



Sensor Modules

for robotics & Embedded Platforms



Nvis Sensor based modules are designed in order for them to be compatible with any category i.e. from basic to advanced level microcontrollers. All these Sensors are suited for applications in Robotics. Nvis Sensors can be used as extension modules for Nvis 3302A RoboCar, Nvis 5004A ARM Development Platform and Nvis 3302W RoboCar.



Sensor Modules

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8-Channel IR Sensor

Nvis MCS01



Applications

- White line follower
- Black line follower
- Edge follower

List of Accessories

- 3 Pin CBK Cable - 1 no.

Note: This module is compatible with Nvis 50XX,
RoboCar Nvis 3302A and RoboCar Nvis 3302W

Technical Specifications

IR Receiver

| | | |
|--------------------------------|---|----------|
| Phototransistor | : | PT333-3C |
| Wavelength of Peak Sensitivity | : | 940nm |

IR Transmitter

| | | |
|--------------------------------|---|------------|
| Infrared LED | : | IR333-A |
| Wavelength of Peak Sensitivity | : | 940nm |
| Input | : | 5V DC |
| Output | : | TTL |
| Dimensions | : | 25 x 40 mm |

Scope of Learning

- Learn the concept of IR receiver and transmitter.
- Study of line follower Robots.

IR Sensor

Nvis MCS02



Applications

- White line follower
- Black line follower
- Edge follower
- Wall follower
- Obstacle avoider
- Micromouse

List of Accessories

- 3 Pin CBK Cable - 1 no.

Note: This module is compatible with Nvis 50XX,
RoboCar Nvis 3302A and RoboCar Nvis 3302W

Technical Specifications

IR Receiver

| | | |
|--------------------------------|---|----------|
| Phototransistor | : | PT333-3C |
| Wavelength of Peak Sensitivity | : | 940nm |

IR Transmitter

| | | |
|--------------------------------|---|------------|
| Infrared LED | : | IR333-A |
| Wavelength of Peak Sensitivity | : | 940nm |
| Input | : | 5V DC |
| Output | : | TTL |
| Dimensions | : | 25 x 40 mm |

Scope of Learning

- Learn the concept of IR receiver and transmitter.
- Study of line follower and edge follower concepts in Robotics.
- Study of applications like wall follower, obstacle avoider.

TSOP-IR Sensor

Nvis MCS03



Applications

- White line follower
- Black line follower
- Edge follower
- Wall follower
- Obstacle avoider
- Micromouse

List of Accessories

- 3 Pin CBK Cable - 1 no.

Note: This module is compatible with Nvis 50XX,
RoboCar Nvis 3302A and RoboCar Nvis 3302W

Technical Specifications

IR Receiver

| | | |
|-----------------|---|----------|
| TSOP | : | 1738 |
| Frequency Range | : | 38-40KHz |

IR Transmitter

| | | |
|--------------------------------|---|------------|
| Infrared LED | : | IR333-A |
| Wavelength of Peak Sensitivity | : | 940nm |
| Input | : | 5V DC |
| Output | : | TTL |
| Dimensions | : | 25 x 40 mm |

Scope of Learning

- Study of TSOP receiver and IR transmitter
- Study of application like Obstacle avoider, Micromouse, object follower.



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Fire Sensor

Nvis MCS04



Applications

- Fire extinguisher
- Fire avoider

List of Accessories

- 3 Pin CBK Cable - 1 no.

Note: This module is compatible with Nvis 50XX, RoboCar Nvis 3302A and RoboCar Nvis 3302W

Technical Specifications

IR Receiver

| | | |
|------------------|---|------------|
| Photo diode | : | BPX65 |
| Wavelength Range | : | 500-110nm |
| Input | : | 5V DC |
| Output | : | TTL |
| Dimensions | : | 25 x 40 mm |

Scope of Learning

- Study of photodiode as IR receiver
- Study of concept of fire detection & avoidance for Robotics and other embedded applications.

Light Sensor

Nvis MCS05



Applications

- Photophobic Robot
- Phototropic Robot

List of Accessories

- 3 Pin CBK Cable - 1 no.

Note: This module is compatible with Nvis 50XX, RoboCar Nvis 3302A and RoboCar Nvis 3302W

Technical Specifications

Light Dependent Resistor

| | | |
|-----------------|---|------------|
| Cell resistance | : | 400 Ohm |
| Input | : | 5V DC |
| Output | : | TTL |
| Dimensions | : | 25 x 40 mm |

Scope of Learning

- Study of Light Dependent Resistor.
- Study of Light sensor in photophobic and phototropic Robots.

