



## Application software libraries for Automated Conveying Systems (ACS)

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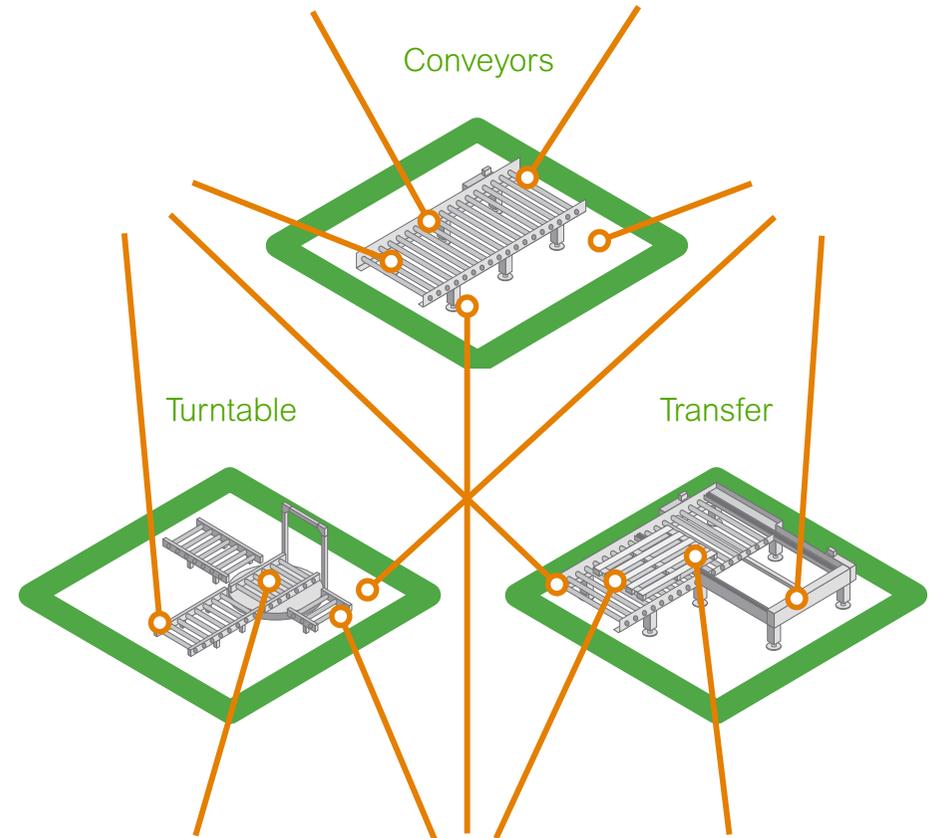


# Application software libraries for Automated Conveying Systems (ACS)

Shorten your engineering time with extensively tested application software! SoMachine™ libraries provide software functionality in the form of ready-to-use function blocks (AFBs = Application Function Blocks), which are supplied for many basic common automation tasks and machine functionalities. They can be easily configured, customised, and implemented in your machine program.

Discover our smart functions dedicated to ACS (conveyors, transfer, turntable) applications:

1. Conveyor up to 2 speeds, 2 directions
2. Input/output
3. Deskzone (Human-machine Interface)
4. Transfer (ERC)
5. Tracking
6. Turntable
7. Alarm handling

