21rp03777 EAT.A

Automatic door using Arduino

Introduction

Automatic doors are used throughout industrial and commercial environments to enable easy access to a building, offering a wide range of benefits.

One of the main advantages to having an automatic door is the convenience that comes with it. An automatic door allows people to pass through a door with ease without the worry of manually opening a heavy door, meaning that your customers will feel welcomed from the moment they step foot in your premises. This can be highly effective at solving accessibility issues, as those with disabilities are able to enter the building with ease and without complication.

Another key benefit an automatic door can bring is its ability to save space, making it a perfect option for businesses operating in smaller locations. The choice of single sliding and telescopic sliding doors means that there are many options that can ensure you get the maximum use out of the available space you have.

Automatic doors can also assist in the management of security. Security personnel can easily control the doors remotely, meaning that they can grant access to selective traffic or deactivate the door completely if necessary. Most automatic doors come with a locking system which gives the user more control, increasing security, and leaving you feeling much safer.

Our automatic doors are also manufactured to the highest standards for quality and safety, making them easy to own and maintain once installed by our fully qualified technicians.

From swing doors to sliding doors there are a huge range of styles and systems to choose from, meaning that there's a solution that can fit with your business' needs. From full operators to replacement sensors, we are able to provide bespoke solutions using the best quality products from the world's leading manufacturers.

How do Automatic Doors work?

Automatic doors are a great convenience in everyday life. They ensure ease of passing through doors in shopping centres, medical centres and train stations (to name just a few). All we have to do is walk up to the door and it magically opens for us. But how do automatic doors actually work?

Automatic doors operate by using a range of sensors which can detect different things such as sound, light, weight and motion. There are many different types of these sensors and each one can lend itself better to a different environment. For example, some doors use weight sensors to detect when someone stands on something disguised as a rubber mat in front of the door. Another popular method is motion sensors, these detect movement around the door in certain predefined areas and send a signal to the doors to tell them to open when this sensor is triggered.

After the sensor is set off, a message is passed on to an electronic drivetrain which is connected to the sensor, and controls the actual opening and closing mechanism. This mechanism is attached to the automatic doors and uses a cog wheel which is connected by rubber belts to control the motion of the automatic door. These mechanisms work together with the sensors to ensure the doors respond to the sensors whenever someone wants to pass through the door.

materials used in this project

- arduino uno
- ultrasonic sensor
- servo motor
- jumper
- glue