• Driving speed measurement and steering angle monitoring with encoders
• Lifting height measurement with draw-wire encoders
Compact encoders and draw-wire systems of Kübler are used to determine the speed, the steering angle of the vehicles and the exact position of the load-carrying devices. Their accurate rotary speed and position signals ensure the reliable operation of the intelligent systems - even when only very little space is available. BUS systems ensure the safe signal transmission and simplify notably the cabling work.
Lifting height measurement

Linear measurement up to 3 or 6 m, absolute value acquisition via fieldbus, high accuracy

Draw-wire encoder A41
- Measuring length 2 m
- CANopen interface
- Robust housing
- High dynamic up to 1 m/s

Draw-wire encoder B75
- Measuring length 3 m
- Fieldbus interface
- With optical multiturn encoder
- Robust housing
- Linearity up to ±0.35 % of the measuring range

Draw-wire encoder B80
- Measuring length 3 m
- Fieldbus interface
- Interchangeable installation
- With optical multiturn encoder
- Robust housing
- Linearity up to ±0.02 % of the measuring range

Draw-wire encoder C120
- Measuring length 6 m
- Fieldbus interface
- Interchangeable installation
- With optical multiturn encoder
- Robust housing
- Linearity up to ±0.02 % of the measuring range
Driving speed

Dynamic rotary speed measurement with reduced space requirements in hollow shaft version

**Sendix S3674 Motor Feedback encoder**
- Singleturn encoder ø 36 mm
- SIL2/PlD
- Operating temperature
  - -30°C ... +120°C
- Accurate optical scanning
- Tapered shaft ø 8 mm

**Sendix Base KIH40 encoder**
- Incremental encoder ø 40 mm
- Optical scanning
- Safety Lock™
- Resolution max. 2500 ppr

**RLI20 bearingless encoder**
- Magnetic scanning
- Resolution max. 3600 ppr
- High protection level up to IP69k

**Sendix 5834FS encoder**
- Incremental encoder ø 58 mm
- Accurate optical scanning
- SIL2/PlD, SIL3/PlE
- Resolution max. 2048 ppr
Steering angle monitoring

Absolute angle measurement with fieldbus control, robust encoder with reduced space requirements

**Sendix M36 encoders**
- ø 36 mm size
- CANopen interface
- Magnetic scanning
- Safety-Lockplus™
- High protection level IP69k
- Status display

**Sendix F5888 encoder**
- ø 58 mm size
- CANopen interface
- Optical scanning

Driving speed

Steering angle monitoring
## Portfolio overview draw-wire encoders

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Draw-wire encoders</th>
<th>Measuring length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linearity max.</td>
<td>Encoder</td>
<td>Short range</td>
</tr>
<tr>
<td>Speed [m/s]</td>
<td></td>
<td>0 1 2 3</td>
</tr>
<tr>
<td>Wire diameter [mm]</td>
<td></td>
<td>4 5 6 8 10</td>
</tr>
<tr>
<td>Measuring length [m]</td>
<td></td>
<td>12 15 max. 42.5</td>
</tr>
</tbody>
</table>

### Performance-Line

- **A50**
- **B80**
- **C120**
- **D135**

### Robust-Line

- **C60**
- **D120**

### Compact-Line

- **A30**
- **A40**
- **A41**
- **B75**
- **C105**

### Base-Line

- **C100**
- **D125**

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### Features

- **INC** Incremental
- **ABS** Absolute, digital
- **UI** Voltage
- **R** Current
- **A** Potentiometer
- **R** Relais / switch output
- **R** Redundant sensors

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[www.kuebler.com/draw-wire_encoders](www.kuebler.com/draw-wire_encoders)
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