

Panasonic
ideas for life

LightPix^{*}

AE20

The tough, compact image sensing
device that is easy to use



LightPix AE20
ARCT1B250E-1 '06.6

Advanced usability, durable design (IP67 waterproof construction)

All functions for lighting, image acquisition (camera) and signal processing (CPU) are contained in this one unit. With software designed to epitomize user-friendliness, settings can be made simply and surely while viewing images on a personal computer.

Fully equipped with a waterproof body structure and functions to assist installation.

LightPix can tackle a variety of tasks even under harsh working conditions.



Make Settings Easily

Using free dedicated software, settings can be made simply and surely while viewing images on a personal computer. First-time users easily grasp the settings principles and are aided by such functions as auto-tuning.

Easy Installation

This single unit contains CPU, lighting and camera, which makes installation easy and reduces costs. Can be installed immediately once the required visual field has been selected from the 4 models available.

Stable Detection

As opposed to point measurement, LightPix utilizes a 2-dimensional image capturing element to measure surfaces. This allows inspection over a broader area and enables more stable detection.

Supported Applications

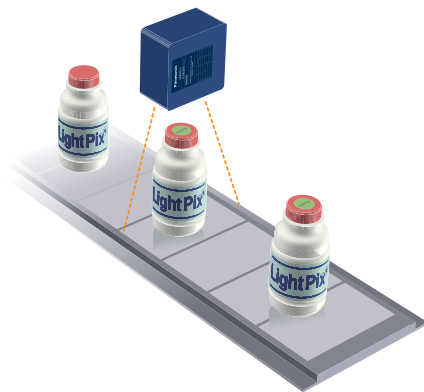
Various applications are supported with a wide range of inspection modes.



Cap Sticker Detection

Color Area

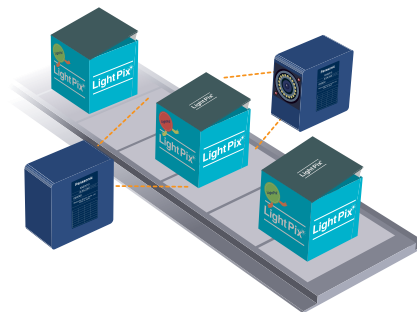
Registers a color on the inspection object and detects the area of that color.



Campaign Sticker Color Discrimination

Color Discrimination

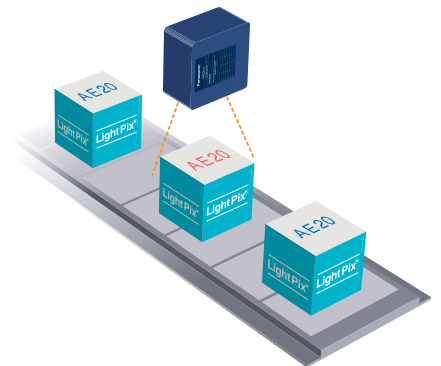
Discriminates which color is closest to the color registered (up to 7).



Logo Detection

Color Pattern Matching

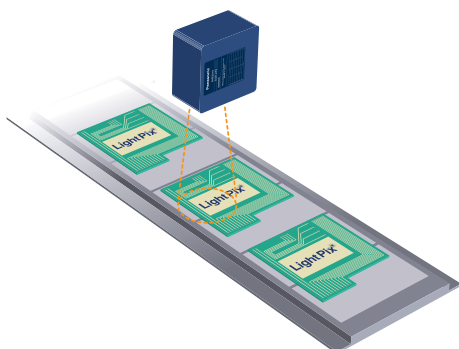
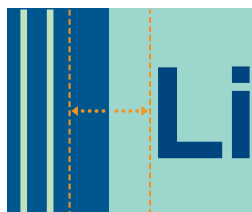
Detects colors and patterns on the object which matches the template registered.



