Parts Export

Generated: 2026-06-10 10:43:52

Total Parts: 49

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
No Image	**EDM-00005-D**	PROTOTYPING SHIELD	ED - Electronic Device	Arduino, Keyes, DFRobot, Seeed Studio, Generic	Arduino Uno Protoshield directly fits into an Arduino UNO board and breaks out the I/O pins and makes it an expansion board. It makes it very easy to design any customer circuit. You can directly solder components on the board or connect the circuit using 170 point mini breadboard (included). The board is designed to solder both through-hole and SMD components to test them with your Arduino board. Although the SMD area is designed for 24 Pins SOIC integrated circuit and has a lot of space for TH components.	Breadboard Points: 170 Breadboard Size: 4.8×3.4 cm Shield Size: 7×5.4 cm	DIY • Electronics • pcb • arduino shield • prototyping shield • uno shield • development
No Image	**EDT-00006-A**	Force Sensor - ROUND	EM - Electronic-Electrical Modules	Interlink Electronics, SparkFun Electronics, DFRobot, Adafruit Industries, Ohmite, Tekscan	This is a force sensitive resistor with a round, 0.5? diameter, sensing area. This FSR will vary its resistance depending on how much pressure is being applied to the sensing area. The harder the force, the lower the resistance. When no pressure is being applied to the FSR its resistance will be larger than 1M?. This FSR can sense applied force anywhere in the range of 100g-10kg. Two pins extend from the bottom of the sensor with a 0.1? pitch making it bread friendly. There is a peel-and-stick rubber backing on the other side of the sensing area to mount the FSR. Just Connect a resistor to form a voltage divider and measure the voltage at the junction to find the force applied. This sensor can be easily interfaced with Microcontrollers, Arduino Boards, Raspberry Pi, etc. using an Analog to Digital Converter (ADC).	Diameter: 1.8 cm Max Pressure: 10 Kg Min Pressure: 100 gm Sensing area: 1.4 cm (Dia.) Shape: Circular Length: 6 cm	FSR Sensor • Force Sensor • Pressure Sensor • Round Force Sensor • Force Sensitive Resistor
No Image	**EDT-00006-B**	Force Sensor - SQUARE	EM - Electronic-Electrical Modules	Interlink Electronics, SparkFun Electronics, DFRobot, Adafruit Industries, Ohmite	This is a force sensitive resistor with a square, 1.75 x 1.5?, sensing area. This FSR will vary its resistance depending on how much pressure is being applied to the sensing area. The harder the force, the lower the resistance. When no pressure is being applied to the FSR its resistance will be larger than 1M?. This FSR can sense applied force anywhere in the range of 100g-10kg. Just Connect a resistor to form a voltage divider and measure the voltage at the junction to find the force applied. These sensors are simple to set up and great for sensing pressure, but they aren't incredibly accurate. This sensor can be easily interfaced with Microcontrollers, Arduino Boards, Raspberry Pi, etc. using an Analog to Digital Converter (ADC).	Actuation Force: 0.1 N Clock Speed: 16MHz	FSR Sensor • Pressure Sensor • Force Sensitive Resistor • Square Force Sensor • Touch Sensor
No Image	**EMA-00002-A**	SSD1306 0.96 inch I2C OLED display	EM - Electronic-Electrical Modules	Solomon Systech, SparkFun, DFRobot	The SSD1306 0.96 inch I2C OLED Display is a compact monochrome graphical display module commonly used with Arduino, ESP32, Raspberry Pi, and other microcontrollers. It typically features a 128×64 pixel resolution and uses the SSD1306 OLED driver IC with an I2C communication interface.	Product Type: OLED Display Module Display Size: 0.96 inch Driver IC: SSD1306 Resolution: 128 × 64 Pixels Operating Voltage: 3.3V – 5V DC	SSD1306 OLED Display • 0.96 OLED Module • I2C OLED Display • OLED Screen Module
No Image	**EMA-00006-A**	Buzzer module	EM - Electronic-Electrical Modules	Generic, Keyes, Elegoo, SunFounder, DFRobot	This is Small PCB Mountable 5V . It is great to add Audio Alert to your electronic designs. It operates on 5V supply, uses a coil element to generate an audible tone.	Voltage Rating: 5VDC Operating Voltage (VDC): 5 Pin Spacing (mm): 6 Material: Plastic Color: Black Width (mm): 12 (Body Diameter) Height (mm): 8 Weight (g): 1 (approx) (each) Shipping Weight: 0.001 kg Shipping Dimensions: 1 × 1 × 1 cm	buzzer • buzzer module • sound • alarm • electronic • module • 5v
No Image	**EMA-00007-A**	7 Segment Display, 4 digit module	EM - Electronic-Electrical Modules	Titan Micro Electronics, Keyestudio, DFRobot, SparkFun	The 4 Digit 7 Segment Display Module is an LED-based numeric display used to show numbers, timers, counters, clocks, sensor values, and measurement data. Most common Arduino-compatible modules use the TM1637 driver IC, which simplifies control using only two signal pins. The module contains four 7-segment digits with decimal points that can display numbers and limited characters. It communicates serially with microcontrollers like Arduino, ESP32, Raspberry Pi, and STM32.	Product Type: 4 Digit LED Display Module Display Type: 7 Segment LED Driver IC: TM1637 Digits: 4 Operating Voltage: 3.3V – 5V DC	4 Digit 7 Segment Display • TM1637 Display Module • 7 Segment LED Module • Digital Display Module
