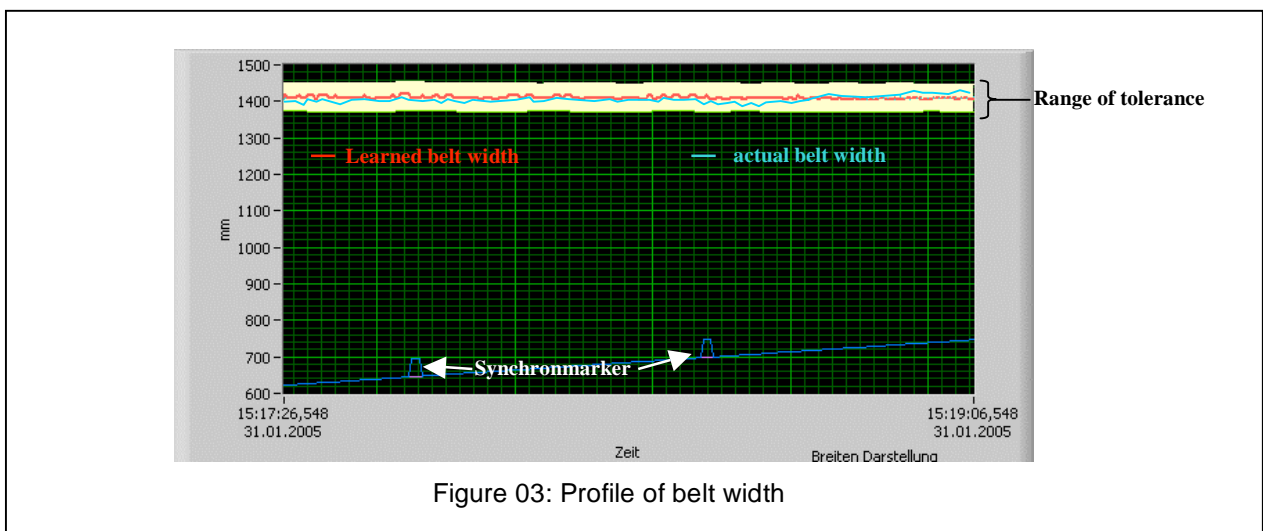
The Belt-Rip Monitoring System will be integrated into a belt conveyor directly next to an existing roller bracket.



An unacceptable (positive or negative) change of belt width will be interpreted by the control unit as a belt-rip.



For this reason the belt width and the belt position will be acquired via the axial movement of the Beltpositionensensors. The measured data will be compared with the profile of the belt width stored in the control unit.



The profile of the belt width will be stored in the control unit during a cycle for learning, or a fix range of tolerance can be set manually. A cycle will automatically finish, if

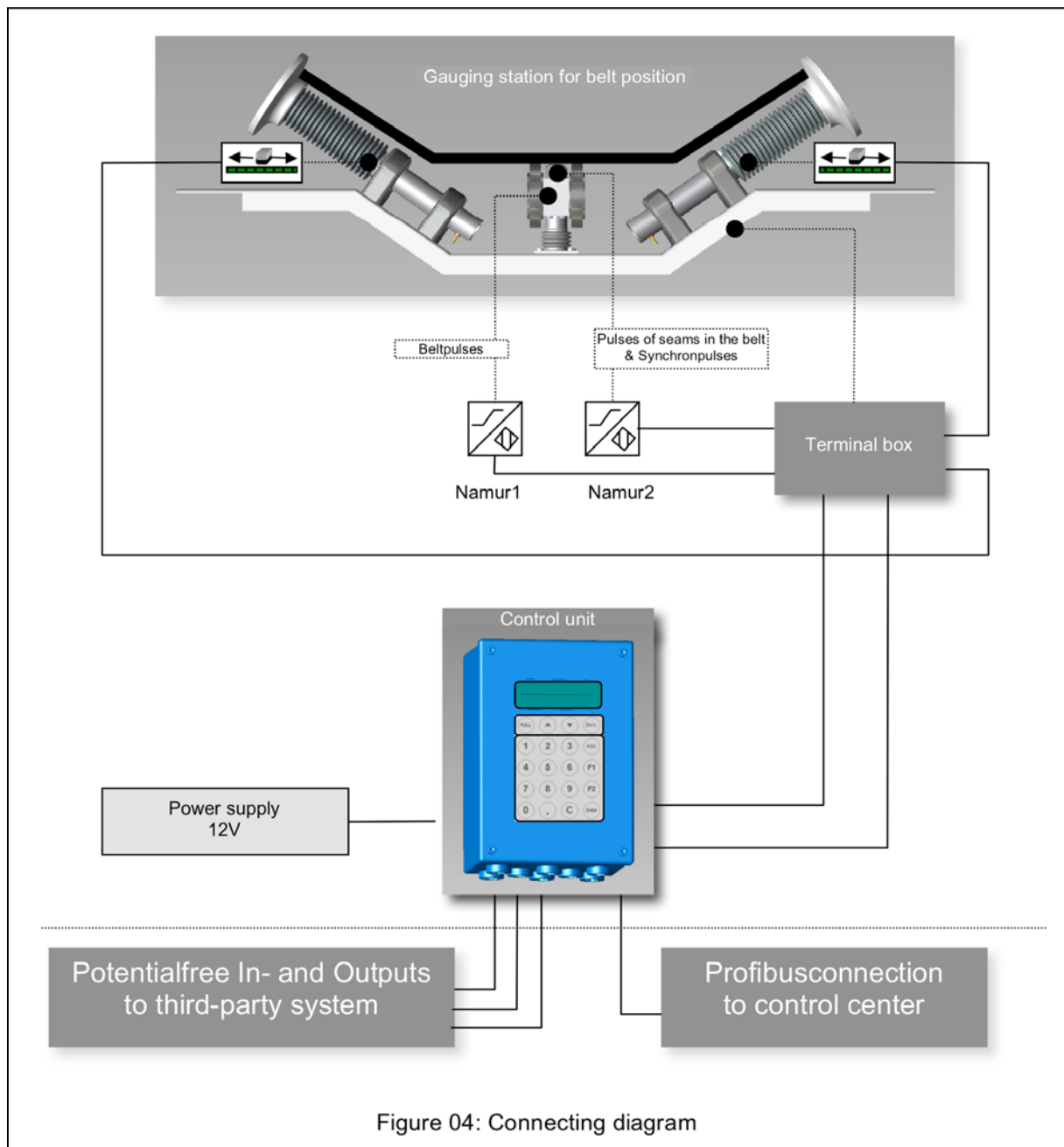
- a synchronmarker (2 strips of metal) vulcanised into the conveyor belt will be detected by the Sensortwinroll, or
- a distinctive location on the profile of the belt will be clearly identified by the cross correlation procedure.

