user manual

Imagination unlocked

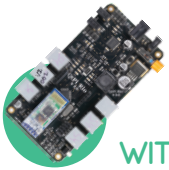
# Robotics unlocked

Creativity
gives wings to your
imagination

With QTPI you become part of an eco-system that believes that ‘learning through creating’ is ageless. Today, it’s about learning to be analytical and logical by creating through coding and robotics. And we know, creation using robotics, will make an impact in the real world, now and tomorrow. Fellow earthlings, let’s hop, skip and jump into the future by unlocking our imaginations through QTPI Robotics.

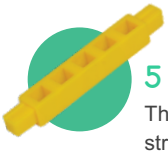
# COMPONENTS

**Welcome to the world of QTPI Robotics.**
What you will find in here is everything you need to expand your imagination and develop special skills in building unique robotic projects, that's not just educational but recreational as well.



## MOTHERBOARD WITH BLUETOOTH

The Qbrick Motherboard is the processing unit (brain) of the robot which is powered by a rechargeable battery and turned ON/OFF using a switch.



## 5 HOLE PILLAR

The building blocks used to build the structure for the robot and help to balance. This is the tallest block among other Qbits.

## DC MOTOR

Direct Current (DC) Motors are electromechanical devices that use the interaction of magnetic fields and conductors to convert the electrical energy into rotary mechanical energy.

## RJ11 CABLE

This cable is used to establish connection between Qbrick and Sensor/Actuator.

The above components are vital in building your own Merry-Go-Round

## WHEELS

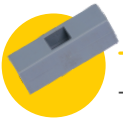
The Wheels are used to move the structure of the robot.

## CASTER WHEEL

An undriven wheel designed to be attached to the bottom of a larger object to enable that object to be moved.

## ULTRASONIC SENSOR

An ultrasonic sensor is an electronic device that measures the distance of the target object by emitting ultrasonic sound waves and converts the reflected sound into an electric signal.



## T JOINT

This block has hole in the middle, it resembles the alphabetical letter "T" when a 5 hole pillar block is connected to it.

The above components play a fundamental role in constructing Obstacle Avoider

## AMBIENT LIGHT AND DIGITAL PROXIMITY SENSOR

APDS sensor offers light and colour detection, proximity detection and touch-free gesture sensing.

## L BLOCK

The block resembles the alphabetical letter “L”. It helps in building structures such as square, rectangle and cube. It forms 90 degree angle in the structure.

Along with other components, use the above two to build your own automatic Basketball Scorekeeper

## SERVO MOTOR

Servo Motor is a closed-loop system that uses position feedback to control its motion and final position.

## CONNECTOR

Connector block is the smallest block in Q bits it is used for connecting to other blocks for building structure.

This components will play a big role in building your Smart Home

## ARGB MODULE

ARGB module, addressable RGB header is a 3-pin connector equipped with an Integrated Circuit to customize each individual LED colour when connected.

## I BLOCK

This block resembles the alphabetical letter “i” when a 5 hole pillar block is connected to it.

If Remote Controlled cars are on your mind, this components are vital to build one

## CHARGING ADAPTER

Charging Adapter is used to charge the Qbrick / Motherboard.

**SPECIFICATION:**
**Input Voltage(AC):** 100-240v
**Output Voltage:** 9v

## PLIER

Plier is used to detach the blocks and dismantle the structure of your robot.

## BUZZER

The Buzzer is an audio signaling device that makes a buzzing sound.

## 45 DEGREE BLOCK

The angle of block is 45 degree and it helps in building triangular structure and used for bends in structure.

The above components along with others are use to make a Smart Goggle

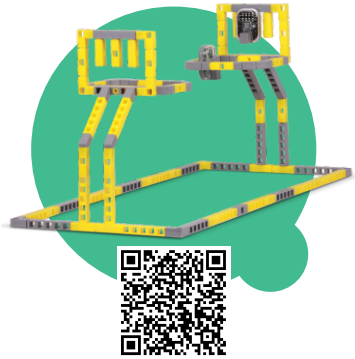
# PROJECTS

## OBSTACLE AVOIDER

You've definitely played with a Remote Controlled (RC) car in your childhood, but how about an RC car that evades obstacles? Build your own Obstacle Avoider Car that, on sensing an obstacle, will change directions using its sensor, automatically activating the buzzer and indicator!
**Zoom away!**

## SMART HOME

You're smart. Your phone is smart. Now, make your home smart as well with our 'Home Automation System' that can be controlled using the Mobile App. The kit components make it easy to notify and control the home devices when connected.
**Go, surprise your parents!**

