Parts Export

Generated: 2026-07-26 12:33:38

Total Parts: 121

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	COC-00002-A	Corrugated Sheet	CO - Consumables	Coroplast, IntePro	The Corrugated Plastic Sheet is a lightweight, durable material used for signage, packaging, robotics, and protective panels. It is water-resistant, impact-resistant, and easy to cut and shape. It is commonly used in DIY projects, prototypes, enclosures, and engineering models.	Sheet Type: Corrugated Plastic Sheet Color: White Thickness: 2mm – 5mm	corrugated plastic sheet • polypropylene board • white plastic sheet • coroplast sheet • DIY material
	**COC-00002-B**	Corrugated Sheet	CO - Consumables	Coroplast, IntePro	The Black Corrugated Plastic Sheet is a lightweight, durable material used for signage, robotics, fabrication, and structural support. It is water-resistant, impact-resistant, and easy to cut and shape. It is commonly used in DIY projects, enclosures, prototypes, and engineering models.	Sheet Type: Corrugated Plastic Sheet Color: Black Thickness: 2mm – 5mm	corrugated plastic sheet • coroplast sheet • black plastic board • polypropylene sheet • robotics material
	**COC-00002-C**	Corrugated Sheet	CO - Consumables	Coroplast, IntePro	The Yellow Corrugated Plastic Sheet is a lightweight, durable material used for signage, robotics, fabrication, and protective panels. It is water-resistant, impact-resistant, and easy to cut and shape. It is commonly used in DIY projects, enclosures, prototypes, and engineering models.	Sheet Type: Corrugated Plastic Sheet Color: Yellow Thickness: 2mm – 5mm	corrugated plastic sheet • coroplast sheet • polypropylene sheet • yellow plastic board • DIY fabrication material
	**COC-00002-D**	Corrugated Sheet	CO - Consumables	Coroplast, IntePro	The Green Corrugated Plastic Sheet is a lightweight, durable material used for signage, robotics, fabrication, and structural support. It is water-resistant, impact-resistant, and easy to cut and shape. It is commonly used in DIY projects, prototypes, enclosures, and engineering models.	Sheet Type: Corrugated Plastic Sheet Color: Green Thickness: 2mm – 5mm	corrugated plastic sheet • coroplast sheet • polypropylene sheet • green plastic board
	**COC-00006-A**	Sandpaper Sheet	CO - Consumables	3M, Norton Abrasives	The Abrasive Sandpaper Sheet is used for smoothing, polishing, finishing, and surface preparation. It works on wood, metal, plastic, and other materials. It is commonly used in DIY projects, fabrication, electronics enclosures, and industrial finishing.	Product Type: Abrasive Sandpaper Sheet Abrasive Material: Aluminum Oxide / Silicon Carbide Grit Range: 60 – 3000 Grit Sheet Size: Standard 9x11 Inch	sandpaper • abrasive paper • sanding sheet • polishing paper • surface finishing
	**COE-00001-B**	AA Battery	CO - Consumables	Duracell, Energizer, Panasonic, Sony	The AA Battery is a standard portable power source used in electronic devices, sensors, toys, remote controls, robotics, and embedded systems. It provides stable low-voltage power for small electronics and is widely used in DIY projects, educational kits, and consumer devices.	Battery Type: AA Cylindrical Battery Output Voltage: 1.5V Chemistry: Alkaline / NiMH / Lithium Capacity: 1800mAh – 3000mAh Diameter: 14.5mm Length: 50.5mm	Alkaline Battery • AA battery • cylindrical battery • rechargeable battery • portable power • battery cell
	**COE-00001-C**	Panasonic Battery	CO - Consumables	Panasonic	The Panasonic CR2025 is a 3V lithium coin cell battery designed for compact electronic devices. It offers long-lasting, stable power and is commonly used in key remotes, watches, calculators, medical devices, and small electronics.	Battery Type: Lithium Coin Cell Battery Size: CR2025 Chemistry: Lithium Manganese Dioxide (LiMnO?) Nominal Voltage: 3 V Nominal Capacity: 165 mAh Diameter: 20 mm Height: 2.5 mm Termination Style: Pressure Contacts Operating Temperature: –30°C to +60°C Weight (Unit): 2.3 g Shipping Weight: 0.008 kg Shipping Dimensions: 9.2 × 7.5 × 1 cm	CR2025 Battery • 3V Coin Cell • Lithium Battery • Panasonic Battery • Button Cell

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**COE-00003-A**	Hook-Up Wire	CO - Consumables	Alpha Wire, Belden, Adafruit	The Single Strand Hook-Up Wire is an electrical conductor used for circuit connections in prototyping, PCB wiring, robotics, and embedded systems. It provides reliable conductivity and flexible routing for low-voltage applications. It is commonly used in Arduino projects, DIY electronics, control circuits, and signal/power connections.	Wire Type: Single Strand Hook Up Wire Conductor Material: Copper Wire Gauge: 22AWG – 26AWG Rated Voltage: 300V Temperature Rating: 80°C	Breadboard Wire • Jumper Wire • hook up wire • single core wire • copper wire • PCB wire
	**COM-00001-A**	3D Filament	CO - Consumables	Creality, eSUN, Hatchbox	High-quality 1.75mm white 3D printing filament designed for FDM/FFF 3D printers used in prototyping, educational models, robotics, product design, and engineering applications. It provides smooth extrusion, reliable layer adhesion, low warping, and consistent print quality for detailed prints and structural models.	Filament Type: PLA / ABS / PETG Filament Diameter: 1.75mm Color: White Spool Weight: 1kg Printing Temperature: 190°C – 220°C Heated Bed Temperature: 0°C – 60°C	3D filament • PLA filament • white filament • 1.75mm filament • FDM filament • 3D printer material
	**COM-00001-B**	3D Filament	CO - Consumables	Creality, eSUN, Hatchbox	High-quality 1.75mm black 3D printing filament designed for FDM/FFF 3D printers used in prototyping, robotics, engineering models, product design, and fabrication applications. It provides smooth extrusion, strong layer adhesion, low warping, and consistent print quality for detailed and durable prints.	Filament Type: PLA / ABS / PETG Filament Diameter: 1.75mm Color: Black Printing Temperature: 190°C – 220°C Heated Bed Temperature: 0°C – 60°C	3D filament • PLA filament • 1.75mm filament • FDM filament • 3D printer material • black filament • Spool
	**COM-00001-C**	3D Printing Filament	CO - Consumables	Creality, eSUN, Hatchbox	The 1.75mm Yellow 3D Printing Filament is a material used in FDM/FFF 3D printers for prototyping and model making. It provides smooth extrusion, strong layer adhesion, low warping, and consistent print quality. It is commonly used for robotics, enclosures, mechanical parts, DIY fabrication, and product development.	Filament Type: PLA / ABS / PETG Filament Diameter: 1.75mm Color: Yellow Printing Temperature: 190°C – 220°C Heated Bed Temperature: 0°C – 60°C	3D filament • PLA filament • 1.75mm filament • FDM filament • 3D printer material • yellow filament • Spool
	**COM-00001-D**	3D Printing Filament	CO - Consumables	Creality, eSUN, Hatchbox	The 1.75mm Blue 3D Printing Filament is a material used in FDM/FFF 3D printers for prototyping and model making. It offers smooth extrusion, strong layer adhesion, low warping, and consistent print quality. It is commonly used for robotics, enclosures, mechanical parts, DIY fabrication, and product development.	Filament Type: PLA / ABS / PETG Filament Diameter: 1.75mm Color: Blue Printing Temperature: 190°C – 220°C Heated Bed Temperature: 0°C – 60°C	3D filament • PLA filament • 1.75mm filament • FDM filament • 3D printer material • blue filament • Spool
	**COM-00002-A**	3D Printing Filament	CO - Consumables	eSUN	The 2.85mm White 3D Printing Filament is a material used in FDM/FFF 3D printers for prototyping and model making. It provides smooth extrusion, strong layer adhesion, low warping, and consistent print quality. It is commonly used for robotics, enclosures, mechanical models, DIY fabrication, and industrial design projects.	Filament Type: PLA / ABS / PETG Filament Diameter: 2.85mm Color: White Spool Weight: 750g – 1kg Printing Temperature: 190°C – 220°C Heated Bed Temperature: 0°C – 60°C	3D filament • PLA filament • white filament • FDM filament • 3D printer material • 2.85mm filament
	**COM-00002-B**	3D Printing Filament	CO - Consumables	eSUN	The 2.85mm Black 3D Printing Filament is a material used in FDM/FFF 3D printing for prototyping and model making. It offers smooth extrusion, strong layer adhesion, low warping, and consistent print quality. It is commonly used for robotics, enclosures, mechanical parts, DIY fabrication, and product development.	Filament Type: PLA / ABS / PETG Filament Diameter: 2.85mm Color: Black Spool Weight: 750g – 1kg Printing Temperature: 190°C – 220°C Heated Bed Temperature: 0°C – 60°C	3D filament • PLA filament • FDM filament • 3D printer material • black filament • 2.85mm filament

