Gravity: IR Positioning Camera For Arduino

$23.55

In Stock

Gravity: IR Positioning Camera For Ar

SKU:SEN0158 Brand:DFRobot Reward Points: 236

$23.55 In Stock

Categories: Sensors (https://www.dfrobot.com/category-36.html) All Products (https://www.dfrobot.com/category-48.html) Light & Imaging Sensors (https://www.dfrobot.com/category-58.html)

Topic: Gravity (https://www.dfrobot.com/topic-282.html)

QTY	DISCOUNT
2-4	$23.00
5-9	$22.00
10+	$19.00

Quantity: - 1 +

BUY IT NOW ADD TO CART

Frequently Bought Together

Gravity: IR Positioning Camera For Arduino

(https://www.dfrobot.com/product-1011.html)

Gravity: Analog

BACK TO TOP

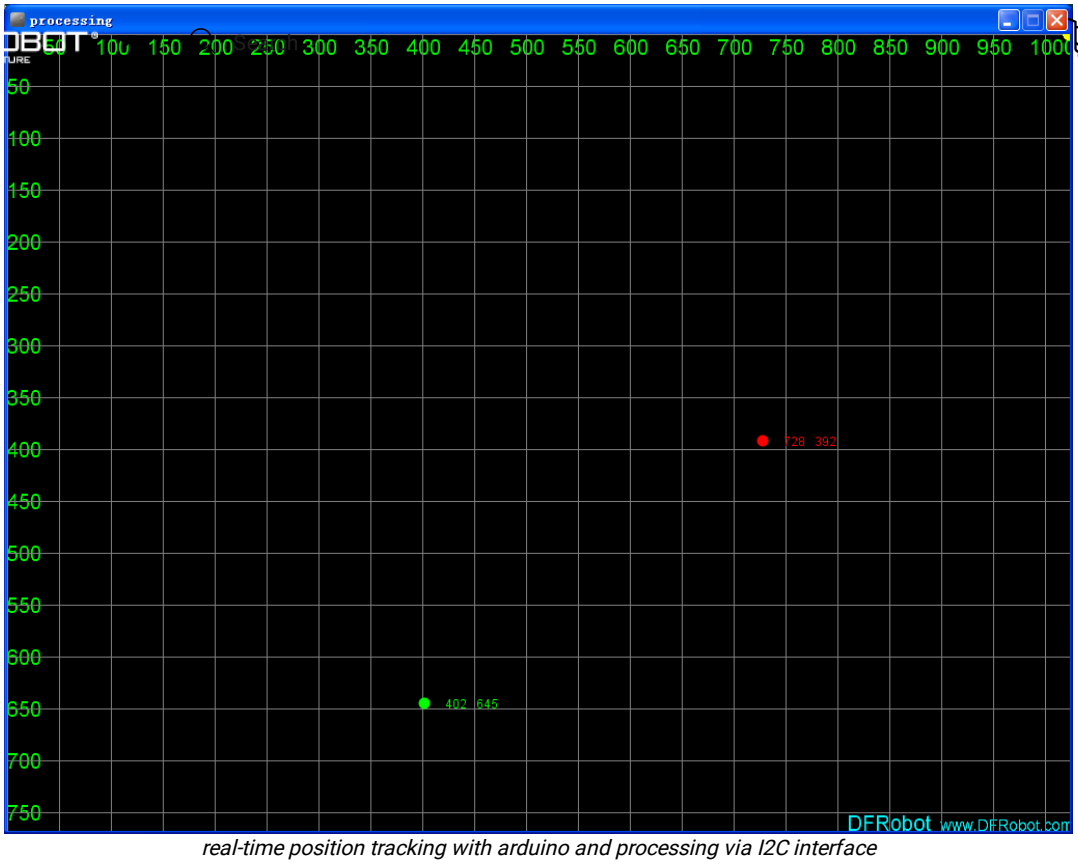
INTRODUCTION

Want a robot to hunt down heat objects or navigated with fire? This is a small form factor IR camera capable of tracking up to four heat/IR sources. The applications are plenty and can go from tracking of robots with IR transmitters for navigation to light barriers, determining the direction where the object is going, and working as a flame sensor or tracking heat sources. It's fully compatible with Arduino with only four wires: two for power supply and two for I2C.