Part/Board/Label Position Inspection

Edge Detection

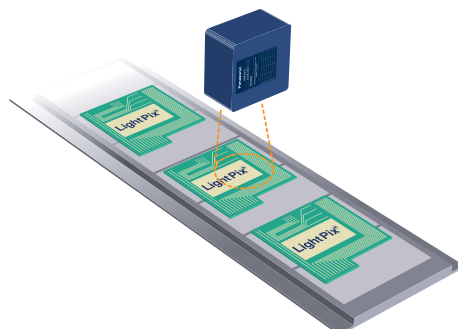
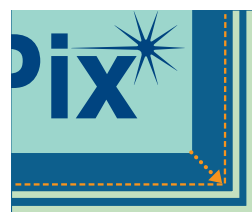
Detects the position of edges on inspected objects.



Board/Label Position Alignment Inspection

Apex Detection

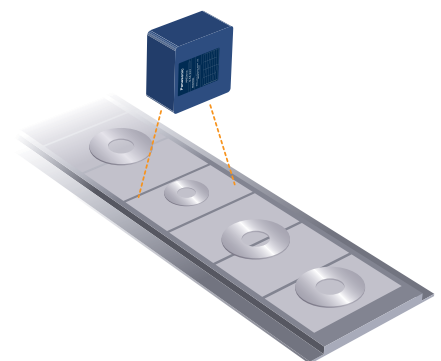
Detects the position of the apex of an object.



Part Type Inspection

Size Measurement

Detects the size (max. and min.) of an object.



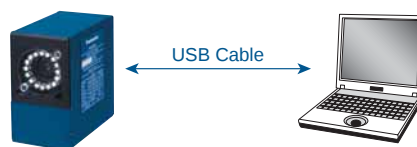
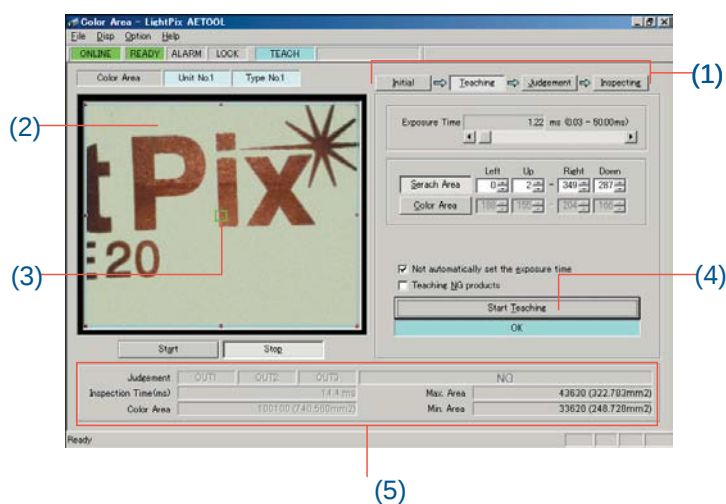
Operation

Operation made even easier in response to workplace conditions.

LightPix
AE20

Easy Settings

Settings can be made easily by anyone from a personal computer, using the dedicated free software AETOOL.



- (1) Settings procedure at a glance.
- (2) Large, clear display giving sharp images of inspection objects.
- (3) Size and position of inspection area can also be changed easily by dragging with the mouse.
- (4) Exposure times, and max. and min. values for judgment criteria can be set automatically with one click of the teaching button.
- (5) Evaluation results, inspection times, evaluation criteria max. and min. values, etc. can be checked on one screen, showing the current status at a glance.

- When multiple LightPix units are in use, saved data files can be copied.
- Using the export function, details on settings can be converted into documents.

AETOOL can be downloaded from the following URL:
<http://www.nais-e.com/vision/>

Industry's
First

Auto-tuning of Exposure Time

Detection of visual field brightness and automatic setting to optimum state.

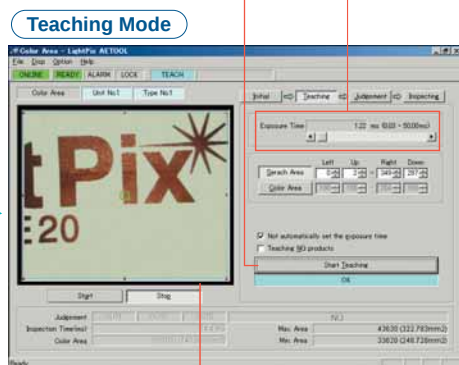
Exposure time is too short.



Exposure time is too long.



