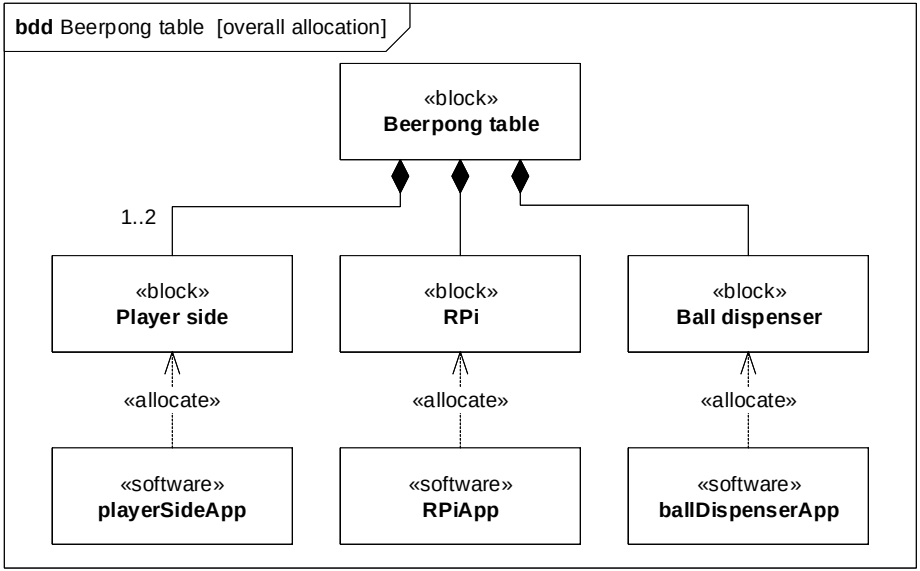
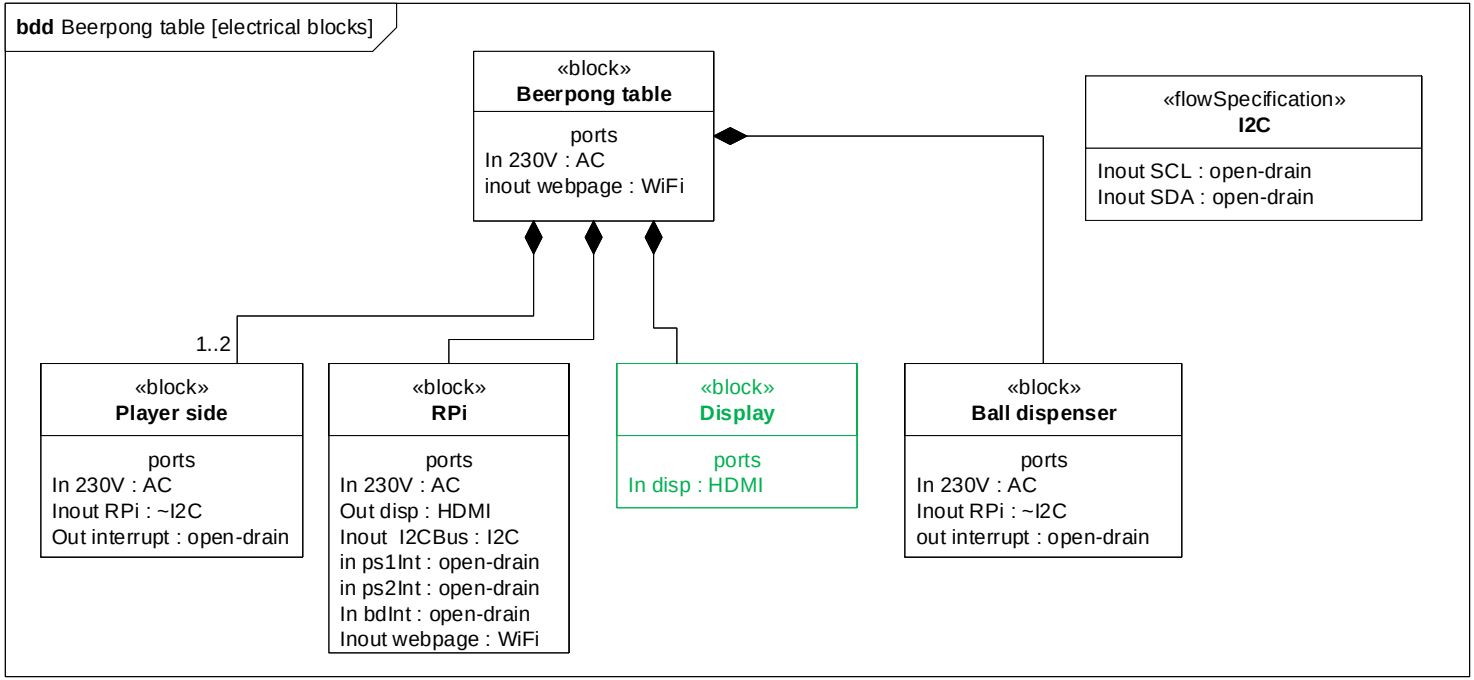
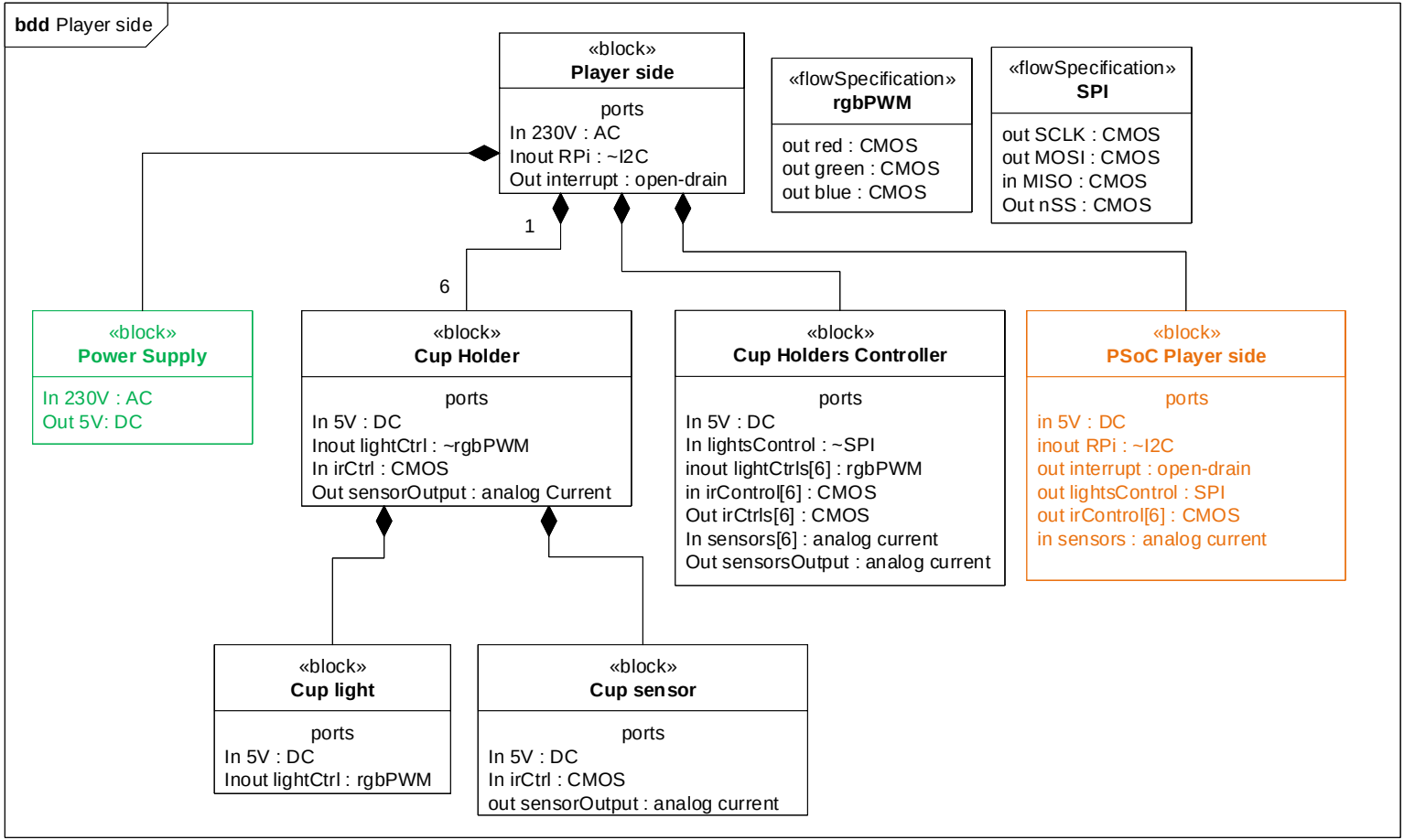
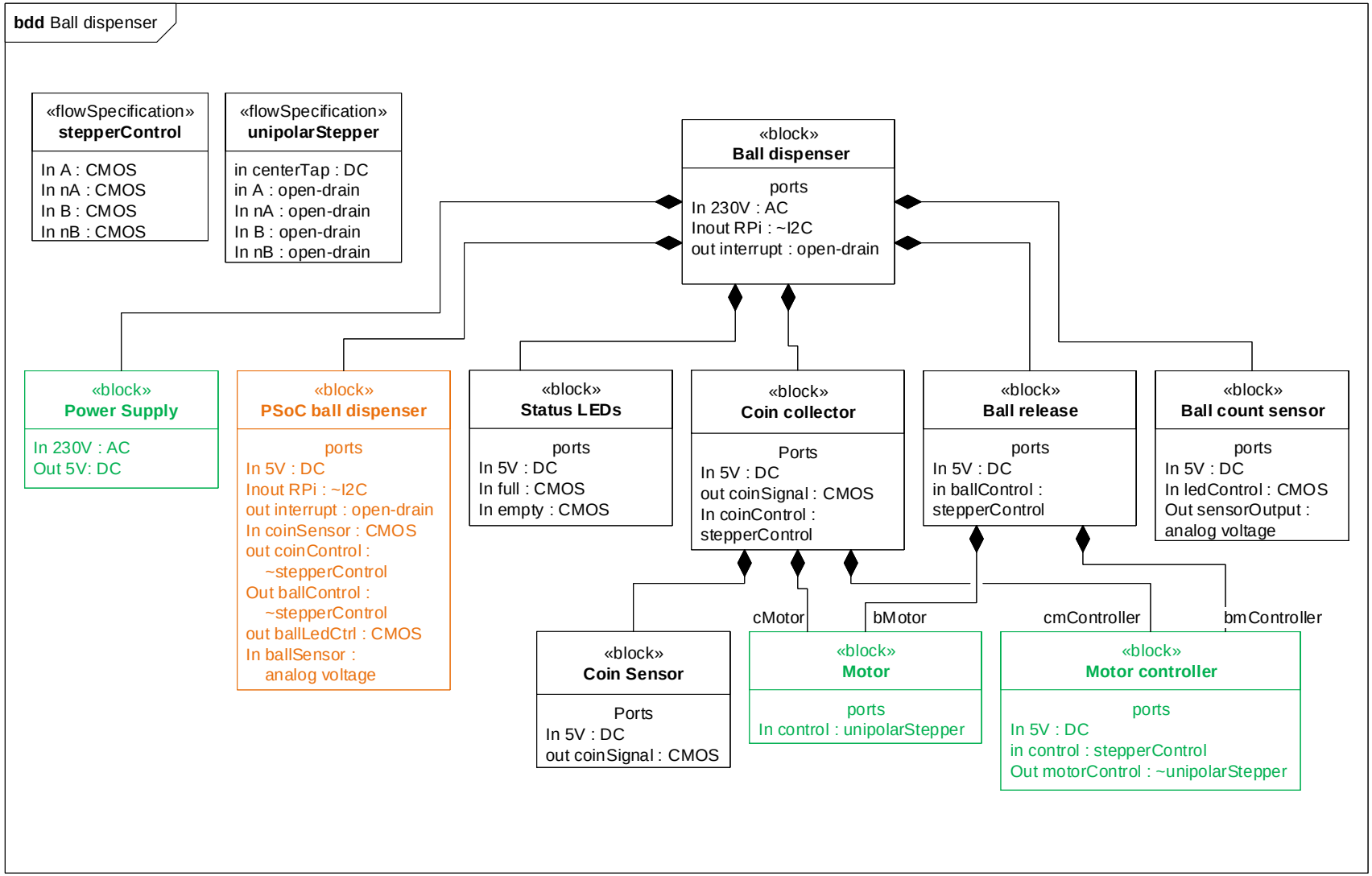
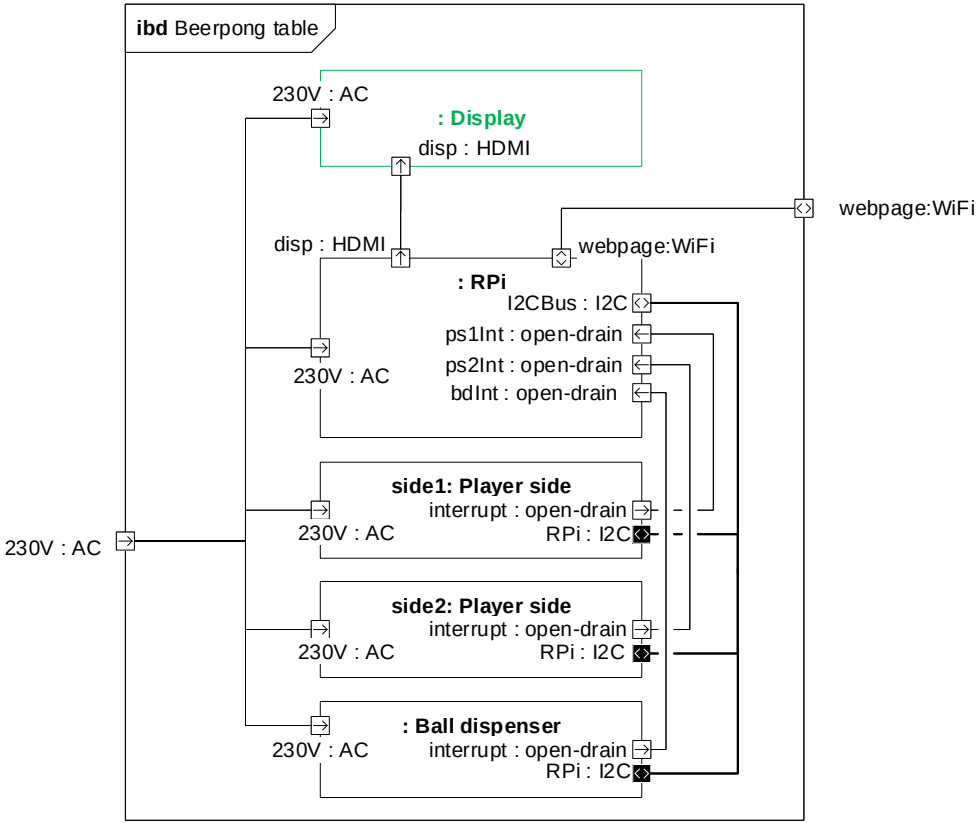
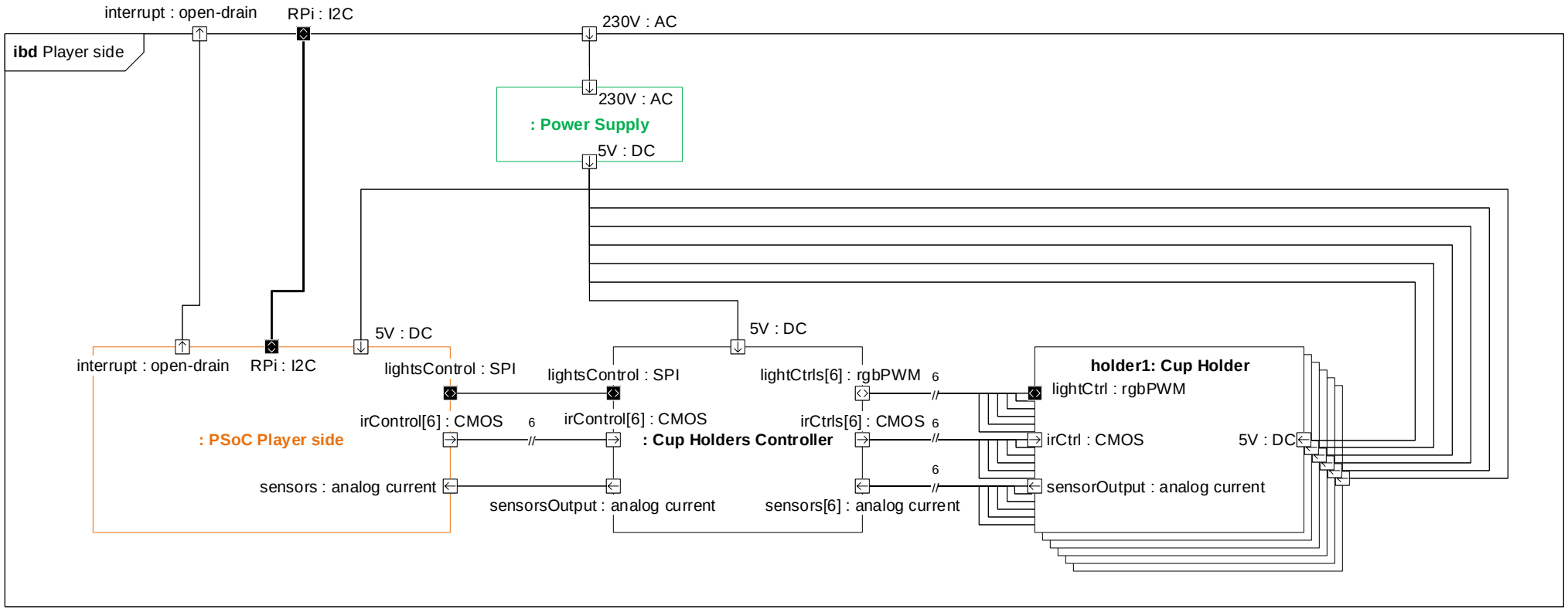

bdd Beerpong table [overall allocation]
«block»
Beerpong table
1..2
«block»
Player side
«block»
RPi
«block»
Ball dispenser
«allocate»
«allocate»
«allocate»
«software»
playerSideApp
«software»
RPiApp
«software»