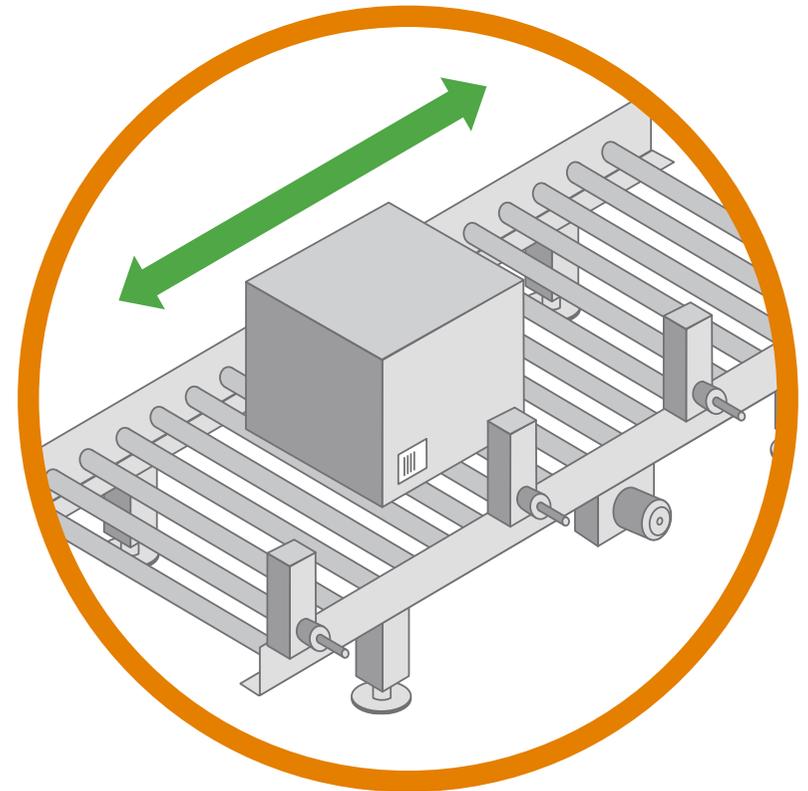


# Transfer via linear load movement

The conveyor function block is used to ensure load transfer between two linear conveyors by controlling the speed and sequence of transfer from one conveyor to another. This function block is able to determine the status of the previous and next conveyors to ensure optimum traceability as well as the startup or shutdown of load transfer. It provides alarm information and errors reported in a Human-machine Interface (HMI) to assist the operator in taking corrective measures.

## Benefits

- > Traceability: handling of merchandise tracking information.
- > Safety and security: a number of safety and security interfaces are integrated, such as PLC equipment protection, zone emergency stops, local emergency stops, and operating mode.
- > Types of operating modes: automatic, manual, or local.



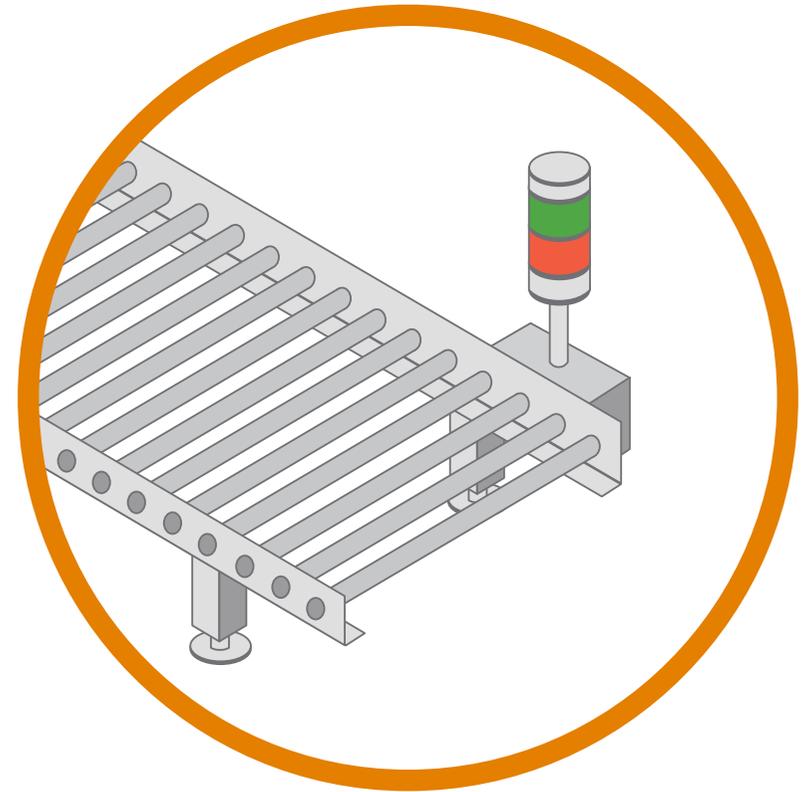
Conveyor up to  
2 speeds, 2 directions

# Loading and unloading of conveying lines

The 'Input' and 'Output' function blocks allow the operator to perform loading or unloading of the line manually or using a trolley. They also ensure, respectively, synchronisation with mechanical equipment downstream and upstream. The function blocks guarantee both the initialisation and completion of information handling for merchandise tracking. They ensure the startup and shutdown of the conveyor line, and provide alarm information and errors reported in an HMI to assist the operator in taking corrective measures.