No Image	**EMC-00006-A**	GSM-GPRS Module (SIM800L)	EM - Electronic-Electrical Modules	SIMCom, DFRobot, Waveshare	SIM800L GSM/GPRS module is a miniature GSM modem, which can be integrated into a great number of IoT projects. You can use this module to accomplish almost anything a normal cell phone can; SMS text messages, make or receive phone calls, connecting to the internet through GPRS, TCP/IP, and more! To top it off, the module supports quad-band GSM/GPRS network, meaning it works pretty much anywhere in the world. An antenna is made of wire – very useful in narrow places.	IC Chip: SIM800L Input Voltage: 3.4V ~ 4.4V Peak Current: 2 A	SIM800L • GSM Module • GPRS Module • SMS Module • IoT Module • Arduino GSM • ESP8266 GSM

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No Image	**EMC-00006-B**	GSM-GPRS Module (SIM900A)	EM - Electronic-Electrical Modules	SIMCom, DFRobot, Itead Studio	The onboard two set power supply interface VCC5 5V power supply, VCC4 interface, 3.5--4.5V power supply, optional power on self-starting (default), and control start. The onboard SMA (default) and IPXmini antenna interface, SIM900A interface reserved reset. The size of the module is 49*50, all the new and original device. The computer can give early computer debugging USB module power supply, a very large amount of data under the condition of the recommended current more than 1A. Standby dozens of MA data can be set to provide dormancy, dormancy of 10MA low power. Support 2, mobile phone 3,4G card. The serial port circuit: support for 3.3V single-chip microcomputer. TTL serial port support 3.3 and 5V single-chip microcomputer. The SIM card circuit to increase the SMF05C ESD chip. Antenna circuit: guarantee short and straight, so as to ensure the signal strength. PCB display screen printing mark: each interface, convenient development two times, the SIM900/A hardware completely follows the design when the design manual.	Frequency bands: Dual-band GPRS connectivity: GPRS multi-slot class 10 (default) , GPRS multi-slot class 8 (option) Operating Temperature Range: -30 to 80 ºC Supply Voltage: 3.4 – 4.5 V Dimensions (LxWxH): 8.5×5.7x2cm (approx)	GSM Module • GPRS Module • SMS Module • IoT Module • Arduino GSM • SIM900A
No Image	**EMC-00008-A**	IR Receiver module	EM - Electronic-Electrical Modules	Vishay Semiconductors, Sharp Corporation, Keyestudio, DFRobot, SparkFun Electronics	The KY-022 is equipped with three pins. It responds to a frequency of 38kHz at 940nm. This signal is sent via the digital output. If an IR signal is detected, the LED module on board will light up. This sensor module can be used to decode remote controls for home theaters and other remote controls that use IR.	Current consumption: 1.5mA peak Frequency: 38kHz Operating Voltage: 3.3V to 5V Pulse Duration: 400µs to 800µs Range: 17m Wavelength: 940 nm	IR Receiver • Infrared Sensor • TSOP1838 • Remote Receiver • Arduino IR Sensor • 38kHz IR Module • IR Decoder
No Image	**EMC-00008-B**	IR Remote Keypad Transmitter module	EM - Electronic-Electrical Modules	Keyes Electronics, DFRobot	The IR Remote Transmitter Module is an infrared signal emitter used to send encoded IR commands to devices like TVs, ACs, and IR receivers. Most Arduino-compatible versions (such as the KY-005 module) use a 5mm IR LED along with a transistor driver circuit to generate a modulated 38kHz infrared signal, which is the standard frequency used in consumer remote controls.	Product Type: IR Transmitter Module Operating Voltage: 3.3V – 5V DC Carrier Frequency: 38 kHz (typical) Range: ~1–5 meters (depends on setup)	IR Remote Transmitter Module • IR LED Transmitter • KY-005 IR Transmitter • Infrared Remote Control Module
No Image	**EMS-00002-A**	DHT11 Temperature and Humidity Sensor	EM - Electronic-Electrical Modules	EM Series / Generic Compatible, KEYESTUDIO, SunFounder, DFRobot	Digital temperature and humidity sensor module with calibrated single-wire serial output. Features onboard pull-up resistor and LED status indicator for easy interfacing. Ideal for weather stations, environmental monitoring, and smart automation projects.	Item Type: Sensor Model: DHT11 Temperature and Humidity Sensor Measuring Temperature Range (°C): 0 – 50 Temperature Accuracy: ± 2 °C Humidity Range: 20 – 95 % RH Humidity Accuracy: ± 5 % RH Resolution: 16 bit Output Form: Digital Output (Single Wire Serial) Operating Voltage (VDC): 3 – 5 Operating Current (mA): ? 2.5 Dimensions (L × W × H mm): 31 × 14 × 7.5 Weight (g): 5 Shipping Weight: 0.01 kg Shipping Dimensions (L × W × H cm): 5 × 5 × 2	DHT11 • Temperature Sensor • Humidity Sensor • Digital Temp Sensor • Arduino Climate Sensor
