

- Intelligent Robot

## OMNI-DIRECTIONAL MOBILE ROBOT

New  
ED-7275

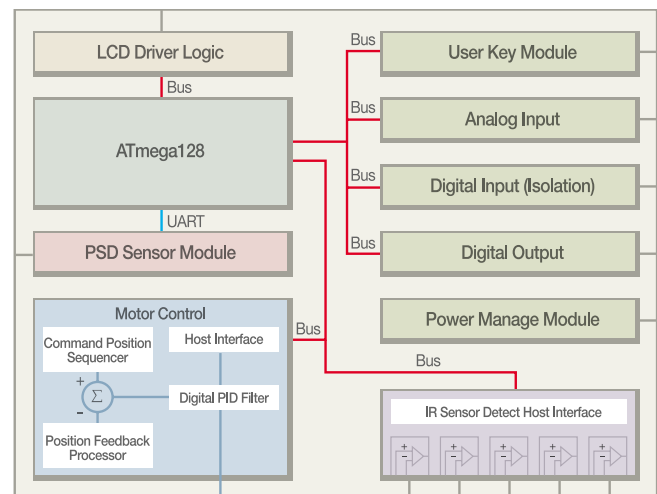
- Omni-directional robot system
- Microprocessor based control command as for simple use
- Floor detecting sensor and forward area detecting distance sensor as mounted
- Mountable expansion by adding the optional ultrasonic sensor and infrared sensor



### > FEATURES

- Covers overall basic experiments for the mobile robot using a floor detecting sensor and a front area detecting distance sensor
- Offers basic-to-advanced training curriculum on the control of robot using embedded MICOM, 3-axis motor, IR sensor, PSD sensor and Omni-directional wheel
- Uniquely designed mechanism that has employed Omni-directional wheel with the interval in 1200 for allowing dynamic movement in all directions
- Five IR sensors mounted to detect a specific color and send the data to Host CPU using interrupt
- Three PSD sensor mounted as basic shipped components, and capable of combining and mounting additional PSD sensor(2ea), human body detection sensor(1ea) and so on
- Provides related library source to help control the robot using Application program(C language)
- Comes with user manual covering various types of sensor adopted for the intelligent robot
- Four buttons for controlling the robot's hardware and LCD for viewing its status easily
- Downloadable through USB AVR ISP terminal
- Smart battery system that allows to check the battery life

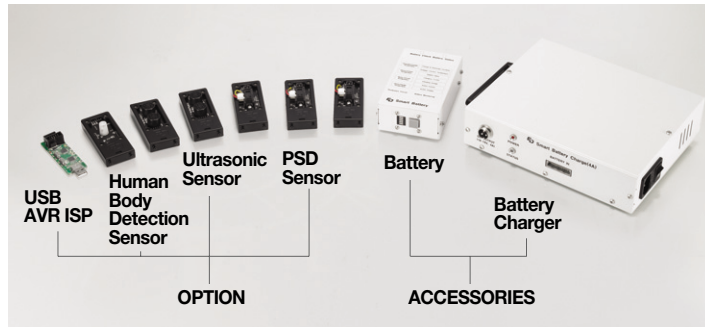
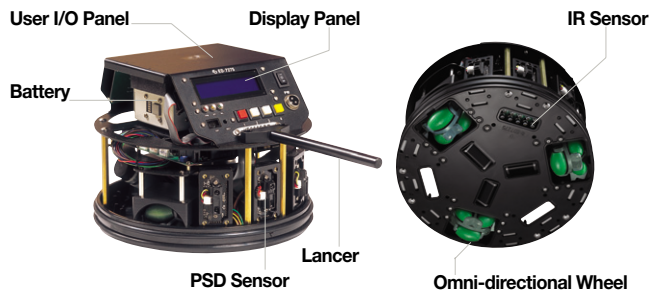
### > BLOCK DIAGRAM



# OMNI-DIRECTIONAL MOBILE ROBOT

# ED-7275

## > MAIN COMPONENTS



## > SPECIFICATIONS

### ROBOT SYSTEM

- **Type of Mobility**
  - » Omni-directional
- **Control Method**
  - » Embedded Micom Based Control
- **Max. Linear Moving Speed**
  - » 50cm/s

### CONTROL PART

- **MCU**
  - » ATmega128
- **Motor**
  - » Available : Axis(Default 3Axis, External 3Axis)
  - » Motor : DC Geared Motor
  - » Operation Mode : Close Loop
  - » Encoder : Optical Incremental Encoder(26Pulse/1Cycle)
- **Battery**
  - » 4S/1P(Lithium Polymer)
  - » Duration: 80 minutes or slightly longer
  - » Motor impression voltage: below 12VDC
- **I/O**
  - » LCD : Blue LCD, 2Line x 20 character
  - » Button : 4ea(for input)
  - » LED : Power LED : 1ea, User LED 2ea
  - » Analog Input : 8point
  - » Digital I/O : 8point

- **Mechanical Part**
  - » Type of Mobility : Omni-directional
  - » Wheels : 3ea
  - » Robot's Appearance : Cylinder type
  - » Robot's Size : Diameter : 255mm  
Height : 200mm

- **Sensor Part**
  - » Floor Detecting Sensor : IR Sensor : 5ea
  - » Forward Area Detecting Sensor
    - › PSD Sensor : 3ea (Front 0°, ±30°)
    - › Sensing Distance : 10~80cm

### ACCESSORIES

- Smart Battery : 1ea
- Battery Charger : 1ea
- External DC Power Cable : 1ea
- AC Cord : 1ea
- Serial Cable : 1ea
- USB Extension Cable : 1ea
- USB AVR ISP : 1ea
- Program CD(including Source) : 1copy
- Experimental Manual : 1ea

### OPTIONS

- Smart Battery Pack  
(4S/2P Lithium Polymer)
- PSD Sensor
- Ultrasonic Sensor
- Human Body Detection Sensor
- Aluminum Carrying Case
- Puck(Red, Yellow, Blue :  
®™40 x 60mm) : 1set
- Puck Tray  
[50(W) x 105(H) x 50(D)mm] : 1set
- Puck & Puck Collector : 1set
- Lance(®™12x160mm) : 1ea

