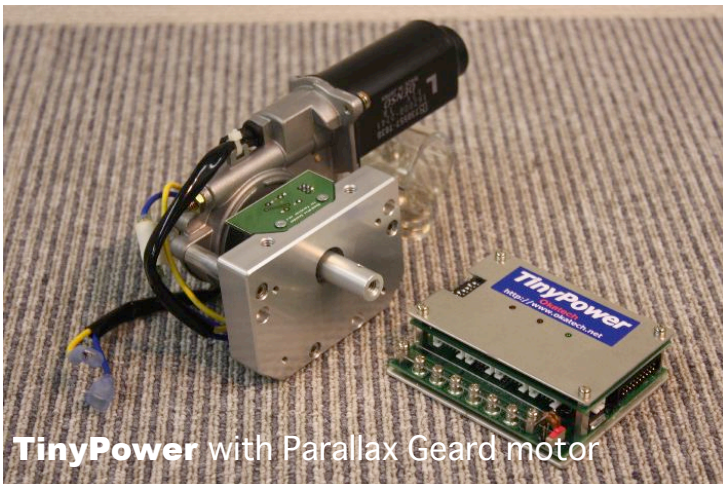


## Intelligent Motor Controller TinyPower

OKA-D-102N



### Three Main Functions of **TinyPower**

1. **Motor Control Driver Function** to control each motor by issuing reference rate of rotation.
2. **Motor Driver Function** to directly control motors from a host computer.
3. **Simultaneous Control of Two motors** by giving reference forward speed and turn around speed.

Analog Input and Digital Input/Output Functions are prepared in addition to the above. Function can be enhanced by connecting sensor units\*, joy-stick unit\* and other units through extension communication port. (\*:to be released)

### Functions

- **PWM Output;** Directly controls the duty ratio of the output to each motor
- **Rotation Rate Control;** Control rotation rate of each motor (PD control) Parameters for pulse ratio, PD gain, Gear ratio are configurable
- **Speed Control;** Controls forward/turn around speed for each of 2 motors  
Trapezoid profile following control with PD control law P/D gain, acceleration/deceleration, tread width, wheel radius are configurable
- **Position Servo Control;** (to be available)
- **Encoder Measurement;** Outputs number of pulses during sampling time, integrated pulse value
- **Analog Measurement;** Measures analog value (eg. sensor) connected to the analog input pin Unipolar 5V/10bit
- **Digital Input/Output;** Inputs and Outputs data from DIO pin of the controller

### Hardware Specifications

**Outer Dimensions;** 80 x 96 x 26mm  
**Weight;** 180g  
**Applicable Motors;** 6V~24V, DC motorx2, Maximum Current 25A (when forced-air-cooled)  
**Input Voltage;** 6V~24V  
**External Communication;** Serial (RS232, USB)  
**Encoder;** A/B phase (5V power system)  
**Input/Output;** Analog Input 5ch, 0~5V, 10bit  
 Digital Input/Output 4ch, Input/Output switchable  
**Control cycle;** PWM Output 20kHz

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