



Ormec's Keyence Machine Vision Function Block Library

A simple interface between Motion and Vision

On many machines Vision and Motion systems are used together and there is a need to combine control of both systems in software. Ormec's OrmAppKeyVis Application Specific Function Block library provides a simple way to integrate SMLC and Keyence CV-3000 and CV-5000 series vision systems in your CodeSys project.

Keyence vision systems offer multiple communications channels for data and control – Ethernet, serial, USB. The OrmAppKeyVis library offers both Ethernet and serial connectivity between Ormec's SMLC controller and Keyence vision systems. With these function blocks multiple vision systems can be controlled from one SMLC at the same time.

A typical application would be a process where the Keyence vision system is triggered to execute a vision inspection then sends information back to SMLC. The inspection data could be something as simple as Pass/Fail result or a more complex set of data - multiple measurement values, text, statistics, etc.

Vision combined with motion has become a traditional solution for "Pick and Place" applications where location/orientation of parts varies from part to part. The Vision system, when triggered, locates a part in its

field of view and the motion system (SMLC controller) uses this information to adjust Pick position accordingly.

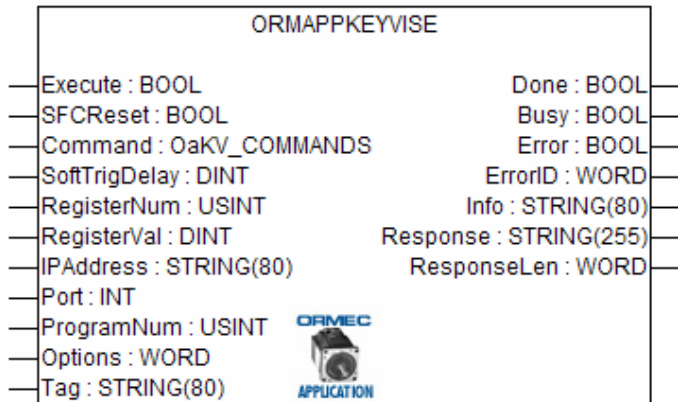
In more advanced "Vision guided Motion" applications the vision system measures multiple X,Y,Θ positions on the inspected target, sends them to SMLC where the motion path is generated.

OrmAppKeyVis library function blocks control all basic aspects of your Keyence vision systems:

- Establishing Ethernet or/and serial communication
- Selecting and loading vision programs
- Setting vision system in Run or Program modes
- Triggering vision inspections (S/W or H/W trigger)
- Reading and writing vision registers
- Reading inspection data from the vision system

NOTE: The vision system is programmed independently from the SMLC and the vision program should be designed such that inspection data is directed to either the Ethernet or RS-232 port based on the function block used. It is assumed that user is familiar with Keyence vision systems programming.

OrmAppKeyVisE Function Block



OrmAppKeyVisS Function Block

