INDUSTRY OVERVIEW

COURIER, EXPRESS, PARCEL AND POSTAL

APPLICATIONS EFFICIENTLY SOLVED

SICK
Sensor Intelligence.

TASKS IN THE COURIER, EXPRESS, PARCEL AND POSTAL INDUSTRY

From single sensors to dimensioning, weighing, scanning systems

Parcel distributors, postal corporations and freight forwarders are fostering automation in their sorting and distribution centers in order to cope with the significantly increased numbers of shipments. SICK offers reliable, best-in-class sensor solutions for volume measurement, barcode identification and many other CEP applications. You can rely on a worldwide team of experienced SICK technicians and an extensive portfolio of services. A one-stop-shop for your efficient logistics operations.

Learn more ➜ www.sick.com/CEP

Identification

Fast and reliable identification of 1D bar codes and 2D matrix codes on letters, parcels, flats and other objects with comprehensive automatic identification technology with laser, camera, RFID and hybrid systems. A high read rate increases the throughput of sorting facilities. SICK systems offer the highest level of performance for all automatic identification technologies.

Dimensioning

Static and dynamic dimensioning and weighing for cuboid and irregular shapes: SICK has a comprehensive portfolio of dimensioning solutions. The systems feature exceptional volume measurement rates and a high level of accuracy, no matter what type of sorter system is used. Customers have the option of integrating certified systems (e.g., OIML, MID, NTEP, or NAWI-certified) for revenue recovery.

Detection

Reliable detection solutions for leading edge, profile, gapping, single item verification and fill grade monitoring, ensure efficient sorting and high cell utilization. Throughput depends on optimal fine-tuning of all sensor tasks within the entire process.

Safety

Safety solutions ensure a safe working environment and prevent worker injuries and material damage. Safety sensors from SICK enforce the implementation of safety-standard-compliant infrastructures. Surveillance solutions for buildings and company premises offer protection against theft and manipulation of goods.

DIGITAL SOLUTIONS – THE EXTRA BOOST FOR YOUR AUTOMATION PROJECTS

Combine digital solutions from SICK to create a complete solution tailored to your needs. Let your data work for you while you focus on the big picture. SICK offers a wide range of digital services for recording, evaluating and refining your sensor, system, and shipment data. Software and apps powered by artificial intelligence make it possible for you to classify shipments, react quickly to changes and recognize patterns in the shipment flow. Digital solutions from SICK help you optimize your resources and work processes.

Learn more ➜ www.sick.com/digital-world

Detecting objects and conditions

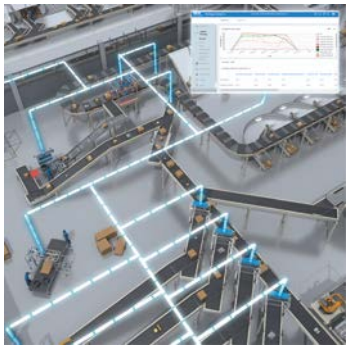
Images can be used to classify objects. Have shipments been correctly singulated? Is it a parcel or a flat? Is special packaging used? Depending on the object type, shipments are handled and billed differently. Correct classification is ensured by trained AI models based on 2D vision and 3D point clouds.

Detecting labels and text

Thanks to powerful image processing algorithms, camera-based code readers detect dangerous goods symbols so that shipments can be identified and handled separately. The This-Side-Up Verification software checks if shipments are oriented upright and reports misaligned objects to the systems control. The optical character recognition (OCR) featured in the ICR line camera, can read and interpret character strings on handling labels and subsequently direct shipments to the correct outfeed.

Managing sensors

With SICK AssetHub, you can manage the digital twins of your machines and sensors at all locations, regardless of the supplier. Keep track of important information and documents throughout the life cycle of your assets. Digital services such as cloud connection, remote monitoring and updating of sensors provide maximum transparency and control over your systems and processes.



Data analytics

Use the data of your identification systems to track shipments in sorting centers and increase the efficiency of sorting processes. The Package Analytics software gathers recordings from your identification systems for analysis and visualization. Condition Monitoring allows you to detect critical changes at an early stage. SICK offers predictive maintenance solutions for intelligent predictions based on historical data.

8019595/2021-09-27

AUTOMATED IDENTIFICATION

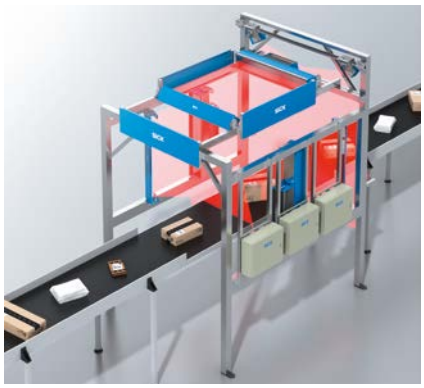
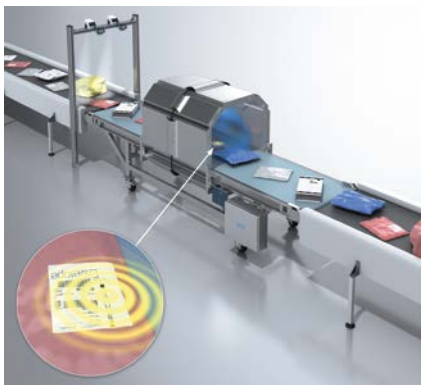


