

# ABB - Robot Configuration for MachineLogic Applications

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# ABB - Robot Configuration for MachineLogic Applications

## Overview

This document provides step-by-step instructions for configuring and using an ABB GoFa robot with MachineLogic. This integration ensures seamless operation within Vention's motion components ecosystem. Robots purchased through the Vention platform are pre-configured for a simple and efficient setup experience.

## Supported Models

The following ABB robot models are supported when used with the **Omnicores C30** controller, which is required for compatibility with Vention's MachineLogic:

- GoFa 5
- GoFa 10
- GoFa 12

## Installation Steps

The robot and its controller are shipped from factory pre-configured to ensure ease of deployment. Therefore, only a few steps are required in order to be up and running with your MachineLogic application. To continue with the next steps, ensure all the components you received with your order are out of their shipping boxes. Once this is completed, proceed to the next section.

## System Connection

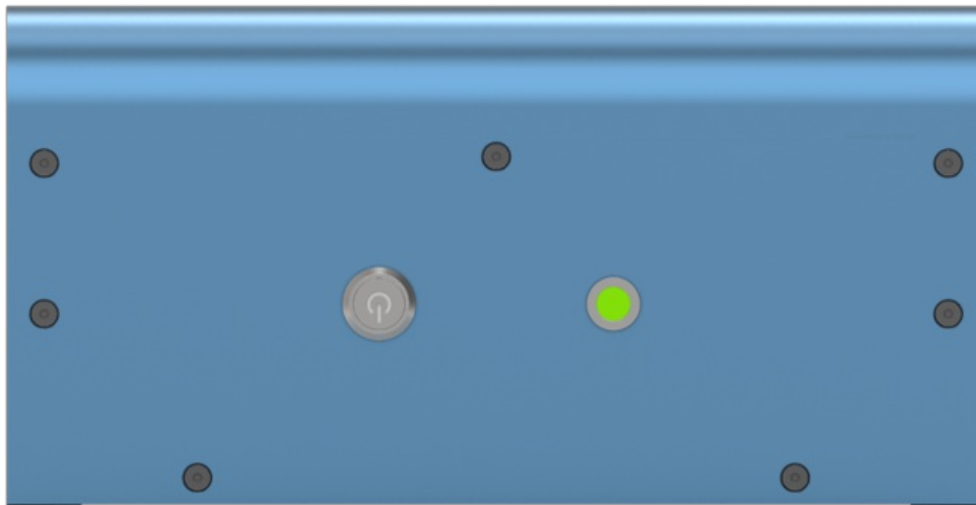
To program the robot through MachineLogic, connect a MachineMotion V2 to an ABB robot controller using the Robot Safety Module. This module acts as a 3-port Ethernet switch, enabling seamless communication between MachineMotion, the FlexPendant, and the robot controller.

1. Ensure all required safety components are properly connected. Refer to the [Robot Safety Module User Manual](#)
2. Connect the robot to its controller with the provided cable.
3. Connect the FlexPendant to the controller