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**COM-00002-C**	3D Printing Filament	CO - Consumables	eSUN	The 2.85mm Yellow 3D Printing Filament is a material used in FDM/FFF 3D printers for prototyping and model making. It offers smooth extrusion, strong layer adhesion, low warping, and consistent print quality. It is commonly used for robotics, educational models, enclosures, DIY fabrication, and product development.	Filament Type: PLA / ABS / PETG Filament Diameter: 2.85mm Color: Yellow Spool Weight: 750g – 1kg Printing Temperature: 190°C – 220°C Heated Bed Temperature: 0°C – 60°C	3D filament • PLA filament • FDM filament • 3D printer material • yellow filament • 2.85mm filament
	**COM-00002-D**	3D Printing Filament	CO - Consumables	eSUN	The 2.85mm Blue 3D Printing Filament is a material used in FDM/FFF 3D printers for prototyping and model making. It offers smooth extrusion, strong layer adhesion, and consistent print quality. It is commonly used for robotics, engineering models, enclosures, DIY projects, and product development.	Filament Type: PLA / ABS / PETG Filament Diameter: 2.85mm Color: Blue Spool Weight: 750g – 1kg Printing Temperature: 190°C – 220°C	3D filament • PLA filament • FDM filament • 3D printer material • blue filament • 2.85mm filament
No Image	**EDD-00001-A**	Laser Diode Module	ED - Electronic Device	OSRAM, Sharp, Rohm, Mitsubishi, Generic	The Mini 650nm 6mm 5mW Laser Dot Diode Module is a compact red laser emitter used in electronics and robotics projects. It operates on 3–5V DC and produces a focused laser dot. It is commonly used for alignment, sensing experiments, and Arduino-based educational and DIY projects.	Item Type: Laser Module Voltage Rating (V): 5 Weight (g): 2 Operating Temperature (°C): -10 to 50 Rated Power (mW): 5mW Wavelength (nm): 650	laser diode • laser • light emitter • optical • semiconductor • electronic device
	**EDD-00003-A**	RGB LED Module	ED - Electronic Device	ED Series / XINGLIGHT, XINGLIGHT	5mm RGB LED module with a common cathode configuration and transparent lens for vibrant multi-color illumination. Combines red, green, and blue LEDs in a single through-hole package, enabling a wide range of colors through color mixing. Ideal for indicator panels, Arduino projects, DIY electronics, decorative lighting, visual feedback systems, and educational applications.	Manufacturer: XINGLIGHT Model No.: XL-A524SURSYGC Package: Plugin, D = 5mm Forward Current (mA): 20 Color Temperature: - Peak Wavelength (nm): 640 (Red) 572 (Green: Yellow) Luminous Intensity (mcd): 600 (Red) 550 (Green: Yellow) Lens Color: Colorless Transparent Diode Configuration: Common Cathode Wavelength – Dominant (nm): 635–640 (Red) 565–575 (Green: Yellow) Operating Temperature (°C): -20 ~ +85 Illumination Color: Red, Green-Yellow Viewing Angle: 30° Lamp Holder Type: 5mm Round Head Power (mW): 50 Forward Voltage (Vf): 2.3V (Red) 2.4V (Green: Yellow) Mounting Type: Through Hole Compliance: RoHS	RGB LED • 5mm LED • Common Cathode LED • Indicator LED • Through Hole LED
	**EDD-00003-B**	RGB LED Module	ED - Electronic Device	Jameco ValuePro, Jameco ValuePro, Adafruit Industries	5mm high-brightness RGB LED module with a common anode configuration. Emits red, green, and blue light, allowing a wide range of colors through color mixing. Suitable for status indicators, Arduino projects, decorative lighting, educational experiments, displays, and DIY electronics. Easy to interface with microcontrollers for dynamic lighting and visual effects.	Manufacturer: Generic Model Type: Common Anode RGB LED Package: 5mm Round (Clear Lens) Color: Red, Green, Blue Configuration: Common Anode Brightness: High Current Consumption: Low Operating Voltage: 2.0–3.2V (per color) Forward Current (mA): 20 (per channel) Power Efficiency: High Luminous Output, Low Heat Material: Epoxy Resin, Gold Wire Leads Mounting Type: Through Hole Item Size: 5mm Shipping Weight: 0.001 kg Shipping Dimensions (L × W × H): 1 × 1 × 1 cm	RGB LED • 5mm LED • Indicator LED • Through Hole LED • Common Anode LED
	**EDD-00004-B**	7 Segment Display	ED - Electronic Device	Kingbright, Lite-On, Everlight, Broadcom	The Single Digit Common Anode 7-Segment Display is an LED display used to show numeric digits in electronic circuits. It offers bright, low-power number display and is easy to interface with microcontrollers. It is commonly used in Arduino projects, counters, timers, clocks, calculators, and control systems.	Display Type: 1 Digit 7 Segment LED Display Configuration: Common Anode Operating Voltage: 1.8V – 2.2V per Segment Number of Pins: 10 Pins Digit Height: 0.36 Inch – 0.56 Inch	Numeric Display • 7 segment display • common anode display • single digit display • LED display
	**EDD-00005-B**	Voltage Regulator	ED - Electronic Device	Texas Instruments, STMicroelectronics, ON Semiconductor, Fairchild Semiconductor	The LM7812 Voltage Regulator is a fixed-output regulator that provides a stable 12V DC supply from a higher input voltage. It includes built-in thermal overload and short-circuit protection for safe operation. It is widely used in power supplies, robotics, Arduino projects, communication modules, and embedded systems.	Device Type: Linear Voltage Regulator Output Voltage: 12V DC Package Type: TO-92 Input Voltage Range: 14V – 30V Output Current: Up to 100mA	voltage regulator • TO-92 regulator • linear regulator • power supply IC • LM7812 • 12V regulator

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	**EDK-00001-A**	Capacitor	ED - Electronic Device	Nichicon, Panasonic, Rubycon, Nippon Chemi-Con	The Electrolytic Capacitor is a polarized component used for energy storage, voltage filtering, smoothing, and power supply stabilization. Its high capacitance makes it ideal for power supplies, amplifiers, motor drivers, Arduino projects, industrial electronics, and embedded systems.	Capacitor Type: Aluminum Electrolytic Capacitor Capacitance Range: 1µF – 10000µF Voltage Rating: 6.3V – 450V Operating Temperature: -40°C to +105°C	electrolytic capacitor • aluminum capacitor • polarized capacitor • filtering capacitor
	**EDK-00005-A**	Switch Kit	ED - Electronic Device	Omron, C&K, E-Switch	The Electronic Switch Kit is a collection of assorted switches, including push buttons, tactile, toggle, slide, and rocker switches. It provides reliable circuit control and user input for Arduino projects, robotics, embedded systems, IoT devices, DIY electronics, and prototyping applications.	Product Type: Electronic Switch Assortment Kit Switch Types: Push Button, Toggle, Slide, Rocker, Tactile Operating Voltage: 3V – 250V Current Rating: Up to 5A	Tactile Switch • switch kit • push button switch • toggle switch • slide switch • rocker switch
	**EDM-00002-A**	Power switch	ED - Electronic Device	C&K, Omron	The Power Switch is a mechanical device used to control electrical power in circuits and electronic equipment. It provides reliable ON/OFF operation for safely connecting or disconnecting power. Commonly used in power supplies, embedded systems, control panels, DIY electronics, and consumer devices.	Switch Type: SPST (Single Pole Single Throw) Rated Voltage: 125V – 250V AC / 12–24V DC Rated Current: 3A – 10A	toggle switch • rocker switch • power switch • on off switch • SPST switch • electrical switch
	**EDM-00002-B**	Power switch	ED - Electronic Device	C&K, Omron	The On/Off Power Switch is a mechanical switch used to control the flow of electrical power in electronic circuits and devices. It provides a simple and reliable way to turn equipment ON or OFF. Commonly used in power supplies, embedded systems, control panels, DIY electronics, and consumer devices for convenient manual power control.	Switch Type: SPST (Single Pole Single Throw) Rated Voltage: 125V – 250V AC / 12–24V DC Rated Current: 3A – 10A	toggle switch • rocker switch • power switch • SPST switch • electrical switch • on/off switch
	**EDM-00003-A**	DPDT Toggle Switch	ED - Electronic Device	C&K, E-Switch, Omron	The DPDT (Double Pole Double Throw) Toggle Switch is a mechanical switch used to control two separate circuits and switch each between two output paths. It is commonly used for polarity reversal, motor direction control, signal routing, power selection, automation, robotics, and DIY electronics projects.	Switch Type: DPDT (Double Pole Double Throw) Number of Pins: 6 Pins Rated Voltage: 125V – 250V AC / 12–30V DC Rated Current: 3A – 6A	toggle switch • DPDT switch • 6 pin switch • polarity reversing switch • control switch
	**EDM-00004-A**	Alligator clips	ED - Electronic Device	Pomona Electronics, Mueller Electric, E-Z-Hook, Klein Tools	The Alligator Clips are spring-loaded metal clips used for temporary electrical connections in testing, prototyping, and electronics projects. They provide quick, secure contact with wires, batteries, sensors, and circuit terminals without soldering. Widely used in Arduino, robotics, educational kits, and troubleshooting applications.	Clip Type: Alligator / Crocodile Clip Material: Nickel Plated Steel Opening Width: 5mm – 15mm Electrical Rating: Low Voltage (	alligator clip • crocodile clip • test clip • battery clip • jumper clip • electronics clip • prototyping clip
	**EDM-00009-A**	PCB Prototype Board	ED - Electronic Device	Bud Industries, Twin Industries, BusBoard Prototype Systems, Keyestudio, Generic / OEM	The 4×6 cm Universal PCB Prototype Board is a durable prototyping board used for building and testing electronic circuits. It features a HASL finish and precision drilled holes for easy soldering. It is commonly used in Arduino projects, embedded systems, and DIY electronics development.	Item Type: PCB Prototype Board Dimensions: 4 × 6 cm Length: 60 mm Width: 40 mm Board Thickness: 1.6 mm Copper Thickness: 1–4 oz Minimum Hole Size: 0.3 mm Weight (Unit): 6 g Pack Quantity: 2 Pieces Shipping Weight: 0.01 kg Shipping Dimensions: 7 × 5 × 1 cm	Double-Sided PCB • 4x6 cm • FR4 • Prototype Board • 2.54mm Pitch • DIY Electronics
	**EDR-00001-330Z**	Resistor - 330 Ohm	ED - Electronic Device	Yageo, Vishay, KOA Speer, TE Connectivity, Generic	The 330 Ohm 0.25W Metal Film Resistor is a passive component used to limit current and control voltage in electronic circuits. It offers stable, accurate resistance with low noise and is commonly used in LED circuits, Arduino projects, and embedded systems.	Series: – Resistance (Ohm): 330 Tolerance (%): 1 Power Rating: 250mW Composition: Metal Film Temperature Coefficient: +/-50ppm/°C Operating Temperature (°C): -40 ~ 150 Case/Package: Axial Length (mm): 6 Mounting Type: Through Hole Shipping Weight: 0.001 kg Shipping Dimensions: 1 × 1 × 1 cm	

