

Rotation Encoders: Precise Measuring Technique with Defined Values.

Incremental and absolute encoders, geared potentiometers.



Incremental or absolute coded rotation angle detection in variable resolutions.

Incremental Encoders and Absolute Encoders

In machine and equipment engineering, these sensor components for the detection of distance, angle or number of rotations are indispensable. They are based on the optical measuring principle of an encoding disk with light transparent and opaque segments. Evaluation electronics derive information from electrical pulses of opto-electronic sensing from which distance, angle or rotational information can be computed.

For SIKO absolute encoders, absolute encoded angle steps are determined instead of the incremental pulse trains. This technique is useful when reference movements for position determination are either not possible or not desirable.

Both incremental and absolute encoders are available in hollow or solid shaft design. Standard interfaces or individual field bus connections with freely programmable parameters are basic features of the product.

SIKO product know-how in the field of encoders allows a diversity of types extending from an economical miniature design with less complicated mechanical fittings to extensive, high resolution products in plastic or robust aluminium pressure-cast housings.

Geared Potentiometers

For this absolute measuring method, angles or distances are sensed by a combination of a single or multi-turn potentiometer and gearing. The position of the potentiometer provides analogue signals for adjustment movements to the follower electronics such as controls and measurement indicators.

Measurement signal conditioners ensure loss-free signal transmission and thereby provide relief from line losses. For the controlling of switching actions, a built-in cam switching mechanism is optionally available.

SIKO diversity makes possible individual measurement acquisition for all applications.



Incremental encoders

Hollow shafts with \varnothing 6–42 mm
Solid shafts with \varnothing 5–15 mm
Up to 10,000 pulses/revolution
Output circuits: PP, LD, OC, OP, OE
Up to protection class IP65



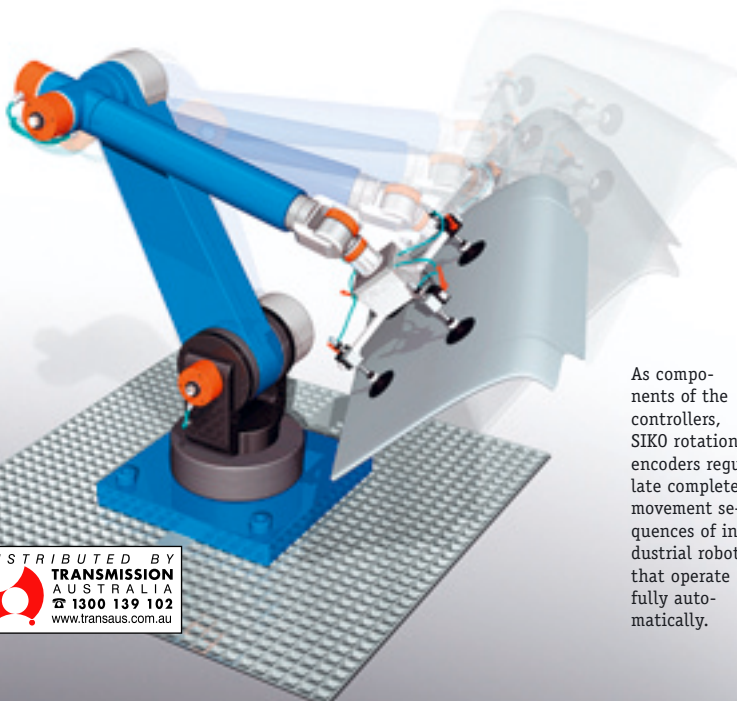
Absolute encoders

Hollow shafts with \varnothing 6–20 mm
Solid shafts with \varnothing 6–12 mm
Up to 8192 steps/revolution (13 bits), up to 4096 revolutions (12 bits)
Interfaces: parallel PP, OC, serial SSI
Bus system connection: Inter-Bus-S, Profi-Bus, CAN-Bus
Up to protection class IP65



Geared potentiometers

Hollow shafts with \varnothing 8–14 mm
Solid shafts with \varnothing 4–16 mm
Potentiometric output: 4–20 mA
Protection class IP52

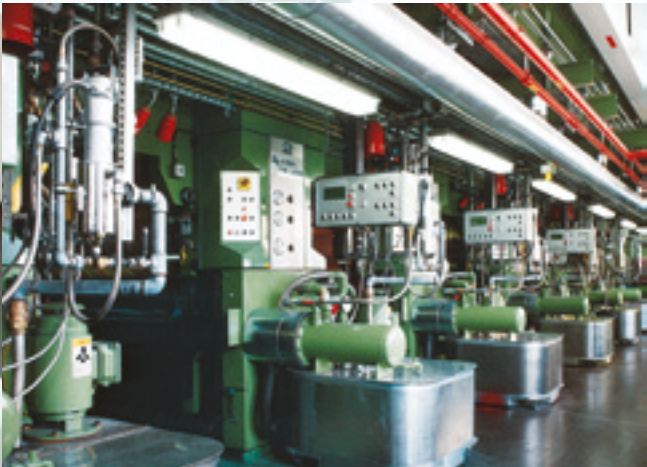


As components of the controllers, SIKO rotation encoders regulate complete movement sequences of industrial robots that operate fully automatically.



Perfect printing requires precise positioning of the ink and paper. Geared potentiometers from SIKO provide this precision.

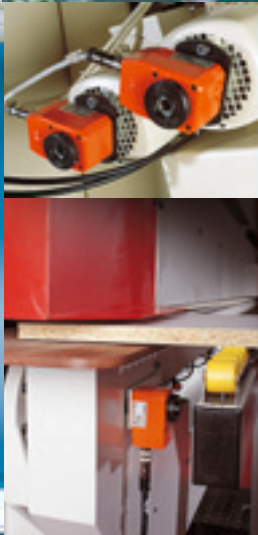
As a result of its solid metal housings, the IG07 can often be found on machines with strong mechanical influences.



The diversity of design forms and technical characteristics open a wide field of applications for the spectrum of products. Simple mounting of the hollow shaft design provides for short set-up times or simple retrofitting. In the wood industry, rotation encoders from SIKO are used in the first stage of the sawing of the logs since they are capable of withstanding the high mechanical loads. Accuracy and reliability are also important arguments for SIKO encoders in the areas of conveyor engineering and automation. Together with geared potentiometers, they are also indispensable in the paper and printing industries. They are used, too, in multi-colour printing for registration adjustment to regulate the exact and precise alignment of the cylinders.



At each individual transfer station, the correct positions are easily controllable with rotation encoders.



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