The REV Robotics Color Sensor V3 is a combined color and proximity sensor. From a single sensor you can measure colors and rough distances to various targets. Version 3 introduces a new sensor chip from Broadcom due to the end-of-life of the V1/V2 color sensor chip.

FEATURES

- Digital RGB Color Sensing
- IR Proximity Emitter and Detector
- Built-in (switchable) white LED
- Supports Standard (100kHz) or High Speed (400kHz) I2C

SPECIFICATIONS

Max. Operating Voltage	3.3V
Sensor Type	I^{2}C
I^{2}C Address	0x52
Sensor Part	APDS-9151
Measurement Channels	Red, Green, Blue, Alpha, and Proximity
Proximity Sensor Range	1cm – 10cm

APPLICATION INFORMATION

The REV Robotics Color Sensor has two sensing elements: color and proximity.

Color measurements consist of Red, Green, Blue, and Alpha (clear) values. The white LED on the sensor has a slide switch to turn the LED on or off. Unlit targets are best illuminated with the build-in LED while bright or light-emitting targets may not require the build-in LED. Color data is best collected within 2cm of the target for the strongest color differentiation.

Proximity measurements are based on IR reflectance and can vary depending on lighting conditions and target reflectivity. The proximity sensor is ideally used to determine if something is in front of the sensor. While you can receive rough distance data, we recommend using the 2m Distance Sensor or similar time-of-flight sensor for accurate distance measurement.

Note to users transitioning from Color Sensor V2 to V3: Color values will not be consistent between V2 and V3 sensors and there are minor changes to the FTC SDK. Be sure to update to the latest SDK and configure your robot to use the "REV Color / Range Sensor V3".

MECHANICAL DRAWINGS
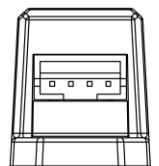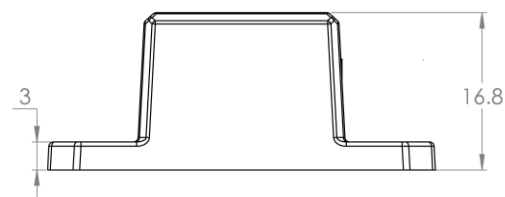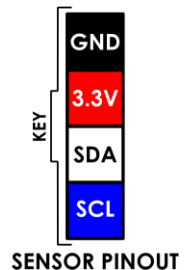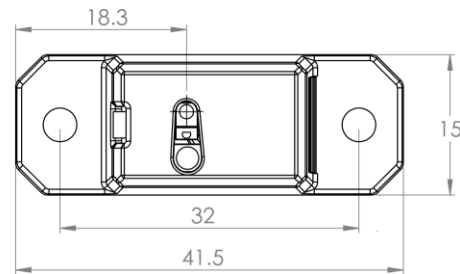
All dimensions are in millimeters.

ADDITIONAL RESOURCES

Additional information about the APDS-9151, its capabilities, and its features can be found in the following datasheet:

- APDS-9151 Datasheet