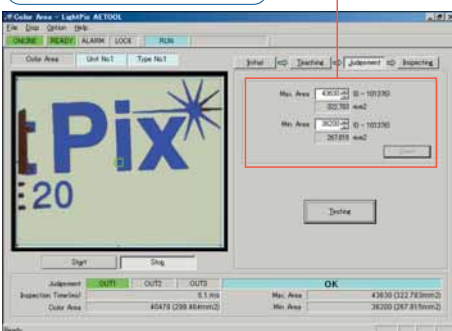
Tuning



One-click Operations

- (1) Automatic setting of LightPix AE20 even without any knowledge of cameras or sensors.
- (2) Fine adjustment of exposure time and evaluation criteria max. and min. values also possible for expert users.

Evaluation Criteria Mode



Exposure time is correct.

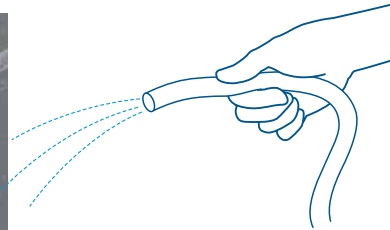


Supports IP67 with its Water- and Dust-resistant Aluminum Body

Supports IP67, so it can be used in environments such as with foodstuff machinery where the entire machinery is washed down.



IP67



IP67 is not intended for use under water or with oil.

Guide Light (Red LED) Enables Easy Fitting and Installation

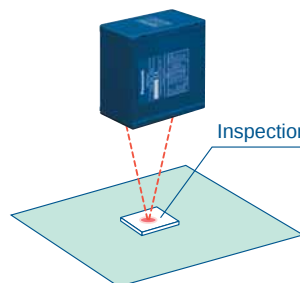
The installation position is correct when 2 points of light from lens-fitted LEDs intersect.

In addition to establishing the correct distance, the guide light allows you to ascertain the orientation of the camera.

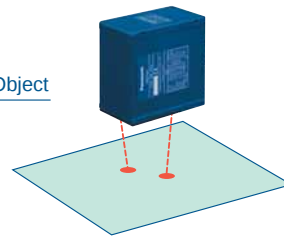
Guide Light



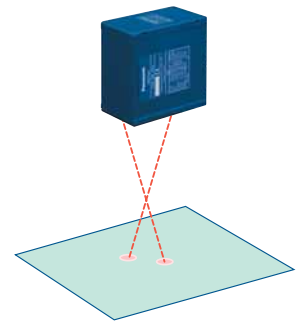
The Guide Light is only on during installation, so there is no influence on inspection.



Suitable Distance



Too Close



Too Far (Blurred)

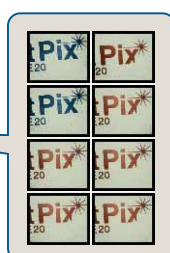
Up to 8 Images of Rejected Objects Can Be Stored in Real Time in the LightPix Unit

Images of rejects occurring during manufacture can be saved and uploaded to a PC.

Uploaded images can be stored in bitmap format and can be used, for example, as materials for quality control reports.



