



## AHS/AHM36

FFLEXIBLE, SMART, COMPACT, RESISTANT: ENCODER FOR NUMEROUS FIELDS OF APPLICATION

Absolute encoder

**SICK**  
Sensor Intelligence.

The AHS/AHM36 product family stands for rotative, fully magnetic single and multiturn encoders that are setting a variety of new standards. Equipped with an IO-Link, CANopen or SSI interface, they offer a variety of functional advantages, high flexibility of use and maximum security for the future.

### Advantages at a glance

- Simple mechanical installation with rotatable male connector or rotatable cable outlet, various mounting hole patterns and a wide range of shafts
- Compatibility with virtually all 36 mm absolute encoders up to 60 mm flange patterns
- Easy integration into various control environments with IO-Link, CANopen and SSI interfaces
- Special IO-Link versions with Smart Tasks available
- Intelligent diagnostic functions evaluate maintenance intervals for the entire system, thereby increasing system reliability
- Reliable operation in harsh environments thanks to the rugged, reliable, fully magnetic sensor system
- High resistance to ambient influences due to stainless steel design and IP69K enclosure rating
- Space-saving and cost-efficient design – the solution for applications with limited installation conditions



With a diameter of only 36 millimeters and rotatable electrical connectivity technology, the AHS/AHM36 are ideal for applications with limited installation space.

## FLEXIBILITY IS PARAMOUNT

Three different flange types (face mount flange, servo flange, blind hollow shaft), each with five shaft diameters ensure maximum flexibility in the design of the mechanical interface for the AHS/AHM36 encoders. A rotatable male connector and cable outlet as well as different mounting hole patterns allow for highly versatile mechanical integration. The flexible stator coupling in the blind hollow shaft covers different bolt hole diameters, and various adapters also ensure compatibility with virtually all 36 mm absolute encoders up to 60 mm flange patterns. This flexibility, packed in a compact size of just 36 mm, makes the AHS/AHM36 the ideal solution for virtually any installation scenario.



**Ø 36 mm**

**Male connector / cable outlet**

**3 Flange types**  
Face mount flange, servo flange, blind hollow shaft

**3 Interfaces**  
IO-Link, CANopen, SSI

**5 Shaft diameters**  
6 mm, 8 mm, 10 mm, 3/8", 1/4"

**Stainless steel / Standard version**



The rotatable male connector and cable outlet enable easy integration even with very limited installation space and reduces the number of encoder variants for different installation scenarios.



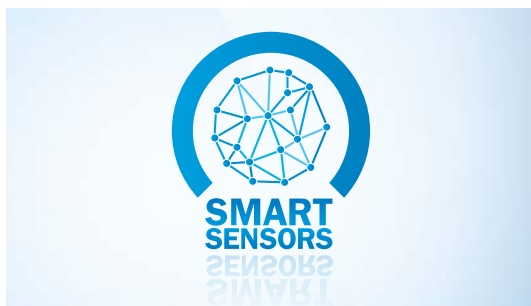
Different mounting hole patterns are available in the face mount flange, and ensure high flexibility for mechanical integration.

## Toward the future with IO-Link

The IO-Link interface enables cost-effective and easy integration of AHS/AHM36 IO-Link into Ethernet and fieldbus networks. The absolute encoders can be connected to any IO-Link master. And SOPAS – the configuration software from SICK – allows IO-Link devices such as the AHS/AHM36 IO-Link to be easily visualized and parameterized. In the Advanced and Inox versions, the AHS/AHM36 offers extensive IO-Link functionalities, such as providing and storing diagnostic data (temperature, operating time, etc.), a configurable input and output pin, and integrated Smart Tasks, e.g. for length measurement. The encoder provides valuable information, e.g. for process optimization and condition monitoring, and takes over functions from higher-level automation.



IO-Link is a point-to-point communication protocol for connecting intelligent sensors and actuators within an automation network.



Smart Sensors like AHS/AHM36 IO-Link generate and receive data and information which goes beyond traditional switching signals or measured process parameters.

## Smart Tasks take care of functions at the superordinate automation

Special versions of the AHS/AHM36 IO-Link include so-called Smart Tasks which enables them to make decentralized decisions and also carry them out autonomously. They take care of functions at the superordinate automation level, thereby improving response times because they reduce the communication load over the Ethernet and fieldbus networks. A wide variety of applications in which length measurement plays an important role can be designed more efficiently using Smart Tasks:

Smart Task „Length measurement and monitoring“

- The IO-Link encoder measures and/or monitors the length of objects based on defined limit values, and outputs a signal when the length falls above or below these limits, for example in sorting processes in conveyor belt applications.

Smart Task „Trigger after a defined length“

- The IO-Link encoder outputs a trigger when a pre-defined length has been reached. This Smart Task is used, for example, for cutting processes in the packaging and timber processing industries.



Thanks to remote intelligence, the AHS/AHM36 IO-Link can be successfully integrated into more comprehensive edge computing concepts when implementing Industry 4.0 and the Smart Factory.

## Individual parameterization for virtually any application with CANopen and SSI

The CANopen and SSI communication interfaces available with AHS/AHM36 also offer a number of advantages. Diagnostic data can be communicated via the CANopen interface in addition to the process data position, speed and current temperature. AHS/AHM36 CANopen can be configured either using the EDS file via the engineering tool of the respective control, or via the SICK handheld programming tool PGT-12-Pro. The programmable AHS/AHM36 SSI can also be configured via a handheld programming tool (PGT-10-Pro) as an alternative to configuration via SOPAS. Various parameters such as the resolution, the counting direction and the code type can be customized according to the application. Even the structure of the SSI protocol to be output can be adapted so that AHS/AHM36 SSI are compatible with virtually any SSI encoder.



In addition to the IO-Link interface, the AHS/AHM36 encoders are also available with the two established communication interfaces CANopen and SSI.

## WHEN CONDITIONS GET ROUGH

The solution for applications with particularly harsh ambient conditions is AHS/AHM36 stainless steel Inox encoders. The housing, flange, shaft and stator coupling are made entirely of stainless steel (1.4305), offering a high level of resistance

to ambient influences. Additional impact protection, which protects the installed shaft sealing ring from blasts of water, provides an IP69K enclosure rating.



**IP  
69K**

With the IP69K enclosure rating, AHS/AHM36 Inox are suitable for use in machines that are regularly cleaned with shock blowers.



AHS/AHM36 Inox with face mount flange and M12 male connector outlet, as well as impact protection to protect the installed shaft sealing ring.



AHS/AHM36 Inox with blind hollow shaft, cable outlet and flexible stator coupling for covering a variety of bolt hole diameters.

Additional information is available at: [www.sick.com](http://www.sick.com) ▶ **AHS/AHM36**