No Image	**EMS-00003-A**	Accelerometer module GY 521	EM - Electronic-Electrical Modules	InvenSense, Generic Electronics, DFRobot, SparkFun Electronics	The GY-521 Accelerometer Module is a 6-axis motion tracking sensor board based on the MPU6050 MEMS sensor IC. It combines a 3-axis accelerometer and a 3-axis gyroscope in a single compact module, allowing accurate measurement of acceleration, tilt, rotation, vibration, and motion.	Product Type: Accelerometer + Gyroscope Module Model: GY-521 Main IC: MPU6050 Communication: I2C Operating Voltage: 3V – 5V DC	GY-521 Accelerometer Module • MPU6050 Sensor Module • 6DOF Motion Sensor • Gyroscope Accelerometer Module
No Image	**EMS-00003-C**	Accelerometer module MMA7361	EM - Electronic-Electrical Modules	Freescale Semiconductor, DFRobot, Elecrow	The MMA7361 Accelerometer Module is a low-power 3-axis analog accelerometer sensor designed to measure acceleration, tilt, vibration, orientation, and motion along X, Y, and Z axes. It is based on the Freescale/NXP MMA7361L MEMS accelerometer IC and provides analog voltage outputs proportional to acceleration values.	Product Type: 3-Axis Accelerometer Module Model: MMA7361L Sensor Type: MEMS Accelerometer Axes: X, Y, Z Operating Voltage: 3.3V – 5V DC	Tilt Sensor Module • MMA7361 Accelerometer • Triple Axis Accelerometer • 3-Axis Accelerometer Module
No Image	**EMS-00004-A**	Sound Level Sensor Module	EM - Electronic-Electrical Modules	Keyes, Keyes, DFRobot, SparkFun Electronics	Sound Detection Module Sensor for Intelligent Vehicle Compatible With Arduino is a Single channel signal output Sensor. The output is effective to the low-level sound signal with good fidelity, When there is sound, outputs low level and signal light.	IC Chip: LM393 Induction Distance: 500 cm Operating Voltage: 3.3 ~ 5 V Length: 4.3 cm Height: 0.8 cm Width: 1.7 cm	Sound Sensor • Microphone Module • Audio Sensor • Noise Sensor

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No Image	**EMS-00004-B**	Sound Detector Module (Blue)	EM - Electronic-Electrical Modules	Keyes Electronics, DFRobot, AZDelivery	The Sound Detector Module (Blue) is a microphone-based sound sensing module designed to detect surrounding audio signals and convert them into electrical outputs. Most blue sound sensor modules use an electret microphone together with the LM393 comparator IC to provide analog and digital sound detection outputs.	Product Type: Sound Detection Sensor Model: KY-038 / KY-037 Main IC: LM393 Comparator Operating Voltage: 3.3V – 5V DC	Sound Detector Module • KY-038 Sound Sensor • LM393 Sound Sensor • Microphone Sensor Module
No Image	**EMS-00004-C**	MAX4466 Electret Microphone	EM - Electronic-Electrical Modules	Analog Devices / Maxim Integrated, SparkFun, DFRobot, Keyestudio	The MAX4466 Electret Microphone Module is a low-noise audio amplifier module designed for sound detection and audio signal monitoring applications. It uses an electret condenser microphone along with the MAX4466 operational amplifier IC to provide amplified analog audio output suitable for microcontrollers and embedded systems.	Product Type: Electret Microphone Module Main IC: MAX4466 Output Type: Analog Operating Voltage: 2.4V – 5.5V DC	MAX4466 Microphone Module • Electret Microphone Amplifier • Sound Sensor Module • Audio Detection Sensor
No Image	**EMS-00006-A**	PIR Motion Sensor	EM - Electronic-Electrical Modules	HC, DFRobot, SparkFun, Keyestudio	The PIR Motion Sensor is a passive infrared (PIR) detection module used to detect human movement and body heat based on infrared radiation changes. The most common version is the HC-SR501 PIR sensor module, which uses a pyroelectric infrared sensor and Fresnel lens to detect motion within its sensing range. (components101.com)	Product Type: PIR Motion Sensor Model: HC-SR501 Sensor Type: Passive Infrared Operating Voltage: 5V – 20V DC Detection Distance: 3 – 7 meters	Motion Detection Sensor • PIR Motion Sensor • HC-SR501 PIR Sensor • Human Motion Sensor
No Image	**EMS-00007-A**	Temperature sensor Module - DS18B20	EM - Electronic-Electrical Modules	Maxim Integrated, DFRobot, SparkFun	The DS18B20 Temperature Sensor Module is a digital temperature sensing device designed for accurate temperature measurement using the 1-Wire communication protocol. Developed by Dallas Semiconductor (now Maxim Integrated), the DS18B20 provides calibrated digital temperature readings with high accuracy and supports multiple sensors on a single data line.	Product Type: Digital Temperature Sensor Model: DS18B20 Communication Protocol: 1-Wire Operating Voltage: 3V – 5.5V DC Temperature Range: -55°C to +125°C Accuracy: ±0.5°C	DS18B20 Temperature Sensor • Waterproof Temperature Sensor • Digital Temperature Sensor • One Wire Temperature Sensor
No Image	**EMS-00009-A**	Heart Pulse Rate Sensor	EM - Electronic-Electrical Modules	Maxim Integrated, Generic Electronics, SparkFun, DFRobot	The Heart Pulse Rate Sensor is a biometric sensor module used to detect heartbeats and measure pulse rate (BPM - Beats Per Minute). It works using photoplethysmography (PPG), where an LED emits light into the skin and a photodetector measures changes in blood flow caused by heartbeats.	Product Type: Heart Pulse Rate Sensor Sensor Type: Photoplethysmography (PPG) Operating Voltage: 3.3V – 5V DC Output Type: Analog / I2C Measured Parameter: Pulse Rate (BPM)	Heart Pulse Sensor • Pulse Rate Sensor • Heartbeat Sensor Module • Pulse Detection Sensor • Arduino Pulse Sensor • BPM Sensor • Heart Rate Monitor Sensor • Pulse Sensor Amped