8 images stored in unit



Viewed and saved on PC

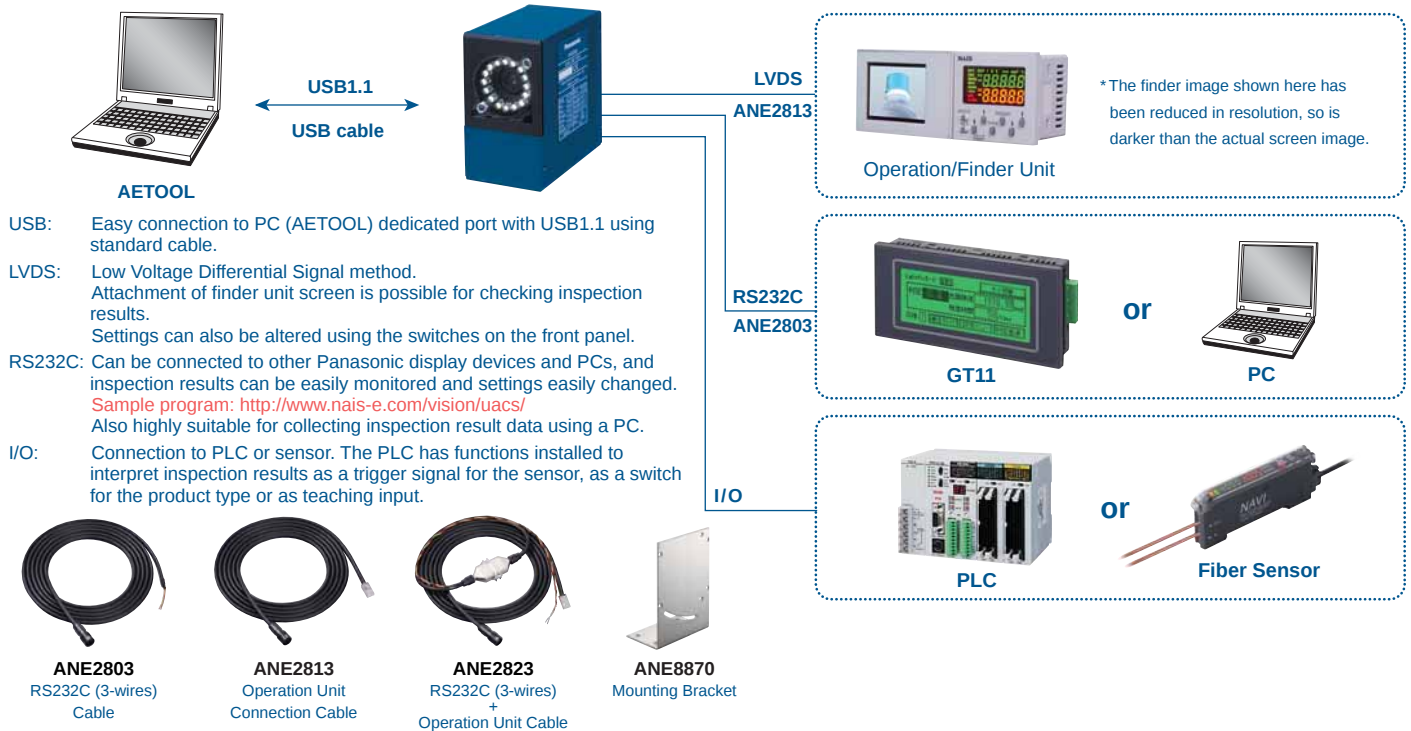


System Configuration Diagram



System Configuration Diagram

Can be connected to many devices such as PCs, operation units, finder units, etc.



Easy modification of firmware from PC

Various functions can be modified or updated to the latest version at any time.

Problems in the Past

"To prepare a stock for maintenance, I need to buy every model"

"Even though the latest version has been released, I have to keep using the old version as it is"

"It is hard to judge which functions best match the application. I want to try out all three, but buying them all is difficult"

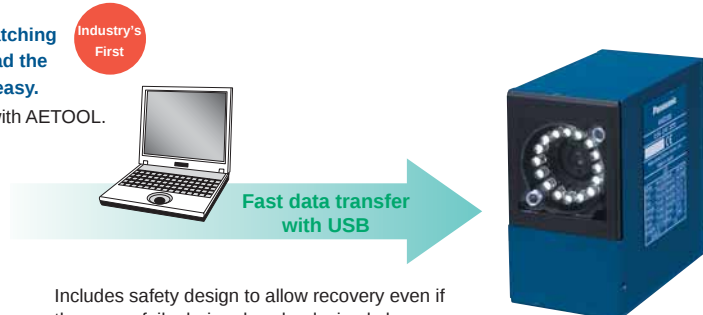
"If the application changes, the model also changes, making stock control very complicated"

Problems Solved

Just purchase the product model matching the required visual field and download the firmware. Stock control is also very easy.

Data transfer using software included with AETOOL. Various functions can be modified.

1. Color Area (at time of shipping from factory)
2. Color Discrimination
3. Color and Pattern Matching
4. Edge Detection
5. Apex Detection
6. Size Measurement



Includes safety design to allow recovery even if the power fails during download, simply by downloading from the PC one more time.