ballDispenserApp

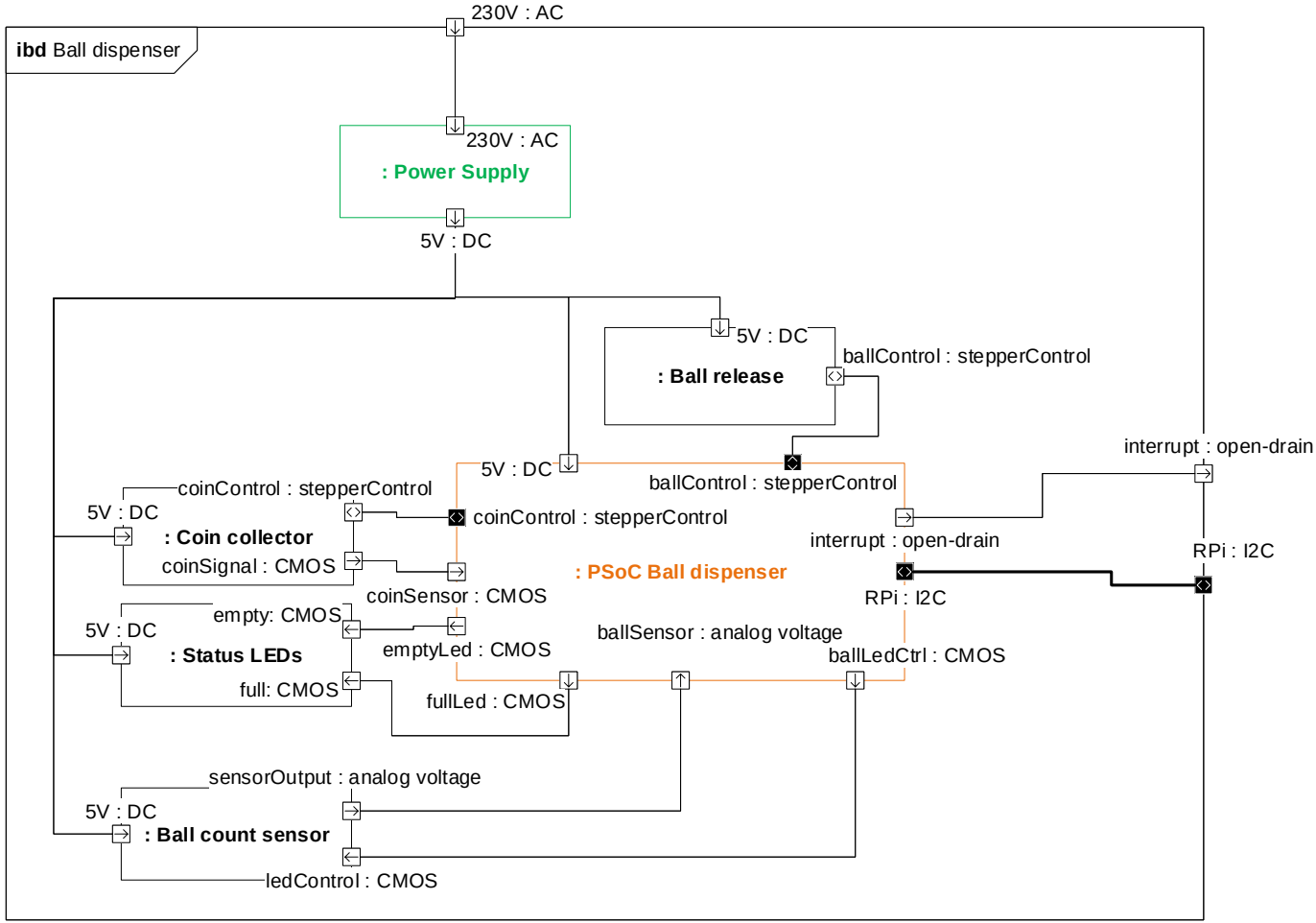

bdd Beerpong table [electrical blocks]
«block»
Beerpong table
ports
In 230V : AC
inout webpage : WiFi
«flowSpecification»
I2C
Inout SCL : open-drain
Inout SDA : open-drain
1..2
«block»
Player side
ports
In 230V : AC
Inout RPi : ~I2C
Out interrupt : open-drain
«block»
RPi
ports
In 230V : AC
Out disp : HDMI
Inout I2CBus : I2C
in ps1Int : open-drain
in ps2Int : open-drain
In bdInt : open-drain