No Image	**EMS-00010-A**	MQ-2 Gas Sensor Module- Methane, Butane, LPG, SmoKe	EM - Electronic-Electrical Modules	Hanwei Electronics, Winsen Electronics, SparkFun Electronics, DFRobot	The MQ-2 Gas Sensor Module is a semiconductor-based gas detection sensor designed to detect combustible and flammable gases such as Methane, Butane, LPG, Propane, Hydrogen, Alcohol, and Smoke. It uses a tin dioxide (SnO?) sensing layer whose resistance changes when exposed to combustible gases.	Product Type: Gas & Smoke Sensor Model: MQ-2 Detectable Gases: LPG, Methane, Butane, Smoke Detection Range: 200 – 10000 ppm Operating Voltage: 5V DC	LPG Gas Sensor • methane sensor • Arduino Gas Sensor • MQ-2 Gas Sensor • Smoke Sensor Module • Butane Gas Detector • MQ2 Smoke Detector • Flammable Gas Sensor
No Image	**EMS-00010-E**	Flammable Gas Sensor	EM - Electronic-Electrical Modules	Hanwei Electronics, Zhengzhou Winsen Electronics, DFRobot	This is a simple-to-use MQ-6 Liquefied Petroleum Isobutane Propane Gas Sensor module, suitable for sensing LPG (composed of mostly propane and butane) concentrations in the air. The MQ-6 can detect gas concentrations anywhere from 200 to 10000ppm. This sensor has high sensitivity and fast response time. The sensor's output is an analog resistance. The drive circuit is very simple; all you need to do is power the heater coil with 5V, add a load resistance, and connect the output to an ADC. The sensitive material of the MQ-6 gas sensor is SnO2, which with lower conductivity in clean air. When the target combustible gas exists, The sensor's conductivity is higher along with the gas concentration rising. Please use a simple electro circuit, Convert change of conductivity to the corresponding output signal of gas concentration.	Model: MQ-6 Operating Temperature Range: -20 to 40 °C Operating Voltage: 5 V Length: 3.2 cm Height: 2.2 cm Width: 2 cm	arduino • gas sensor • methane sensor • MQ6 • LPG Sensor • Propane Sensor • Butane Sensor

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No Image	**EMS-00010-F**	MQ-7 sensor module	EM - Electronic-Electrical Modules	Hanwei Electronics, Zhengzhou Winsen Electronics, DFRobot	This MQ7 Carbon Monoxide Gas Sensor Module is a semiconductor gas sensor tuned to detect carbon monoxide. It is in the same family of devices as the smoke detector sensor, measuring the change in surface conductivity of tin dioxide in the presence of carbon monoxide. This sensor has high sensitivity and fast response time. The sensor can measure concentrations of 10 to 10,000 ppm. The sensor can operate at temperatures from -10 to 50°C and consumes less than 150 mA at 5 V. This module provides both digital and analog outputs. The threshold level for digital output can be easily adjusted using the preset on the board. The MQ-7 sensor module can be easily interfaced with Micro-controllers, Arduino and etc.	Model: MQ-7 Ambient temperature: -20 ~ + 50 °C Characteristic gas: 100 ppm CO Heating current: ? 180 mA Heating power: approx. 350 mW Heating resistance: ± 31 ? Heating voltage: 5.0V ± 2V / 1.5 ± 1V Humidity: ? 95% RH Operating Voltage: 5 V Oxygen content: 21%. Range: 10 ~ 1000 ppm Return time: ? 30 s Sensitivity: ? 3%. Length: 3.5 cm Height: 1.1 cm Width: 2 cm	arduino • MQ7 • Carbon Monoxide Sensor • CO Sensor • Gas Detector • Air Quality Sensor
No Image	**EMS-00011-A**	GPS module	EM - Electronic-Electrical Modules	u-blox, Quectel, DFRobot, SparkFun	The GPS Module is a satellite-based positioning and navigation device used to determine real-time location, speed, altitude, and time information. Most hobby and embedded systems commonly use the Neo-6M GPS module, which communicates through UART serial interface and receives signals from GPS satellites.	Product Type: GPS Navigation Module Model: Neo-6M Operating Voltage: 3V – 5V DC Baud Rate: 9600 bps	GPS Module • Neo-6M GPS • GNSS Receiver • Arduino GPS Module • ESP32 GPS Module • Satellite Navigation Module • UART GPS Sensor • Location Tracking Module
No Image	**EMS-00015-B**	3x4 Membrane switch keypad	EM - Electronic-Electrical Modules	Adafruit, DFRobot, SparkFun, Keyestudio	The 3x4 12-Key Membrane Switch Keypad is a compact matrix-style input device commonly used in Arduino, ESP32, Raspberry Pi, PIC, AVR, and embedded electronics projects. It contains 12 push buttons arranged in a telephone-style 4-row × 3-column matrix layout.	Product Type: Membrane Matrix Keypad Key Layout: 3×4 Matrix Number of Keys: 12 Operating Voltage: 3V – 35V DC Connector Type: 7-pin Header	12 Key Matrix Keypad • Membrane Switch Keypad • Arduino Keypad • 3x4 Membrane Keypad • Numeric Keypad Module • 4x3 Matrix Keyboard • Telephone Style Keypad • Matrix Input Module