This infrared positioning camera can be controlled with Arduino, AVR via I2C interface. It is able to track mobile infrared points and to transmit the data back to host. The horizontal angle of camera is 33 degrees while the vertical angle is 23 degrees. It returns up to four points at a time when identifies an object. With advantages of high resolution, high sensitivity, high accuracy, small build and light weight, this Positioning IR Camera an be widely used in robot automatic search, robot soccer game, mobile trajectory recognition.

Whats more, this IR Camera can be used in making a low cost electronic whiteboard, touch screen and virtual reality headset, as seen in Johnny Lee's TED presentation (https://www.ted.com/talks/johnny_lee_demos_wii_remote_hacks?language=EN) about cheap Wii remote hacks. For more details, you can check his blog (http://johnnylee.net/projects/wii/).

Warning: Make sure the user knows about the power supply either directly on the sticker on the module or/and in the manual.



real-time position tracking with arduino and processing via I2C interface

APPLICATIONS

- Tracking of robots with IR transmitters for navigation.
- Light barriers for determine the direction where the object is going to.
- Flame sensor, tracking of heat sources.

SPECIFICATION

- Operating voltage: 3.3-5v
- Interface: I2C
- Detecting distance: 0~3m
- Horizontal detecting angle: 33 degrees
- Vertical detecting angel: 23 degrees
- Dimensions: 32mm x 16mm(1.26x0.63")
- Resolution is 128x96 pixel, with hardware image processing, which can track four objects (IR emitting or reflecting objects)

DOCUMENTS

- Wiki (Positioning ir camera) (https://www.dfrobot.com/wiki/index.php/Positioning_ir_camera)
- Datasheet (http://wiibrew.org/wiki/Wiimote#IR_Camera)

SHIPPING LIST

- Positioning IR Camera x1

TUTORIAL

Gravity: IR Positioning Camera For Arduino

$23.55

In Stock

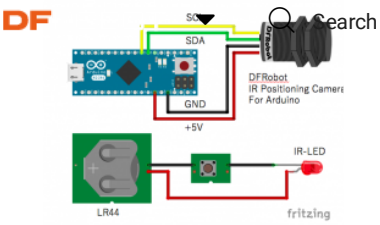
QTY	DISCOUNT
2-4	$23.00
5-9	$22.00
10+	$19.00

Quantity: - 1 +

BUY IT NOW

ADD TO CART

BACK TO TOP



IRCameraMidi (https://www.dfrobot.com/blog-1033.html)

Arduino (https://www.dfrobot.com/blog-tagarduino.html)

2018-08-08 10:55:30

REVIEW

ya ha llegado el pedido, muy rapido, 3 dias, sin costes de aduanas. Estoy muy contento. Muchas gracias

Carlos. 26/01/2021

Very fast shipping. And the packaging was cool and high quality. Item is perfect

Benjamin. 28/09/2020

FAQ

71 Comments DFRobot Disqus' Privacy Policy Login

Recommend Tweet Share Sort by Best

Join the discussion…

LOG IN WITH OR SIGN UP WITH DISQUS

Name

Alpensturm • a year ago
Hello everyone, I have the sample running in my Arduino IDE - so far, so good. What I actually need is C++ code that gives me the X-Y positions similar to the 'processing' screenshot above. I have a Windows C++ program that opens the serial port and listens to the incoming data. Is there some C++ sample code that shows the unpacking of the incoming serial port data? Thanks!
1 • Reply • Share ›

DFRobot Support Mod ➚ Alpensturm • a year ago
hello, you need to write the c++ code by yourself.
• Reply • Share ›

Juan David • a year ago
Hello,
Is there someway to calibrate this camera?
1 • Reply • Share ›

DFRobot Support Mod ➚ Juan David • a year ago
Hey Juan,
You can check out the following link to find out more about setting the cameras parameters: http://wiibrew.org/wiki/Wii...
• Reply • Share ›

golyalpha • 4 years ago • edited
Is there maybe some library available for easier usage of this camera? If there isn't it's fine, but if there was, it would be helpful.

EDIT: I can't get the example code for Processing to run, getting ArrayIndexOutOfBoundsException on Serial.list()[0]
1 • Reply • Share ›

wendy ➚ golyalpha • 4 years ago

Sorry, I am afraid no.
3 • Reply • Share ›

golyalpha ➔ wendy • 3 years ago
So, it turns out a library for the WIIMote camera module is out there, and it is working flawlessly with this camera as well. It's called PVision. https://github.com/omwah/PV...
• Reply • Share ›

EvidentlyEH ➔ golyalpha • 3 years ago
Hi, did you every manage to resolve the processing code error? I am encountering the same error and at a loss on how to approach it.

