EPSILON
Controls & Automation

# Application Note...

## Automobile Fuse & Relay Child Assembly Inspection

**Customer**
**A large scale automobile fuse harness manufacturing industry**

**Customer requirements**
**Reliable presence and location detection of fuse/relay on housing**

### Epsilon Solution
**P4 color camera with a high resolution APL 6.5mm lens, white high power (80W) pure white LED lighting and HMI**

### Why Epsilon?
**Epsilon provides economic, reliable and user friendly solution for complex applications. Customer was convinced about Epsilons capabilities.**

### Customer Benefits
**Customer Benefits–** Mechanical table assembly for placing harness for testing with Ok stamping on Ok harness
**User Interface–** User friendly HMI displays and part selection option simplifies any product changeover. Easily find particular component missing/wrong location with the help of HMI.

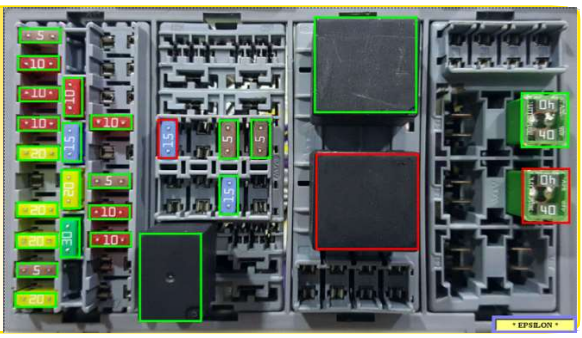
### System Features:
- 10" diagonal color HMI screen
- Recipe selection, camera status, pass, fail, counters and compare image with particular part fail indication is available in HMI
- Good parts are stamped "OK" for easy identification later
- No external PC required to operate or monitor system
- Multiple tools can be used in the same inspection.
- Number of inspections is made for different parts and select according to requirement

### Learn More
Visit www.epsilonfiberoptics.com for more application information

***Deployed 300mm from its target, a P4 color camera with a high resolution APL 6.5mm lens. Inspects for the location and presence of fuse & relay on harness. In case of wrong location/missing of fuse or relay particular fail indication on HMI & with audiovisual alarm on K50 light. For 'Ok' part 'Ok' stamping on assembly.***

## Background
Special application done for automobile fuse harness manufacturer. This industry needs a simple, cost-effective, and reliable way to verify the presence and location of the fuse/relay on harness and also identify the particular component fail on display.

## Challenge
The size of harness is big and up to 30 components assembled on single harness. There are possibilities to interchange location of many components because of same fitment socket of more than one component. Location of components changes according to part numbers. All components are of different height & colors.

## Solution
The Epsilon P4 color camera provides an accurate solution to perform verification of location of fuse /relay and presence of fuse/relay using color tools. The image of the harness is compared with the pre-saved image for each part numbers. In event of a missing or location interchange of fuse/relay that failed component is outlined with red border on the HMI image. All OK components are outlined with green border. For 'Ok' part one electronic output are generated from Camera. In this case, output is used to mark 'OK' on the housing of harness with the help of a pneumatic cylinder and a self-inking stamp.

## Product Image