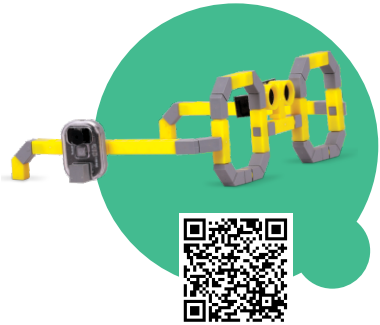


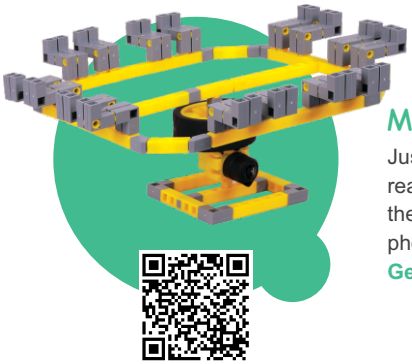
## BASKETBALL COUNTER

Build a basketball court and compete! What's amazing is you can create a counter that keeps the score for you! You can build it with hoops, sensors and buzzers that count the scores on your mobile whenever the ball passes through the hoop.
**Get scoring!**

## SMART GOGGLES

Help a visually challenged person by building Smart Goggles! Build the goggles, connect the components and through the mobile app, it will alert them of the obstacles.





## MERRY GO ROUND

Just like a merry-go-round in the parks, you can now play in real-time! Relive your childhood by building a model similar to the one in the parks which you can operate from your mobile phone, and even adjust the speed using an application! **Get dizzy!**

## RC CAR WITH HEADLIGHTS

You can now call your RC car a ‘Night Rider’. Fix two LEDs to your RC car that will equip you to drive in the dark. Connect them with the kit components and you can control the car and headlights using the mobile application. **Vroom!**

Scan the code and explore more projects that can be built using the kit and unravel your imagination

# QTPI Pro

You've witnessed the amazing robotic projects you can create with this kit.

**Want to unlock the next level?**

You should! Go Explore with the Add-On themes below!

## Agronomy

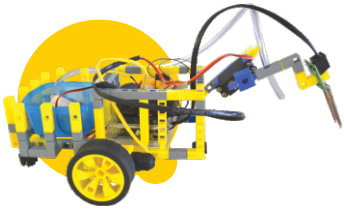
Scrubber | Smart Tap | Green Bot

### Scrubber

Here's your automatic household Scrubber that cleans fast and saves your time and energy.

### Smart Tap

You are Captain Planet! Save every drop of water with this automatic sensor that will only release water when your hands are under the tap.

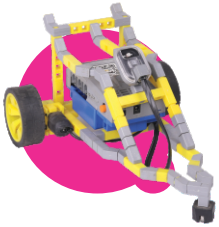


### Green Bot

The agricultural bot that helps discover the moisture level, and the pump motor will start pumping water automatically.

# Robo Wheels

Uni-light Follower | Smart Street Light | Monster Jeep

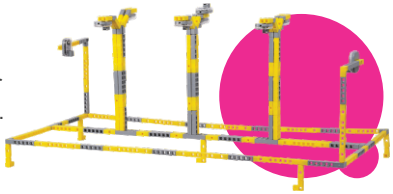


## Uni-light Follower

Want to race your RC car at night? Make your car follow a source of light automatically. **Amazing right!**

## Smart Street Light

Show the world how we can save electricity by building your own Smart Street Light that senses movement and turns on.



## Monster Jeep

It's as real as it gets. Build your Monster Jeep to zoom, to avoid obstacles and automatically open the doors with multiple sensors and motors.

# IOT Power

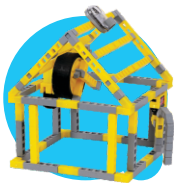
PlayBot | Count Keeper | Room Temperature Detector

## Play Bot

Get friends over, start any game and have this limit Switch, ARGB and Buzzer to enhance your playing experience.

## Count Keeper

At the press of a button have this Robot make counting of anything much easier and automated.