**Advice:**

*We recommend to vulcanise a synchronmarker into the conveyor belt to clearly define the start and end point of the belt profile!*

For determination of the belt position in working conditions, the pulses of the Sensortwinroll will be acquired and evaluated by the control unit.

A transmission of the evaluated, measured data as well as setting and inquiring the parameters of the control unit next to the local treatment is possible via profibus (FDL or DP).



## Technical Data:

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### Beltpositionsensor:

- Construction
- Temperature
- Supply
- Output

Hallsensorelectronic  
 $-20 \leq T_A \leq +40^\circ\text{C}$   
 $10\text{V} \leq U_V \leq 13,5\text{V}$   
5 to 15Hz 0 to 40cm  
(Optocoupler seperated  
circuit control)

### Belt width

- Standard: 1000 mm to 2500 mm
- More on request

### Belt speed

- Up to zu 5m/s

### Profile of roller brackets

- From  $0^\circ$  to  $45^\circ$

### Distance between roller brackets

- From 0,5m

### Explosion proof qualification

- $\text{Ex}$  I M2 EEx ib I

### Weigth incl. Control unit

- ca. 70kg

### Connection (to control unit)

- Pin for split announcement
- Pin for Misalignment announcement
- Optokoupleroutput for beltposition

5 ... 15Hz

### Connection (at control unit)

- Optokouplerinput:
- Optokoupleroutput:

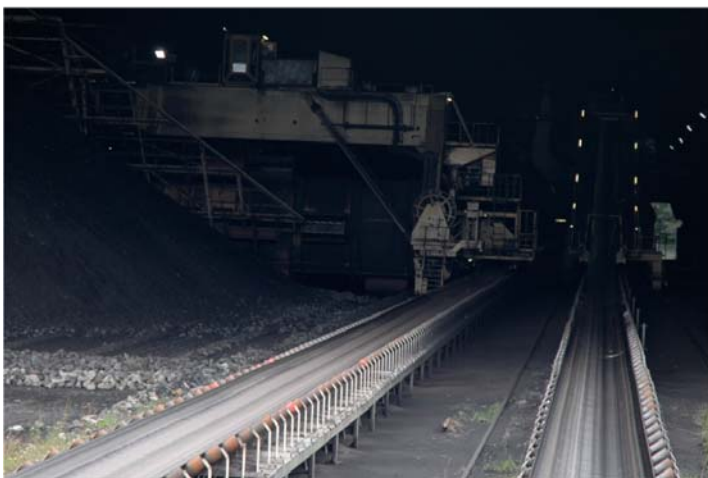
Parameterlock  
Acknowledgement of  
Misalignment

- Profibus

DP or FDL

### Accreditation

- CE
- ATEX



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