AKGEC-rexroth
COE in Automation Technologies

SMART INSPECTION BASED SORTING SYSTEM(SIBSS)

In this project, We have taken an example of a small prototype of a plant in which there is a conveyor mechanism being controlled by a 3 phase induction motor being driven and control by VFD. At the center of the conveyor, there will be an industrial vision sensor which is an optical sensor used for enhanced image processing to detect different categories of products on a single conveyor. After the detection of the product, it will stop at end of conveyor then a pick and place mechanism will come and pick the object. With help of Servo, it will actuate the linear guide and then place the box in its categorized bin which can be further sent for packaging and storing. If suppose a product does not fulfill the quality standard then it will be immediately rejected from conveyor using rejecter which consists of a single-acting pneumatic piston. Also at various places proximity sensors will be mounted to count no. of box processed, box rejected, box sorted, etc. Also, the system will be based on AS-I (Actuator-Sensor interface) which is an advanced protocol of networking that reduces cost of wiring and also reduce the size of the panel. It is based on the concept of remote I/O and works quite similar to CC-Link and AnyWire protocol. This will be the first time integration of the AS-I system on a brick type PLC of FX5U. By implementation of industrial IoT, we will able to supervise and do settings of vision sensor and AS-I system on a webserver to control the entire plant remotely.