No Image	**EMS-00015-C**	4x4 Membrane switch keypad	EM - Electronic-Electrical Modules	Adafruit, Keyestudio, DFRobot, SparkFun	The 4x4 / 4x3 Membrane Switch Keypad is a thin and flexible matrix-style input device commonly used with microcontrollers like Arduino, ESP32, Raspberry Pi, PIC, and AVR boards. It contains multiple push buttons arranged in matrix rows and columns, allowing easy user input while using fewer GPIO pins.	Product Type: Membrane Matrix Keypad Key Layout: 4×4 / 4×3 Number of Keys: 12 or 16 Operating Voltage: 3V – 35V DC Connector Type: 7-pin / 8-pin Header	4x4 Membrane Keypad • 12 Key Matrix Keypad • Membrane Switch Keypad • Matrix Keyboard Module • Arduino Keypad • Numeric Input Module • 4x3 Matrix Keypad • Keypad Module

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No Image	**EMS-00016-A**	Water Flow Sensor YF-G1	EM - Electronic-Electrical Modules	YF Electronics, DFRobot, FlyRobo, Robocraze	The YF-G1 Water Flow Sensor is a hall-effect liquid flow meter designed for measuring the flow rate of water and other non-corrosive liquids in pipelines. It contains an internal rotor with a magnet that spins when liquid flows through the sensor. The built-in hall-effect sensor detects the magnetic rotation and generates pulse signals proportional to the flow rate.	Product Type: Water Flow Sensor Model: YF-G1 Sensor Type: Hall Effect Flow Meter Operating Voltage: 5V – 18V DC Working Current: ? 15 mA Flow Range: 1 – 30 L/min	Water Flow Sensor • Hall Effect Flow Sensor • Liquid Flow Meter • Flow Rate Sensor • YF-G1 Sensor • Industrial Water Flow Sensor • Arduino Flow Sensor • Pipe Flow Detection Module
No Image	**EMS-00016-B**	Water Flow Sensor YF-S401	EM - Electronic-Electrical Modules	YF Electronics, DFRobot, FlyRobo, Robocraze	The YF-S401 Water Flow Sensor is a compact hall-effect liquid flow meter used to measure water flow rate in pipes and tubing systems. Inside the sensor, a rotor with magnets spins as water passes through it. The hall-effect sensor generates pulse signals proportional to the flow rate. It is widely used in water dispensers, smart irrigation systems, liquid monitoring systems, coffee machines, industrial automation, and Arduino/ESP32 projects.	Product Type: Water Flow Sensor Model: YF-S401 Sensor Type: Hall Effect Flow Meter Operating Voltage: 5V – 18V DC Working Current: ? 15 mA Flow Range: 0.3 – 6 L/min	YF-S401 Sensor • Water Flow Sensor • Hall Effect Flow Sensor • Liquid Flow Meter • Flow Rate Sensor • Arduino Water Flow Sensor • Flow Detection Module
No Image	**EMS-00018-A**	Water Level Sensor	EM - Electronic-Electrical Modules	Generic Electronics, Generic Electronics, DFRobot, SparkFun	The Water Level Sensor Module is used to detect and measure water levels in tanks, containers, reservoirs, automation systems, irrigation projects, and Arduino applications. It works using exposed parallel conductive traces that change resistance depending on the amount of water touching the sensor surface. Most modules provide both analog output (water level amount) and digital output (threshold detection using LM393 comparator). These sensors are widely used in smart irrigation systems, automatic water tank monitoring, rainwater harvesting, leak detection, and robotics projects.	Product Type: Water Level Sensor Module Sensor Type: Conductive Water Sensor Operating Voltage: 3.3V – 5V DC Comparator IC: LM393	Water Detection Sensor • Water Level Sensor • Liquid Level Sensor • Analog Water Sensor • Arduino Water Sensor • Level Detection Module • Tank Level Sensor
No Image	**EMS-00020-A**	Joystick Module	EM - Electronic-Electrical Modules	EM Series / Generic Compatible, KEYESTUDIO, SunFounder, DFRobot	Dual-axis analog joystick module used to detect X and Y movement positions. Each axis uses a 10KΩ potentiometer providing 0–5V analog output. Includes built-in push-button switch, ideal for robotics, gaming, and motion control projects.	Model: PS2 Joystick Module Operating Voltage (VDC): 5 Potentiometer Resistance: 10K? (per axis) X/Y Output: Analog (0–5V) Button: Digital (Press-Down) Interface Type: 2.54 mm Pin Header PCB Size (mm): 34 × 32 Compatibility: Arduino / Raspberry Pi / Microcontrollers Lifespan: Long-Life, High-Stability Potentiometers Shipping Weight: 0.015 kg Shipping Dimensions (L × W × H): 6 × 5 × 4 cm	PS2 Joystick • Analog Joystick Module • Dual Axis Sensor • 10K Potentiometer Joystick • Arduino Joystick
No Image	**EMS-00021-A**	SW-520D Tilt Sensor	EM - Electronic-Electrical Modules	Generic Electronics, DFRobot, SparkFun, Keyestudio	The SW-520D Tilt Sensor Module is a simple digital angle detection sensor used to detect tilt, orientation change, vibration, or motion. It works using a metal ball inside a cylindrical switch that moves when the angle changes. When tilted beyond a certain threshold (around ~10°–15° depending on mounting), the internal contacts connect/disconnect and the module outputs a digital HIGH/LOW signal. It is widely used in security alarms, anti-theft systems, robotics balance detection, and Arduino/ESP32 projects.	Product Type: Tilt / Angle Sensor Module Sensor Type: Ball Switch (SW-520D) Output Type: Digital (0 / 1) Operating Voltage: 3.3V – 5V DC Comparator IC: LM393	SW-520D Sensor • Tilt Sensor Module • Angle Sensor • Ball Switch Sensor • Orientation Sensor • Digital Tilt Switch • Arduino Tilt Sensor