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	**EDR-00002-20K0**	Potentiometer	ED - Electronic Device	Bourns, Panasonic, Alps Alpine	The 20K? Linear Potentiometer is a variable resistor used for adjustable resistance and voltage control in electronic circuits. It provides smooth analog output for voltage tuning, sensor calibration, audio control, and microcontroller inputs. It is widely used in embedded systems, control panels, test equipment, and educational electronics projects.	Resistance Value: 20K? Type: Linear Potentiometer Tolerance: ±10% (typical) Power Rating: 0.1W – 0.5W Rotation Angle: ~270°	Rotary Pot • Variable Resistor • potentiometer • 20K ohm pot • linear potentiometer • analog control
No Image	**EDS-00003-A**	Temperature Sensor	ED - Electronic Device	Maxim Integrated, Dallas Semiconductor, Adafruit, SparkFun	The DS18B20 Temperature Sensor is a digital temperature sensor that provides accurate temperature measurements using the One-Wire communication protocol. It allows multiple sensors to share a single data line and delivers calibrated digital readings. The sensor is widely used in weather stations, automation systems, industrial monitoring, IoT devices, and Arduino projects.	Sensor Type: Digital Temperature Sensor Communication: One-Wire Interface Operating Voltage: 3.0V – 5.5V Temperature Range: -55°C to +125°C	Temperature Sensor • digital sensor • DS18B20 • one wire sensor • Arduino temperature sensor
	**EDS-00004-A**	LM35 Sensor	ED - Electronic Device	Texas Instruments, National Semiconductor, STMicroelectronics	The LM35 Temperature Sensor Module is an analog temperature sensor that provides a voltage output directly proportional to temperature in degrees Celsius. It offers accurate temperature measurement and easy interfacing with Arduino and other microcontrollers. It is widely used in weather stations, industrial control systems, robotics, IoT devices, and educational projects.	Sensor Type: Analog Temperature Sensor Output: Linear Analog Voltage (10mV/°C) Operating Voltage: 4V – 30V Temperature Range: 0°C to 100°C (typical)	Arduino Sensor • Temperature Sensor • analog sensor • LM35 • thermal sensor • IoT sensor
	**EDS-00005-A**	IR Receiver Module	ED - Electronic Device	Vishay, Everlight, Sharp, Panasonic	The IR Receiver Module is an infrared sensor used to receive and decode signals from remote controls. It detects modulated IR light, typically at 38kHz, and converts it into digital signals for microcontrollers. It is widely used in Arduino projects, robotics, home automation, TV remote decoding, and embedded systems.	Sensor Type: Infrared Receiver Module Operating Voltage: 3.3V – 5V Carrier Frequency: 38kHz (typical) Detection Range: 5m – 10m (approx.) Wavelength: ~940nm Infrared	IR Receiver • Infrared Sensor • IR Decoder • IR remote sensor • TSOP sensor • Arduino IR module
	**EDT-00001-B**	Alcohol Gas Sensor	ED - Electronic Device	Hanwei Electronics, Winsen	The Alcohol Gas Sensor is a gas detection device used to detect alcohol vapors and ethanol concentration in the air. It provides an analog output proportional to gas levels and can be easily interfaced with Arduino, Raspberry Pi, and other microcontrollers. It is commonly used in breath analyzers, safety systems, industrial monitoring, and IoT projects.	Sensor Type: Alcohol / Ethanol Gas Sensor Target Gas: Ethanol (C?H?OH), Alcohol Vapors Operating Voltage: 5V DC Warm: up Time: 20–48 hours (initial), few minutes per use	alcohol sensor • Gas Detector • ethanol sensor • MQ-3 sensor • breath alcohol sensor
	**EDT-00001-C**	Methane Gas Sensor	ED - Electronic Device	Hanwei Electronics, Winsen, Figaro Engineering	The Methane Gas Sensor is a gas detection device used to detect methane (CH?), CNG, and natural gas leaks. It provides an analog output proportional to gas concentration and can be easily interfaced with Arduino and other microcontrollers. It is widely used in gas leak detection, industrial safety, smart homes, and IoT monitoring systems.	Sensor Type: Methane / CNG Gas Sensor Target Gas: CH? (Methane), CNG, Natural Gas Operating Voltage: 5V DC Warm: up Time: 20–60 seconds Detection Range: ~200–10000 ppm (typical)	methane sensor • CNG sensor • MQ-4 sensor • gas leak detector • natural gas sensor
	**EDT-00001-D**	Gas Leakage Sensor	ED - Electronic Device	Hanwei Electronics, Winsen, Figaro Engineering	The Gas Leakage Sensor is a gas detection device used to identify LPG, propane, butane, smoke, and natural gas leaks in the environment. It monitors gas concentration levels and helps provide early warning of hazardous conditions. The sensor is widely used in gas leakage alarm systems, smart home safety devices, industrial safety monitoring, and IoT-based environmental monitoring applications.	Sensor Type: LPG / Natural Gas Sensor Target Gas: LPG (Propane, Butane), Natural Gas, Smoke Operating Voltage: 5V DC Warm: up Time: 20–60 seconds Detection Range: ~200–10000 ppm (typical)	MQ-2 Sensor • LPG Sensor • Propane Sensor • gas leak detector • natural gas sensor

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	**EDT-00001-E**	LPG Gas Sensor	ED - Electronic Device	Hanwei Electronics, Winsen, Figaro Engineering	The LPG Gas Sensor is a gas detection device used to detect LPG, butane, and propane gas leaks. It provides an analog output based on gas concentration and can be easily interfaced with Arduino and other microcontrollers. It is widely used in gas leak alarms, smart home safety systems, industrial monitoring, and IoT projects.	Sensor Type: LPG / Butane Gas Sensor Target Gas: LPG, Butane, Propane Operating Voltage: 5V DC Warm: up Time: 20–60 seconds Detection Range: ~200–10000 ppm (typical)	LPG Sensor • Propane Sensor • Butane Sensor • gas leak detector • MQ-6 sensor
No Image	**EDT-00001-F**	CO Gas Sensor	ED - Electronic Device	Hanwei Electronics, Winsen, Figaro Engineering	The Carbon Monoxide Sensor is a gas detection device used to detect and monitor carbon monoxide (CO) levels in the air. It helps identify hazardous CO concentrations and improve safety. It is widely used in gas alarm systems, air quality monitoring, smart homes, industrial safety, and IoT applications.	Sensor Type: Carbon Monoxide (CO) Gas Sensor Target Gas: CO (Carbon Monoxide) Operating Voltage: 5V DC Warm: up Time: 20–48 hours initial, few minutes per cycle Detection Range: ~20–2000 ppm (typical)	Carbon Monoxide Sensor • CO Sensor • Gas Detector • MQ-7 sensor • toxic gas sensor
	**EDT-00001-G**	Air Quality Sensor	ED - Electronic Device	Winsen, Hanwei Electronics	The Air Quality Sensor is an electronic device used to detect harmful gases and monitor pollution levels in the environment. It can sense gases such as CO, CO ?, smoke, LPG, methane, and volatile compounds depending on the sensor type. It is widely used in environmental monitoring, smart homes, industrial safety, IoT systems, and Arduino projects.	Sensor Type: Multi-Gas Air Quality Sensor Device Detected Gases: CO, CO?, Smoke, LPG, Methane, VOCs Operating Voltage: 5V DC Warm: up Time: 20–60 seconds	gas sensor • air quality device • pollution detector • MQ sensor • air monitoring system
	**EDT-00002-A**	LDR Module	ED - Electronic Device	Advanced Photonix, Token Electronics, Excelitas Technologies, Luna Optoelectronics	The LDR (Light Dependent Resistor) is a light-sensitive component whose resistance varies with light intensity. Its resistance decreases in bright light and increases in darkness. It is widely used in automatic lighting systems, light meters, solar trackers, security devices, and electronics projects for light detection and control.	Operating Voltage: 3.3V – 5V Sensor Type: Light Dependent Resistor Output Type: Analog Resistance Output Resistance Range: 200? – 1M?	Light Sensor • analog sensor • LDR sensor • photoresistor • light dependent resistor
	**EDT-00003-A**	Piezo Sensor	ED - Electronic Device	Murata Manufacturing, SparkFun Electronics, Measurement Specialties, TE Connectivity	The Piezoelectric Ceramic Vibration Sensor is an analog sensor used to detect vibration, knocks, impacts, touch, and pressure. It generates a voltage through the piezoelectric effect when mechanical force is applied. The sensor is widely used in vibration monitoring, touch sensing, security systems, musical instruments, and Arduino-based projects.	Operating Voltage: 3.3V – 5V Output Type: Analog Voltage Output Sensor Type: Piezoelectric Ceramic Frequency Range: 1Hz – 10KHz	Knock Sensor • piezoelectric sensor • vibration sensor • analog sensor • ceramic sensor
	**EDT-00004-A**	Speaker	ED - Electronic Device	CUI Devices, PUI Audio, Soberton, Visaton	The Speaker is an electronic audio output device used to convert electrical audio signals into audible sound. It is commonly used in embedded systems, multimedia devices, alarms, robotics, IoT applications, and educational projects. The module can reproduce tones, voice, music, and alert sounds, making it suitable for audio feedback, notifications, and sound generation in electronic systems.	Operating Voltage: 3V – 12V Speaker Type: Dynamic Speaker Impedance: 4? / 8? Power Rating: 0.5W – 3W Frequency Range: 300Hz – 20KHz	Sound Module • speaker • audio output • buzzer speaker • multimedia speaker • embedded audio device
	**EDT-00005-A**	Humidity Device	ED - Electronic Device	Aosong Electronics, Aosong Electronics, Bosch, Sensirion	The Humidity Sensor Module is a digital sensor used to measure relative humidity and moisture levels in the air. It provides reliable environmental data for weather stations, IoT systems, greenhouse monitoring, automation, and embedded electronics projects. It helps monitor climate conditions and supports applications requiring humidity control and environmental sensing.	Operating Voltage: 3.3V – 5V Humidity Range: 0% – 100% RH Humidity Accuracy: ±2% RH to ±5% RH Operating Temperature: -40°C to +125°C	Humidity Sensor • RH sensor • environmental sensor • digital sensor • air moisture sensor