Thanks!
• Reply • Share ›

golyalpha ➔ EvidentlyEH • 3 years ago
The issue is that your device needs to be plugged in before running the sketch in Processing.

I decided to re-do the entire thing, but in the end, I had to reinstall my PC and now it is lost.
• Reply • Share ›

Liran Sorani • 5 months ago • edited
hi - just received 2 cameras. i uploaded the simpleDemo sketch to an arduino UNO and the readings i'm getting from the serial monitor are all 1023 - no matter where i point the camera to (i also set up 2 IR red leds). i use the most simple setup - just power, GND SCL and SDA - see attached picture. this is the same behavior with both cameras. View — uploads.disquscdn.com
• Reply • Share ›

r2d2 • 9 months ago
what is the weight?
• Reply • Share ›

mini Oval Kumquat • a year ago
Hello~~ I input simpleDemo.ino this camera. but the message is device is not available.... I bought this last week, so I have to check if it's broken ... in a short time(to exchange)!! help me plz~~ let me know which parts I have to check in this situation.
• Reply • Share ›

DFRobot Support Mod ➔ mini Oval Kumquat • a year ago
Hi, following the steps that we provide in the wiki. If you have some parts that isn't achived, please consult me.
• Reply • Share ›

mini Oval Kumquat ➔ DFRobot Support • a year ago
Or should I use 4 leds at least...?
• Reply • Share ›

mini Oval Kumquat ➔ DFRobot Support • a year ago
I input example code(arduino and processing).. I can get only (0,0,0,0,0,0,0,0)values.. and the values never change, so I changed led lighter than before.(led is ok because I can get data from other ir camera.) but It doesn't work. In my thinking, if I upload sample code, I can get x,y coordinates. but I don't know why... may I change any code? or have to adjust camera sensor(like bolt and nut)?
• Reply • Share ›

DFRobot Support Mod ➔ mini Oval Kumquat • a year ago
what's your main board? It's uno?
• Reply • Share ›

mini Oval Kumquat ➔ DFRobot Support • a year ago
I tested on nano board, too.. but the problem is exist
• Reply • Share ›

mini Oval Kumquat ➔ DFRobot Support • a year ago
yes. I'm using arduino uno.. is that the problem??
• Reply • Share ›

DFRobot Support Mod ➔ mini Oval Kumquat • a year ago
Hi, Is it normal to upload a program about uno to the uno board?
If it is normal, then connect the sensor to the main board, restart the main board and show me the result picture
• Reply • Share ›

mini Oval Kumquat • a year ago
hello~
What should I prepare to use this camera..? my purpose is to use this camera fix to the wall and attatch IR leds(2~4) to moving

object, is it possible to detect 2D position? And Can I get data from this, using arduino uno??

Reply • Share › Search

DFRobot Support Mod → mini Oval Kumquat • a year ago

It can detect infrared signals and print the corresponding coordinates.

Reply • Share ›

alfonz senki • a year ago • edited

Hi,
can you tell me what is the wavelength of an IR LED that the camera is the most sensible for?

Finally the sample code worked but sensed the LED in a close distance only. I thought the LED I use either does not produce too much power, or the wavelength is out of the sensing range of the camera.

Do you think the camera is sensible enough to recognize an IR Laser pointer on the wall, so only the reflection light would hit the camera?
What would be the recommended power for sensing the reflection from 2,5-3m?

thanks
Akos

p.s.
I found the answers on the Wii wiki, which tells that: removed all the filters makes the camera able to track light object. Does it mean that the camera can sense red laser dot having removed filters? Do you have any experience of such set-up?

Optical Characteristics
The IR camera has an effective field of view is about 33 degrees horizontally and 23 degrees vertically (as measured on one unit). With the IR-pass filter intact, 940nm sources are detected with approximately twice the intensity of equivalent 850nm sources, but are not resolved as well at close distances. If the filter is removed, it can track any bright object. However, the IR filter referred to here is not only the dark plastic window of the wiimote but also a teensy slab of dichroic-coated glass inside the camera module. One may operate the wiimote having installed neither, one or the other, or both filters.

