## Rolling Road:

### Block ”:Power sensor”

The Power sensor receives power from the external power source (battery). Signals representing the voltage and current emit from the Power sensor as voltage 0-5V.

Interface description:

#### :power

Direction: [External power source] -> [Power sensor]

The power received from the external power source.

#### Power\_V:Voltage

Direction: [Power sensor] -> [Control unit]

An analog signal in the interval 0-5V, which represents the voltage of the power received from the external power source.

#### Power\_I:Voltage

Direction: [Power sensor] -> [Control unit]

An $XXX signal in the interval 0-5V, which represents the current of the power received from the external power source.

### Block ”:Wheel”

#### :Torque

Direction: [external car wheel] -> [Wheel]

Torque from car wheel.

#### :Torque

Direction: [Wheel] -> [Torque sensor]

The Torque of Wheel goes into the Torque sensor.

### Block ”:Torque sensor”

#### Velocity:Voltage

Direction: [Torque sensor] -> [Control unit]

An analog signal in the interval 0-5V, which represents the rotational velocity of the Wheel.

#### Torque:Voltage

Direction: [Torque sensor] -> [Control unit]

An analog signal in the interval 0-5V, which represents the torque from the car through the Wheel.

### Block ”:Load system”

#### :Torque

Direction: [Wheel] -> [Load system]

The Torque of Wheel goes into the Load system.

#### :PWM

Direction: [Control unit] -> [Load system]

A digital signal 0V/5V, which controls the Load system.

#### :Voltage

Direction: [Load system] -> [Control unit]

An analog signal in the interval 0-5V, which represents the current in the Load system.

### Block ”:Computer”

#### :UART

Direction: [Control unit] -> [Computer]

UART connection to transmit data from Control unit to Computer.

### Block ”:Control unit”

#### Power\_V:Voltage

Direction: [Power sensor] -> [Control unit]

An analog signal in the interval 0-5V, which represents the voltage of the power received from the external power source.

#### Power\_I:Voltage

Direction: [Power sensor] -> [Control unit]

An $XXX signal in the interval 0-5V, which represents the current of the power received from the external power source.

#### Velocity:Voltage

Direction: [Torque sensor] -> [Control unit]

An analog signal in the interval 0-5V, which represents the rotational velocity of the Wheel.

#### Torque:Voltage

Direction: [Torque sensor] -> [Control unit]

An analog signal in the interval 0-5V, which represents the torque from the car through the Wheel.

#### :PWM

Direction: [Control unit] -> [Load system]

A digital signal 0V/5V, which controls the Load system.

#### :Voltage

Direction: [Load system] -> [Control unit]

An analog signal in the interval 0-5V, which represents the current in the Load system.

#### :UART

Direction: [Control unit] -> [Computer]

UART connection to transmit data from Control unit to Computer.