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	EDT-00008-A	Passive Buzzer	ED - Electronic Device	CUI Devices, Keyestudio, Generic Electronics	The Passive Buzzer Module is a sound-producing device that requires an external PWM or frequency signal to generate audio. Unlike active buzzers, it can produce different tones, melodies, and alarms when controlled by microcontrollers such as Arduino, ESP32, Raspberry Pi, and STM32. It is widely used in notification, audio, and educational electronics projects.	Product Type: Passive Buzzer Module Operating Voltage: 3.3V – 5V DC	Piezo Buzzer Module • Passive Buzzer Module • KY-006 Buzzer • Arduino Passive Buzzer
	**EDT-00009-A**	Active Buzzer Module	ED - Electronic Device	CUI Devices, Keyestudio, Generic Electronics	The Active Buzzer Module with Internal Oscillator is an electronic sound device that produces a fixed beep when power is applied. Unlike passive buzzers, it contains a built-in oscillator circuit and does not require PWM signals or external frequency generation from a microcontroller. It is widely used in alarms, notifications, warning systems, timers, and Arduino-based electronics projects.	Product Type: Active Buzzer Module Oscillator: Internal Operating Voltage: 3.3V – 5V DC Frequency: Approx. 2kHz – 4kHz	Arduino Buzzer • Active Buzzer Module • Self Oscillating Buzzer • 5V Buzzer Module • Piezo Buzzer Module
No Image	**EMA-00002-A**	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 widely used with Arduino, ESP32, Raspberry Pi, and other microcontrollers. It features a 128×64 pixel resolution and uses the SSD1306 OLED driver IC with an I2C communication interface. The display provides high contrast, low power consumption, and is ideal for showing text, graphics, sensor data, and menus.	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
	**EMA-00003-E**	Coin Battery	EM - Electronic-Electrical Modules	Panasonic, Maxell, Energizer, Sony	The CR2032 3V Lithium Coin Battery is a compact, long-lasting power source used in small electronic devices like watches, calculators, remotes, toys, and embedded systems. It provides a stable 3V output and is widely used in low-power applications due to its long shelf life and reliability.	Battery Type: Lithium Coin Cell Battery Size: CR2025 Chemistry: Lithium Manganese Dioxide (LiMnO?) Nominal Voltage: 3 V Nominal Capacity: 165 mAh Diameter: 20 mm Height: 2.5 mm Termination Style: Pressure Contacts Operating Temperature: –30°C to +60°C Weight (Unit): 2.3 g Shipping Weight: 0.008 kg Shipping Dimensions: 9.2 × 7.5 × 1 cm	CR2025 Battery • 3V Coin Cell • Lithium Battery • Panasonic Battery • Button Cell
No Image	**EMA-00004-B**	LED Matrix Display	EM - Electronic-Electrical Modules	Kingbright, Everlight Electronics, Luckylight, SparkFun	The 8x8 Single Colour LED Dot Matrix Display is an LED module with 64 LEDs arranged in an 8×8 grid. It is used to display characters, symbols, patterns, scrolling text, and simple animations. Compatible with Arduino, ESP32, and Raspberry Pi, it is ideal for display and educational projects.	Product Type: LED Dot Matrix Display Matrix Size: 8 × 8 Number of LEDs: 64 LEDs Display Color: Red / Green / Yellow (varies) Operating Voltage: 2V – 5V	8x8 LED Matrix • LED Dot Matrix Display • Single Color LED Matrix • 8x8 Dot Matrix Module
	**EMA-00005-A**	Audio Amplifier	EM - Electronic-Electrical Modules	Diodes Incorporated, SparkFun	The 2x3W Mini Digital Amplifier Board is a compact stereo Class-D audio amplifier module commonly based on the PAM8403 IC. It delivers up to 3W + 3W stereo output from a 5V power supply, providing efficient and low-distortion audio amplification. The module is widely used in portable speakers, Bluetooth speaker systems, DIY audio projects, multimedia devices, and Arduino-based sound applications.	Product Type: Stereo Audio Amplifier Module Amplifier IC: PAM8403 Amplifier Type: Class-D Output Power: 2 x 3W Operating Voltage: 2.5V – 5.5V DC Recommended Voltage: 5V	PAM8403 Amplifier Board • 2x3W Stereo Amplifier • Mini Digital Amplifier • Class-D Audio Amplifier
	**EMA-00007-A**	7-Segment Display	EM - Electronic-Electrical Modules	Titan Micro Electronics, Keyestudio, DFRobot, SparkFun	The 4-Digit 7-Segment Display Module is an LED display used to show numbers, timers, counters, clocks, and sensor data. Many versions use the TM1637 driver IC, requiring only two signal pins for control. It is widely used in Arduino, automation, and embedded system projects.	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

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**EMA-00009-A**	Audio Playback	EM - Electronic-Electrical Modules	Nuvoton Technology Corporation, Generic / OEM	The ISD1820 Voice Recording & Playback Module supports up to 10 seconds of audio recording stored in non-volatile memory. It features an onboard electret microphone, push-button recording and playback controls, and support for external triggering through a microcontroller. Ideal for Arduino projects, voice prompts, alarms, interactive electronics, educational kits, and sound playback applications.	IC Chip: ISD1820 Operating Voltage (VDC): 3 – 5 Recording Duration: Up to 10 seconds Memory Type: Non-Volatile Analog Flash Microphone: Onboard Electret Microphone Speaker: 8 ?, 0.5W Speaker Cable Length (cm): 20 Speaker Diameter (mm): 40 Control Options: Push Buttons or Microcontroller Digital Pin Interface: 2.54 mm Header Pins Length (mm): 42 Width (mm): 33.5 Height (mm): 11.5 Weight (g): 20 Shipping Weight: 0.022 kg Shipping Dimensions (L × W × H cm): 8 × 6 × 3	Arduino Compatible • ISD1820 Module • Voice Recorder • 10s Audio • Playback Module • Onboard Mic • 8? Speaker • Sound Board
	**EMA-00010-A**	2 Channel Driver	EM - Electronic-Electrical Modules	STMicroelectronics, Keyestudio, SparkFun, HiLetgo	The L298N 2 Channel Motor Driver Module is a dual H-Bridge motor control board used to drive two DC motors or one stepper motor independently. Based on the L298N IC, it works with Arduino, ESP32, and Raspberry Pi. It includes a heat sink, protection diodes, and a 5V regulator, making it ideal for robotics and automation projects.	Product Type: Dual Motor Driver Module Driver IC: L298N Motor Channels: 2 DC Motors Motor Voltage: 5V – 35V DC Logic Voltage: 5V	DC Motor Driver Board • L298N Motor Driver • L298N 2 Channel Driver • Dual H-Bridge Module
No Image	**EMA-00010-B**	Motor Driver Module	EM - Electronic-Electrical Modules	Texas Instruments, STMicroelectronics, NXP Semiconductors, ON Semiconductor, Toshiba	The L293D Motor Driver Module is a dual H-bridge IC used to control DC and stepper motors in embedded systems. It enables motor direction control and speed regulation using PWM signals from microcontrollers like Arduino. The module supports up to 12V and 600mA per channel, making it suitable for robotics, automation systems, and DIY electronics projects requiring reliable motor control.	Driver IC: L293D Motor Type: DC & Stepper Motor Operating Voltage: 4.5V – 12V Current Rating: 600mA per channel Peak Current: 600mA Control Method: Direction + PWM Speed Control Number of Channels: 2 (H-Bridge) Arduino Compatible: Yes (via wires) Polarity Protection: NO Cooling Fan: NO Dimensions: 48 x 34 x 14 mm Weight: 15g	motor • l293d • motor driver • dc motor • stepper motor • robotics • arduino • h-bridge • pwm
	**EMA-00010-C**	L293D Motor Driver	EM - Electronic-Electrical Modules	Texas Instruments, STMicroelectronics, SparkFun	The L293D Motor Driver IC is a dual H-Bridge driver used to control the speed and direction of DC and stepper motors. It acts as an interface between microcontrollers and higher-current motors, enabling reliable bidirectional motor control. It is widely used in robotics, automation, and embedded projects.	Product Type: Motor Driver IC Driver Type: Dual H-Bridge Motor Channels: 2 DC Motors / 1 Stepper Motor Logic Voltage: 4.5V – 7V Motor Supply Voltage: 4.5V – 36V	Arduino Motor Driver • Stepper Motor Driver • Robot Motor Controller • L293D Motor Driver • L293D IC • Dual H-Bridge Driver • DC Motor Driver IC • L293D Driver Module
No Image	**EMA-00010-D**	Dual Motor Driver	EM - Electronic-Electrical Modules	Texas Instruments, STMicroelectronics, SparkFun	The L293D Motor Driver IC is a dual H-Bridge driver used to control DC and stepper motors with microcontrollers like Arduino, ESP32, and Raspberry Pi. It enables low-power circuits to drive higher-current motors safely and supports bidirectional motor control with built-in protection diodes.	Product Type: Motor Driver IC IC Type: Dual H-Bridge Motor Channels: 2 DC Motors or 1 Stepper Motor Logic Voltage: 4.5V – 7V Motor Voltage: 4.5V – 36V Output Current: 600mA per channel	Arduino Motor Driver • Stepper Motor Driver • Robot Motor Controller • L293D Motor Driver • L293D IC • Dual H-Bridge Driver • DC Motor Driver IC • L293D Driver Module
	**EMA-00010-E**	L298N Driver	EM - Electronic-Electrical Modules	STMicroelectronics, STMicroelectronics, SparkFun, Keyestudio	The L298N Motor Driver Module is a dual H-Bridge motor driver used to control the speed and direction of DC and stepper motors. It allows Arduino, ESP32, and other microcontrollers to drive motors requiring higher power. It is widely used in robotics, automation, and motor control projects.	Product Type: Motor Driver Module IC Used: L298N Dual H-Bridge Motor Channels: 2 DC motors or 1 stepper motor Operating Voltage (Logic): 5V Motor Voltage: 5V – 35V DC	L298 Motor Driver • L298N Module • Dual H-Bridge Motor Driver • DC Motor Driver Board • Arduino Motor Driver • Stepper Motor Driver • Robot Motor Controller • L298N H-Bridge Module
	**EMC-00001-A**	RF Module Kit	EM - Electronic-Electrical Modules	HopeRF, Wireless Tag	The RF 433/315 MHz Transmitter and Receiver Module Kit is a wireless communication system used to send and receive data using radio frequency signals. It operates at 433 MHz or 315 MHz and is commonly used in remote controls, home automation, wireless sensors, and Arduino projects.	Product Type: RF Wireless Communication Module Frequency: 433 MHz / 315 MHz Operating Voltage: 3V – 5V DC Data Rate: Up to ~10 kbps (typical) Range: 20m – 100m (depends on antenna & environment)	RF 433MHz Module • 315MHz RF Module • Wireless Transmitter Receiver Kit • RF Communication Module • Arduino RF Module • ASK RF Module • Wireless Remote Module • 433MHz RF Pair Kit