No Image	**EMS-00022-A**	Analog Piezoelectric Ceramic Vibration Module	EM - Electronic-Electrical Modules	Generic Electronics, DFRobot, SparkFun, Adafruit	The Analog Piezoelectric Ceramic Vibration Module uses a piezoelectric ceramic disc to detect vibrations, knocks, and mechanical stress. When the surface is bent, tapped, or vibrated, the ceramic element generates a proportional voltage (piezoelectric effect). Unlike digital vibration modules (like SW-420), this module provides analog output, meaning it can measure the strength of vibration, not just ON/OFF detection. It is widely used in Arduino projects, touch sensing, drum pads, impact detection, and condition monitoring systems.	Product Type: Analog Vibration Sensor Module Sensing Element: Piezoelectric Ceramic Disc Output Type: Analog Voltage Output Operating Voltage: 3.3V – 5V DC Operating Current: < 1 mA	Shock Sensor • Piezo Vibration Sensor • Analog Piezo Module • Ceramic Vibration Sensor • Knock Sensor • Arduino Piezo Sensor • Vibration Detection Module
No Image	**EMS-00023-A**	SW-420 Alarm Vibration Sensor Module	EM - Electronic-Electrical Modules	Generic Electronics, DFRobot, SparkFun, FlyRobo	SW-420 Alarm Vibration Sensor Module is a vibration and shock detection module used in security alarms, anti-theft systems, motion sensing, robotics, earthquake detection, and Arduino projects. It uses the SW-420 vibration switch along with an LM393 comparator to provide digital output when vibration or movement is detected. Sensitivity can be adjusted using the onboard potentiometer. (components101.com	Product Type: Vibration Sensor Module Sensor Model: SW-420 Comparator IC: LM393 Operating Voltage: 3.3V – 5V DC Output Type: Digital Output	LM393 Sensor • SW-420 Sensor • Vibration Sensor Module • Shock Sensor • Alarm Sensor • Motion Detection Sensor • Arduino Vibration Sensor

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
No Image	**EMS-00024-A**	Rain Sensor Module	EM - Electronic-Electrical Modules	Generic Electronics, DFRobot, SparkFun	Rain Sensor Modules are used to detect rain, water droplets, moisture, and rainfall intensity in weather monitoring systems, smart irrigation, automatic wiper systems, robotics, and Arduino projects. Most modules use a rain-sensitive conductive plate with an LM393 comparator module and provide both analog and digital outputs.	Product Type: Rain Detection Sensor Module Operating Voltage: 3.3V – 5V DC Comparator IC: LM393 Sensitivity Adjustment: Potentiometer Compatible Boards: Arduino, ESP32, Raspberry Pi	Rain Sensor Module • Rain Drop Sensor • FC-37 Sensor • YL-83 Rain Module • Water Detection Sensor • Arduino Rain Sensor • Weather Sensor
No Image	**EMS-00026-A**	HMC5883L Triple Axis Compass Magnetometer Sensor Module	EM - Electronic-Electrical Modules	Honeywell, ITEAD Studio, DFRobot, Adafruit, SparkFun	HMC5883L Triple Axis Compass Magnetometer Sensor Module is a 3-axis digital compass sensor used for navigation, heading detection, robotics, drones, GPS systems, and Arduino projects. The module communicates through the I2C interface and measures magnetic field strength across X, Y, and Z axes for accurate compass heading and orientation detection.	Product Type: Triple Axis Magnetometer Sensor Model: HMC5883L Number of Axes: 3 Axis Communication Interface: I2C Operating Voltage: 3.3V – 5V ADC Resolution: 12-bit	HMC5883L Sensor • Magnetometer Module • Compass Sensor • Triple Axis Compass • GY-271 Sensor • GY-273 Module • Arduino Compass Sensor
No Image	**EMX-00002-A**	Arduino nano	EM - Electronic-Electrical Modules	Arduino, Gravitech, RobotDyn, Keyestudio, DFRobot	The Arduino Nano is a small, complete, and breadboard-friendly board based on the ATmega328 (Arduino Nano 3.x) or ATmega168 (Arduino Nano 2.x). It has more or less the same functionality as the Arduino Duemilanove but in a different package. It lacks only a DC power jack and works with a Mini-B USB cable instead of a standard one.	Microcontroller: ATmega328 Flash Memory: 32 KB (ATmega328) of which 2 KB used by bootloader SRAM: 1 KB or 2KB EEPROM: 512 bytes (ATmega168) or 1 KB (ATmega328) Clock Speed: 16 MHz Digital I/O Pins: 14 (of which 6 provide PWM output) Analog Input Pins: 8 DC Current per I/O Pin: 40 mA Operating Voltage: 5V Input Voltage: 7 - 12 V (5V model)	ATmega328P • Arduino Nano • Microcontroller Board • Development Board • IoT
