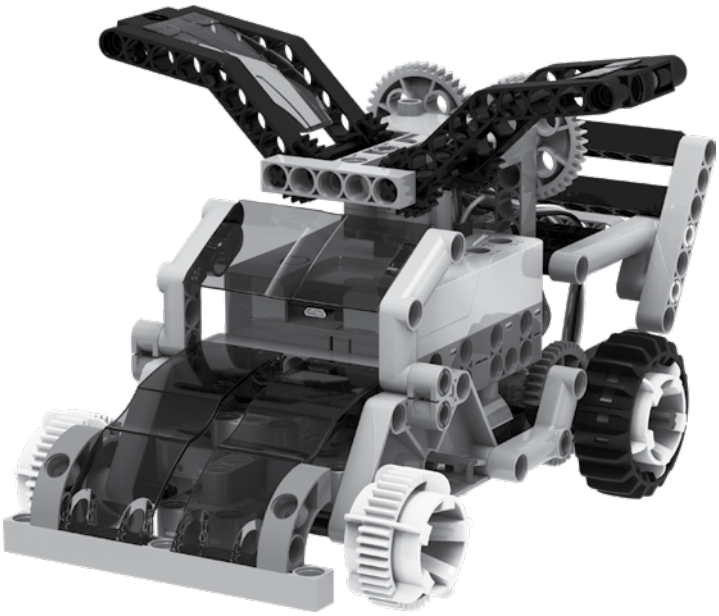
ROBOTICS WORKSHOP

WITH micro:bit

Sensor Expansion Pack



This Sensor Expansion Pack is only compatible with **Robotics Workshop with Micro:Bit** from Thames & Kosmos.

Find full assembly and coding steps for 14 new projects online.

Scan this QR code or visit https://roboticsworkshop.thamesandkosmos.com

THAMES & KOSMOS

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Thames & Kosmos, 89 Ship St., Providence, RI, 02903, USA | 1-800-587-2872 | www.thamesandkosmos.com

SAFETY INFORMATION

Warnings

WARNING! Not suitable for children under 3 years. Choking hazard — small parts may be swallowed or inhaled. Strangulation hazard — long cords may become wrapped around the neck.
Keep the packaging and instructions as they contain important information.

Follow all safety information in Robotics Workshop with micro:bit.

WARNING: Only for use by children over 8 years old. Only for use under the supervision of an adult.

Read all instructions before use, follow them and keep them for future reference. Keep small children and animals away from any experiments or projects. Store your projects out of reach of small children.

Notes on environmental protection: The electronic components of this product are recyclable/reusable. For the sake of the environment, do not throw them into the household trash at the end of their lifespan. They must be delivered to a collection location for electronic waste, as indicated by the following symbol:
Please contact your local authorities for the appropriate disposal location.

Good to know!

If you are missing any parts, please contact Thames & Kosmos technical support.

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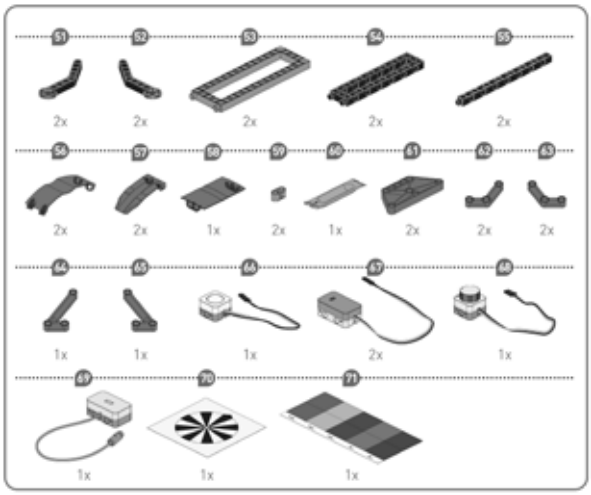


YOU WILL ALSO NEED: *Robotics Workshop with micro:bit base kit, personal computer or tablet with access to the Internet.*

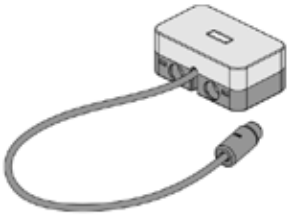
Checklist:

✓	No.	Description	Qty.
◯	51	Crankshaft, 145° - gear A	2
◯	52	Crankshaft, 145° - gear B	2
◯	53	5x15 frame	2
◯	54	3x13 dual frame	2
◯	55	15 hole dual rod	2
◯	56	Shell F	2
◯	57	Shell E	2
◯	58	Shell J	1
◯	59	2-hole rounded rod with slots	2
◯	60	Anchor pin lever	1
◯	61	Trapezoid frame	2
◯	62	120° arch elbow, left	2
◯	63	120° arch elbow, right	2
◯	64	60° arch elbow, left	1
◯	65	60° arch elbow, right	1
◯	66	RGB LED	1
◯	67	Infrared sensor	2
◯	68	Toggle sensor	1
◯	69	Color sensor	1
◯	70	Black and white die-cut card	1
◯	71	Color die-cut card	1

ROBOTIC COMPONENTS

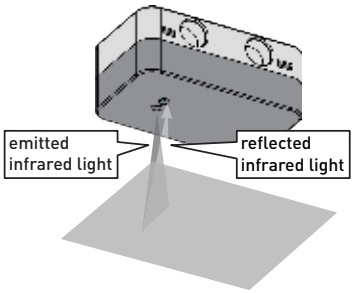
Color sensor: The color of an object is determined by the proportion of light colors reflected by the object. A color sensor determines the color of an object by detecting the reflected red (R), green (G), and blue (B) wavelengths of light that are reflected by the object.

Scan the QR for help getting started with the **color sensor.**



Infrared sensor: This kit includes two active infrared sensors, which emit an infrared light. When obstructed by an object, this light is reflected back to the sensor. The receiver detects the reflected infrared light to determine if there is an obstruction.

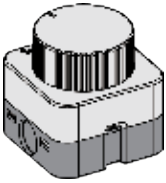
Scan the QR for help getting started with the **infrared sensor.**



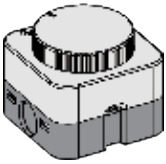
Toggle sensor: The toggle sensor functions similarly to a button, transmitting a digital signal to the brain (micro:bit) upon being pressed or released. It can convey two types of signals to the brain: 1 or 0.

Scan the QR for help getting started with the **toggle sensor.**

Released
sends signal **1**



Pressed
sends signal **0**



RGB LED: Also known as a multi-color light emitting diode, this output device emits lights of various colors by combining the primary colors of light: R (red), G (green), and B (blue) in certain proportions.

Scan the QR for help getting started with the **RGB LED.**

Good to know!

You can order extra components for Robotics Workshop from our website.

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Do you have any questions?
Our technical support team will be glad to help you!

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