## Benefits

- > Traceability: handling of merchandise tracking information.
- > Safety and security: a number of safety and security interfaces are integrated, such as PLC equipment protection, zone emergency stops, local emergency stops, and operating mode.
- > Types of operating modes: automatic, manual, or local.



Input/output

# Control/command and diagnostic of all equipment

This function block is used to display the overall status of the conveyor line. It ensures, through the selection of mechanical equipment, all operations such as startup and shutdown, as well as the display of detailed equipment status. In automatic mode, this function is used to display the entire conveying line. After selection of a mechanical element, it becomes possible to switch to manual mode, thus ensuring, manually, the assisted piloting by the PLC.

## Benefits

- > Traceability: display of merchandise tracking equipment.
- > Safety and security: command control and diagnostic without modifying the application in any point in the architecture.
- > Types of operating modes: automatic or manual.



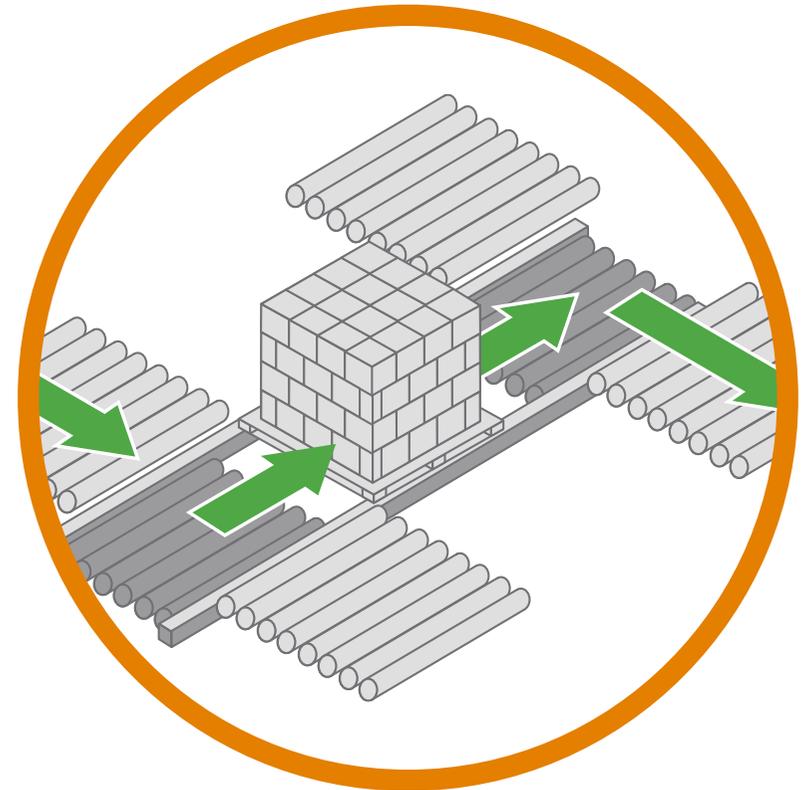
Deskzone (HMI)

# Change of direction by linear load transfer

This function block ensures load transfer between two parallel conveyors by controlling the transfer speed and the transfer sequence from one conveyor to another. The function block is able to determine the capacity of both the previous and the next conveyors to ensure optimum traceability as well as the start or stop of load transfer. They provide alarm information and errors reported in an HMI to assist the operator in taking corrective measures.

## Benefits

- > Traceability: handling of merchandise tracking information.
- > Safety and security: numerous safety and security interfaces are integrated for automation equipment protection, zone emergency stops, local emergency stops, and operating mode.
- > Types of operating modes: automatic, manual, or local.



Transfer (ERC)

# Comprehensive tracking of a transported product

This function block assures the logistical tracking of a product, from its starting point on the conveyor line up until the cessation of tracking on removal of the transported product. The tracking information of this product, acquired throughout the length of the line, is transmitted to the Deskzone function block for viewing via Human/Machine dialogue.

