Kübler

Incremental and Absolute Encoders especially for Drive Technology

RoHS c UL us Ex 2/22

Complete Solutions for geared motors

- Sturdy: Withstands even the toughest conditions.
- Economic: Can be installed quickly and efficiently.
- Compact and versatile: Top technology for limited installation space, comprehensive connection technology.

pulses for automation

Encoder Solutions

specially for the drive technology

Sendix®

Safety-Lock™

High shaft load

High speed

- 40° + 90°
Temperature

IP 67
High IP value

Mechanical gear

Shock / vibration resistant

Magnetic field resistant

Short-circuit proof

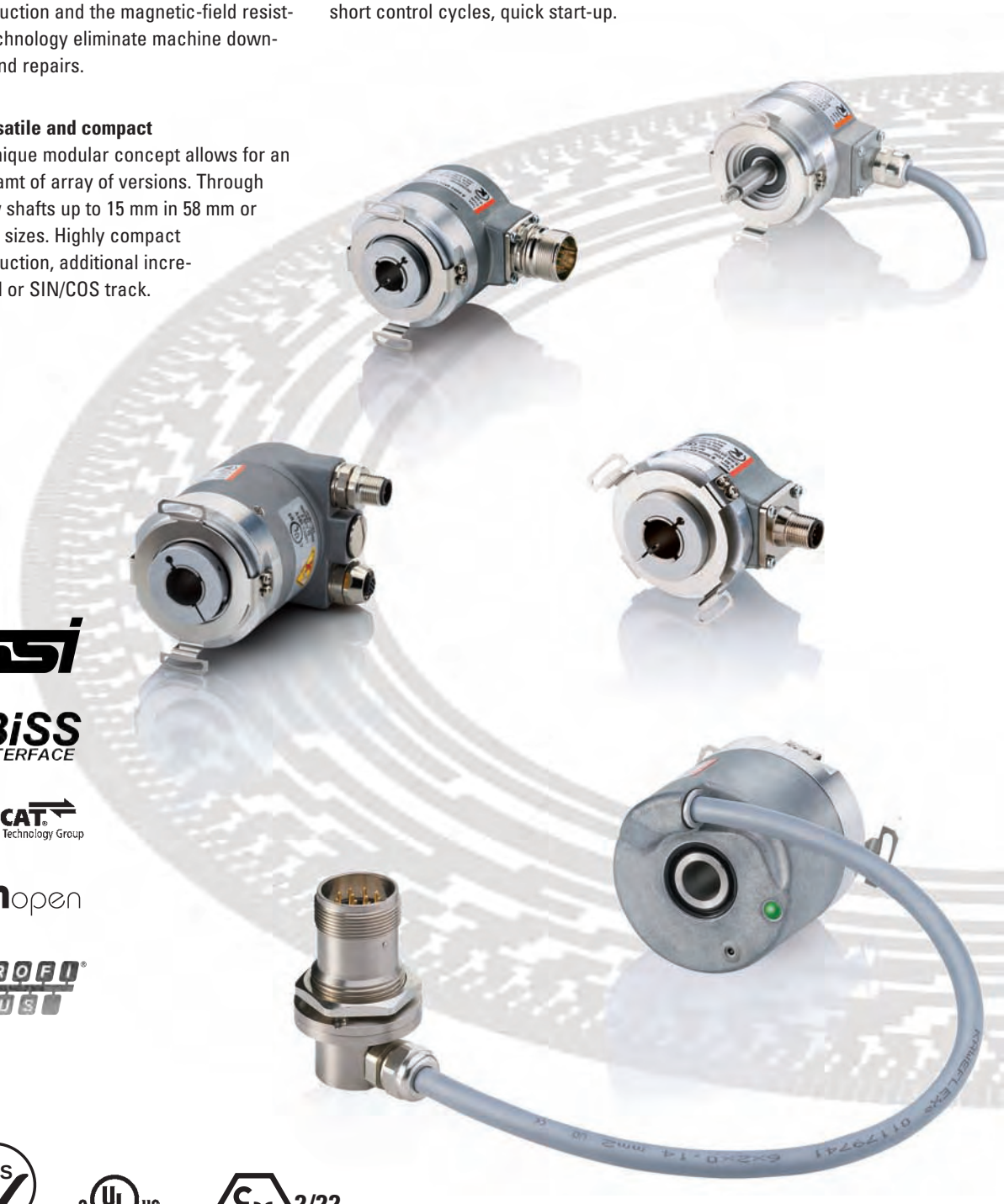
Reverse polarity protection

The rotary encoder brand for drive technology
Incremental and Absolute Singleturn, Multiturn and Field Bus

Safe
The sturdy Safety-Lock™ Design bearing construction and the magnetic-field resistant technology eliminate machine downtime and repairs.

Fast
Very high clock frequency (up to 10 MHz), short control cycles, quick start-up.

Versatile and compact
The unique modular concept allows for an undreamt of array of versions. Through hollow shafts up to 15 mm in 58 mm or 50 mm sizes. Highly compact construction, additional incremental or SIN/COS track.



SSI
IBiSS INTERFACE
EtherCAT Technology Group
CANopen
PROFIBUS

RoHS
cULus
Ex 2/22

Sendix Incremental

for the drive technology

