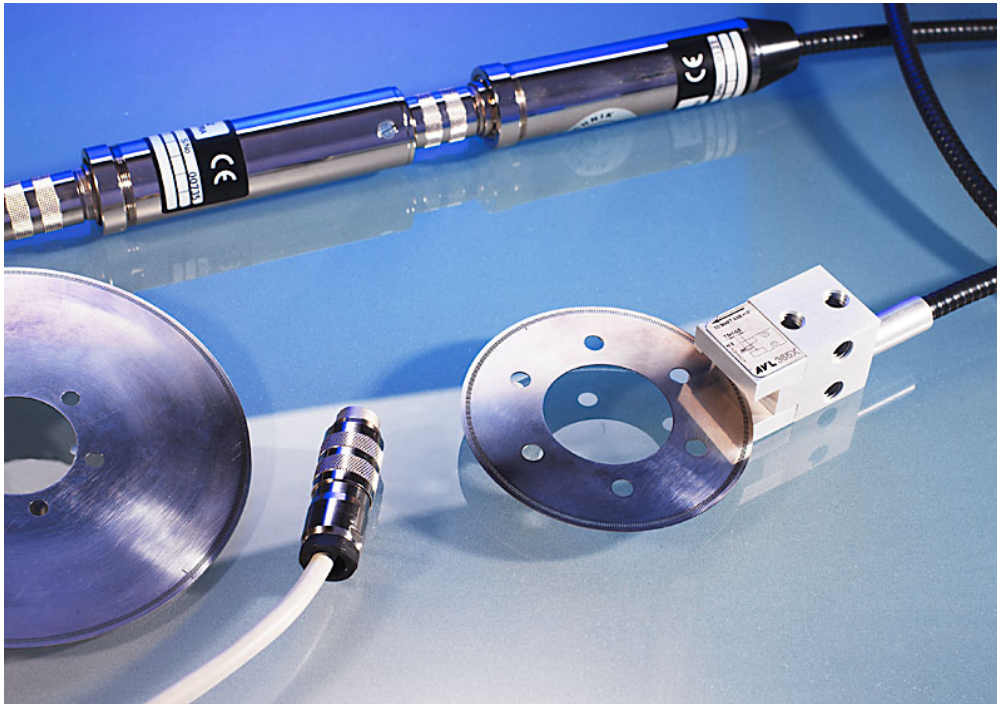


Sensors and Signal Conditioning / Sensors

365X Angle Encoder Set



The 365X Angle Encoder Set is a high precision sensor for angle-related measurement mainly for indicating purposes.

The function is based on transmission light principle. Infrared light will be sent through a fibre optics into a light gate, passes a rotating marker disc, enters a second fibre optics and will be converted into digital signals via an light voltage-converter.

Depending on the application 360 or 720 slits are on the marker disc for crank angle and Trigger information.

This system is very wide-spread in indicating technology due to its primarily high reliability under extreme conditions. The crank angle resolution is 1.0 deg CA/0.5deg CA and can be increased to 0.025deg CA with the indicating devices of the IndiAdvanced series.

365X Winkelaufnehmer Set

The optical pick-up of the angle encoder 365X will be mounted at the crankcase. The electronic components are separated from the optical pick-up via fibre optics of 2m length in order to minimise the influence of the engine like strong vibration, high temperature and electric interference.

The crank angle information will be transferred from the optical pick-up via fibre optics to the transmitter-electronics. The electrical connection to the indicating device or the pulse converter is of length of 10m, can be plugged-in and can be cascaded to 30m.

The angle encoder is supplied by AVL indicating devices. For devices of the Advanced series no pulse converter is necessary. In case of application without AVL indicating device there is a set with an external power supply unit.



Area of Usage

The angle encoder has been developed for application at the shaft between engine and brake. Due to its design it is also suitable for application on small engines as well as on large engines and even for racing engines. Compared with its predecessor the angle encoder 365X is highly improved regarding application and signal technology.

365X Winkelaufnehmer Set

Components



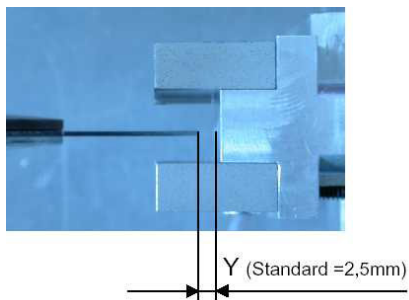
Your benefits at a Glance

- Transmission light principle, therefore less influence of scattered light
- high precision ($<0.03\text{deg CA}$) and high resolution (up to 0.025deg CA)
- small, compact design of the pick-up, easy handling
- suitable for racing applications ($n_{\text{max}} = 28.000\text{rpm}$, $\varnothing_{\text{min}} = 85\text{mm}$)
- easier mounting due to higher alignment tolerance
- only one marker track with integrated Trigger mark (less protrusion of the marker disc from the flange)

Tolerance of mounting errors

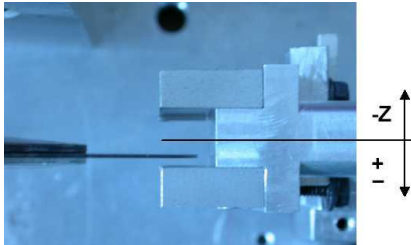
Due to the principle of transmission light the marker disc and the pick-up can be mounted to each other within a relatively large range.

Regarding "dive into the pick-up" the marker disk can be mounted within a range of 2.5mm.



365X Winkelaufnehmer Set

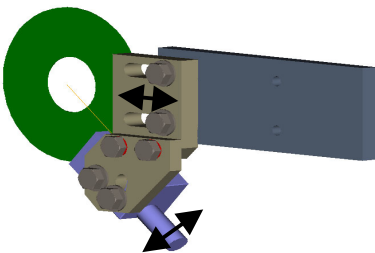
Also concerning its axial position the distance of marker disc to pick-up's window is not of influence. It just has to be considered that the disc must not touch the pick-up



Even a disarranged disc relating to the mounting angle is accepted within a wide setting tolerance. Therefore there isn't any adjustment tool necessary.

Compatibility

In most cases the angle encoder 365X is mechanical compatible via adapter with its predecessor 364X.



Marker disc 365X

The angle encoder 365X consists of customised marker disc. This high tensile steel marker disk is manufactured according to customers specifications.

There are two possible types available:

- 365X720, outer diameter:
Ø140 mm to Ø600 mm, number of slits 720, standard application
- 365X360, outer diameter:
Ø85 mm to Ø200 mm, number of slits 360, racing applications.

For the installation of an angle encoder at the free end of the crankshaft the angle encoder 365C will be offered as closed version.