Inout webpage : WiFi
«block»
Display
ports
In disp : HDMI
«block»
Ball dispenser
ports
In 230V : AC
Inout RPi : ~I2C
out interrupt : open-drain

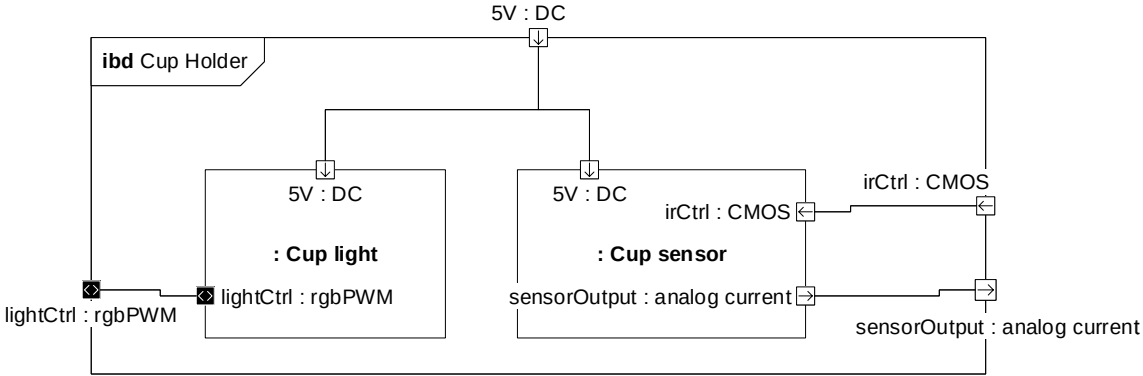

bdd Player side
«block»
Player side
ports
In 230V : AC
Inout RPi : ~I2C
Out interrupt : open-drain
«flowSpecification»
rgbPWM
out red : CMOS
out green : CMOS
out blue : CMOS
«flowSpecification»
SPI
out SCLK : CMOS
out MOSI : CMOS
in MISO : CMOS
Out nSS : CMOS
1
6
«block»
Power Supply