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**EMC-00004-A**	Bluetooth Module	EM - Electronic-Electrical Modules	HC Series / Generic Compatible, Waveshare, KEYESTUDIO, SunFounder	The HC-05 Bluetooth Module is a 6-pin wireless communication device used for UART-based data transfer between microcontrollers and Bluetooth-enabled devices. Operating in the 2.4GHz ISM band with GFSK modulation, it supports both Master and Slave modes. Featuring AT command configuration and an onboard push button for AT mode access, it is ideal for wireless control, automation, and IoT projects.	Operating Voltage: 3.6V – 6V DC Input Current: 50 mA Operating Frequency: 2.4 GHz ISM Band Modulation Type: GFSK (Gaussian Frequency Shift Keying) Emission Power: 4 dBm (Class 2) Receiver Sensitivity: -84 dBm at 0.1% BER Maximum Range: 10 meters (typical) Interface Pins: EN/KEY, VCC, GND, TXD, RXD, STATE AT Command Support: Yes Onboard Button: Yes (AT Mode Selection) Length (mm): 43 Width (mm): 16.5 Height (mm): 7 Weight (g): 5 Shipping Weight: 0.01 kg Shipping Dimensions (cm): 5 × 3 × 1	HC-05 • Bluetooth Module • UART Bluetooth • 6-Pin Bluetooth • Master Slave Module • Arduino Bluetooth
No Image	**EMC-00006-B**	GSM Module	EM - Electronic-Electrical Modules	SIMCom, DFRobot, Itead Studio	The SIM900A GSM Module is a wireless communication module used for SMS, voice, and data applications over GSM networks. It supports UART communication and SIM card integration for microcontrollers like Arduino. It is widely used in IoT systems, remote monitoring, automation, and embedded communication projects.	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
	**EMC-00008-B**	IR Remote Module	EM - Electronic-Electrical Modules	Keyes Electronics, DFRobot	The IR Remote Transmitter Module is an infrared emitter used to send signals to IR-controlled devices like TVs and appliances. It typically uses a 38kHz modulated IR LED and is used in remote control systems, home automation, robotics, and Arduino projects.	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
	**EMK-00001-A**	RFID Starter Kit	EM - Electronic-Electrical Modules	NXP Semiconductors, Keyestudio, SparkFun, HiLetgo	The RFID Kit is a wireless identification system used to read and write data from RFID cards and tags. It usually includes an RC522 module (13.56 MHz) with SPI communication, along with cards and key fobs. It is commonly used in access control, attendance systems, security, and Arduino projects.	Product Type: RFID Reader Kit Operating Frequency: 13.56 MHz Operating Voltage: 3.3V Read Range: ~2–5 cm	RFID Kit • RFID Reader Module • RC522 RFID Kit • RFID Card Reader • Arduino RFID Module • NFC Reader Module • RFID Tag System • Access Control Kit
	**EMP-00001-B**	Power Adapter	EM - Electronic-Electrical Modules	Mean Well, Hi-Link, Delta Electronics	The 5V Wall Power Supply Adapter is an AC-to-DC adapter that provides a stable 5V DC output for electronic devices and circuits. It converts mains AC power into low-voltage DC and is commonly used for Arduino boards, sensors, IoT devices, LED systems, and other electronics projects.	Product Type: AC to DC Power Adapter Output Voltage: 5V DC Input Voltage: 100V – 240V AC Output Current: 1A / 2A / 3A Power Supply Type: SMPS	SMPS Adapter • 5V Power Adapter • 5V DC Adapter • Wall Power Supply • Arduino Power Adapter
	**EMS-00001-A**	MQ-2 Gas Sensor	EM - Electronic-Electrical Modules	Hanwei Electronics Group Corporation, Zhengzhou Winsen Electronics Technology Co., Ltd.	The MQ-2 Gas Sensor Module detects combustible gases such as LPG, methane, hydrogen, alcohol vapor, and smoke. It uses a SnO? sensing element and provides both analog and digital outputs with adjustable sensitivity. Ideal for gas leakage detection, safety systems, fire alarms, environmental monitoring, smart home applications, and Arduino-based electronics projects.	Sensor Model: MQ-2 Detection Range: 300 – 10,000 ppm Detectable Gases: LPG, Butane, Propane, Methane (CH?), Hydrogen (H?), Alcohol, Smoke, CO Sensing Material: Tin Dioxide (SnO?) Operating Voltage: 5V DC Digital Output Voltage: 0V or 5V (TTL Logic) Analog Output: Yes Sensitivity Adjustment: Onboard Potentiometer Preheat Time: 20 seconds (minimum) Dimensions (mm): 36 × 20 × 21 Weight (g): 8 Shipping Weight: 0.012 kg Shipping Dimensions (cm): 4 × 4 × 4	Arduino Compatible • MQ-2 Sensor • LPG Gas Sensor • Smoke Detector • SnO2 Sensor • Combustible Gas Module • 5V Gas Sensor • Gas Leakage Detector
	**EMS-00002-A**	Temp 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 for easy interfacing. Features an onboard pull-up resistor and LED status indicator for reliable operation. Suitable for weather stations, environmental monitoring, smart home systems, Arduino projects, and IoT applications requiring accurate temperature and humidity measurements.	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

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**EMS-00003-A**	Accelerometer	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
	**EMS-00003-C**	Accelerometer module	EM - Electronic-Electrical Modules	Freescale Semiconductor, DFRobot, Elecrow	The MMA7361 Accelerometer Module is a low-power 3-axis analog accelerometer used to measure acceleration, tilt, vibration, orientation, and motion along the X, Y, and Z axes. Based on the Freescale/NXP MMA7361L MEMS sensor, it provides analog voltage outputs proportional to acceleration values. It is widely used in robotics, motion tracking, gaming devices, and Arduino-based projects.	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
	**EMS-00004-B**	Sound Detector	EM - Electronic-Electrical Modules	Keyes Electronics, DFRobot, AZDelivery	The Sound Detector Module (Blue) is a microphone-based sensor used to detect surrounding sounds and convert them into electrical signals. It typically combines an electret microphone with an LM393 comparator to provide both analog and digital outputs. The module is widely used in sound-activated switches, noise monitoring, voice-triggered systems, robotics, automation, and Arduino-based projects.	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
	**EMS-00004-C**	Microphone Module	EM - Electronic-Electrical Modules	Analog Devices / Maxim Integrated, SparkFun, DFRobot, Keyestudio	The MAX4466 Electret Microphone Module is a low-noise sound sensor with an inbuilt amplifier for detecting and monitoring audio signals. It uses an electret microphone with the MAX4466 op-amp to provide clear analog output. It is commonly used in voice detection, sound level monitoring, robotics, and Arduino/ESP32 projects.	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
	**EMS-00005-A**	Ultrasonic Sensor	EM - Electronic-Electrical Modules	MWduino / Generic, Elecfreaks, KEYESTUDIO, SunFounder	Ultrasonic distance sensor module that uses 40kHz sound waves for accurate, non-contact distance measurement. Operates on 3.3–5.5V DC and features a simple 4-pin interface (VCC, Trig, Echo, GND) for easy integration. Ideal for robotics, obstacle avoidance, automation systems, parking sensors, distance measurement, and Arduino-based projects.	Power Supply (V): +5V DC Working Current (mA): 15 mA Output Signal: Electrical frequency signal Ranging Distance: 2 cm – 400 cm Distance Resolution: 0.3 cm Measuring Angle: 30° Operating Voltage Range (V): 3.3V – 5.5V Interface Type: 4-pin (VCC, Trig, Echo, GND) Shipping Weight: 0.007 kg Shipping Dimensions (L × W × H): 9 × 6 × 2 cm	Ultrasonic Sensor • HC-SR04+ • Distance Sensor • Arduino Sensor • Obstacle Detection Module
	**EMS-00006-A**	PIR Sensor	EM - Electronic-Electrical Modules	HC, DFRobot, SparkFun, Keyestudio	The PIR Motion Sensor is a passive infrared detection module used to detect human movement and body heat by sensing changes in infrared radiation. The commonly used HC-SR501 PIR sensor combines a pyroelectric infrared sensor with a Fresnel lens to detect motion within its sensing range. It is widely used in security systems, automatic lighting, smart homes, robotics, and Arduino projects.	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	EM - Electronic-Electrical Modules	Maxim Integrated, DFRobot, SparkFun	The DS18B20 Temperature Sensor Module is a digital temperature sensor that uses the 1-Wire communication protocol for accurate readings. Developed by Dallas Semiconductor, it provides calibrated digital output with high precision and supports multiple sensors on a single data line. It is widely used in weather stations, automation systems, industrial monitoring, and Arduino projects.	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