No Image	**EMX-00003-A**	Arduino Mega	EM - Electronic-Electrical Modules	Arduino, Elegoo, RobotDyn, Keyestudio, DFRobot, Waveshare	The Arduino Mega is a microcontroller board based on the ATmega2560. It has 54 digital input/output pins (of which 14 can be used as PWM outputs), 16 analog inputs, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with an AC-to-DC adapter or battery to get started. The Mega is compatible with most shields designed for the Arduino Duemilanove or Diecimila. The Mega 2560 R3 also adds SDA and SCL pins next to the AREF. In addition, there are two new pins placed near the RESET pin. One is the IOREF that allow the shields to adapt to the voltage provided by the board. The other is not connected and is reserved for future purposes. The Mega 2560 R3 works with all existing shields but can adapt to new shields that use these additional pins. Arduino is an open-source physical computing platform based on a simple i/o board and a development environment that implements the Processing/Wiring language. Arduino can be used to develop stand-alone interactive objects or can be connected to software on your computer (e.g. Flash, Processing, MaxMSP). The open-source IDE can be downloaded for free (currently for Mac OS X, Windows, and Linux).	Microcontroller Chip: ATmega2560 Analog I/O Pins: 16 Digital I/O Pins: 54 (of which 14 provide PWM output) Flash Memory: 256 KB of which 8 KB used by bootloader SRAM: 8 KB EEPROM: 4 KB DC Current per I/O Pin: 40 mA DC Current for 3.3V Pin: DC Current for 3.3V Pin Operating Voltage: 5V Input Voltage: 7V to 12V Input Voltage (limit): 6V-20V	Development Board • Arduino Mega • ATmega2560 • Embedded Systems • IoT Board
No Image	**MMD-00001-B**	BO2 Side Shaft Plastic Gear Motor	MM - Mechanical Module	Generic Robotics, Robu.in, FlyRobo, DFRobot, Keyestudio	BO2 Side Shaft Plastic Gear Motor is a lightweight DC geared motor commonly used in robotics, smart car projects, line follower robots, obstacle avoidance robots, STEM kits, and Arduino DIY projects. It features a plastic gearbox with dual side shafts for easy wheel mounting and provides low-speed high-torque operation.	Product Type: Plastic Geared DC Motor Motor Type: BO2 Side Shaft Motor Operating Voltage: 3V – 12V DC Rated Voltage: 6V DC Speed Range: 60RPM – 300RPM	Arduino Motor • BO Motor • DC Gear Motor • BO2 Gear Motor • Plastic Gear Motor • Side Shaft Motor • Robot Motor
No Image	**MMD-00002-A**	Metal Gear Servo Motor	MM - Mechanical Module	TowerPro, DFRobot, Adafruit, SparkFun, Robocraze	MG995 360° High Speed Torque Metal Gear Servo is a continuous rotation high-torque servo motor widely used in robotics, RC vehicles, robotic arms, automation systems, smart wheels, and Arduino projects. It features metal gears, PWM control, high holding torque, and durable construction for demanding applications.	Product Type: Digital Servo Motor Model: MG995 Rotation Type: 360° Continuous Rotation Operating Voltage: 4.8V – 7.2V DC Stall Torque: 9kg·cm – 13kg·cm	Arduino Servo • Digital Servo Motor • Metal Gear Servo • High Torque Servo • Robotics Servo • MG995 Servo • 360° Servo Motor

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
No Image	**MMD-00002-C**	Metal Gear Micro Servo	MM - Mechanical Module	TowerPro, DFRobot, Adafruit, SparkFun, Waveshare	MG90S Metal Gear Micro Servo is a compact high-torque micro servo motor designed for robotics, RC cars, robotic arms, pan-tilt systems, drones, and Arduino projects. It uses metal gears for improved durability and better torque compared to SG90 plastic gear servos. Typical operating voltage is 4.8V–6V with around 180° rotation.	Product Type: Metal Gear Micro Servo Model: MG90S Operating Voltage: 4.8V – 6V DC Rotation Angle: 180° Stall Torque: 1.8kg·cm – 2.2kg·cm	Arduino Servo • Metal Gear Servo • High Torque Servo • Robotics Servo • MG90S Servo • Micro Servo Motor • PWM Servo
No Image	**MMD-00002-D**	Digital Servo Motor 360 Degree	MM - Mechanical Module	TowerPro, Probots, DFRobot, Adafruit, SparkFun	MG996R Digital Servo Motor 360 Degree is a high-torque continuous rotation servo motor widely used in robotics, robotic arms, RC vehicles, automation systems, pan-tilt mechanisms, and Arduino projects. It features metal gears, PWM control, and continuous 360° rotation capability.	Product Type: Digital Servo Motor Model: MG996R Rotation Type: 360° Continuous Rotation Operating Voltage: 4.8V – 7.2V DC Rated Voltage: 6V DC Stall Torque: 10kg·cm – 13kg·cm	Arduino Servo • MG996R Servo • 360 Degree Servo • Digital Servo Motor • Metal Gear Servo • High Torque Servo • Robotics Servo
No Image	**MMD-00003-A**	Micro gear motor	MM - Mechanical Module	Pololu, DFRobot, Adafruit, SparkFun	N20 micro gear motors are compact DC geared motors widely used in robotics, smart cars, line follower robots, automation systems, mini conveyor mechanisms, and DIY electronics projects. These motors combine a small DC motor with a metal gearbox to provide low speed and high torque in a compact form factor.	Product Type: Micro Gear Motor Operating Voltage: 3V – 12V DC Rated Voltage: 6V DC Speed Range: 15RPM – 1000RPM Shaft Diameter: 3 mm	Mini Motor • Arduino Motor • Robotics Motor • Metal Gear Motor • N20 Motor • Micro Gear Motor • DC Gear Motor