Image-based object identification on multiple sides

The modular ICR track and trace system performs omnidirectional reading of 1D and 2D codes on objects on sorters and conveyors. High-resolution cameras of the ICR System cover up to five sides of an object. The system is capable of recording images for optical character recognition (OCR) and video coding (VC). Damaged codes and low-quality labels can also be read. The Package Analytics software stores high-resolution images and videos for future trend analyses.

- ICR track and trace system

→ www.sick.com/ICR_System



Identification of polybags using RFID

Crumpled, reflective shipments can pose problems for laser- or image-based identification systems. SICK offers a broad range of RFID technology. It can be used to reliably read shipments that have RFID transponders attached to them in addition to classic bar codes. The UHF antenna even detects overlapping objects, downward-facing shipping labels, and shipments transported in batches. The RFID systems can be combined with optical reading systems.

- RFMS Pro track and trace system

→ www.sick.com/RFMS_Pro

Sorting of small shipments by hand

Throughput optimization, efficiency gains, and improved workplace ergonomics are the main objectives when designing manual sorting stations. A downward-facing Lector65x image-based code reader helps to meet these objectives. Unlike mobile hand-held scanners, this code reader allows employees to have both hands free at all times. The camera's large reading field and depth of field enables the object to be automatically identified as soon as it is picked. The camera speeds up the manual sorting process whilst ensuring optimal ergonomics.

- Lector65x image-based code reader

→ www.sick.com/Lector65x

Automatic bar code identification without driver intervention

With CLV69x bar code scanners, goods are identified automatically and without the driver needing to climb out of the vehicle. The large working range and quick auto focus with reading distances of up to 2,100 mm ensure automatic scanning even if the code positions vary significantly.

- CLV69x bar code scanner

→ www.sick.com/CLV69x

8019595/2021-09-27
Subject to change without notice

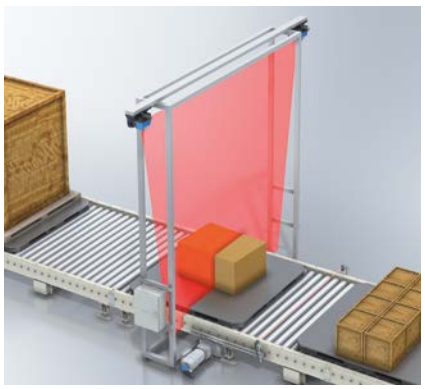
DIMENSIONING AND WEIGHING

Measuring volume and weight

Parcels are automatically identified, weighed and measured when passing through a DWS station. The ICR890 image-based code reader records and processes 1D and 2D image data on up to six sides of a shipment. The VMS provides the parcel dimensions so subsequent loading can be optimized. Scales can also be integrated to dynamically record weight for exact calculation of freight costs. Master data can be updated and in addition, data can be used as a basis for correctly charging senders.

- DWS Dynamic track-and-trace system

➜ www.sick.com/DWS_Dynamic



Dynamic pallet measurement with challenging object properties

Large objects such as pallets need to ber eliably measured in logistics processes. Dynamic dimensioning with the VMS6x00/7x00 track and trace system supports process efficiency. The system measures objects with challenging surfaces such as pallets wrapped in foil or loaded with glossy, black objects. Additionally, the exact position of the pallet on the conveyor belt can also be determined.

- VMS6x00/7x00 track-and-trace system

➜ www.sick.com/VMS6x00_7x00

Dynamic volume measurement on sorter systems

Reliable object dimensioning is required in sorting centers to maximize system throughput. The precise measurement of packages is essential for optimal loading of load carriers. The VMS4200-x/5200-x volume measurement system accurately measures objects with an accuracy of 5 mm and detects them reliability, even at conveyor speeds of up to 4 m/s, with minimal gaps and nearly independent of shape and color. The dimension data of the legal-for-trade certified system variant can be used for revenue recovery.

- VMS4x00/5x00 track-and-trace system

➜ www.sick.com/VMS4x00_5x00

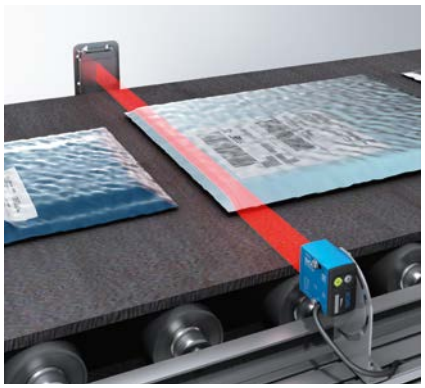
Cost-effective system for dimensioning, weighing and scanning that grows with the throughput

The DWS Dynamic Eco adapts to the shipment throughput. The modular, legal-for-trade system for dimensioning, weighing and scanning (DWS) features a manual in- and outfeed in the basic version. Labels are read using a mobile hand-held scanner. A scale and volume measurement sensor determine the weight and object dimensions. If throughput increases, laser- and image-based code readers, motorized infeed and outfeed belts, an IP camera and additional volume measurement sensors can be integrated into the existing framework with little cost and effort.