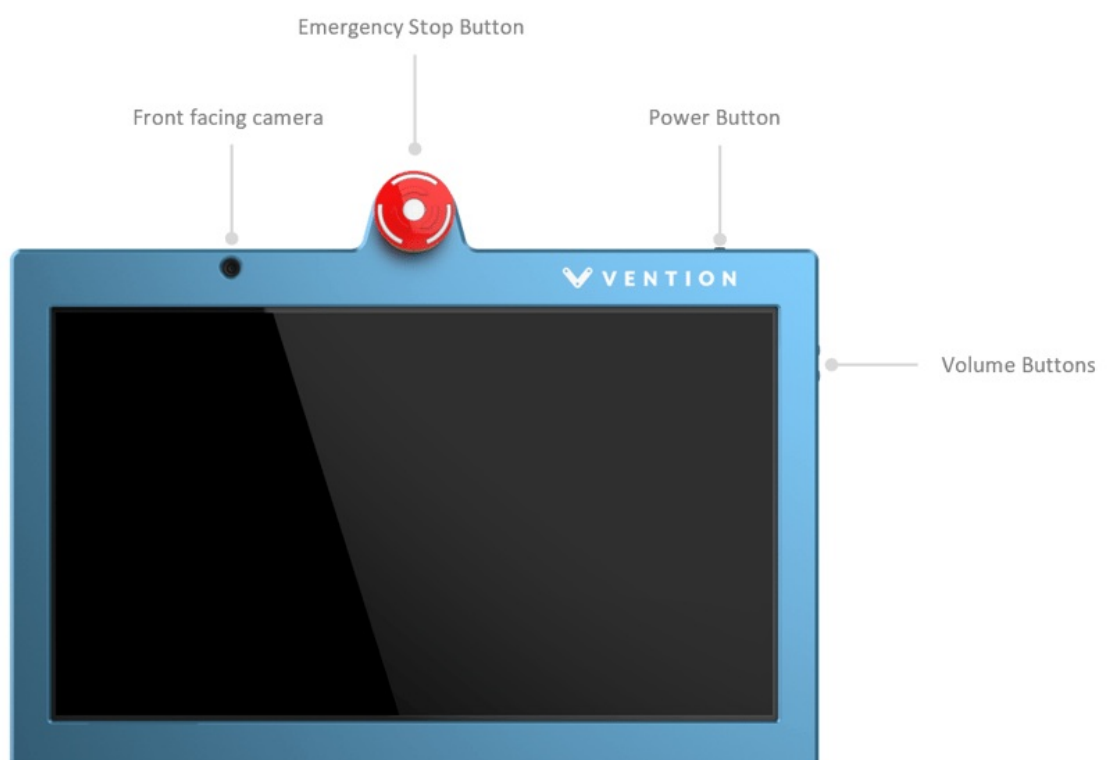
## Power Up

After connecting all components, power up the devices in the following order:

1. Turn on the MachineMotion.



2. Turn on the Vention Pendant



3. Turn on the Omnicore C30 controller using its main switch.

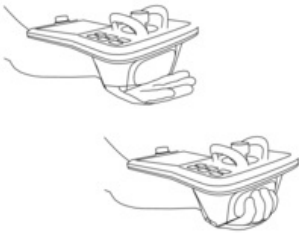
## Devices Initialization

Once all devices are properly connected and powered up, we will then proceed to the initialization of each devices to ensure they will function properly.

### ABB FlexPendant

Follow these steps to set up the ABB FlexPendant:

1. From the Home page, navigate to **Settings -> Safety Controller -> Synchronization**
2. Enable the motors using the dead man switch in the middle position.



3. Enable **Move to Sync Position**.
4. Press and hold the button to move the robot to its home position. **Warning:** The robot will move.)
5. Once the robot's Actual Positions match the Sync Positions, press **Synchronize**.

Messages Event log 1 100% ROB\_1 Axis 1-3

⚠ A safety configuration must be created using SafeMove

## ← Settings

Find a setting

Safety Controller

- ⚙ Configuration
- ☰ Groups
- ☰ Mode
- ☰ Synchronization
- ☰ Stop Status
- ☰ Cyclic Brake Check

### Synchronization

Log the robot to match actual positions with sync positions

Drive ROB\_1 Status ●

Joint Id	Sync Positions	Actual Positions
1	0.000 °	0.000 °
2	0.000 °	0.000 °
3	0.000 °	0.000 °
4	0.000 °	0.000 °
5	0.000 °	30.000 °
6	0.000 °	0.000 °