The rotary encoder technology platform for geared motors

Tough

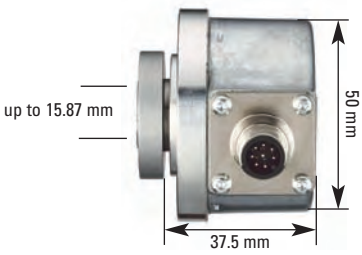
- Particularly sturdy bearing construction (Safety lock ™ design): the locked bearing, the large bearing distance and strong bearings ensure stability during vibration and robustness against installation errors.
- Its stable die-cast housing and a radial shaft seal mean that the Sendix Inkremental has a very high protection category of IP 67. Together with the broad temperature application range of –40° C up to +90° C, it is thus also ideally suited for outdoor use.

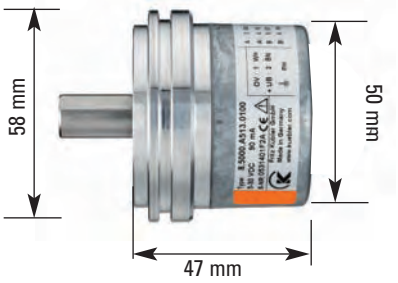
Global use

- Compatible with all current US- and European standards with regard to mechanics, connection technology, interfaces and signal sequence.
- Broad input voltage range of 5 ... 30 VDC
- Wide choice of interface options
- Also available for explosion protection zones 2 and 22

Performs like a large encoder:

- Up to 15.87 mm hollow shaft and housing dimensions of only 50 mm and installation depth of 37.5 mm. On the one hand, you save the costs of larger encoders, which otherwise might have been necessary, on the other hand you achieve cost savings because you do not have to accept as many restrictions or consider as many technical specifications during installation and operation.
- up to 5.000 pulses/rev.
- short-circuit-proof outlets
- high scanning rate