## Benefits

- > Operates in any running mode: whether in automatic or manual operating mode, this function block assures tracking of the product being transported in order to assure its location on the conveyor line.
- > Openness: this function block allows its reuse in a complementary environment to the function blocks supplied by Schneider Electric™ in order to assure continuity of traceability whatever the associated machine.
- > Full integration: this function block is fully integrated in the 'Conveying' application function blocks library.



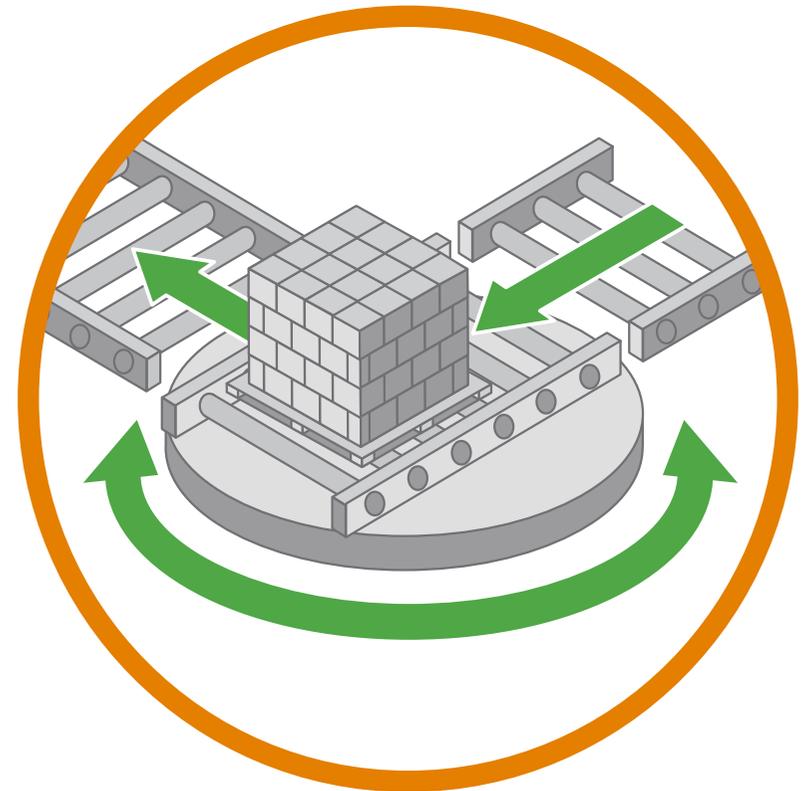
Tracking

## Change in direction by load rotation

This function block ensures the 90° rotation of a load between two conveyors by controlling the rotation speed of the load, as well as its speed, and the transfer sequence from one conveyor to another. The function block is able to determine the status of both the conveyor and the next conveyors to ensure optimum traceability as well as the start or stop of load transfer. It provides alarm information and errors reported in an HMI to assist the operator in taking corrective measures.

### Benefits

- > Traceability: handling of merchandise tracking information.
- > Safety and security: numerous safety and security interfaces are integrated, such as for the protection of automation equipment, zone emergency stops, local emergency stops, and operating mode.
- > Types of operating modes: automatic, manual, or local.



Turntable

# Full management of alerts and alarms on a conveying zone

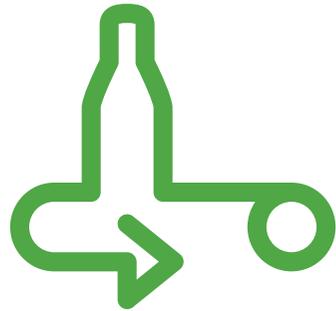
This function block provides a full management of warnings and alarms on a conveying zone. It enables the warnings and alarms issued from all the connected function blocks to be centralised. It also assures the handling of acknowledgments either singly or by group for a machine or zone. The warning and alarm messages are stored in six languages and one language in a text file. On generation of a unique warning or alarm identifier from the other function blocks, the Alarm Handling function block assures time stamping and archiving of the information in a text file.

## Benefits

- > Multilanguage: warnings and alarms are available in six languages, one of which is customisable by the user in a text file.
- > Incident log: all the warnings and alarms are time stamped and archived in a text file that can be viewed using SoMachine software.
- > Advanced handling of acknowledgments: individually or by group.



Alarm handling



Material handling systems

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