

Conveyor Application

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Overview

This document provides a basic guide of our programmable conveyor application template. It contains all necessary steps to start your conveyor application.

Hardware Set up

If not already completed, head to the Conveyor datasheet to get all related information about how to build your physical conveyor and get the latest specs.

[Conveyor Datasheet](#)

Upload the conveyor application example

Follow these steps to upload your conveyor application from MachineLogic. For more detailed instructions and other available applications, visit the application library page here: [Machine Logic Application Examples](#)

1. Retrieve the application template Python file.

[Download Python Example](#)

2. On the MachineLogic page, create a new application by clicking on the “New App” button as shown below and upload the previously downloaded application.
3. To upload the conveyor application, select the context menu and select the Upload Button.
4. Press Play to load the application UI and launch the configuration application.
5. Open UI Builder to configure conveyors per design.
6. Once an application has been uploaded, devices must be assigned to their corresponding instruction. To assign a device to a code-free instruction, it must first be configured. To learn more about configuration in MachineLogic, [click here](#)

Types of conveyors

Vention offers 6 examples of conveyor behavior with the conveyor application template. These are versatile and can be updated to the user's

Infeed Conveyor

This conveyor has a box detection sensor. When the product arrives, the conveyor pauses. A pusher is optional. A extend and retract motion of a pusher can be Time_based or Sensor_based .

Queueing Conveyor

This conveyor moves when the parent conveyor moves. Once the parent conveyor stops, this conveyor keeps on running until the box detection sensor sees a box. This conveyor also includes a Wake up sensor capability to complete a Zero Pressure Accumulation applications and allow multiple apps to run at the same time.

NOTE: This conveyor requires a parent conveyor defined before it.

Follower Conveyor

This conveyor replicates the motion of parent conveyor. It moves when the parent moves, it stops when the parent stops.

Note: This conveyor requires a parent conveyor defined before it

Simple Conveyor

The Simple conveyor stops if the IO is "ON" and runs if the IO is "OFF". The IO here is referred to as the boxDetectionSensor_IO but it essentially refers to an IO that receives an ON or OFF signal. This conveyor also includes a Wake up sensor capability to complete a Zero Pressure Accumulation applications and allow multiple apps to run at the same time.

Transfer Conveyor

This conveyor is used to transfer product from the conveyor to the parent conveyor with the help of a pusher. It moves when the parent conveyor moves. When the parent conveyor stops, the transfer conveyor keeps moving until it detects a products. When the product is removed from the parent conveyor, the pusher on the transfer conveyor extends and pushes the product on the parent conveyor.

Note: This conveyor requires a parent conveyor defined before it. The parent conveyor can only be of type "InfeedConveyor"

Accumulating Conveyor

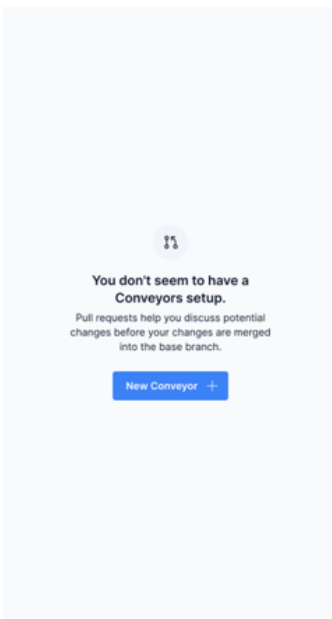
This conveyor has a box detection sensor and accumulation sensor. When both the sensors detect a product, then the conveyor runs for a time equal to 'accumulationTime' and then stops. This is to ensure that the conveyor is completely filled with product. A extend and retract motion of a pusher can be Time_based or Sensor_based .

Complete a conveyor application

Now that the application is loaded in Machine Logic, it is possible to choose from the different options stated above to build a conveyor system.

