

Detection of correctness of label and MRP print on Container and Product print on carton

Customer

One of the leading automotive and industrial lubricants manufacturer in India.

Customer Requirements

They required vision systems across 3 production lines which are capable of detecting specific zones on label of the lubricant container to avoid product mix up, Print on the lubricant container and also the Print on Shipper.

Why EPSILON

The application was quite challenging with multiple cameras across 3 lines and centralised PC based control. The customer wanted to be quite sure after a failed installation from competitor. Hence, EPSILON

Challenges

- Large number variety of products with 500mL to 5L of pack sizes
- In single production line three sections of Label inspection, MRP print inspection on Container and Product print on shipper are far away from each other.
- Camera lighting and position should be such that it would work for 500mL and also for 5L of pack size with all of the many pack sizes in between. All three production lines should be universal for all these pack sizes.
- All 15 cameras should be accessible from centralised PC.
- Each lubricant container should be logged in the central PC software & data logged with date and time stamping.
- Camera should able to program for new product from the local production line control panel as well as from centralised PC in control room.



500mL

900mL

5L

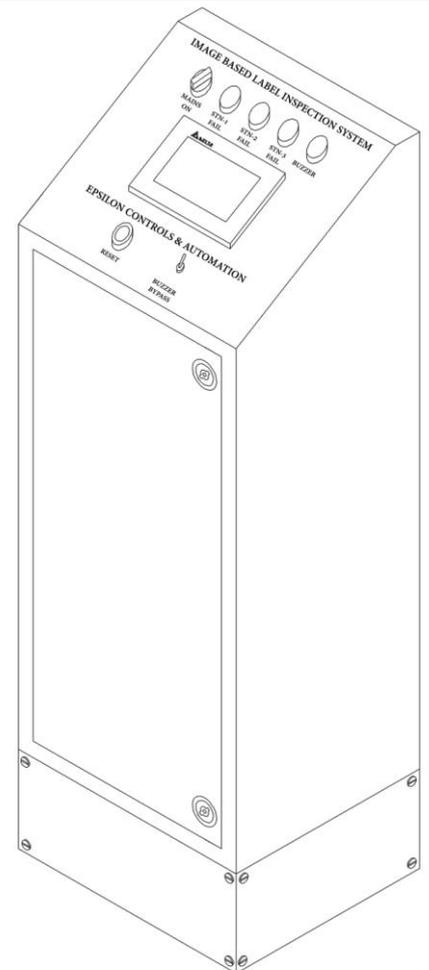
EPSILON Solution

Epsilon has provided 15 banner cameras (5 for each production line), 3 control panels with HMI, 15 mounting stands which are designed in such a way that they are capable to hold a Camera, 2 bar lights, Trigger sensor, reflector and monitor to display live images from camera. Central PC software is also provided, through which all 15 cameras can be monitored and program for new product which is also able to generate a batch report at the end of shift with date and time.

Designing for customer

We are considering three sections as 3 stations. Station 1 is label inspection of lubricant container, Station 2 is MRP print check on container and Station 3 referred as Product print on shipper in one production line. The control panel has been designed with HMI having audio visual indication if any of the 3 station has a bad product.

5 cameras are linked with 1 control panel via ethernet in each Line. All 5 camera's status, Pass/ Fail counts, running product can be seen from control panel. Also with the help of HMI, operator can change the product or can teach cameras for new product. All 3 control panels has been interlinked with each other and all data can be accessible from Centralised PC software.



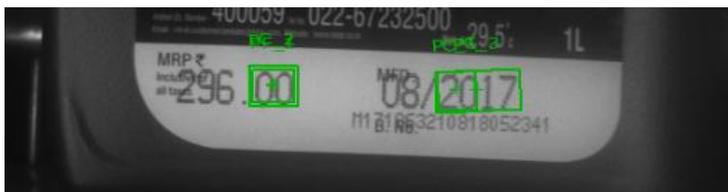
Control Panel Designed for each production line

Camera	Status	Indicator	Last Result	Pass	Fail	Total
Camera 1	Ready	●	○	1083	0	1083
Camera 2	Ready	●	○	1083	0	1083
Camera 3	Ready	●	○	1059	0	1059
Camera 4	Ready	●	○	47	0	47
Camera 5	Ready	●	○	47	0	47

Centralised PC software is capable to show all 15 cameras status, Pass/ Fail counts, Live images from all 15 cameras, all cameras programming, Selection of product and also batch generation facility with date and time stamp. The software has 2 level password protection.

Customer Benefits

- Product mix up avoided
- Easy to change program in camera for new product from Field as well as from Centralised control room.
- Can monitor all 3 production lines reports from control room
- Product without MRP print will not go to further for packaging, faulty product is able to detect and sorted out
- Every camera is capable for inspection of the smallest 500ml pack size up to largest 5L of pack size product. No need to change the position of camera for different sizes of product.
- All three production lines made universal.
- Batch report is generated after every batch, every shift and every day.



MRP print



Product print

Learn more

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