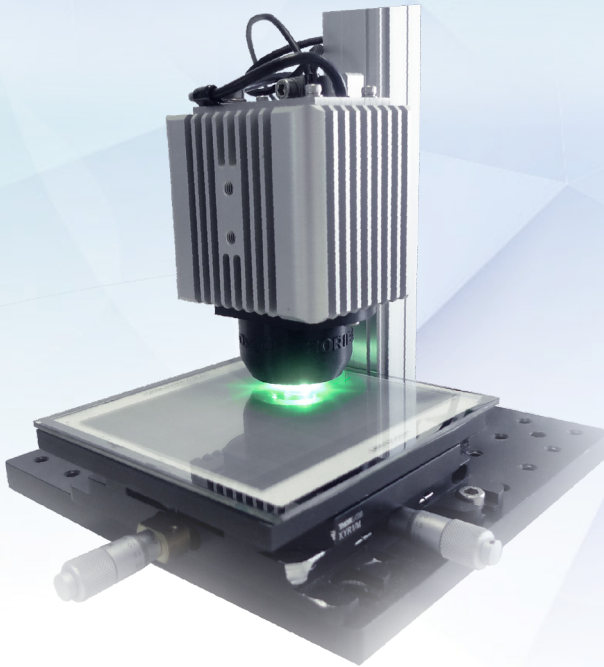


# X, Y, $\theta$ Absolute Position Encoder: nanoGPS Oxyo™

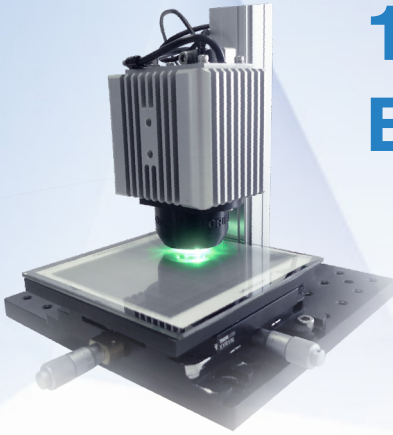
Available as OEM or Stand-Alone  
Solution From HORIBA Scientific



Powered by:  
*nanoGPS Technologies*



# Next Generation 100% ABSOLUTE Encoder

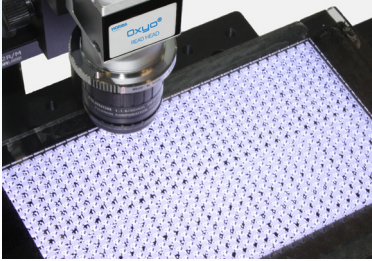


## Key Features

- Snapshot determination of 3 absolute coordinates
- Repositioning accuracy in the nm range (x, y) and 10  $\mu$ rad ( $\theta$ )
- Easier to deploy and cheaper than a laser interferometer system
- USB 3 connection, absolute position is obtained directly on PC; no need for converters, no hassle with formats
- Position reading flexibility: performed at stand-off distance (from 3 mm up to 100 cm depending on design)
- Reference frame with the camera and a patterned substrate as a target provide great engineering implementation flexibility (without the usual restrictions of linear and rotary encoders)
- Can be easily installed/disinstalled, i.e. for verification or calibration operations
- Can be used as an upgrade or retrofit of existing stage assemblies
- In the case of a planar stage + rotation stage assemblies: cheaper and more accurate than conventional optical scale solutions
- Coded zone: ranging from 3 mm x 3 mm to 300 mm x 300 mm or more.



# Using Breakthrough nanoGPS OxyO™ Technology



**nanoGPS OxyO™ technology** is based on taking a picture of a patented patterned substrate, and interpreting this picture into position (x, y) and orientation ( $\theta$ ).

## Typical Use Cases

- Provides reliable overnight automation (repositioning accuracy less than 10 nm)
- Precise positioning and orientation of an object placed on x,y, $\theta$  stage assembly, in vacuum (observed through a window, at 20 mm standoff distance)
- When moving a part between 2 machines, allows precise repositioning of the part in each machine
- Retrofit of a manual + piezo stage assembly with a long range position sensor

## This Absolute Encoder is Made for You

- All actors of position sensors value chain (end-users, integrators, distributors, but also manufacturers of position sensors looking for addition to their catalogue)
- Individual users in industry or academia

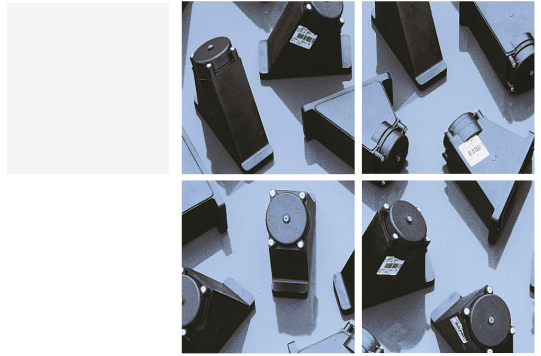
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The OEM team supports customers projects from scratch to success over the lifetime of the product. Our strong optical background allows us to build fully custom design based on customers specifications and optimized for cost reduction, robustness improvement and high volume production compatibility.