1. Select " New Conveyor" to add the first conveyor of your application

← Control Center

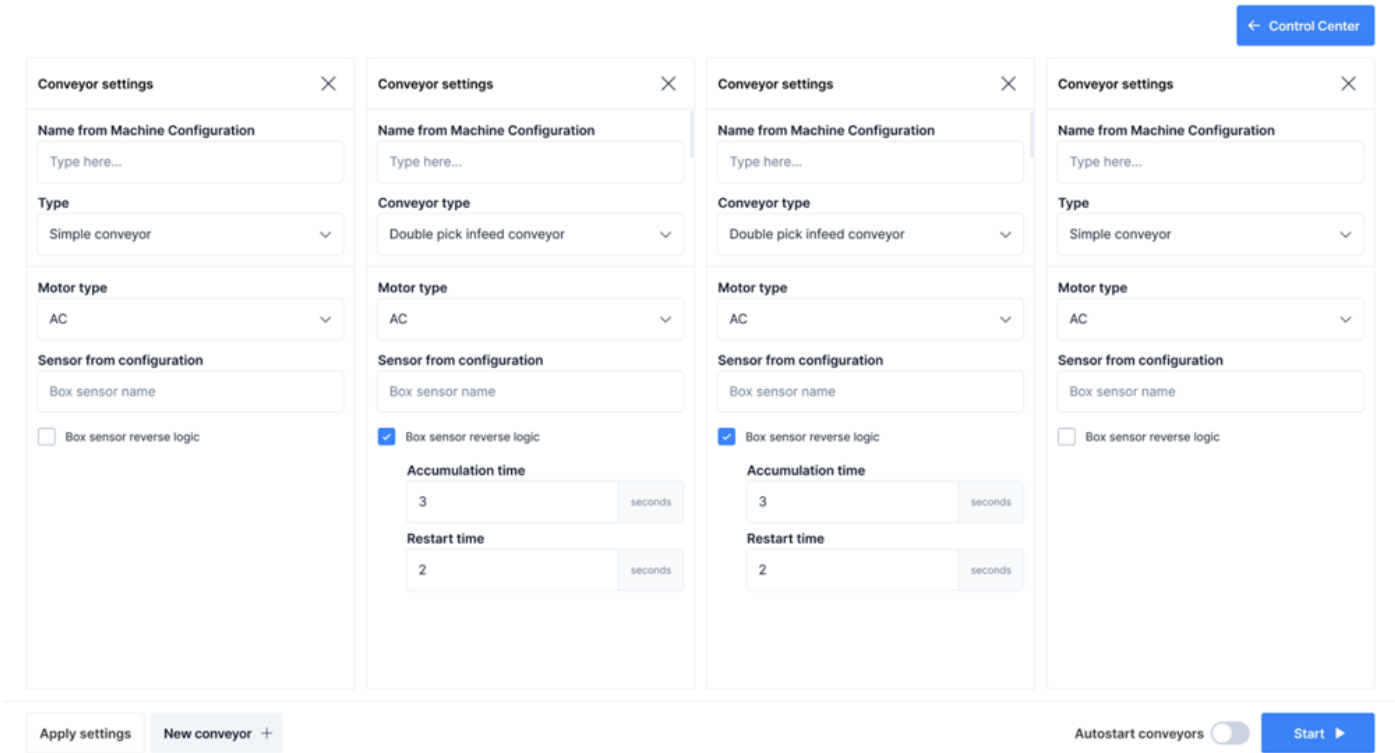


Autostart conveyors

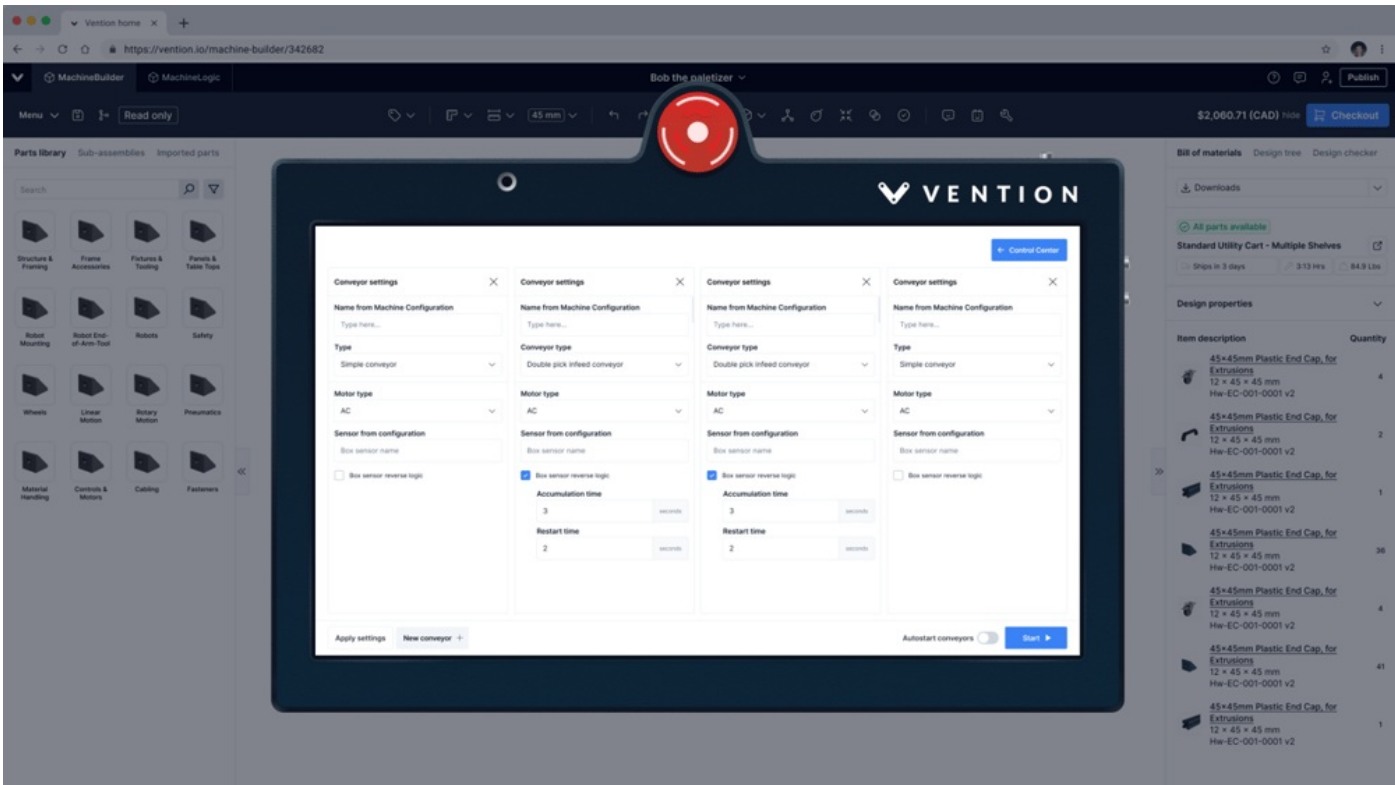
Start ▶

2. Add as many conveyors as desired per the design and configuration completed previously using the top right corner button

3. Complete the set up of each conveyor behavior



4. Press "start" to launch your application or set the "Autostart" conveyor toggle to sync multiple apps at the same time.



5. Cloud deploy the application to the physical machine