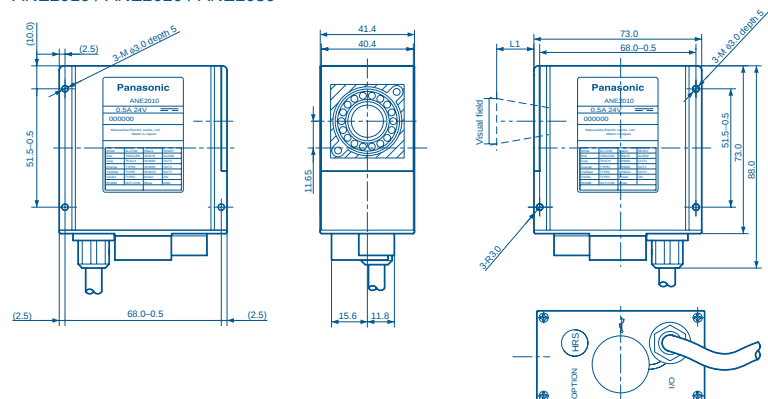
AETOOL can be downloaded from the following URL: <http://www.nais-e.com/vision/>

Dimensions

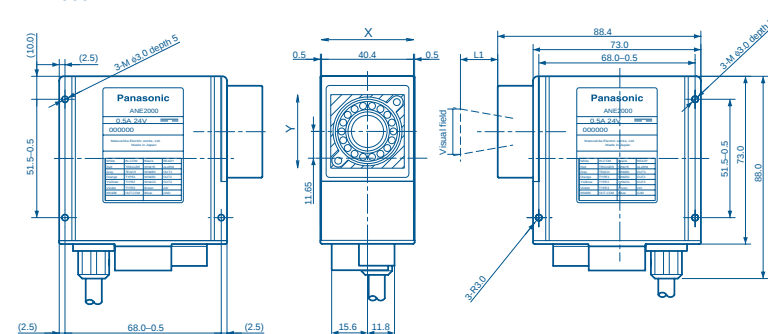
Light Pix
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● Main Unit

ANE2010 / ANE2020 / ANE2030



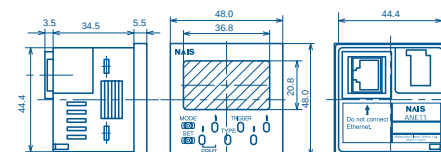
ANE2000



Part No.	Installation distance (mm)	Visual field (Xmm × Ymm)
ANE2000	15	2 × 1.6
ANE2010	45	10 × 8
ANE2020	55	30 × 25
ANE2030	170	80 × 70

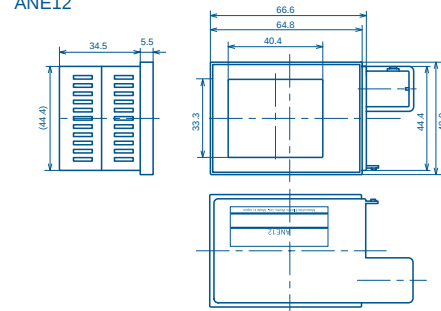
● Operation Unit

ANE11



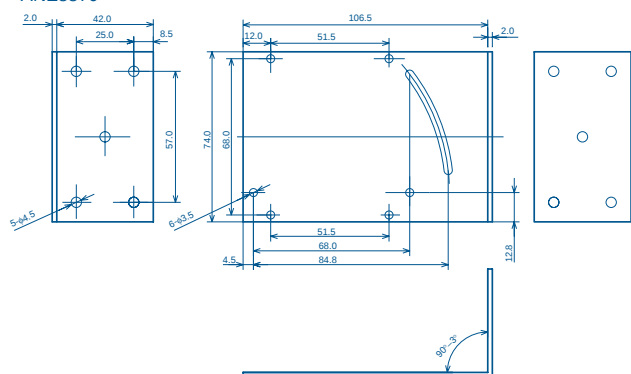
● Finder Unit

ANE12



● Mounting Bracket

ANE8870



● The monitor displays shown in this catalog are all synthesized for demonstration purposes only.

These materials are printed on ECF pulp.
These materials are printed with earth-friendly vegetable-based (soybean oil) ink.



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