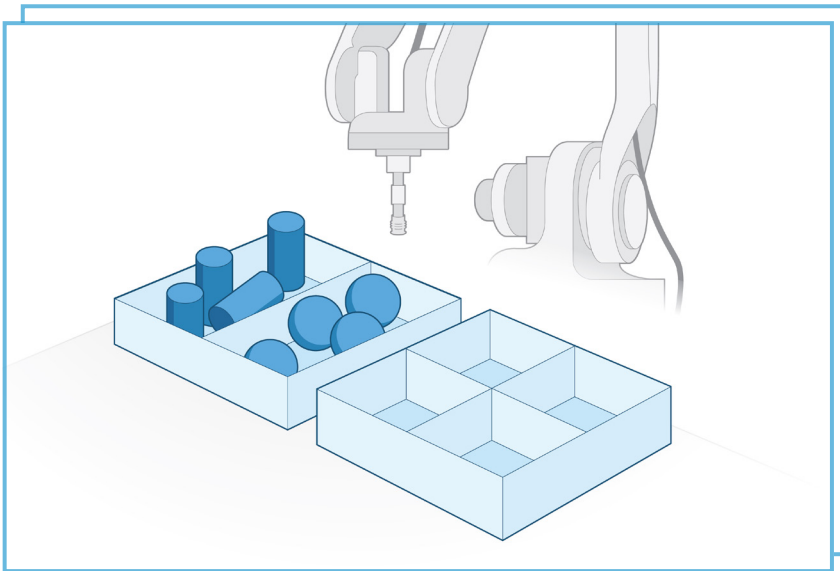


Version 01

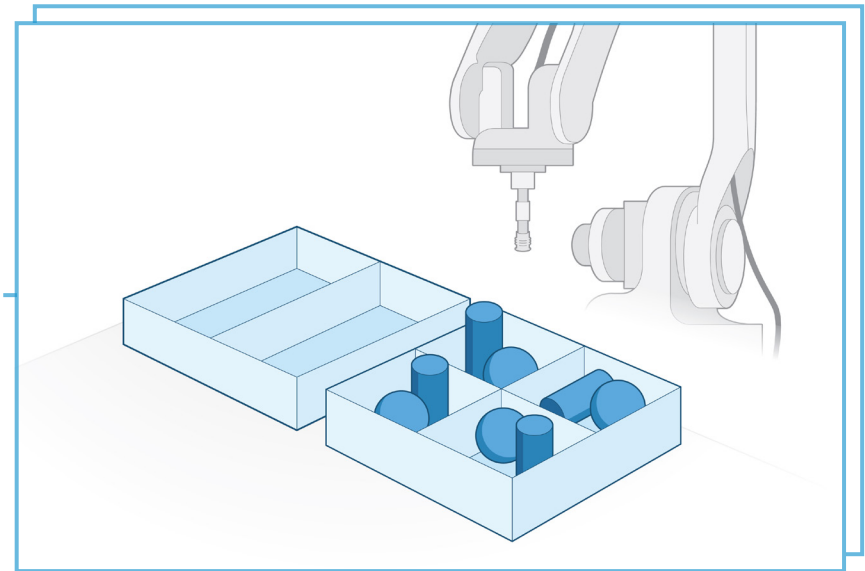
PickOne Software Module:



Segmented Tote Picking



BEFORE



AFTER

About this Module

Extend the power of **PickOne** to handle items to and from segmented totes in applications such as for order fulfillment, order consolidation, decanting, and cycle counting.

Benefits

- Promote associates to more value-added work
- Reduce turnover by improving job satisfaction
- Reduce per unit handling cost
- Improve order accuracy
- Provide integrators superior control to optimize system performance

How it works



Step 01

When a tote arrives at the picking station, the robot controller issues a pick request from **PickOne** using the **PickOne API**.



Step 02

Using 2-D, 3-D, and AI algorithms, **PickOne** identifies each pickable item in the specified segment of the tote and assigns it an associated confidence score.



Step 03

PickOne sends the robot controller an array of locations and data for each pickable item via the **PickOne API**. If no items in the scene have a high enough confidence level, it issues a **Yonder** request.

Yonder sends a picture of what the system sees to a remotely connected **Crew Chief** who handles the exception by selecting an item. In seconds, **Yonder** updates **PickOne**, and **PickOne** sends the data to the robot.

In parallel, **Yonder** stores the **Crew Chief's** response, allowing the machine-learning algorithms to make the system smarter as it works. This ensures even higher performance over time.



Step 04

Upon placement, the **PickOne Perception Kit** images the place zone to ensure the item was placed in the correct section of the tote. If it detects something unexpected, it issues another **Yonder** request to resolve this issue remotely.



Details

Segmented Tote Picking

Features

- **Multi-Pick Zone** — Enables the use of (2) pick sensors each with up to (4) pick zones per sensor to enable picking from totes with up to (8) sections.
- **Item Classification** — Classifies items by package type to enable dynamic adjustments grip strategy, acceleration, deceleration, speed, and path.
- **Collision Avoidance** — PickOne calculates the approach to the pick and prevents collisions with the tote.
- **Empty Tote Detection** — If the tote or tote section is empty, the system signals the robot through the PickOne API.
- **Stir** — If no pickable item is detected; and the pick zone is not empty, PickOne can issue a stir command for the robot to reorient the items in the tote.
- **Base AI Model** — PickOne has developed AI models to speed up the deployment of systems. Based on the product mix, the appropriate AI model will be selected for the application.

Supported Application Capability

- **Multi-Mode Gripper** — Supports systems with more than one grasping strategy such as gripper zones, extendible cups, and automatic tool changers.
- **Shuffle** — If the system is equipped with a device to jostle the tote; no pickable item is detected; and the pick zone is not empty, Yonder can issue a stir command to reorient the items in the tote.

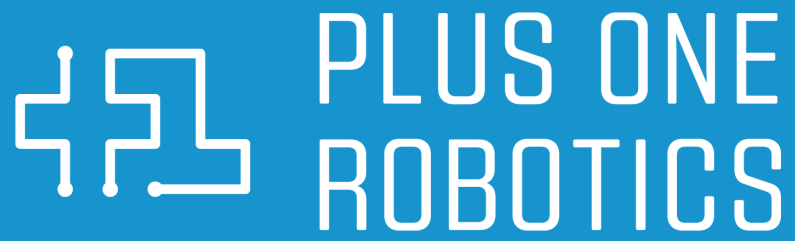
Specifications

- Industry leading pick command processing speeds: 250ms - 400ms typical
- Typical pick rates achieved: 450-1080 picks per hour
- Supports up to 1M unique SKU's
- Supported item types: boxes, padded envelopes, items in polybags, tubes, bottles, and pouches
- Max Donor Tote Size: :43" L x 30" W x 22" H
- Support totes with 1-8 sections
- Supports up to (2) Sensors - Intel RealSense D415
- Supported Robot Controllers: Fanuc*, Yaskawa*, ABB, Universal Robot, Kuka, Kawasaki, Denso, Festo, Rockwell Automation (Allen-Bradley)

What's Included

PickOne Software Module for Segmented Tote Picking, Perpetual License (P/N 1002-001-0007-01)

- PickOne Software Module for Mixed Depalletizing
- PickOne Base AI Model
- PickOne PackML State Machine for Designated Robot Controller
- Sample PickOne Depalletizing Program for Designated Robot Controller



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See our software in action at [youtube.com/PlusOneRobotics](https://www.youtube.com/PlusOneRobotics).