

Inventing Security Add-on Kit

Product ID: **32002**

Overview

The Security Add-On Kit provides students competing in the Henry Ford Invention Convention Worldwide the components to create a project using motion detection, human identification and access control. This kit requires the Electronics Base Kit and is ideal for grades 6-8 and 9-12 categories.

What kind of processes are used in security applications? People can be detected moving in a 30-foot area with the PIR sensor. They may be counted or detected at close range with the laser rangefinder. Sometimes, objects may not be detected by their heat signature or physical presence, but by the fact they create a noise. By combining different sensing abilities people may be detected and even counted — and the Security Add-On Kit includes sensors for these kinds of processes.

RFID is used for identification and access control. The Security Add-On Kit includes an RFID Reader and 10 unique RFID cards. Cards may be carried by humans or attached to objects. Add in the 4x4 matrix keypad and the person could be prompted to provide an access code that matches their RFID card.

The programming environment for the Invention Kit Series is BlocklyProp. BlocklyProp is a well-documented visual programming language based on Google's open-source Blockly. After using the Electronics Base Kit with the Security Add-On Kit students will have the ability to envision new solutions using a wide variety of sensors and devices supported in BlocklyProp simply by looking at the BlocklyProp Reference.

Features

- RFID Card Reader and 10 tags which may be attached to objects or humans to identify themselves and compared to a list of acceptable ID numbers
- Laser rangefinder, passive infrared (PIR) sensor and sound level sensor for detecting the presence or quantity of objects or humans passing by a point
- 4x4 matrix keypad for providing a human interface and access control

Application Ideas


- Pass control devices with lockbox and RFID
- Doggy-door pet access control to allow only authorized animals to enter the home
- High-value asset tracking (museums) with RFID tags
- Beam-break room alarms
- Airport baggage tracking and claim system

Details

Kit Contents

- (1) PIR Sensor w LED Signal (#555-28027)
- (1) Sound Impact Sensor (#29132)
- (1) LaserPING 2m Rangefinder (#28041)
- (1) 4x4 Matrix Membrane Keypad (#27899)
- (1) RFID Card Reader Serial (#28140)
- (10) RFID Cards, Rectangle (#28141)
- (4) 3-pin Extension Cable (#800-00080)
- (1) 3" Jumper Wires, 1 Bag of 10 (#800-00016)
- (5) 3-pin Header (#451-00303)
- (5) Resistor, 1 k-ohm (#150-01020)

Note: Parts and quantities subject to change without notice. For use with the Inventing Electronics Base Kit (#32000), not included.

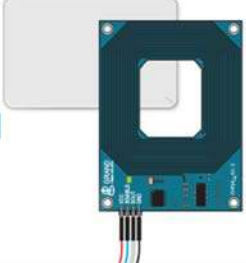


SECURITY ADD-ON KIT

#32002

INVENTING KIT SERIES

```
RFID initialize EN [25] SOUT [24]
repeat forever
do
  RFID store reading in card_number
  Terminal print
  text " RFID Card number: "
  decimal number card_number
  then a new line
  pause (ms) 250
```



**RFID
KEYPAD
PIR
RANGEFINDER
SOUND**





Equip your Propeller FLiP to make a security access system.

Kit includes RFID card reader +10 unique cards, sound & motion sensors, laser rangefinder, 4x4 keypad, cables.

Electronics Base Kit required, not included.

TUTORIALS & SUPPORT: www.parallax.com/inventingkit

EQUIP YOUR GENIUS:

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ELECTRONICS BASE KIT 32000 MECHANICAL ADD-ON KIT 32001 ENVIRONMENTAL ADD-ON KIT 32003 SECURITY ADD-ON KIT 32002

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