- DWS Dynamic track-and-trace system

➜www.sick.com/DWS_Dynamic

SORTING

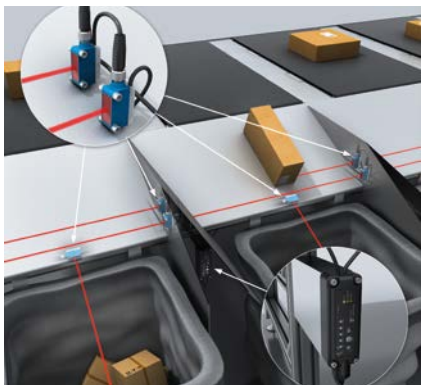


Leading edge detection

Leading edge detection with MultiTask photoelectric sensors is used to optimize object spacing before singulation or infeed to the main sorters. The sensor signal allows precise adjustment of the speed of the separate belt segments. The Reflex Array MultiTask photoelectric sensor with its light band is used when objects with varying leading edge such as polybags have to be detected reliably.

- Reflex Array MultiTask photoelectric sensor

→ www.sick.com/Reflex_Array



Discharge monitoring on several parcel chutes

The discharge of parcels from the sorter system onto the correct chute is monitored with photoelectric retro-reflective sensors. There are dozens of chutes in sorting centers. Thanks to the FlexChain technology, up to 60 sensors can now be connected in a row with the help of a host. This reduces the cabling and the risk of mutual interference between individually switched sensors. Other conditions can also be monitored, for example the fill level of gaylords.

- FlexChain switching automation light grid

→ www.sick.com/FlexChain

Detection of protruding objects

Cost-efficient photoelectric retro-reflective sensors are used to detect incorrectly positioned objects that stick out at the sides of the conveyor belt. This solution prevents system jams and protects downstream damage.

- W16 small photoelectric sensor

→ www.sick.com/W16

Detection of double occupation

Double occupation of sorter cells inevitably leads to errors and extra cost. Mixed object flows are reliably monitored with a 3D camera to double occupation that can then be singulated.

- Ruler3000 3D machine vision sensor

→ www.sick.com/Ruler3000

8019595/2021-09-27

YARD LOGISTICS

Automation of booking processes with localization data

The data collected by UWB localization systems and IIoT gateway systems is processed by the Asset Analytics software. Software algorithms and middleware blend and interpret the localization data and time stamps of all connected localization systems. Localization data helps to automate booking processes, like automated stock keeping in an ERP system.

- Tag-based Tag-LOC System localization solution

➜ www.sick.com/Tag-LOC_System

Load optimization and fill level of truck trailers

A Visionary-T Mini 3D camera mounted on the dock doors or boom conveyor measures the trailer interior. This measurement data can be used to calculate the fill level and load density in real time. This successively increases fleet utilization. Shipments that still need to be stowed can also be measured so that a recommendation on where to place the object in the interior can be given to the worker.

- Visionary-T Mini 3D machine vision sensor

➜ www.sick.com/Visionary-T_Mini

Detection of persons outdoors

The safety requirements on automated guided vehicles outdoors are high: The safety of people must be ensured even under challenging weather conditions like bright sunlight, rain, snow, wind, fog or contamination of the laser scanner, whilst unintended machine stops should be kept to a minimum. The outdoorScan3 seamlessly conncects indoor and outdoor logistics processes. With the outdoorScan3, automated guided vehicles can travel safely and navigate from hall to hall without problems.

- outdoorScan3 safety laser scanner

➜ www.sick.com/outdoorScan3

Smart Trailer: Tracking the status of truck trailers

The “Smart Trailer System” creates transparency about the location, status and acute mal-functions of the trailers in a truck fleet. Connected sensor technology is used to monitor tire pressure and temperature, smoke, doors position, the load status and fill level of the cargo hold. The Telematic Data Collector (TDC) reports location, mileage, trailer tilt and other vehicle conditions to a fleet management system. The statuses of all equipped trailers can be viewed in a dashboard.

- Telematic Data Collector gateway system
- TiM3xx 2D LiDAR sensor

➜ www.sick.com/TDC

➜ www.sick.com/TiM3xx

8019595/2021-09-27 · GICLA/ITL · Pre USmod en51

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 10,400 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents, and preventing damage to the environment.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the customers need. In application centers in Europe, Asia, and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes SICK a reliable supplier and development partner.

Comprehensive services round out the offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

That is "Sensor Intelligence."

Worldwide presence:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → www.sick.com

SICK
Sensor Intelligence.