In 230V : AC
Out 5V: DC
«block»
Cup Holder
ports
In 5V : DC
Inout lightCtrl : ~rgbPWM
In irCtrl : CMOS
Out sensorOutput : analog Current
«block»
Cup Holders Controller
ports
In 5V : DC
In lightsControl : ~SPI
inout lightCtrls[6] : rgbPWM
in irControl[6] : CMOS
Out irCtrls[6] : CMOS
In sensors[6] : analog current
Out sensorsOutput : analog current
«block»
PSoC Player side
ports
in 5V : DC
inout RPi : ~I2C
out interrupt : open-drain
out lightsControl : SPI
out irControl[6] : CMOS
in sensors : analog current
«block»
Cup light
ports
In 5V : DC
Inout lightCtrl : rgbPWM
«block»
Cup sensor
ports
In 5V : DC
In irCtrl : CMOS
out sensorOutput : analog current

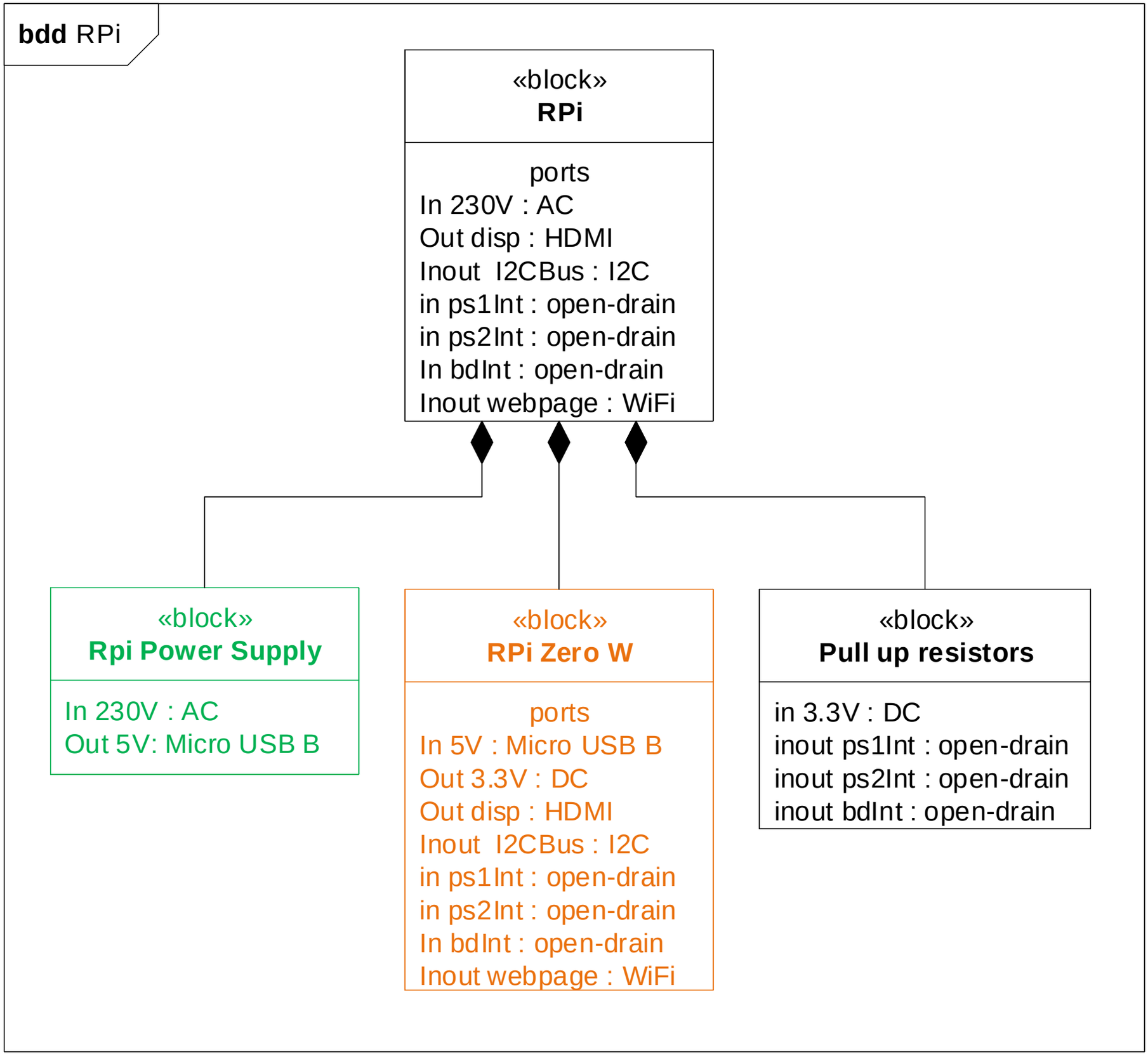

bdd Ball dispenser
«flowSpecification»
stepperControl
In A : CMOS
In nA : CMOS
In B : CMOS
In nB : CMOS
«flowSpecification»
unipolarStepper
in centerTap : DC
in A : open-drain
In nA : open-drain
In B : open-drain