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**EMS-00008-A**	Metal Touch Sensor	EM - Electronic-Electrical Modules	Keyes Electronics, Generic Electronics, Keyestudio	The KY-036 Metal Touch Sensor Module is used to detect touch from a human finger or conductive object by sensing changes in conductivity. It uses an LM393 comparator and a transistor-based circuit to provide analog and digital outputs. It is commonly used in touch switches, security systems, automation, and Arduino projects.	Product Type: Metal Touch Sensor Module Model: KY-036 Main IC: LM393 Comparator Operating Voltage: 3.3V – 5V DC	KY-036 Metal Touch Sensor • Human Body Touch Sensor • Metal Touch Module • Touch Detection Sensor
	**EMS-00009-A**	Heart Pulse Sensor	EM - Electronic-Electrical Modules	Maxim Integrated, Generic Electronics, SparkFun, DFRobot	The Heart Pulse Rate Sensor is a biometric sensor used to detect heartbeats and measure pulse rate in BPM. It works using Photoplethysmography (PPG), where light is emitted into the skin and changes in reflected light due to blood flow are detected. It is used in health monitoring, fitness devices, and Arduino projects.	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
	**EMS-00010-A**	Smoke Gas Sensor	EM - Electronic-Electrical Modules	Hanwei Electronics, Winsen Electronics, SparkFun Electronics, DFRobot	The MQ-2 Gas Sensor Module is used to detect combustible gases like LPG, methane, propane, hydrogen, alcohol, and smoke. It works using an SnO ? sensing layer that changes resistance when gas is present. It provides analog and digital outputs and is commonly used in gas leak detection, safety systems, air quality monitoring, and Arduino projects.	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
	**EMS-00010-H**	Hydrogen Sensor	EM - Electronic-Electrical Modules	SparkFun Electronics, Hanwei Electronics, Winsen Electronics, SparkFun	The MQ-8 Hydrogen Gas Sensor is a semiconductor sensor used to detect hydrogen (H?) gas in the range of 100 ppm to 10,000 ppm. It works using a SnO? sensing layer that changes resistance when exposed to hydrogen. It provides analog and digital outputs and is used in safety systems, gas monitoring, and Arduino/ESP32 projects.	Product Type: Hydrogen Gas Sensor Model: MQ-8 SparkFun SKU: SEN-10916 Detectable Gas: Hydrogen (H?) Detection Range: 100 – 10,000 ppm Operating Voltage: 5V DC	MQ-8 Gas Sensor • Hydrogen Gas Sensor • H2 Gas Detector • MQ8 Sensor Module • Hydrogen Detection Sensor • Arduino Gas Sensor • ESP32 Hydrogen Sensor • Gas Leakage Sensor
	**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 embedded and Arduino projects use the Neo-6M GPS module, which communicates through a UART serial interface and receives signals from GPS satellites. It is widely used in vehicle tracking, navigation systems, drones, mapping, and IoT applications.	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
	**EMS-00012-A**	Color Sensor	EM - Electronic-Electrical Modules	ams-OSRAM, ams-OSRAM, ams-OSRAM, Generic Electronics	The TCS3200 Color Sensor Module is an RGB color detection sensor used to identify and measure colors based on reflected light intensity. It uses a light-to-frequency converter IC and photodiodes with onboard LEDs for accurate sensing. It is commonly used in robotics, color sorting, automation, and Arduino projects.	Product Type: RGB Color Sensor Model: TCS3200 / TCS230 Sensor Type: Light-to-Frequency Converter Operating Voltage: 2.7V – 5.5V DC	Arduino Color Sensor • Color Detection Module • TCS3200 Color Sensor • RGB Color Sensor • TCS230 Sensor • RGB Recognition Module • ESP32 Color Sensor • Light Frequency Sensor
	**EMS-00012-B**	Color Sensor Module	EM - Electronic-Electrical Modules	ams-OSRAM, ams-OSRAM, ams-OSRAM, Generic Electronics	The TCS3200 Color Sensor Module is an RGB color detection sensor used to identify and measure colors based on reflected light intensity. It uses a light-to-frequency converter IC and photodiodes with onboard LEDs for accurate sensing. It is commonly used in robotics, color sorting, automation, and Arduino projects.	Product Type: RGB Color Sensor Model: TCS3200 / TCS34725 Sensor Type: Light-to-Frequency Converter Operating Voltage: 2.7V – 5.5V DC	TCS3200 Sensor • RGB Sensor • Color Sensor • TCS230 Module • Arduino Color Sensor • ESP32 RGB Sensor • Color Detection Module

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**EMS-00013-A**	IR Obstacle Sensor	EM - Electronic-Electrical Modules	Generic OEM Manufacturer, Keyestudio, HiLetgo, Elegoo, SunFounder	The Infrared Obstacle Avoidance Sensor Module is used to detect nearby objects using infrared light reflection. It provides a digital output when an obstacle is detected. It is commonly used in robotics, Arduino smart cars, and obstacle detection systems.	Sensor Type: Infrared Reflective Obstacle Sensor Operating Voltage: 3.6V - 5V DC Output Type: Digital (Active Low) Main IC: LM393 Comparator Average Current Consumption: 0.06 mA Detection Angle: 35° Detection Distance: 2 cm – 30 cm (adjustable) Interface Pins: VCC, GND, OUT Indicator LED: Yes (Obstacle Detection Indicator) Sensitivity Adjustment: Onboard Potentiometer Dimensions (mm): 48 × 14 × 8 Weight (g): 5 Shipping Weight: 0.01 kg Shipping Dimensions (cm): 5 × 4 × 1	IR Obstacle Sensor • Infrared Reflective Module • LM393 Comparator • Active Low Output • Proximity Sensor • Arduino Compatible • Robot Sensor
No Image	**EMS-00014-A**	Touch Sensor	EM - Electronic-Electrical Modules	Tontek Design Technology, Shenzhen Tontek (Tontek IC), Generic Module Manufacturer, Waveshare (Module Vendor), Keyestudio (Arduino Vendor)	The TTP223B Capacitive Touch Key Sensor Module is a touch switch that replaces mechanical buttons. It outputs a HIGH signal when touched and works in low-power mode. It is commonly used in Arduino projects, smart switches, hidden controls, and automation systems.	Item Type: Electronic Switch Model: Touch Switch IC Chip: TTP223B Operating Voltage: 2V – 5.5V Output High (VOH): 0.8 × VCC Output Low (VOL): 0.3 × VCC Response Time (Low Power Mode): 220 ms Response Time (Touch Mode): 60 ms Length: 24 mm Width: 24 mm Height: 2 mm Weight: 0.6 g Shipping Weight: 0.085 kg Shipping Dimensions: 3 × 3 × 1 cm	arduino • touch • TTP223B • capacitive sensor
	**EMS-00015-A**	Capacitive Keypad	EM - Electronic-Electrical Modules	Tontek Design Technology, Robocraze, Keyestudio	The TTP229 16-Key Capacitive Touch Keyboard is a touch-based input module using capacitive sensing technology. It detects finger touches without mechanical switches, offering silent and reliable operation. It is commonly used with Arduino, ESP32, and embedded systems for touch panels, access control, and smart interactive projects.	Product Type: Capacitive Touch Keypad IC Used: TTP229 Number of Keys: 16 Key Layout: 4×4 Operating Voltage: 2.4V – 5.5V DC	TTP229 Touch Keypad • 16-Key Capacitive Keyboard • 4x4 Touch Sensor Module • Arduino/ESP32 Touch Input Module
	**EMS-00015-B**	3×4 Membrane Keypad	EM - Electronic-Electrical Modules	Adafruit, DFRobot, SparkFun, Keyestudio	The 3×4 12-Key Membrane Keypad is a compact matrix input device used with Arduino, ESP32, Raspberry Pi, and other microcontrollers. It has 12 buttons in a 4×3 telephone-style layout, reducing GPIO usage while allowing easy user input. It is commonly used in password systems, calculators, access control, and embedded projects.	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
	**EMS-00015-C**	4x4 Keypad	EM - Electronic-Electrical Modules	Adafruit, Keyestudio, DFRobot, SparkFun	The 4×4 / 4×3 Membrane Keypad is a thin, flexible input device used with Arduino, ESP32, Raspberry Pi, and other microcontrollers. It uses a row-column matrix to reduce GPIO usage while providing multiple button inputs. It is commonly used in password systems, calculators, access control, and embedded projects.	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
	**EMS-00016-A**	Water Flow Sensor	EM - Electronic-Electrical Modules	YF Electronics, DFRobot, FlyRobo, Robocraze	YF-G1 Water Flow Sensor is a hall-effect based flow meter used to measure the flow rate of water and other non-corrosive liquids in pipelines. It uses a magnetic rotor that spins with water flow, and a hall sensor generates pulse signals proportional to flow rate. It is widely used in automation, water monitoring, and Arduino projects.	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
	**EMS-00016-B**	Water Flow Sensor	EM - Electronic-Electrical Modules	YF Electronics, DFRobot, FlyRobo, Robocraze	YF-S401 Water Flow Sensor is a compact hall-effect based flow meter used to measure water flow rate in pipes and tubing systems. It uses a rotor with embedded magnets that spins as water flows, generating pulse signals via a hall sensor proportional to flow rate. It is widely used in smart irrigation, water dispensers, liquid monitoring, automation systems, 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