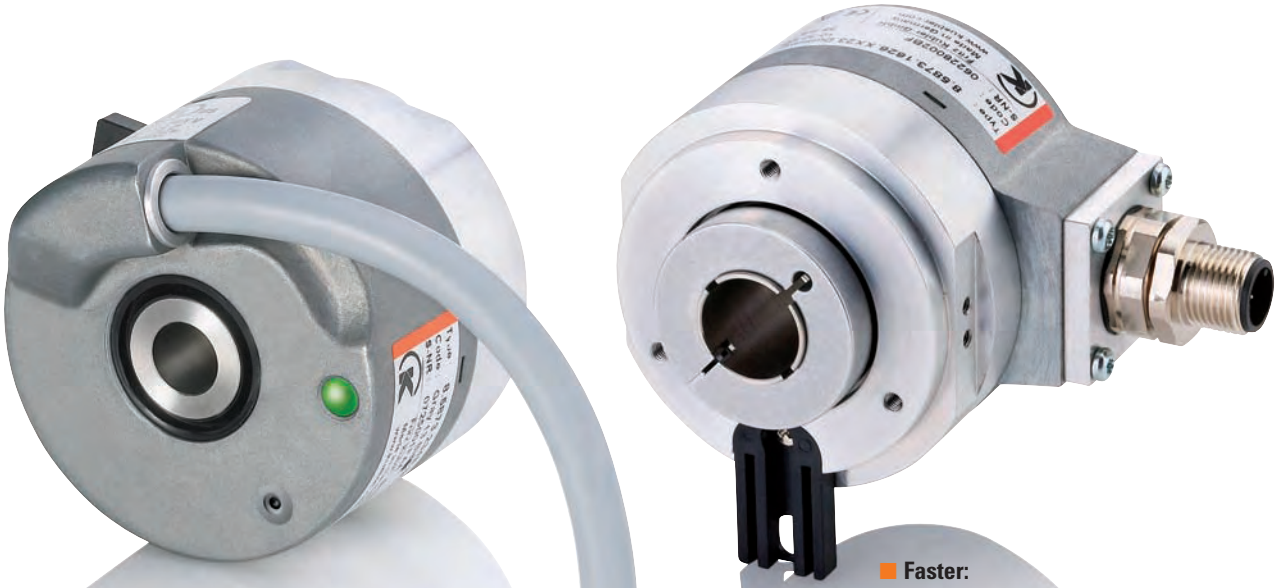




Sendix Absolute

for the drive technology

Sendix Absolute: Singleturn, Multiturn and Field Bus



Safer:
- The particularly robust mechanical construction with locked bearing, the large bearing distance and strong bearings ensure stability during vibration and robustness against installation errors.
- Its sturdy die-cast housing and a radial shaft seal mean that the Sendix Absolut has a very high protection category of IP 67. Together with the broad temperature application range of –40° C to +90° C, it is also ideally suited for outdoor use.

More versatile:
- The unique modular concept from Kübler facilitates an undreamt-of array of versions with minimal effort.
- User-friendly, fast start-up: thanks to a host of fixation solutions and connection technologies

Faster:
- Very high clock frequency with SSI up to 2 MHz, with BiSS up to 10 MHz
- High productivity as the result of very short control cycles
- Open interfaces create flexibility and independence
- Update rate of the entire position value of more than 100 kHz with a max. jitter of 1 µs.
- with additional incremental track or SIN/COS track
- Use with applications possible that require a high-resolution feedback system in real time, such as e.g. gearless drives.

Sendix Absolut technology highlights

Global innovation:
First 58 mm industry-standard multiturn encoder on the market to incorporate a mechanical gear and permit a through hollow shaft up to 14 mm or a 15 mm blind hollow shaft. This allows for direct mounting on larger diameter standard shafts.

Highly-integrated electronics:
Kübler OptoASIC technology with very high integration density (Chip-on-Board).
Low number of components and bonding sites increases the reliability in the application.

Magnetic field resistant:
For applications with severe electromagnetic interference (e.g. magnetic brakes on geared motors): Singleturn and multiturn, exclusively with optical sensor technology. No components that can be affected by magnetic fields.

Integrated SET key
Reset via control input or SET-key for quick, simple on-site start-up. Status display by LED.

Encoder Solutions

specially for the drive technology

Full-value ATEX rotary Encoders

If drive technology is used in explosion-protected areas, special explosion protection regulations need to be observed. For such applications, Kübler offers ATEX shafts and hollow-shaft rotary encoders. For the low protection zones 2 and 22, cost-effective compact standard rotary encoders approved for explosion protection are available.

