# Collision-free storage and retrieval

Programmable 2D camera with application-specific sensor app enables reliable fine rack positioning

Waldkirch, March 2018 – The programmable Inspector P63x 2D camera from SICK with a sensor app specially developed for fine rack positioning ensures reliable and automatic positioning during storage and retrieval processes in handling and warehousing systems. Whereby both single-depth and double-depth positioning tasks can be controlled with a single sensor. The camera solution, which SICK is presenting at the LogiMAT 2018 (Hall 1, Stand F51), orients itself on natural position marks – no reflectors are necessary. Optical interference is very robustly eliminated due to intelligent image processing. The 2D camera programmed with the Fine Rack Positioning Sensor App from the SICK AppSpace ecosystem impresses with high functional reliability, operational dependability, and a user-friendly human-machine interface.

In handling and warehousing systems temperature-, load- and steel construction-dependent variables at transfer points generate varying geometrical conditions that impair the automatic positioning processes of storage and retrieval devices in front of shelving, or the docking of autonomous vehicles at transfer stations. The programmable Inspector P63x 2D camera with its Fine Rack Positioning Sensor App masters these challenges: It also enables precise positioning – and thus collision-free storage and retrieval – even with large racking tolerances.

**ONE sensor for single- and double-depth stacking positions**

The Inspector P63x is a rapid high-resolution 2D camera whose optical design can be adapted to the particular task thanks to its modular structure. As a result, it can detect even the smallest of object features, for example drilled holes or other natural position marks on the shelving construction. At the same time, the Inspector P63x is one of many image-processing and optoelectronic sensors that SICK has opened up for programming with specific applications within the framework of the SICK AppSpace ecosystem. The Fine Rack Positioning Sensor App is one such individual application solution. An important functionality implemented with this sensor solution is positioning for single-depth (about 300 mm) and double-depth (about 1,800 mm) stacking locations with a single sensor. This sensor solution exploits natural position marks at the transfer or docking station – the use of reflectors is not necessary, but is possible. Interference caused by, among other things, varying surface reflections, differing ambient light conditions, or even total reflections (that can occur in the area of a drilled hole), are very robustly eliminated by means of intelligent image processing.

**Intuitive operation and Webserver interface ensure rapid operational readiness**

Programming with the application-specific Fine Rack Positioning Sensor App also implements an individual and intuitive human-machine user interface that shows the specific conditions and requirements of fine rack positioning whilst enabling very simple use. No special training in operation and setup is required. Such sensor solutions from SICK also support all common communication interfaces to higher-ranking control systems. Finally, the sensor solution is ready for ‘out-of-the-box’ operation and can immediately be used with common web browsers – without having to install any special parameterization software. All this ensures rapid and reliable commissioning of the sensor solution in the conveyor system or on the storage and retrieval device.

**Maximum flexibility for implementing intralogistical applications**

The variable hardware configuration of the Inspector P63x and the possibility of implementing individual intralogistical tasks on the SICK AppSpace programming platform provide maximum flexibility in the development of application solutions. These, in turn, can be very flexibly adapted in operation – the Fine Rack Positioning Sensor App can automatically adapt the positioning to the often difficult optical conditions in real situations. The possibility of working without reflectors by using natural marks for positioning, and the fact that both single-depth and double-depth positioning processes can be controlled with a single sensor, simplifies plant design and can already provide considerable cost savings at the project planning phase.

Picture: InspectorP63x\_AppSpace.jpg  
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SICK is one of the world’s leading producers of sensors and sensor solutions for industrial applications. Founded in 1946 by Dr.-Ing. e. h. Erwin Sick, the company with headquarters in Waldkirch im Breisgau near Freiburg ranks among the technological market leaders. With more than 50 subsidiaries and equity investments as well as numerous agencies, SICK maintains a presence around the globe. In the fiscal year 2016, SICK had more than 8,000 employees worldwide and achieved Group sales of just under EUR 1.4 billion.  
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