

Gate Counter

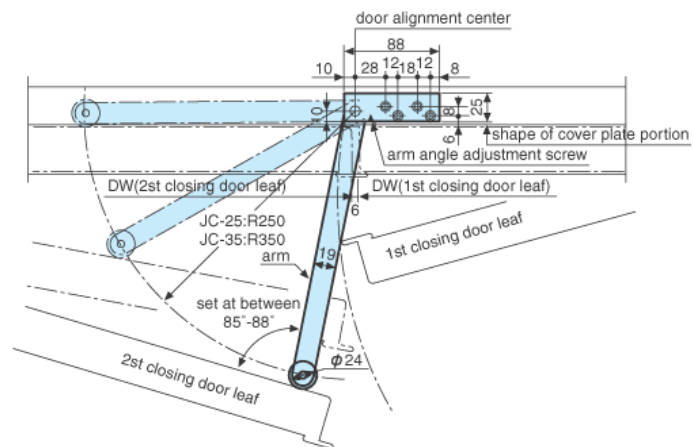


The Problem:

BC Place Stadium has hired you to design a turn style gate that will count customers as they enter the building. To provide proper security, they have requested that you have your gate close to its original position after each customer has entered and been counted. (use nMotorEncoder).

Details/Parameters:

1. You can use a motor and single length of Lego to effectively demonstrate how your gate is programmed, but feel free to be as elaborate on hardware designs.
2. Your gate should be allowed to open approximately 90° to allow each customer to enter safely through the gate.
3. You must display the current number of customers (that have passed through the gate) on the NXT.
4. After a maximum number of customers (10), your gate must **lock** in the closed position and indicate with a sound (and statement on the screen) that the venue is full.
5. **For Full Marks** – “exemplary” – have your gate “lock” each time it returns to the closed position. Use the sonar sensor to sense someone is there and only open when a customer scans a special color coded card your have created (use color sensor). Your device must welcome and prompt the user to use their card when they see someone has arrived.



Marking:

Hand in the following:

- Code, Algorithm, Self-Assessment Sheet. Make sure your gate is check by Mr. Walzl