



Absolute Encoders

Absolute shaft encoders, also known as shaft-angle encoders, are by no means used only to detect angular positions. They are also suitable for linear movements that can be converted into rotary movements by a toothed belt, drive pinion, or wire winch.

The special feature of absolute shaft encoders is that they assign a unique, digitally encoded signal to each individual measured increment. The method of transducing prevents erroneous readings, whether by a power failure, or by a transient malfunction. After the encoder is switched on again, or power is restored, the position can be read out. It is not necessary to move to a reference position, as it is for shaft encoders of the incremental type.

Examples of typical application for absolute encoders:

- overhead support robots
- ventilation flaps
- spinning machines
- conveyor belts
- cam controllers
- injection moulding machines
- packaging machinery
- extruders
- folding machines
- printing machines
- high lift storage systems
- stamping machines

HENGSTLER

Uhlandstraße 49
D-78554 Aldingen
Tel. +49-(0) 74 24-89-0
info@hengstler.com
www.hengstler.com



AUTOMATION

Encoders for Industrial Automation.



Incremental Encoders

Incremental encoders are sensors capable of generating signals in response to rotary movement. In conjunction with mechanical conversion devices, such as rack-and-pinions, measuring wheels or spindles, incremental shaft encoders can also be used to measure linear movement. The shaft encoder generates a signal for each incremental change in position. With the optical transformation, a line-coded disc made of metal, plastic or glass and positioned on a rotary bearing interrupts the infrared light ray emitted by gallium arsenid sender diode. The number of lines determines the resolution, i.e. the measuring points within a revolution. The interruptions of the light ray are sensed by the receptor element and electronically processed. The information is then made available as a rectangular signal at the encoder output.

Examples for typical application of incremental encoders:

- Door closing devices for trains
- Desktop robots
- Lens grinding machines
- Plotters
- Testing machines for optical waveguides
- Scattering machines
- Tampon printing machines
- Ultrasonic welding
- Screwing machines
- Labelling machines
- Etikettiermaschinen
- x/y indication
- Analysis devices
- Drilling machines
- Mixing machines

AC58 Fieldbus	AC58-I	RI64	RI36	RI76	Encoder Hub
					
Absolute Single + Multiturn Fieldbus	Absolute Multiturn with Incremental Signals	Incremental	Incremental	Incremental	Networking
<ul style="list-style-type: none"> ■ Optical encoder with a true geared multiturn ■ Broad temperature range: -40 to + 100°C ■ Resolution 14 Bit ST + 12 Bit MT ■ High EMC - Resistance ■ Body diameter 58 mm 	<ul style="list-style-type: none"> ■ Positioning and Speed feedback in one Encoder ■ MT Absolute encoder + Incremental output TTL or HTL ■ Broad temperature range: -40 to + 100°C ■ Control input: Preset and Direction ■ Resolution 25 Bit ■ Compact design: 50 mm length ■ High EMC - Resistance ■ Ideal for standard frequency converter and asynchronous motors ■ Body diameter 58 mm 	<ul style="list-style-type: none"> ■ Through Hollow shaft 10-16mm ■ Up to 5000 ppr ■ Unbreakable code disc ■ Protection class up to IP67 ■ Broad power supply range DC 5-26V ■ Isolated shaft ■ High shock and vibration resistance 	<ul style="list-style-type: none"> ■ Miniature industry standard encoder ■ Incremental output TTL or HTL ■ Resolution up to 3600 ppr ■ Frequency response up to 300 kHz ■ Body diameter 36 mm ■ 6 mm solid shaft 	<ul style="list-style-type: none"> ■ Through hollow shaft Ø 15 bis 42 mm ■ Outside diameter only 76 mm ■ Easy installation by means of clamping ring front or rear ■ Operating temperature up to 100 °C ■ Body diameter 76 mm 	<ul style="list-style-type: none"> ■ Connects up 4 SSI or BiSS encoders to USB or Profibus ■ Auto Configuration of BiSS Master ■ SSI compatible ■ Delivers Realtime speed and acceleration per axis ■ USB 2.0 Interface (USB 1.1 backwards compatible) ■ C-Functions library with DLL drivers ■ Windows XP (Win 7 in Preparation) ■ Supply DC 5 ... 30 V ■ Protection: IP67
Variants:					
<ul style="list-style-type: none"> ■ Profibus, DeviceNet, CANopen, CAN Layer 2, Interbus 					
Fields of application:	Fields of application:	Fields of application:	Fields of application:	Fields of application:	Fields of applications:
<ul style="list-style-type: none"> ■ Position Feedback in any kind of general machinery and factory automation applications. 	<ul style="list-style-type: none"> ■ Asynchronous motors geared and non geared with inverter for speed and position pitch control systems. 	<ul style="list-style-type: none"> ■ Speed an position feedback in asynchronous geared and non geared motors as well as point of motion measuring in any type of machine. 	<ul style="list-style-type: none"> ■ CNC axles ■ machine tools ■ robots ■ special purpose machines ■ high-speed winding machines 	<ul style="list-style-type: none"> ■ Speed an position feedback in asynchronous geared and non geared motors as well as point of motion measuring in any type of machine. 	<ul style="list-style-type: none"> ■ Position Feedback in any kind of general machinery and factory automation applications.

