

# Miniature Draw Wire Sensor

Micro-Epsilon has launched a new position sensor with non-contact potentiometer that offers 8 times longer service life

Precision sensor manufacturer Micro-Epsilon has launched a new miniature draw wire position sensor (string pot, cable transducer) with non-contact potentiometer that offers a significantly longer service life compared to a draw wire sensor with conventional analogue hybrid potentiometer.

## Main features and applications

The new wireSENSOR WPS-MK88 U45R miniature draw-wire sensor is specially designed for high volume, mobile applications such as mobile cranes and elevating work platforms.

The combination of its size, robustness and price makes the MK88 series unique, offering new potentials in design and cost optimisation. Furthermore, the WPS-MK-88 U45R offers a distinct advantage in terms

of service life due to its non-contact potentiometer. Its service life is approximately eight times longer than sensors equipped with conventional analogue hybrid potentiometers. The smallest design in its class, the WPS-MK88 U45R replaces the conventional, analogue hybrid potentiometer with a non-contact potentiometer. With common potentiometers, a sliding contact (wiper) moves along a resistive element. Consequently, the wiper quickly wears. However, the new, non-contact potentiometer is based on magnetic field sensors that significantly increase its service life. To date, encoders could extend the service life of a draw wire sensor, but these are much more expensive. The WPS-MK88 U45R offers maximum service life with approximately 2 million working cycles. The sen-

sor measures displacement and position of components and machine parts. Due to its compact design and low acquisition costs, the sensor is ideal for OEM applications and customer-optimised designs. It offers an unrivalled combination of price and performance, robustness, compact design and long service life.

## High speed machining

Another field of application for the new draw wire sensor is machine tools, where material must be machined at high cycle rates. For example, in CNC milling machines, a raw part is moved for further processing to a defined position that is measured by a draw-wire sensor. If the draw-wire sensor operates at 4 cycles per minute, this equates to 240 cycles per hour, 1920 cycles per working day and 384,000 cycles per year. With a conventional potentiometer, the draw-wire sensor would have been worn after just eight months. However, the new draw-wire sensor from Micro-Epsilon operates reliably for more than five years due to a non-contact potentiometer.

## Measuring range

The measuring range of the wireSENSOR WPS-MK88 U45R is up to 2000mm. Linearity is  $\pm 0.3\%$  FSO. Protection class is to IP65 and the sensors operate in temperatures from  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ . The sensor's compactness also enables it to be retrofitted easily to existing installations or mounted to small design envelopes where available space is tight.



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