

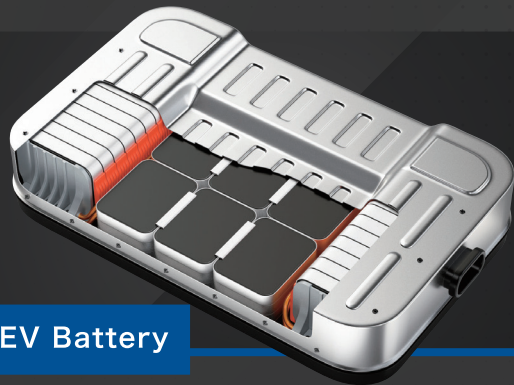
Ideal for Automotive Components

# Ultra-High Precision Screw Height Fault Detection

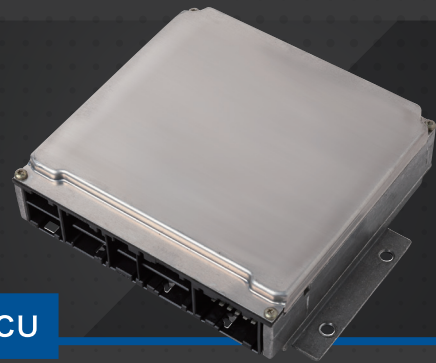


Detection Accuracy: **0.1mm**

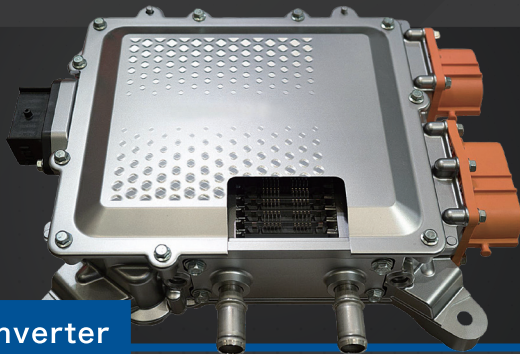
\*Detection Conditions  
Screw : Pan Head Machine Screw M3X8



EV Battery



ECU



Inverter



Headlamp

\*The above are representative examples only.  
\*Images are for illustration purposes only. Actual product may vary.

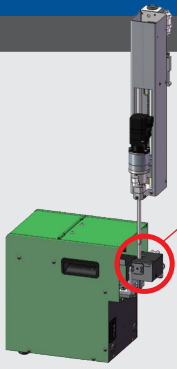


Risk of Leakage of Products with Screw Height Fault



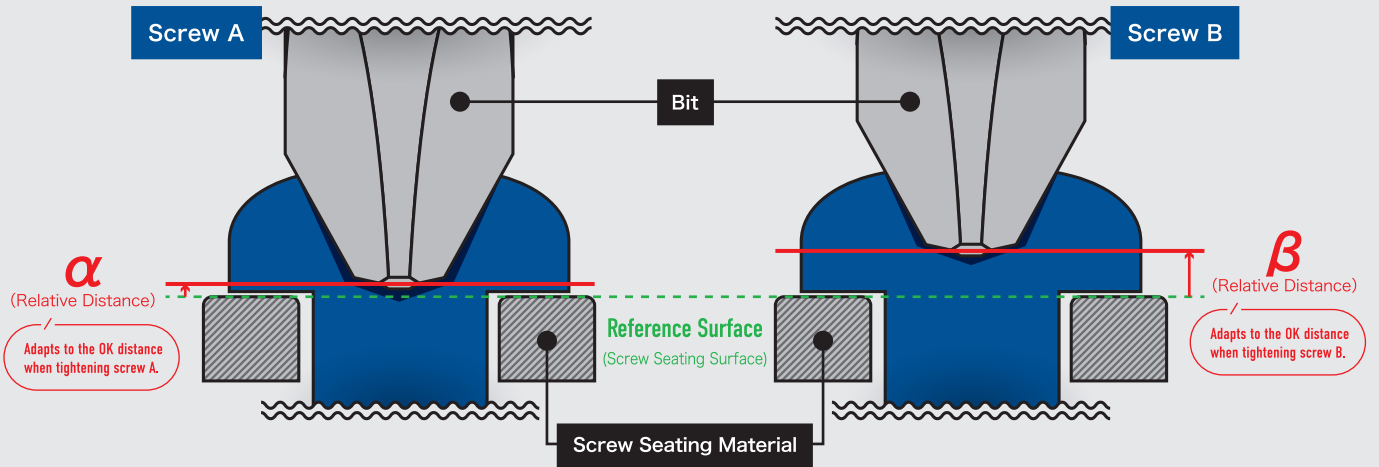
Burden of Complex Screw Height Fault Inspection Processes

## Solving These Issues



# Teaching to judge Screw Height Fault every time a screw is removed

The relative distance of the bit from the screw seating surface is memorized every time the screw is removed.  
This does not apply to screws with spring washers.

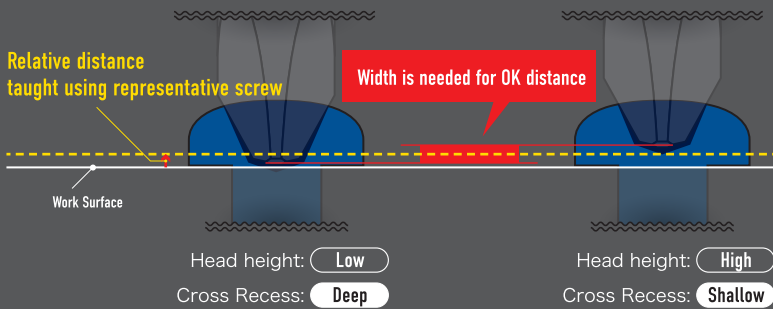


## Challenges and Solutions

### Challenges\_01

#### Variation in Screw Dimensions due to Tolerance

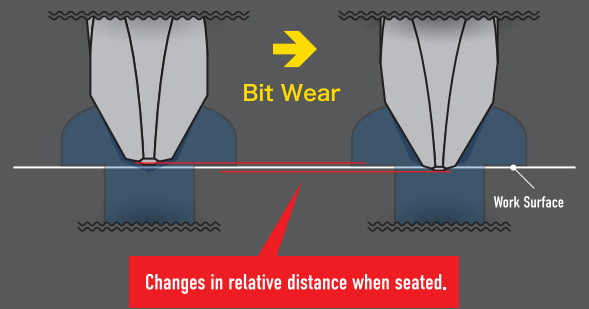
Tolerances cause variations in the screw dimensions. When teaching with a representative screw, it is necessary to take this variation into account and provide a certain range for the OK distance. Therefore, slight Screw Height Faults below that width cannot be detected.



### Challenges\_02

#### Variation in Bit Dimensions due to Wear

For example, as the bit wears, the relative distance of the bit from the screw seating surface changes, causing the screw to be inserted too deeply. Teaching methods that use representative screws will not be able to adapt to these changes, resulting in errors for Screw Height Detection.



## — I Solution I —

No need to re-teach when bits are changed.

Adapt to the variations in screw and bit dimensions by teaching each time a screw is taken out.

# Even miniscule Screw Height Faults can be detected.

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