Reply • Share ›

DFRobot Support Mod → alfonz senki • a year ago

we test that the wavelength of 850/890/940/950 is ok and the best effect is 940nm. it's better to control the distance between the range.

Reply • Share ›

alfonz senki • a year ago

Hi,

I have just received mine. Unfortunately the sample code doesn't work (https://wiki.dfrobot.com/Po....

1. the Address is the 0x58, which is out commented in the code. I found that 0x58 is the I2C address with an address scan.
2. The code does not use this address, but creates another address with a bit shift (slaveAddress = IRsensorAddress >> 1;)
3. The Wire.endTransmission(); that closes the communication on I2C always comes back with ACK error. This could be because the address that the code uses (slaveAddress) is not the address where the device is listening.4.I fixed these and got back OK after endTransmission, but there is nothing come back. It cannot see any IR LED of any remote controller I have home. More over It cannot sense IR LEDs I installed diresct for the camera. IR LEDs work, because it consumes power.
5. The Wii Wiki page suggest to do the initiation in a different order that the sample code uses. I tried that sequence as well, but it did not work.

Please give me instructions what to do to make the camera work.

thanks,
Akos

Reply • Share ›

DFRobot Support Mod → alfonz senki • a year ago

Hi alfonz
Sample code use address is 0xB0,not 0x58.
int IRsensorAddress = 0xB0;
//int IRsensorAddress = 0x58;

By this code slaveAddress = IRsensorAddress >> 1
Then slaveAddress(0x58) = IRsensorAddress(0xB0)>>1.

Reply • Share ›

Pontus Varghav TE18B LUGNETGYM • a year ago

If I were to use this for heat detection, would the distance be longer if the fire is big (campfire size)?

Reply • Share ›

DFRobot Support Mod → Pontus Varghav TE18B LUGNETGYM • a year ago

Hi, Pontus
Detecting distance: 0~3m

Gravity: IR Positioning Camera For Arduino

$23.55

In Stock

QTY	DISCOUNT
2-4	$23.00
5-9	$22.00
10+	$19.00

Quantity: - 1 +

BUY IT NOW

ADD TO CART

INTRODUCTION
APPLICATIONS
SPECIFICATION
DOCUMENTS
SHIPPING LIST
TUTORIAL
REVIEW
FAQ

BACK TO TOP

^ | ˅ • Reply • Share ›

DF Search (https://www.dfrobot.com/index.php?route=account/account) (https://www.dfrobot.com/index.php?route=account/w

Mohammed ELMAHMOUDY • a year ago
Hello,
Does the camera send out data on their IR leds (approximate) size and brightness?. My question is to know whether or not it will be possible to do 3D tracking by this camera alone.

Thanks.
^ | ˅ • Reply • Share ›

DFRobot Support Mod → Mohammed ELMAHMOUDY • a year ago
Hey,
The sensor does send out IR signals and tracks objects that reflect these IR waves or emits them on their own. Our sample code provides simple tracking in a 2D plane. The IR camera can track an objects X and Y coordinate, but can not determine its Z axis.
^ | ˅ • Reply • Share ›

Jim Remington • 2 years ago
Please post a genuine datasheet for the camera, or at least the section that describes how to properly set the camera gain (sensitivity) and other parameters.
^ | ˅ • Reply • Share ›

DFRobot Support Mod → Jim Remington • 2 years ago
Hey Jim,
Please refer to the Initialization section under the Datasheet link above (http://wiibrew.org/wiki/Wii.... You can directly manipulate sensitivity settings in the setup loop of our sample code by following the guidelines outlined in the above linked wiki.
^ | ˅ • Reply • Share ›

Jim Remington → DFRobot Support • 2 years ago
The wiki is not a proper data sheet. The wiki is the result of unknown people experimenting with the settings, and is not particularly helpful.

Every buyer of your camera module would appreciate it if you would post the actual camera data sheet, or at least the section on how to properly set the camera gain.

Thank you for your efforts!
^ | ˅ • Reply • Share ›

DFRobot Support Mod → Jim Remington • 2 years ago
Unfortunately this is the only datasheet for this IR camera we have available. From the wikibrew sheet you cannot directly manipulate the camera gain, but can manipulate the overall sensitivity. As you pointed out some of these preset values are from user testing. Sorry for the inconvenience.
^ | ˅ • Reply • Share ›

Luke • 2 years ago
Hi,

I would know if it could be possible to extend the coverage of 3 meters just changing IR power emitters. In any case, how could I improve range?