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**EMS-00017-A**	LDR Module	EM - Electronic-Electrical Modules	EM Series / Generic Compatible, KEYESTUDIO	The LDR Module detects ambient light intensity and provides a digital output based on the surrounding brightness level. It features an onboard potentiometer for adjusting sensitivity and threshold settings. Ideal for automatic lighting systems, day/night detection, Arduino projects, smart automation, security systems, and other light-controlled electronic applications.	Model: Light Dependent Resistor Module Operating Voltage (V): 3.3 – 5 Operating Current (mA): 15 Output Type: Digital (DO) Adjustable Threshold: Yes (via Potentiometer) Sensor Type: Photoresistor (LDR) Mounting Hole: M3 Indicator LEDs: Power LED, Status LED Pin Configuration: VCC, GND, DO Length (mm): 36 Width (mm): 14 Height (mm): 8 Weight (g): 3 Shipping Weight: 0.005 kg Shipping Dimensions (L × W × H): 4 × 3 × 2 cm	LDR Module • Light Sensor • Photoresistor Module • LM393 Sensor • Arduino Light Sensor
	**EMS-00018-A**	Water Level Sensor	EM - Electronic-Electrical Modules	Generic Electronics, Generic Electronics, DFRobot, SparkFun	Water Level Sensor Module is used to detect water levels in tanks, containers, and irrigation systems. It works using conductive tracks that change resistance when in contact with water. It provides analog output for level measurement and digital output for threshold-based detection. It is commonly used in smart irrigation, tank monitoring, and leak detection systems.	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
	**EMS-00019-A**	Soil Moisture Sensor	EM - Electronic-Electrical Modules	Sensor Probe Manufacturer, Comparator Module Manufacturer, IC Manufacturer	The Soil Moisture Sensor Module (YL-69 + FC-28) measures water content in soil using resistive sensing technology. It provides both analog (AO) and digital (DO) outputs, with adjustable sensitivity through an onboard LM393 comparator. Ideal for smart irrigation systems, plant monitoring, Arduino projects, greenhouse automation, and IoT-based environmental monitoring applications.	Sensor Type: Resistive Soil Moisture Sensor Operating Voltage: 3.3V – 5V DC Output Type: Analog (AO) and Digital (DO) Digital Output: 0 or 1 (TTL Logic) Measurement Principle: Resistance-based conductivity measurement Sensitivity Adjustment: Onboard Potentiometer (for digital threshold) Probe Dimension: Approx. 6 cm × 3 cm Cable Length: 20 cm Interface Pins: VCC, GND, DO, AO Shipping Weight: 0.02 kg Shipping Dimensions (cm): 8 × 6 × 3	Arduino Compatible • Soil Moisture Sensor • YL-69 • FC-28 • LM393 • Resistive Soil Sensor • Irrigation Sensor
	**EMS-00020-A**	Joystick Module	EM - Electronic-Electrical Modules	EM Series / Generic Compatible, KEYESTUDIO, SunFounder, DFRobot	Dual-axis analog joystick module for detecting X and Y movement positions. Each axis uses a 10K? potentiometer to provide a 0–5V analog output proportional to joystick position. Includes a built-in push-button switch for additional input functionality. Ideal for robotics, gaming controllers, Arduino projects, remote control systems, and motion control applications.	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
	**EMS-00021-A**	Tilt Sensor	EM - Electronic-Electrical Modules	Generic Electronics, DFRobot, SparkFun, Keyestudio	SW-520D Tilt Sensor Module is a simple digital sensor that detects tilt, orientation change, vibration, or motion using a rolling metal ball inside a cylindrical switch. When tilted beyond a threshold (~10–15°), contacts connect/disconnect and produce a digital HIGH/LOW output. Used in alarms, robotics, and Arduino 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
	**EMS-00022-A**	Analog Piezo Module	EM - Electronic-Electrical Modules	Generic Electronics, DFRobot, SparkFun, Adafruit	The Analog Piezoelectric Vibration Module uses a ceramic disc to detect vibrations, knocks, and mechanical stress. It generates an analog voltage based on the strength of the vibration using the piezoelectric effect. Unlike digital sensors, it measures vibration intensity, making it useful for Arduino projects, touch sensing, impact detection, and monitoring applications.	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
	**EMS-00023-A**	Vibration Sensor	EM - Electronic-Electrical Modules	Generic Electronics, DFRobot, SparkFun, FlyRobo	SW-420 Vibration Sensor Module is used to detect vibration, shock, and movement in security systems, robotics, and Arduino projects. It uses an SW-420 sensor with an LM393 comparator to give a digital output when vibration is detected. The sensitivity can be adjusted using an onboard potentiometer.	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
	**EMS-00024-A**	Rain Sensor Module	EM - Electronic-Electrical Modules	Generic Electronics, DFRobot, SparkFun	Rain Sensor Modules detect rain, water droplets, and moisture for applications like weather monitoring, smart irrigation, robotics, and Arduino projects. They include a sensor plate and LM393 module, providing analog and digital outputs for accurate and adjustable detection.	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
	**EMS-00025-A**	Encoder Module	EM - Electronic-Electrical Modules	Broadcom, Generic Electronics, Omron, AMS	Encoder sensor modules are used to detect rotation, speed, direction, and position in robotics, automation, motor control, CNC machines, and Arduino projects. They provide digital pulse outputs for accurate motion tracking and feedback. Available in rotary, optical, and magnetic types, they are ideal for precise control and positioning systems.	Product Type: Encoder Sensor Module Encoder Type: Rotary / Optical / Magnetic Operating Voltage: 3.3V – 5V DC Output Type: Digital Pulse	Encoder Sensor Module • Rotary Encoder Module • Optical Encoder Sensor • Speed Sensor • Position Sensor • KY-040 Encoder • Arduino Encoder
	**EMS-00026-A**	Magnetometer Module	EM - Electronic-Electrical Modules	Honeywell, ITEAD Studio, DFRobot, Adafruit, SparkFun	The HMC5883L Triple Axis Compass Magnetometer Module is a 3-axis digital compass sensor used in navigation, robotics, drones, GPS systems, and Arduino projects. It communicates via I2C and measures magnetic field strength along the X, Y, and Z axes. It provides accurate heading and orientation data for motion tracking and autonomous applications.	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
	**EMX-00001-A**	Arduino Uno R3	EM - Electronic-Electrical Modules	Arduino, Elegoo, HiLetgo, Keyestudio	The Arduino Uno R3 is a microcontroller development board based on the ATmega328P, designed for building interactive electronics projects. It features 14 digital I/O pins, 6 analog inputs, a 16 MHz clock, USB interface, and operates at 5V. It is widely used in education, prototyping, robotics, and embedded system development.	Board Type: Uno With Cable: Yes Operating Voltage: 5 V Input Voltage Range: 6 – 20 V Analog I/O Pins: 6 Digital I/O Pins: 14 (6 × PWM) DC Current per I/O Pin: 40 mA Clock Speed: 16 MHz SRAM: 2 KB EEPROM: 1 KB Flash Memory: 32 KB Dimensions (L × W × H): 75 × 54 × 12 mm Weight: 28 g (without cable), 54 g (with cable)	ATmega328P • 5 V Board • 16 MHz Crystal • USB Interface • Microcontroller • Educational Kit • Open-Source Hardware • Breadboard Compatible
	**EQE-00001-A**	Vernier Caliper	EQ - Equipment/Instrument	Mitutoyo, INSIZE, Baker Gauges, iGaging	Digital vernier calipers are precision tools used to measure internal, external, depth, and step dimensions accurately. They feature an LCD display for quick and easy digital readings with high precision. Commonly used in engineering, electronics, machining, woodworking, labs, robotics, and DIY projects for accurate measurement tasks.	Product Type: Digital Vernier Caliper Measuring Range: 0 – 150 mm Resolution: 0.01 mm Accuracy: ±0.02 mm Display Type: LCD Digital Display	DIY Measuring Tool • Digital Vernier Caliper • Electronic Caliper • LCD Caliper • Precision Measuring Tool • Digital Measuring Tool • Stainless Steel Caliper
	**EQM-00001-A**	3D Printer	EQ - Equipment/Instrument	Tiertime Official Website, Cetus 3D Official Website, UP3D / Tiertime, Tiertime Europe	The Cetus MK3 is a compact FDM/FFF 3D printer used for education, prototyping, STEM labs, and hobby projects. It features Wi-Fi connectivity, touchscreen control, and support for multiple nozzle sizes with modular upgrades. It delivers reliable print quality and supports PLA, PETG, TPU, and other filaments, making it ideal for learning and rapid prototyping.	Product Type: FDM / FFF 3D Printer Model: Cetus MK3 Printing Technology: MEM / FDM Build Volume: 180 × 180 × 180 mm Layer Resolution: 50 – 350 Micron Nozzle Sizes: 0.2 / 0.4 / 0.6 mm Filament Diameter: 1.75 mm	FDM Printer • Educational 3D Printer • Cetus MK3 • Cetus 3D Printer • DIY 3D Printer • Compact 3D Printer • Tiertime Printer
No Image	**MMD-00001-A**	Mini DC Motor	MM - Mechanical Module	Roboman, Rytronics, Singh Varieties, Ercoms Robotics, Robiz (OEM)	The Compact 3–6V DC Mini Motor is a small low-voltage motor used in robotics and DIY electronics projects. It provides smooth rotation for lightweight applications. It is commonly used in mini robots, Arduino cars, and educational kits for driving wheels and simple mechanisms.	Motor Size: 38 × 20 × 15 mm Shaft Diameter: 2 mm Shaft Length (Axial): 9 mm Operating Voltage: 3V – 6V Motor Type: DC Motor	dc motor • Mini Motor • 3V Motor • Arduino Motor • DIY Robotics • Smart Car Motor

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**MMD-00001-B**	BO Motor Dual Shaft	MM - Mechanical Module	Generic Robotics, Robu.in, FlyRobo, DFRobot, Keyestudio	The BO2 Side Shaft Plastic Gear Motor is a lightweight DC geared motor used in robotics, smart cars, line follower robots, obstacle avoidance robots, STEM kits, and Arduino projects. It features a plastic gearbox with dual side shafts for easy wheel mounting and smooth power transmission. It provides low-speed, high-torque performance, making it ideal for educational and DIY applications.	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
	**MMD-00002-A**	Metal Gear Servo	MM - Mechanical Module	TowerPro, DFRobot, Adafruit, SparkFun, Robocraze	The MG995 360° High Torque Servo Motor is a continuous rotation servo used in robotics, RC vehicles, robotic arms, automation systems, smart wheel drives, and Arduino projects. It features metal gears, PWM control, and high torque for strong and reliable performance. Its continuous rotation makes it ideal for motion control and automation 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
	**MMD-00002-B**	Servo Motor	MM - Mechanical Module	TowerPro, MWduino Compatible, Generic	Compact 9g micro servo motor with 180° rotation for precise position control. Provides 1.2–1.6 kg·cm torque and fast response, making it ideal for robotics, RC models, automation, and educational projects. Compatible with Arduino and other microcontrollers using standard PWM signals. Lightweight, reliable, and easy to integrate into DIY and prototyping applications.	Item Type: TowerPro Servo Motor Model Series: SG Series Model No.: SG90 Rotation (Degree): 180° Torque Rating (kg·cm): 1.2 to 1.6 Operating Voltage (VDC): 3.0 – 7.2 Operating Speed @ 4.8V: 0.10 sec/60° Stall Torque @ 4.8V (kg·cm): 1.2 Stall Torque @ 6.6V (kg·cm): 1.6 Operating Temperature (°C): -30 to 60 Gear Type: Glass Fiber Servo Plug Type: JR Cable Length (cm): 25 Length (mm): 22.8 Width (mm): 12.6 Height (mm): 34.5 Weight (g): 9 Shipping Weight: 0.014 kg Shipping Dimensions (L × W × H): 8 × 6 × 4 cm	SG90 Servo • 9g Servo Motor • Micro Servo • RC Servo • Arduino Servo
	**MMD-00002-C**	Micro Metal Servo	MM - Mechanical Module	TowerPro, DFRobot, Adafruit, SparkFun, Waveshare	The MG90S Metal Gear Micro Servo Motor is a compact, high-torque servo used in robotics, RC vehicles, robotic arms, drones, pan-tilt systems, and Arduino projects. It features durable metal gears for improved strength and long life. Operating at 4.8V–6V with around 180° rotation, it provides precise and reliable motion control in a lightweight design.	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
	**MMD-00002-D**	Digital Servo Motor	MM - Mechanical Module	TowerPro, Probots, DFRobot, Adafruit, SparkFun	The MG996R 360° Digital Servo Motor is a high-torque continuous rotation servo used in robotics, robotic arms, RC vehicles, automation systems, pan-tilt platforms, and Arduino projects. It features strong metal gears and PWM control for smooth and reliable operation. Its full 360° continuous rotation makes it ideal for applications requiring controlled motion and high torque.	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
	**MMD-00003-A**	Micro gear motor	MM - Mechanical Module	Pololu, DFRobot, Adafruit, SparkFun	N20 micro gear motors are compact DC motors with integrated metal gearboxes that provide low-speed, high-torque performance in a small size. They are widely used in robotics, smart cars, line follower robots, automation systems, and DIY electronics projects. Their compact design makes them ideal for space-constrained and educational applications requiring precise and reliable motion control.	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
	**MMD-00003-B**	150 RPM Geared Motor	MM - Mechanical Module	Johnson Motor, DFRobot, Robu.in, FlyRobo	The 150 RPM 12V geared DC motor is a high-torque motor with an integrated gearbox for efficient and controlled motion. It reduces speed while increasing torque, making it suitable for robotics, smart vehicles, automation systems, conveyor mechanisms, and DIY projects. It is ideal for Arduino-based applications requiring precise and reliable 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