Clap Sensor

Nvis MCS06



Applications

- Sound activated/deactivated Robot.

List of Accessories

- 3 Pin CBK Cable - 1 no.

Note: This module is compatible with Nvis 50XX, RoboCar Nvis 3302A and RoboCar Nvis 3302W

Technical Specifications

Condenser Microphone

| | | |
|-------------|---|------------------|
| Sensitivity | : | -44 to \pm 3dB |
| Input | : | 5V DC |
| Output | : | TTL |
| Dimensions | : | 25 x 40 mm |

Scope of Learning

- Study of NE555 IC in monostable mode.
- Study of sound detection for Robotics and other embedded applications.

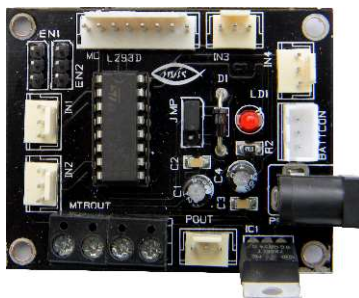


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L293D Motor Drive Module

Nvis MCS07



L293D Motor Drive Module is an H bridge driver that drives DC Motor, Stepper Motor and relays. It can be easily combined with any of our Sensor Modules of MCSXX series and can hence serve as a common interface. Screw terminals and 10- pin relimate connectors are provided for easing connections and use. It supports current rating of about 600mA per channel. This module is best for beginner's level Robotics.

Features

- Easily mountable
- LED is provided for power indication
- Standard pin connections
- Compact design
- Individual PWM control for both channels

Scope of Learning

- Learn to interface two bidirectional DC Motor.
- Learn to drive Stepper Motor.
- Learn to drive Relays and Solenoids.
- Learn to implement Manual and Autonomous Robots.

Technical Specifications

| | |
|---------------------------|---|
| Operating Voltage | : Up to 35 volts |
| Output current | : 600 mA per channel (1.2 A peak current) |
| Microcontroller Interface | : Provided (10 Pin Relimate Type) |
| Input Connectors | : Provided (3 Pin Relimate Type) |
| Output Connector | : Screw Terminals |
| Battery connector | : 3 Pin |
| Dimensions | : 48 x 60 mm |

Note: Compatible with Nvis 50XX and RoboCar Nvis 3302W

Applications

- Simultaneous control of two bidirectional DC Motors.
- Can be used to drive one Stepper Motor
- Can be used for driving Relay and Solenoid
- Can be interfaced with microcontrollers for high end applications

List of Accessories

- 3 Pin CBK Cable - 1 no.
- Jumpers - 8 nos.

L298D Motor Drive Module

Nvis MCS08



L298D Motor Drive Module is a compact H bridge driver that can drive two DC Motors or one Stepper Motor and relay at a current rating of about 2 ampere. The entire circuit is mounted on a high quality double layer PCB. DC Motor screw terminals are provided for easing connections. Connectivity with microcontroller is achieved by using 10-pin relimate connector. The circuit can work over range of voltages as per specification. For an increase in output current two drivers are connected in parallel. Moreover this product supports all the Sensor Modules of MCSXX series to drive motors directly and hence simple Robots can be built using this motor driver and any of our Sensor Modules.

Features

- Easily mountable
- LED is provided for output indication
- Standard pin connections
- Compact design
- Individual PWM control for both channels

Scope of Learning

- Learn to drive dual bidirectional DC Motor.
- Learn to drive Stepper Motor.
- Learn to drive Relays and Solenoids.
- Learn to implement Manual and Autonomous Robots.

Technical Specifications

| | |
|---------------------------|-----------------------------------|
| Operating Voltage | : Up to 35 volts |
| Output current | : 2 Amperes per channel |
| Microcontroller Interface | : Provided (10 Pin Relimate Type) |
| Input Connectors | : Provided (3 Pin Relimate Type) |
| Output Connector | : Screw Terminals |
| Battery connector | : 3 Pin |
| Dimensions | : 45 x 70 mm |

Application

- Bidirectional dual DC Motor driver.
- Single Stepper Motor driver
- Relay driver
- Solenoid driver
- Can be interfaced with microcontrollers for high end applications

List of Accessories

- 3 Pin CBK Cable - 1 no.
- Jumpers - 8 nos.

Note: Compatible with Nvis 50XX and RoboCar Nvis 3302W

Designed and Manufactured in India by -

Nvis Technologies Pvt. Ltd.

141-A, Electronic Complex, Pardesipura, Indore-452010, India.

© +91-731-4211500, ✉ info@nvis-tech.com, 🌐 www.NvisTech.com