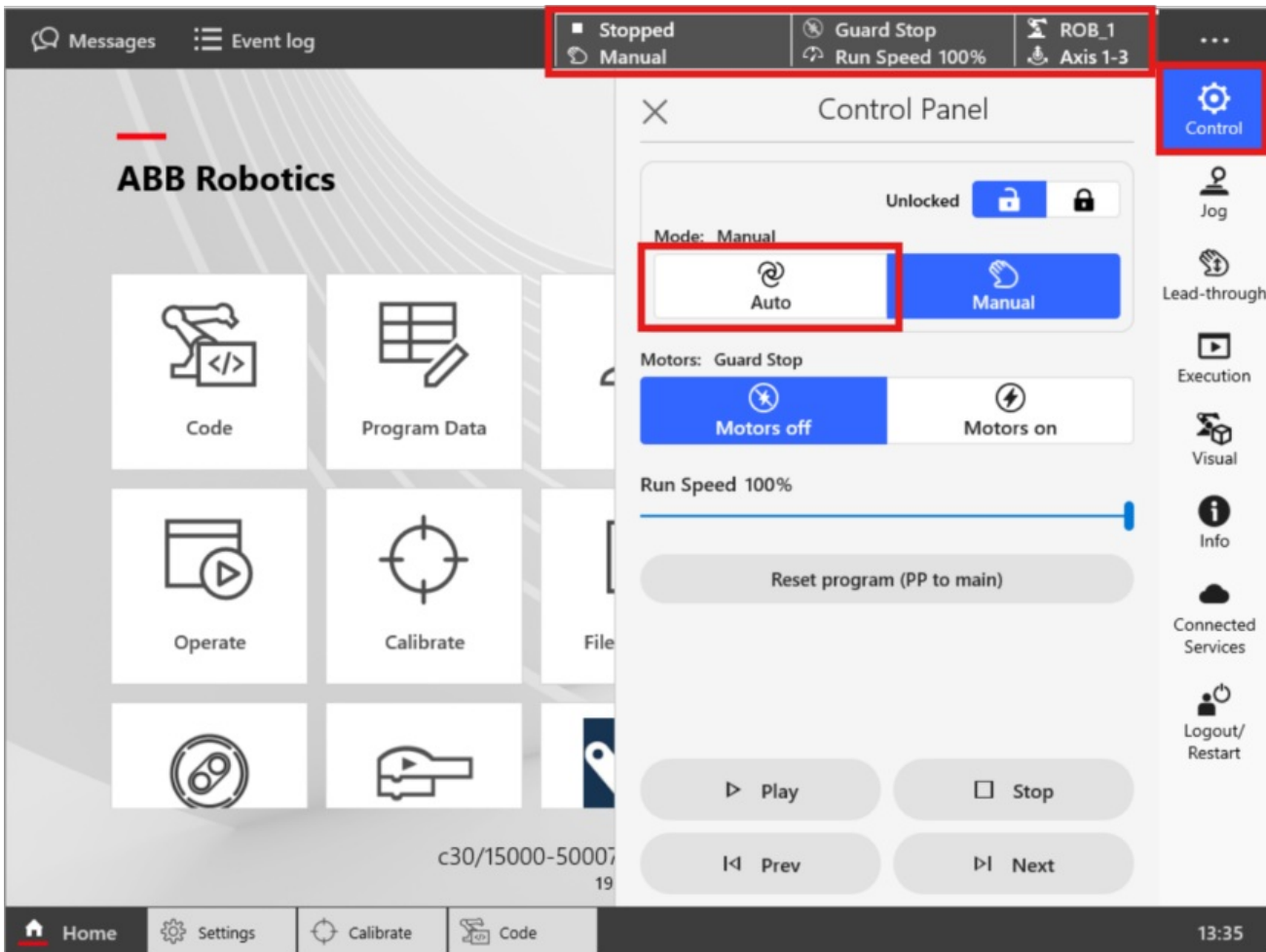
**Move to Sync Position**  
Enable Move to Sync Position

On

↓ Press and hold to move
Synchronize

Home Settings 10:36

6. Open the **Control Panel** from the top navigation bar.
7. Set the mode to **Auto** under **Control -> Auto** to allow MachineMotion to control the robot.



## Vention Pendant

Ensure your MachineLogic application and configuration are deployed before proceeding. Refer to [How to Deploy your Application to the MachineMotion](#).

1. Validate the configuration:
  1. Click **Configuration** on the navigation bar.
  2. Confirm that the robot appears and the correct model is selected from the dropdown.
  3. Click **Apply Configuration**.
2. Test system control over the robot:
  1. Use the robot jogger found under **Manual Control** on the Vention Pendant to ensure functionality.

## Completion

You have now completed the setup process. Your robot is ready to run applications programmed in MachineLogic.

## Support

For further assistance, contact our support team:

- Email: [support@vention.io](mailto:support@vention.io)
- Phone: +1-1800-940-3617 (ext. 2)