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**MMD-00004-A**	Vibrating Motor	MM - Mechanical Module	Precision Microdrives, Adafruit, Jinlong Machinery, Generic Motors, DFRobot	DC vibrating motors are compact motors with an off-center weight that creates vibration when the motor rotates. They are widely used in mobile phones, wearables, robotics, alert systems, haptic feedback devices, and Arduino projects. Lightweight and easy to use, they are ideal for DIY electronics and interactive 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
	**MMD-00005-A**	Mini Water Pump	MM - Mechanical Module	Adafruit, SunFounder, DFRobot, Generic Pump Manufacturer	Mini submersible water pumps are compact DC-powered pumps used for water circulation in fountains, aquariums, hydroponics, cooling systems, and automatic watering projects. They operate fully submerged and provide smooth, low-noise, continuous water flow. Lightweight and easy to install, they are ideal for Arduino, DIY, and educational applications.	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
	**MMK-00001-A**	Jumper Wire Kit	MM - Mechanical Module	SparkFun, Adafruit, Pololu, Generic	The Jumper Wire Kit is a set of male-to-male, male-to-female, and female-to-female wires used for breadboard prototyping and circuit connections. It enables easy, solder-free connections between components, sensors, and microcontrollers. It is widely used in Arduino projects, robotics, IoT systems, educational kits, and DIY electronics.	Cable Types: Male-Female, Male-Male, Female-Female Quantity: 80 MF, 80 MM, 80 FF Wire Length: 10cm – 30cm Conductor Material: Copper	Breadboard Wire • jumper wires • Dupont cable • MF cable • MM cable • FF cable
	**MMM-00001-A**	BO Motor	MM - Mechanical Module	FlyRobo, RoboticsDNA, RoboElements	The 100 RPM Dual Shaft BO Motor is a low-voltage DC geared motor used for robotics and motion control. It provides good torque at 3–6V and features a dual shaft for easy wheel mounting. It is widely used in robot cars, DIY projects, and educational kits.	Gearbox Shape: Straight Operating Voltage: 3 ~ 6 V Rated Speed After Reduction: 100 RPM Shaft Diameter: 0.55 cm (Double) Shaft Length: 0.85 cm Dimensions (LxWxH): 7 x 2.3 x 1.9 cm	robotics • arduino • BO Motor • Gear Motor • Smart Car
	**MMM-00003-A**	Plywood Car Chassis	MM - Mechanical Module	Robu.in, FlyRobo, DFRobot, Keyestudio	The RJ12 plywood car chassis is a lightweight base for robotics and Arduino projects like line follower and obstacle avoidance robots. Made from laser-cut plywood or MDF, it includes mounting holes for motors, sensors, wheels, and controllers. It is durable, easy to assemble, and ideal for STEM learning and prototyping.	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
	**MMM-00005-A**	Wheels	MM - Mechanical Module	Pololu, DFRobot, Waveshare, SunFounder	N20 34mm rubber wheels are compact wheels designed for N20 micro gear motors with a 3mm D-shaft. Used in line follower robots, mini smart cars, obstacle avoidance robots, STEM kits, and DIY robotics projects, they offer easy press-fit mounting. The rubber surface provides good grip, stability, and smooth motion on different surfaces.	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
No Image	**MMM-00005-B**	Rubber wheels	MM - Mechanical Module	DFRobot, Pololu, SparkFun, Waveshare	Rubber wheels for DC motors are used in robotics, Arduino car kits, line follower robots, obstacle avoidance robots, and DIY projects. They fit BO and TT geared motors and provide good grip, stability, and smooth movement on different surfaces. Made from durable rubber, they are ideal for educational and prototyping applications.	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

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**MMM-00006-A**	Castor wheel	MM - Mechanical Module	Blickle, TENTE, Shepherd Hardware, Caster Concepts	1-inch castor wheels are small wheels used for robotics, DIY platforms, trolleys, furniture, and movable enclosures. Available in swivel and fixed types, they provide smooth and easy movement. Made from plastic, rubber, or nylon, they are durable and suitable for lightweight mobility and prototyping applications.	Product Type: Castor Wheel Wheel Size: 1 inch Load Capacity: 5kg – 20kg Rotation: 360° Swivel	DIY Hardware • Castor Wheel • 1 Inch Wheel • Mini Castor • Swivel Wheel • Furniture Wheel • Robot Wheel
	**MMP-00001-A**	Spacers	MM - Mechanical Module	Keystone Electronics, Adafruit, DFRobot, Pro'sKit	Spacers are mechanical components used to maintain precise distance between PCBs, panels, enclosures, and mounted parts in electronics, robotics, Arduino, and DIY projects. They provide support, alignment, and insulation, preventing unwanted contact between components. Available in nylon, brass, aluminum, and stainless steel variants for different applications.	Product Type: Spacer / Standoff Thread Size: M3 Length Options: 5mm – 50mm	PCB Spacer • Mounting Spacer • DIY Hardware • Spacer • Nylon Spacer • Brass Spacer • Standoff Spacer
	**MMP-00004-A**	Standoffs set	MM - Mechanical Module	Adafruit, Keystone Electronics, DFRobot, Pro'sKit	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
	**TLC-00001-A**	Cutting mat	TL - Tools	OLFA, Deli, Fiskars, Pro'sKit	An A2 cutting mat is a self-healing protective work surface used for cutting paper, vinyl, fabric, PCB sheets, foam, leather, and craft materials. It protects tables and blades while providing printed measurement grids for accurate cutting in DIY, electronics, art, and workshop applications.	Product Type: Self Healing Cutting Mat Size: A2 Dimensions: Approx. 600 × 450 mm Material: PVC Multi-layer Thickness: 2 mm – 3 mm	Cutting Mat • A2 Cutting Mat • Self Healing Mat • Craft Mat • DIY Cutting Board • Precision Cutting Mat • Workshop Mat
	**TLK-00001-A**	Tool Kit	TL - Tools	Pro'sKit, Pro'sKit, Pro'sKit, Pro'sKit	Professional Tool Kits are complete sets for electronics repair, PCB assembly, networking, electrical work, mobile servicing, robotics, and DIY projects. They include screwdrivers, pliers, cutters, tweezers, soldering tools, and precision instruments. Durable, accurate, and ideal for professionals, students, and hobbyists for all repair and assembly tasks.	Product Type: Professional Tool Kit Tool Count: 25 pcs – 100 pcs Included Tools: Screwdrivers, Pliers, Cutters	Professional Tool Kit • Electronics Tool Kit • Repair Tool Kit • DIY Tool Kit • Maintenance Kit • Technician Tool Set
	**TLM-00005-A**	Micro longnose Plier	TL - Tools	Proskit, Taparia, Jakemy, tanley	Micro long nose pliers are compact precision hand tools designed for electronics repair, PCB assembly, wire bending, and handling small components. Their slim, pointed jaws allow easy access to tight and confined spaces, making them ideal for detailed work. Commonly used in robotics, DIY electronics, jewelry making, and maintenance tasks, they provide accurate control and reliable performance.	Size: 4.5 inch – 5 inch Handle Type: Soft Grip / Anti-slip Usage: Precision Gripping & Wire Bending	DIY Tool • Needle Nose Plier • Mini Plier • Micro Long Nose Plier • Precision Plier • Electronics Tool • Jewelry Plier
	**TLM-00005-B**	Long Nose Pliers	TL - Tools	Taparia, Stanley, Bosch, Proskit	Long nose pliers are versatile hand tools designed for gripping, bending, holding, and cutting wires in electronics, electrical work, jewelry making, and DIY applications. Their long, narrow, pointed jaws provide easy access to confined spaces and enable precise handling of small components. Durable and comfortable to use, they are essential tools for repair, assembly, and maintenance tasks.	Handle Type: Insulated Grip Length: 5 inch – 8 inch Usage: Wire Bending, Gripping, Cutting	DIY Tool • Long Nose Plier • Needle Nose Plier • Electronics Plier • Mini Plier • Precision Tool • Wire Handling Tool

Image	Part Number	Name	Category	Manufacturer	Description	Specification	Tags
	**TLP-00004-A**	Cordless Power Drill	TL - Tools	Bosch, Robert Bosch GmbH	The Professional is a compact 12V cordless impact drill designed for drilling and screwdriving in wood, metal, and masonry. It features variable speed control, reverse rotation, and impact drilling for versatile use. Lightweight and durable, it is easy to handle and ideal for professional work, home repairs, and DIY projects requiring reliable and portable power tool performance.	Voltage: 12V Battery Type: Lithium-Ion No Load Speed: 0–400 / 0–1500 RPM Chuck Capacity: 10 mm Max Torque: 30 Nm Impact Rate: Up to 22,500 BPM	DIY Tool • Cordless Drill • Impact Drill • 12V Drill • Power Tool • Electric Drill • Professional Drill • Bosch Tool