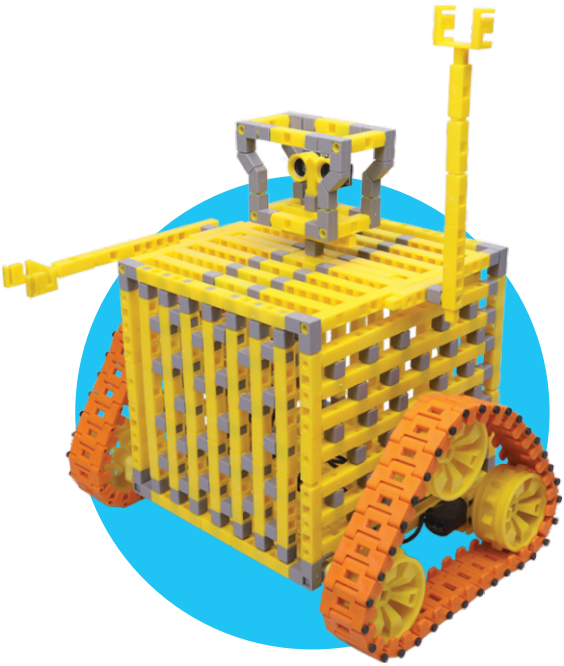


## Room Temperature Detector

You can't control the weather outside, but you can inside. Use this temperature detector for experiments or even for just checking if the AC is working.

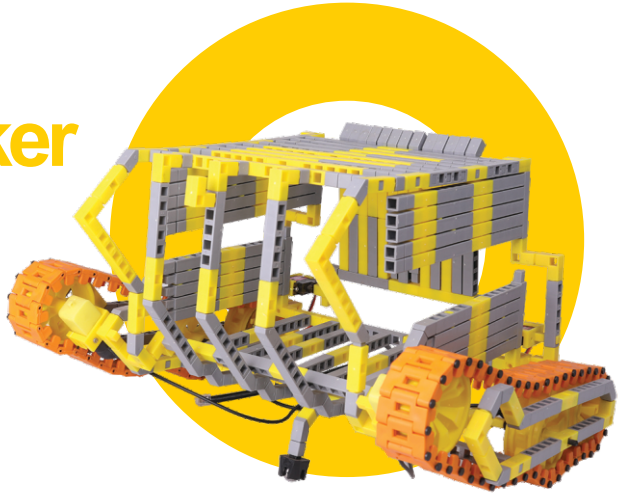
# QTPI Pro Max

**Want to Explore the Ultimate?**
Her's a few outstanding projects that you can create by utilising components, motors and sensors from different themes, and mixing them up to create unique Robotics.
Become a master, go for MAX!

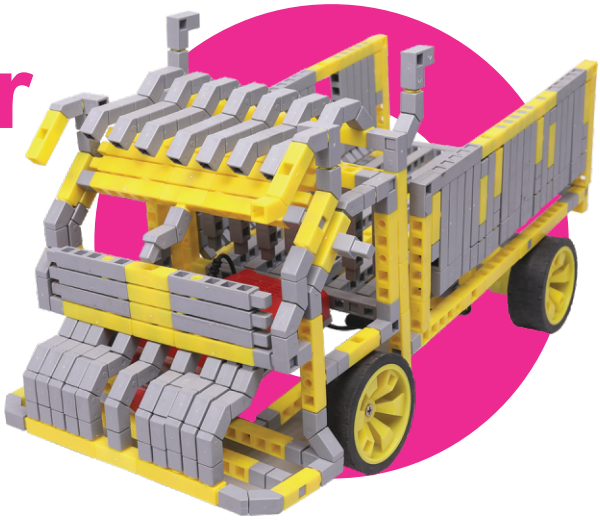


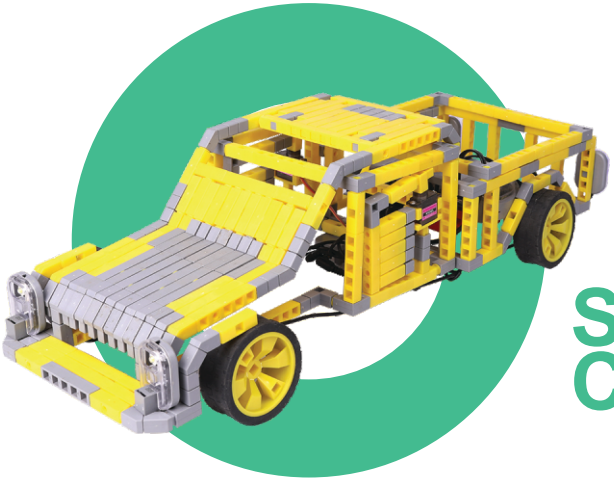
## Wall-E

## A Tanker



# Tipper Truck





# Smart Car

QT Explore

Imagine | Code | Create

www.qtpi.in

**Warnings**

- Follow the instructions in the kit correctly in presence of the trainers.
- Instructions not followed properly can result in injuries.
- Do not put any part of the kit in the mouth.