No Image	**MMD-00003-B**	150 RPM Geared Motor	MM - Mechanical Module	Johnson Motor, DFRobot, Robu.in, FlyRobo	150 RPM 12V geared motors are high-torque DC motors with integrated reduction gearboxes designed for robotics, smart vehicles, automation systems, conveyor mechanisms, DIY mechanical projects, and Arduino-based applications. The gearbox reduces speed while increasing torque for controlled movement.	Product Type: DC Geared Motor Rated Voltage: 12V DC Speed: 150 RPM Gearbox Type: Metal Gearbox Shaft Diameter: 6 mm Current Consumption: 100mA – 500mA	150RPM Motor • Geared DC Motor • 12V Gear Motor • High Torque Motor • Robotics Motor • DIY Motor • Metal Gear Motor
No Image	**MMD-00004-A**	Vibrating Motor	MM - Mechanical Module	Precision Microdrives, Adafruit, Jinlong Machinery, Generic Motors, DFRobot	Vibrating motors are compact DC motors with an off-center weight that generates vibration during rotation. These motors are widely used in mobile phones, wearable devices, robotics, DIY electronics, alert systems, haptic feedback projects, and Arduino-based applications.	Product Type: Vibrating DC Motor Operating Voltage: 1.5V – 5V DC Speed: 8000 – 12000 RPM Current Consumption: 60mA – 100mA	Mini Motor • Arduino Motor • Vibration Motor • Vibrating Motor • Coin Motor • DC Vibration Motor • Haptic Motor
No Image	**MMD-00005-A**	MINI SUBMERSIBLE WATER PUMP	MM - Mechanical Module	Adafruit, SunFounder, DFRobot, Generic Pump Manufacturer	Mini submersible water pumps are compact DC-powered pumps designed for water circulation, mini fountains, hydroponics, aquarium systems, cooling projects, automatic watering systems, and DIY Arduino automation projects. These pumps operate while fully submerged in water and provide low-noise continuous flow.	Product Type: Mini Submersible Water Pump Operating Voltage: 3V – 6V DC Rated Voltage: 5V DC Current Consumption: 100mA – 220mA Flow Rate: 80 – 120 L/H Outlet Diameter: 7mm – 8mm	Mini Water Pump • Submersible Pump • DC Water Pump • Aquarium Pump • DIY Pump • Arduino Water Pump • Micro Pump
No Image	**MMM-00003-A**	Car Chassis (Plywood)	MM - Mechanical Module	Robu.in, FlyRobo, DFRobot, Keyestudio	RJ12 plywood car chassis is a lightweight robot platform designed for DIY robotics, STEM learning, line follower robots, obstacle avoidance robots, and Arduino-based smart car projects. These chassis are laser-cut from plywood or MDF sheets and provide mounting holes for motors, wheels, sensors, and controllers.	Product Type: Robot Car Chassis Chassis Material: Plywood / MDF Thickness: 3mm – 5mm Compatible Motors: BO Motor / TT Motor / N20	RJ12 Chassis • Robot Car Chassis • Plywood Chassis • DIY Robot Base • Smart Car Platform • Robotics Chassis • Wooden Chassis
No Image	**MMM-00005-A**	Wheels	MM - Mechanical Module	Pololu, DFRobot, Waveshare, SunFounder	N20 34mm wheels are compact rubber wheels specially designed for N20 micro gear motors with a 3mm D-shaped shaft. These wheels are widely used in line follower robots, mini smart cars, obstacle avoidance robots, STEM kits, and DIY robotics projects. Most models use a press-fit D-hole design for secure mounting and better traction.	Product Type: N20 Motor Rubber Wheel Wheel Diameter: 34 mm Wheel Width: 6.5 mm – 7 mm Shaft Type: 3 mm D Shaft	Rubber Wheel • Smart Car Wheel • DIY Robot Wheel • N20 Wheel • 34mm Robot Wheel • N20 Motor Wheel • Mini Robot Wheel

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
No Image	**MMM-00005-B**	Rubber wheels	MM - Mechanical Module	DFRobot, Pololu, SparkFun, Waveshare	Rubber wheels for DC motors are commonly used in robotics, smart car projects, Arduino robots, line follower robots, obstacle avoidance robots, and DIY mechanical projects. These wheels usually fit BO motors, TT motors, and geared DC motors, providing better grip and smooth movement.	Product Type: Rubber Wheel for DC Motor Wheel Diameter: 65mm / 70mm Compatible Motors: BO Motor / TT Motor Wheel Width: 25mm – 30mm	Robot Wheel • Rubber Wheel • DC Motor Wheel • Smart Car Wheel • Tyre Wheel • DIY Robot Wheel • Motor Wheel
No Image	**MMP-00001-A**	Spacers	MM - Mechanical Module	Keystone Electronics, Adafruit, DFRobot, Pro'sKit	Spacers are mechanical components used to create distance between PCBs, panels, enclosures, and mounted hardware in electronics, robotics, Arduino projects, and DIY assemblies. Common spacer materials include nylon, brass, aluminum, and stainless steel.	Product Type: Spacer / Standoff Thread Size: M3 Length Options: 5mm – 50mm	PCB Spacer • Mounting Spacer • DIY Hardware • Spacer • Nylon Spacer • Brass Spacer • Standoff Spacer
No Image	**MMP-00004-A**	Brass standoffs set	MM - Mechanical Module	Adafruit, Keystone Electronics, DFRobot, Pro'sKit	Brass standoff sets are threaded spacers used for mounting and separating PCBs, Arduino boards, Raspberry Pi boards, electronic enclosures, and DIY projects. They provide mechanical support, insulation spacing, and secure assembly for electronics hardware.	Product Type: Brass Standoff Set Thread Type: M2 / M2.5 / M3 Length Options: 5mm – 50mm Shape: Hexagonal	Brass Standoff • PCB Spacer • Hex Standoff • Mounting Spacer • PCB Mount Kit • Threaded Spacer • DIY Hardware