

## Novel distance measurement technology by trinamiX

trinamiX sensor systems are based on an innovative sensing technology. They determine distances from beam profile properties. Beam profile analysis provides advantages beyond those provided by other technologies such as time-of-flight or structured light.

### trinamiX fiber optic sensor

The trinamiX fiber optic sensor is the first system in the world that can measure absolute distance through optical fibers. It can be used for various applications, e.g. factory automation, inspection, industrial or medical endoscopy.



### Key benefits for industrial applications

- Spatial separation of optical measurement head and electronics suits high temperature, high pressure or limited space environments
- Ability to accurately measure distance via fiber optic cables
- Small measurement head
- Consistent results independent of target object colour and surface material

### Example specifications

- Measurement Range: **25 – 160 mm**
- Supported target light remission **5 – 90%**
- Linearity:  $\leq \pm 1 \text{ mm}$  ( $\pm 0.6\%$ ) for 5% remission
- Signal stability ( $\pm 1\sigma$ ):  $\leq \pm 0.5 \text{ mm}$  ( $\leq \pm 0.25\%$ )
- Sampling frequency: **3200Hz**
- Measurement head:  $\varnothing < 6 \text{ mm}$
- Light source: either visible or IR LED

The technology is available for license along with a reference design and support services to assist in implementing the technology. We can also develop end products to customer specific requirements and if required, have these manufactured via our Electronics Manufacturing Service (EMS) providers. Prototype Fiber Sensor devices are available for rental or purchase for companies interested in evaluating our fiber sensor technology.

### Contact

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