



Robot K-JUNIOR

MOBILE ROBOTICS

K-Junior

PIC 16F887 micro controller at 8MHz.

2 differential wheels driven by DC motors. Maximum speed 160mm/s (=0.16m/s).

Sensors : 6 Proximity and ambient light detection range up to 20cm (white obstacles)
4 Ground sensors for line following and falling prevention.

USB Connector for battery recharging or robot-to-PC communication.

Rechargeable Battery Li-Pol 3.7V 1200mAh for a 4h autonomy (without extensions).

Fixation hole in the middle of the robot allows drawing various patterns on a paper sheet.

Buzzer can produce sounds from 20Hz to 2KHz sound.

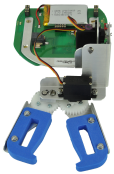
5 Programmable LEDs on the ring + 1 LED indicating the charge status.

Native Bluetooth and serial port 57600 bps.

Source code is provided and allows robot functions modifications as well as programming your personal functions.

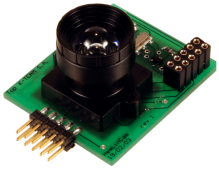


Many extensions available



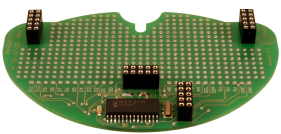
KJU - Gripper

The KJU gripper allows you to pick up objects of maximum 30gr. You have 2 degrees of freedom : up / down and close / open. An integrated battery keeps the K-Junior autonomy up to 4 hours.



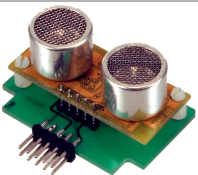
KJU - Linear camera

The camera reads one line of 102 pixels in 256 levels of grey. The optic block is a standard on (M12x0.5), which can be changed to fit to your specific needs. It is equipped with an onboard processor (PIC16F876). The controller is dedicated to visual data processing.



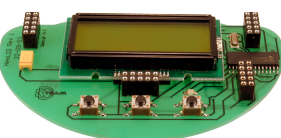
KJU - General IO

The General I/O allows interfacing your own electronics. It is a perfect tool to implement your own module. You can access your own peripherals from the central processor (12 digital I/O, 5 analog 8-bit inputs and I2C bus).



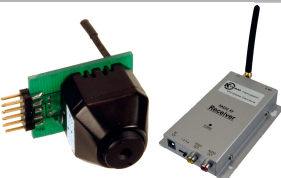
KJU - Ultrasonic sensor

This sensor provides a much longer detection range than the default K-Junior infrared sensors. The maximum distance for object detection is up to 6 meters with a one centimetre resolution for measurements.



KJU - LCD Display

This LCD screen and keypad provides an user interface to build an interactive control program with your robot without PC. You can display messages and manage small menus. The module includes a 2 lines by 12 characters LCD display and 3 push buttons that can be linked to user defined functions in your K-Junior programs.



KJU - Wireless camera

Use the Wireless Camera module to transmit video images on your TV set (Cinch connector). You can then watch the robot's trip, and see whatever the robot is "looking at". The receiver can also be connected to a frame grabber on the PC to process images and remote control the robot autonomously.