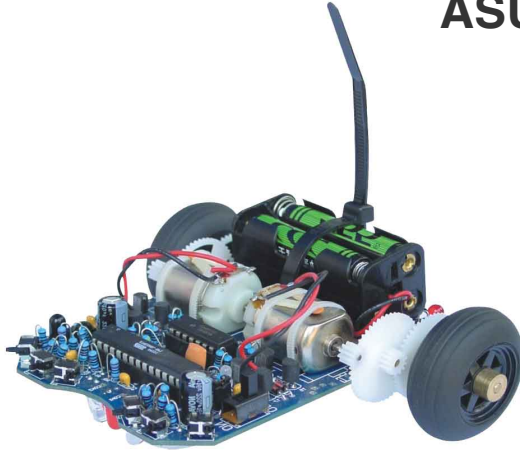


# ASURO

## ASURO Robot



### ASURO Capabilities:

Cruise around wirelessly with PC control via USB transceiver

Follow a black or white line

Detect collisions

Measure and control rotational speed of motors via encoders

Move given distance

Rotate specific angles

Measure driven distance

Move in geometric paths: circles, polygons, and others

Read and transfer data wirelessly to and from PC via USB transceiver

Expandable via expansion pins

### With optional

### Bluetooth:

Read and transfer data to and from a PC or Android phone via optional Bluetooth

Cruise around via Android phone control

### Features:

- ATmega8L, 8-bit AVR-RISC processor
- Fully programmable in C language
- Comes unassembled. Soldering required
- CD with software, training manual, and supporting materials
- Excellent AVR-GCC freeware for use with Windows or Linux
- Unique and safe USB IR transceiver with simple to operate flash software
- Remote control and PC-programming possible via USB transceiver
- Wireless control possible with optional Bluetooth and 433 MHz RF
- Extensions kits available
- 6 collision-detector sensors
- Optical line-tracker unit
- 2 independently controlled 3V-DC motors
- On-board odometer sensor on both wheels
- Preprogrammed firmware for easy hardware testing
- 3 LED indicators

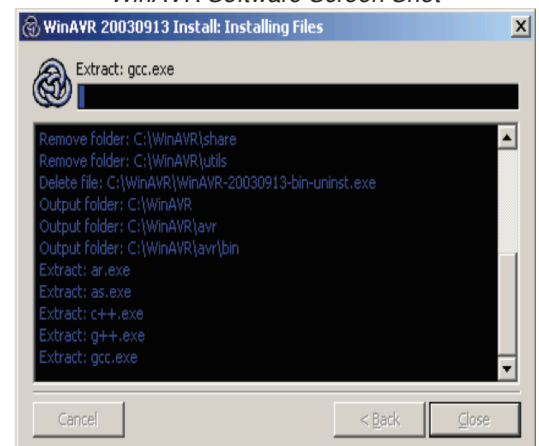
### Overview:

The ASURO is a small autonomous multi-sensored robot developed for educational purposes by the DLR, the German Aerospace Center (like NASA).

Highly versatile, the ASURO is completely programmable in C. Assembly is easy for experienced electronic technicians and feasible for a novice.

Except for the printed circuit boards (PCB), only standard parts are utilized and freeware tools can be used for programming. The ASURO comes unassembled and includes a soldering guide making it exceptionally suitable as an introduction into processor-controlled hobby electronics for projects in schools, universities, and technical education. Special tools, which are freeware for private users, have been used for all electronic development phases and software design, proving that robots can be designed without expensive tools or machines.

WinAVR Software Screen Shot



# ASURO

**ASURO  
comes with  
the following  
items:**

ASURO  
Vehicle  
(unassembled)

CD

USB Cable

USB IR  
Transceiver

## Specifications

ASURO Robot	
<b>Processor memory</b>	8 kb in-system programmable flash
<b>Supply voltage</b>	4 x AAA batteries (Not Included)
<b>Supply current</b>	Min 10mA Max 600mA
<b>Dimension (LxWxH)</b>	117 x 122 x 45 mm
<b>Weight</b>	165 g
<b>Technical data subject to change without notice</b>	

## Training & Support Manual on CD

**Chapter 1:** Mechanics  
Necessary tools  
Mechanical preparations

**Chapter 2:** Electronics  
Soldering instructions

**Chapter 4:** Electronic Assembly

**Chapter 5:** Preparation for Operation

**Chapter 6:** Trouble Shooting

**Chapter 7:** Final Adjustments

**Chapter 8:** Software

**Chapter 9:** C for ASURO

### Appendix:

Partlist  
Diagram ASURO  
USB IR Transceiver  
Blockdiagram ASURO  
Blockdiagram PIC Processor  
Contents ASURO Kit  
Electronic part assembly  
Information about glue  
Resistor code tool



 **Global<sup>®</sup>  
Specialties**  
Innovative Training Solutions

[globalspecialties.com](http://globalspecialties.com)

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Global Specialties:](#)

[ARX](#)