Thank you
^ | ˅ • Reply • Share ›

DFRobot Support Mod → Luke • 2 years ago
The maximum distance is 3m and cannot be further, changing IR power emitters should be not achieved
^ | ˅ • Reply • Share ›

Oscar Casamitjana • 2 years ago
Hi,
it is possible to control three cams in the same bus?
How can I change the cam address ?
^ | ˅ • Reply • Share ›

DFRobot Support Mod → Oscar Casamitjana • 2 years ago
You will need I2C multiplexer (https://www.dfrobot.com/pro... to manage I2C address and control multiple I2C devices.
^ | ˅ • Reply • Share ›

Adrian • 2 years ago
Hi, I have followed all the instructions, however I cannot get the camera to work. Is there anything I can do to determine whether the camera works or not?
^ | ˅ • Reply • Share ›

DFRobot Support Mod → Adrian • 2 years ago

Gravity: IR Positioning Camera For Arduino

$23.55

In Stock

QTY	DISCOUNT
2-4	$23.00
5-9	$22.00
10+	$19.00

Quantity:

- 1 +

BUY IT NOW

ADD TO CART

INTRODUCTION
APPLICATIONS
SPECIFICATION
DOCUMENTS
SHIPPING LIST
TUTORIAL
REVIEW
FAQ

BACK TO TOP

could you send the video you test to this email?
techsupport@dfrobot.com
Reply • Share ›

Adrian ➔ DFRobot Support • 2 years ago
Will the sensor work with IR signals from a TV remote for example?
Reply • Share ›

DFRobot Support Mod ➔ Adrian • 2 years ago
no......
The encoding and decoding methods are different
Reply • Share ›

Joee Cocker • 2 years ago
Hi, is there a way to test the camera ?
I keep getting "no I2C devices found", want to make sure the camera is fine.
Thanks
Reply • Share ›

DFRobot Support Mod ➔ Joee Cocker • 2 years ago
It looks like arduino did't find a device through certain I2C slave address. What address in the code are you using? Did you use the same address as in wiki sample code?
Reply • Share ›

Joee Cocker (is back) ➔ DFRobot Support • 2 years ago
Yes, but I need to sucessfully pass the i2c scanner test program first before trying out the wiki code.
I think I have a voltage issue from pin A4, I get 0v while running the i2c scan. If I plug the yellow cable from the ir camera I get 4.7v. A5 seems to be working fine.
Reply • Share ›

DFRobot Support Mod ➔ Joee Cocker (is back) • 2 years ago
Is that I2C scanner program used for find the address of device? I'm not sure what do you mean by A4 and A5. What controller do you use? Did you connect green and yellow cable to SCL and SDA? We would recommend upload wiki code to test because it has proven to be functional, if the code doesn't work than the hardware or wiring may have some issue.
Reply • Share ›

Joee Cocker ➔ DFRobot Support • 2 years ago
Good news, problem solved. It was a conductivity fault around pinout A4 on the nano board.
Thanks for your help anyway.
Reply • Share ›

Joee Cocker ➔ DFRobot Support • 2 years ago • edited
Yes I'm using it because it didn't work with the wiki program.
I'm using a arduino nano board, A4 is for SDA and A5 for SCL on the board.
Without plugging the camera, when testing A5 with a multimeter, I get 4.7v. A4 is stuck at 0v.
With the camera plugged, the red, yellow and green wires are around 4.7v.
I think it is a hardware issue on the board, no ?
Reply • Share ›

mh • 2 years ago
Hello,
Has the SEN0158 product received the CE marking or other certification concerning safety?
If so, please let me know what sort of certification it has obtained.
Reply • Share ›

DFRobot Support Mod ➔ mh • 2 years ago
Sorry, there is no certification at present. What kind of certification do you need
Reply • Share ›

mh ➔ DFRobot Support • 2 years ago
Thank you for your quick response. I understood.
CE marking is preferable.
Reply • Share ›

Load more comments

Gravity: IR Positioning Camera For Arduino

$23.55

In Stock

QTY	DISCOUNT
2-4	$23.00
5-9	$22.00
10+	$19.00

Quantity: - 1 +

BUY IT NOW

ADD TO CART

INTRODUCTION
APPLICATIONS
SPECIFICATION
DOCUMENTS
SHIPPING LIST
TUTORIAL
REVIEW
FAQ

BACK TO TOP