

45650 LEGO Education® Single Motor

Description

Capture students' imaginations and encourage classroom collaboration with the LEGO® Education Single Motor (45650). Transform science phenomena into powerful and precise moving models with hands-on learning that can adapt to every learner. Simple to use, this motor can work independently, pair with other LEGO® Education interactive devices, or connect to a laptop or tablet for coding tasks.

Key features

Compact, wireless single motor

Made for hands-on learning and straightforward, intuitive building of moving models.

Motor output

Featuring our latest tech, the motor includes a new precision drivetrain and absolute encoding for maximum control and flexibility.

Charging and communication

Easy USB-C charging and effective communication via Bluetooth Low Energy 4.2.

Age mark

Suitable for ages 4 and up.

Connection

Bluetooth Low Energy (BLE 4.2).

Battery Capacity

450 mAh (maximum charge rate: 900mA).

Motor Performance

- No-load speed: 127-135 rpm
- Current consumption: 39-59mA
- Loaded speed (25nNm): 110-119 rpm
- Current consumption: 157-205mA
- Stall torque: 121-152mNm

All performances are measured at 4.2 V (fully charged battery)

Sensor inputs

- Absolute encoding on motor output

*Not all features may be fully operational at the time of launch.

45651 LEGO Education® Double Motor

Description

Encourage curious minds to bring their ideas to life with the LEGO® Education Double Motor (45651). Featuring two outputs, the motor is ideal for classroom collaboration and fuels the creation of precise and fast motorized models every student will be in awe of. Simple to use, the Double Motor can work alone, pair with other LEGO® Education interactive hardware, or connect to a laptop or tablet for coding tasks.

Key features

Wireless double-motor

Made for hands-on learning and straightforward, intuitive building of moving models.

2 motor outputs

Featuring our latest tech, the motor includes a built-in motion sensor for coding, a new precision drivetrain and absolute encoding for maximum control and flexibility.

Charging and communication

Easy USB-C charging and effective communication via Bluetooth Low Energy 4.2.

Age mark

Suitable for ages 4 and up.

Connection

Bluetooth Low Energy (BLE 4.2).

Battery Capacity

900 mAh (maximum charge rate: 1500mA).

Motor Performance

- No-load speed: 322-346 rpm
- Current consumption: 70-107mA
- Loaded speed (50nNm): 192-220 rpm
- Current consumption: 649-753mA
- Stall torque: 148.1-173.1mNm

All performances are measured at 4.2 V (fully charged battery)

Sensor inputs

- 3-axis Accelerometer
- 3-axis Gyroscope
- Absolute encoding on both motor outputs

*Not all features may be fully operational at the time of launch.

45652 LEGO Education® Controller

Description

Put students in the driving seat with the LEGO® Education Controller (45652) and let them take control of their creations. Curious young minds can directly operate motorized models or build the controller into their designs as an activation sensor. Engineered to be simple and flexible, the controller connects to single and double motors for interactive, hands-on learning or to a laptop or tablet for coding tasks.

Key features

Hands-on learning

Featuring 2 levers with high-resolution magnetic encoders, the controller supports interactive lessons.

Adaptable

Versatile and intuitive, use the controller as a remote control or build it into a model as an activation sensor.

Flexible

Suitable for ages 4 and up.

Easy to use

Easy USB-C charging and effective communication via Bluetooth Low Energy 4.2.

Connection

Bluetooth Low Energy (BLE 4.2).

Battery Capacity

90 mAh (maximum charge rate: 180mA)

Sensor inputs

- Two mechanical leavers with absolute encoding

*Not all features may be fully operational at the time of launch.

45653 LEGO Education® Color Sensor

Description

Head straight to hands-on learning and minimize classroom set-up time with the LEGO® Education Color Sensor (45653). This small but highly capable sensor helps students activate their models quicker, meaning their attention stays sharp and focused, and teachers can prioritize teaching over a lengthy classroom set-up! Simple to use and build with, it can detect and react to 6 LEGO® colors straight out of the box, with more detailed detection available when used with the supplementary app. It's ideal for interactive lessons and can be paired with motors or connected to a laptop or tablet for coding activities.

Key features

Color sensor

An ultra-compact sensor with robust performance, ideal for efficient, hands-on learning in the classroom.

Detects LEGO® colors

Senses and reacts to 6 LEGO® colors straight out of the box at a distance of 4–16 mm.

Versatile use

Pair with motors for hands-on learning or connect to a laptop or tablet for coding activities.

Charging and communication

Easy USB-C charging and effective communication via Bluetooth Low Energy 4.2.

Age mark

Suitable for ages 4 and up

Connection

Bluetooth Low Energy (BLE 4.2).

Battery Capacity

135 mAh (maximum charge rate: 270mA)

Sensor inputs

- Color sensor with 6 LEGO colors

*Not all features may be fully operational at the time of launch.