New with approval for dust
One for every eventuality: Zone 1 and 2 and Zone 21, 22 Ex II 2G EEx d II C T6 and Ex II 2D IP6x T85°C
Compact: Installation depth of only 94 mm
Safe: short-circuit proof outlets, voltage reversal protection, Overvoltage protection

Field Bus Encoders

- The latest field bus profiles
- Genuine time-synchronous position detection of several axes is possible
- Position, speed, acceleration and working area available in real-time
- LEDs, reset button and plug for rapid and fault-free commissioning
- Convenient alternative version with bus cover for smooth integration in complex field bus networks or economic version with fixed connection

Encoders with big hollow shaft

Economic standard encoder with a diameter from 58 mm up to 100 mm.

- Through hollow shaft up to 42 mm with only 49 mm clearance, and 100 mm in size
- Through hollow shaft up to 28 mm for 58 mm size
- Simple to install, simple to replace
- Always the right encoder
- Long service life, durable – unaffected by rough installation
- Plug & Play: cables with plugs and corresponding pin layout for all of your controllers
- Incremental up to 5.000 PPR, absolute up to 13 x 12 Bit
- RS422 (TTL), push-pull (HTL), SIN/COS and SSI or RS485
- Many fixing options
- Short-circuit proof outputs, reverse connection protection for power supply

Kübler – experience and flexibility

Remote Design Desk

3 steps to your perfect rotary encoder: use our remote design desk service

Analysis phase: 1.

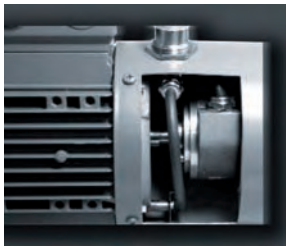
On the basis of your CAD data about motor, housing and fan cowl, we analyse which requirements your rotary encoder has to fulfil.

Design phase: 2.

We develop the most uniform fixing solution possible for you to cover the smallest up to the largest installation space.
If the encoder is to be sited under the fan cowl, then it makes sense to use our particularly short right-angle connector for the fan housing. It is located directly on the motor housing.
Each tether arm undergoes endurance testing with the aim of reducing the overall costs for the encoder installation.

Realisation: 3.

- You will first receive a customer specific datasheet.
- Based on this, we will then create a prototype for you.
- After approval, we manufacture and supply you with your specific solution.
- Even special variants can be implemented in a short period of time.



The integration of the rotary encoder within the fan cowl has many advantages. The space is ideally used and the rotary encoder is largely protected from external knocks. The intelligent mounting technology and the right-angle connector from Kübler make it possible – from the smallest to the biggest size of motor.

Accessories

for the drive technology

Mounting solution on fan housing: ez Fan-Clip

Simple, quick mounting solution for encoders with a tether arm on the outside of the fan housing. The housing of the motor does not have to be removed.

Mounting technology

The modular principle from Kübler offers you a host of fixation solutions for simple, quick installation and a long service life.

Many connection options

Connection options as a plug M12, M23 and MIL or cable connection. The plug can be attached to the cable or to the housing.

Plug on the rotary encoder

Plug on the cable

Encoder Solutions

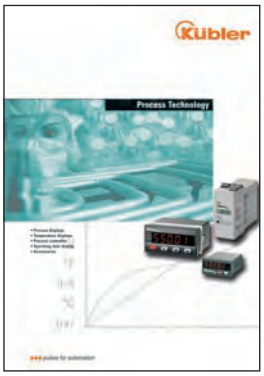
All our encoders and length measuring systems, including order codes, product details and dimensional drawings can be viewed online or in our large encoder catalogue.

Sensor Technology, Encoders and Linear Measuring Technology

Display and Control Solutions

A wide variety of solutions: electromechanical, electronic (LCD, LED), miniature, compact, DIN sizes, bezel adapters for all common panel cutouts as well as products suitable for DIN rail mounting – all these can be viewed online, as well as in our Counting Technology and Process Technology catalogues.

Counting Technology



Process Technology

Further System Solutions

In our OEM Products and Systems Division we develop and manufacture display, measurement and control components, as well as sub-assemblies, tailor-made to customers requirements.

Customised OEM Devices

System Solutions