SOLUTIONS FOR AUTOMATIC GUIDED VEHICLES

SPEED MEASUREMENT
STEERING ANGLE MONITORING
LIFTING HEIGHT MEASUREMENT
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.
**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 System**
- 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

**For safety applications – Sendix S58 PROFIsafe encoders**
- Sturdy bearing construction in Safety-Lock™ Design for resistance against vibration and installation errors.
- High resolution: Singleturn 15 bit (safe) or 24 bit (non safe), Multiturn 12 bit (safe).
- SIL3, Performance Level Ple, Safety Category Cat. 3.
- Fully redundant multiturn information due to redundant multiturn gearbox.
- Transmission via safety telegrams 36/37, according to BP and XP.
- Implement features and adaptations quickly and easily.
## 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>Speed [m/s]</td>
<td>Measuring length [m]</td>
</tr>
<tr>
<td></td>
<td>Wire diameter [mm]</td>
<td>0</td>
</tr>
</tbody>
</table>

### Performance-Line
- ±0.02 %
  - 10
  - 0.5
  - A50
  - B80
  - C120
  - D135

### Robust-Line
- ±0.1 %
  - 3
  - 1.0
  - C60
  - D120

### Compact-Line
- ±0.3 %
  - 3
  - 0.9
  - A30
  - A40
  - A41
  - B75
  - C105

### Base-Line
- ±0.5 %
  - 1
  - 0.9
  - C100
  - D125

### Features:
- **INC**: Incremental
- **ABS**: Absolute, digital
- **UI**: Voltage
- **I**: Current
- **U**: Potentiometer
- **N**: Inclinometer
- **RS**: Relais / switch output
- **RED**: Redundant sensors
Kübler Service for worldwide planning reliability

**24one delivery promise**
Manufacturing in 24 hours. For orders placed on working days before 9 AM, the product will be ready for dispatch on that same day. 24one is limited to 20 pieces per delivery.

**10 by 10**
We will manufacture and deliver 10 encoders within 10 working days (365 days a year - with the exception of 24th Dec. until 2nd Jan.)

**48 h Express-Service**
We can process your order within 48 hours; we can ship stock items the same day.

**Sample Service**
We manufacture samples of special designs or according to customer specification within shortest time.

**Safety Services**
Individual customer solutions.

**Tailor-made Solutions – Kübler Design System (KDS)**
We develop jointly with our customers product and engineering solutions for customer-specific products, integrated drive solutions, up to complete systems.

**Technical Support**
Kübler’s applications team is present on site all over the world for advice, analysis and support.

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KÜBLER WORLDWIDE
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- CZECH REPUBLIC
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- THAILAND
- UNITED ARAB EMIRATES
- VIETNAM

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