

IR Sensor

Sensors / Digital sensing

Reflective obstacle-module wiring and a repeatable calibration routine.

01 Connections

Module pins

VCC, GND, OUT/DO; some boards expose AO. Read the silkscreen, not wire position.

OUT

Connect DO to a digital input. Many comparator modules assert LOW on detection; test yours.

Supply

Check the module rating and output voltage before choosing 3.3 V or 5 V.

02 Calibration

Set threshold

Place the target at the desired distance; turn the potentiometer until the output changes.

Test surfaces

Check black, white, shiny and angled targets under actual room lighting.

Filter

Require several consistent samples before changing the robot state.

03 Readout

Digital

`digitalRead(pin)` yields HIGH/LOW, not a calibrated distance.

Analog

AO, when available, reports reflectance; calibrate against the actual surface.

Before you power on

An onboard 5 V pull-up can make OUT unsafe for 3.3 V GPIO. Inspect the module circuit or level-shift.

Datasheets & further reading

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Vishay TCRT5000 reflective sensor

<https://www.vishay.com/docs/83760/tcrt5000.pdf>