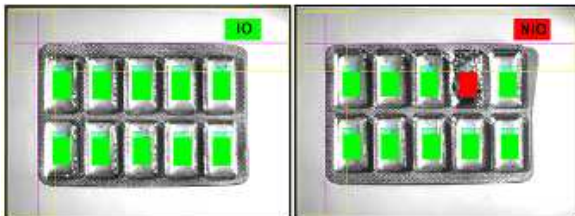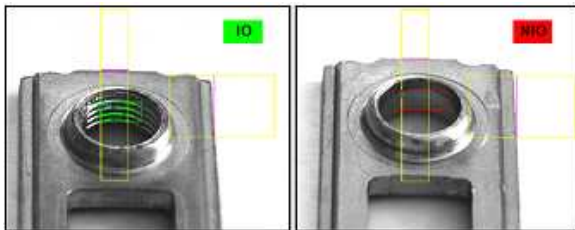## Check Pro XT

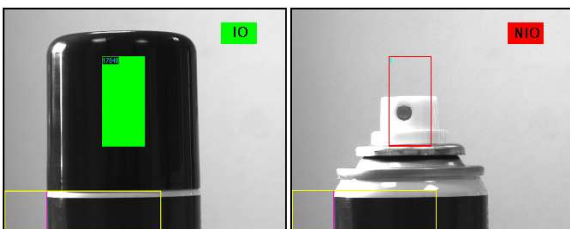The Check Pro software module can be used in many areas for the most diverse applications.

- *Label inspection*
- *Presence check of holes or threads*
- *Presence check of any parts that have been added or affixed*
- *Detection of surface defects*
- *Machining area inspection*
- *Completeness check*
- *Type recognition*
- *Layout check of circuit boards and much more ...*

Up to several search areas can be defined (AOI's = area of interest), whose position can be statically or dynamically defined.
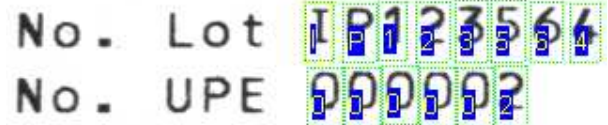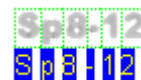
For each AOI, various check characteristics can be defined.

Inspection feature settings by:

- pattern match,
- pixel number in a grey level area and/or
- mean value deviation, meaning a number of pixels, with a gray scale value either lighter or darker than the mean gray value.

Presense of identifiers (pixel number)

Check for presence of characters (exemplar comparison)

Completeness check of blisters
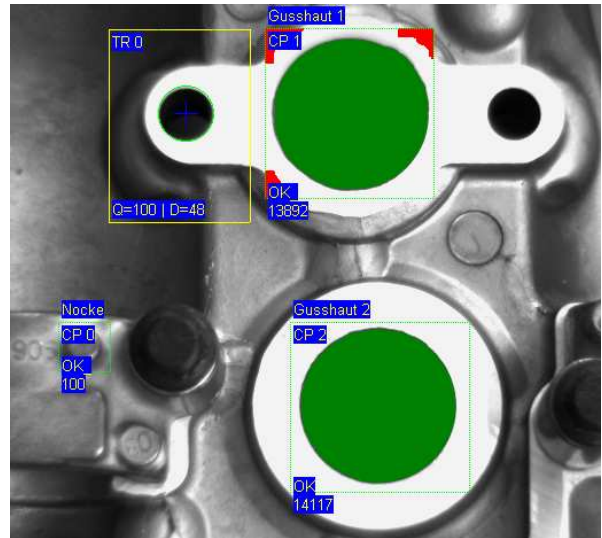

Check for the presence of threads

Presence check

The control areas can be freely parameterized in mask form, wich means areas can be freely defined, to wich the control will be limited.

Every control area can be assigned a NOK text and every test characteristic an OK text, which can be output during an OK/NOK evaluation (for example: type A).

keeping an eye on quality

Technical details

- For each image, many search areas can be defined, with 40 search characteristics each,
- Inspection on the basis of pixel search and/or pattern match,
- Search areas can be duplicated with all settings,
- Names can be assigned to search areas and search characteristics,
- Free-running search function (continuous recognition) can be used,
- The background can be focused out, using a freely-parameterizable screen,
- A test function can be used to test the parameterized values. This implicates also loading an image series, in which actual configuration tests run, which automatically display the next NOK image. (Feature for effective learning).
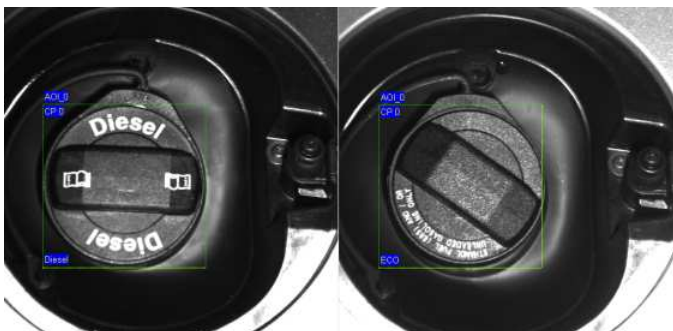- Results string with all search characteristics.

Test function with indicated search results
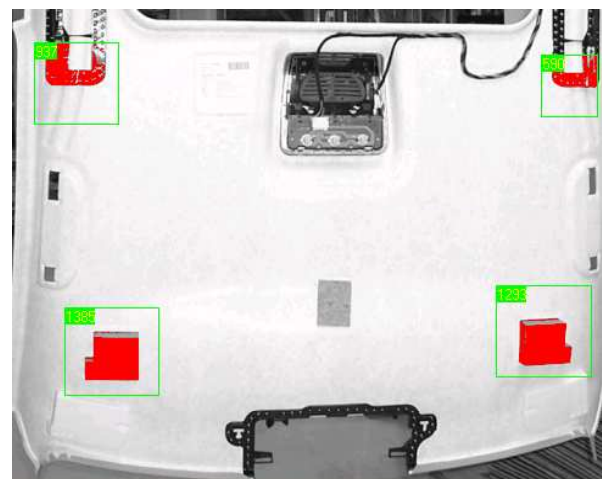
Features pattern matching

- The quality and contrast for each characteristic can be parameterized.
- Per AOI a histogram function using quality and contrast result.
- Various search modes are available: all, best, and first characteristic.
- A speed-optimized search can be selected.

Layout check of circuit boards

Type regognition petrol cap

Check for the presense of built-in parts

keeping an eye on quality