In nB : open-drain
«block»
Ball dispenser
ports
In 230V : AC
Inout RPi : ~I2C
out interrupt : open-drain
«block»
Power Supply
In 230V : AC
Out 5V: DC
«block»
PSoC ball dispenser
ports
In 5V : DC
Inout RPi : ~I2C
out interrupt : open-drain
In coinSensor : CMOS
out coinControl :
~stepperControl
Out ballControl :
~stepperControl
out ballLedCtrl : CMOS
In ballSensor :
analog voltage
«block»
Status LEDs
ports
In 5V : DC
In full : CMOS
In empty : CMOS
«block»
Coin collector
Ports
In 5V : DC
out coinSignal : CMOS
In coinControl :
stepperControl
«block»
Ball release
ports
In 5V : DC
in ballControl :
stepperControl
«block»
Ball count sensor
ports
In 5V : DC
In ledControl : CMOS
Out sensorOutput :
analog voltage
cMotor
bMotor
cmController
bmController
«block»
Coin Sensor
Ports
In 5V : DC
out coinSignal : CMOS
«block»
Motor
ports
In control : unipolarStepper
«block»
Motor controller
ports
In 5V : DC
in control : stepperControl
Out motorControl : ~unipolarStepper

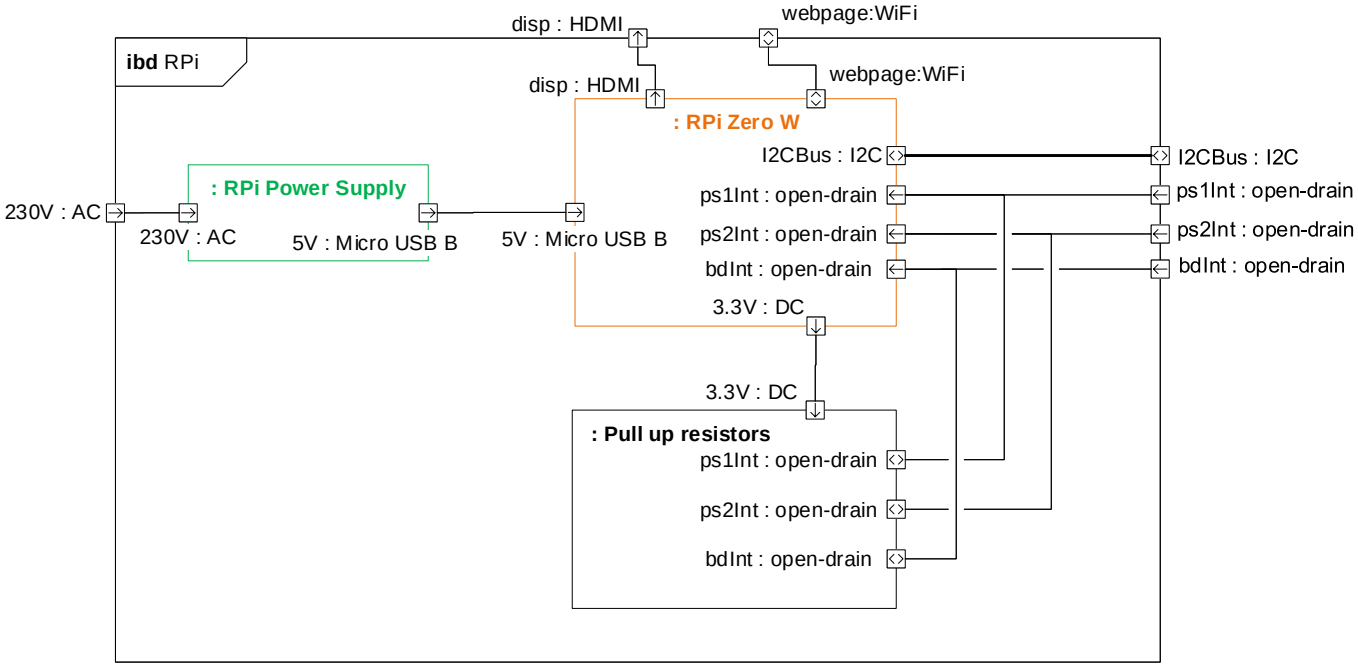

ibd Beerpong table
230V : AC
: Display
disp : HDMI
webpage:WiFi
disp : HDMI
webpage:WiFi
: RPi
I2CBus : I2C
ps1Int : open-drain
ps2Int : open-drain
bdInt : open-drain
230V : AC
side1: Player side
interrupt : open-drain
230V : AC
RPi : I2C
230V : AC
side2: Player side
interrupt : open-drain
230V : AC
RPi : I2C
: Ball dispenser
230V : AC
interrupt : open-drain
RPi : I2C

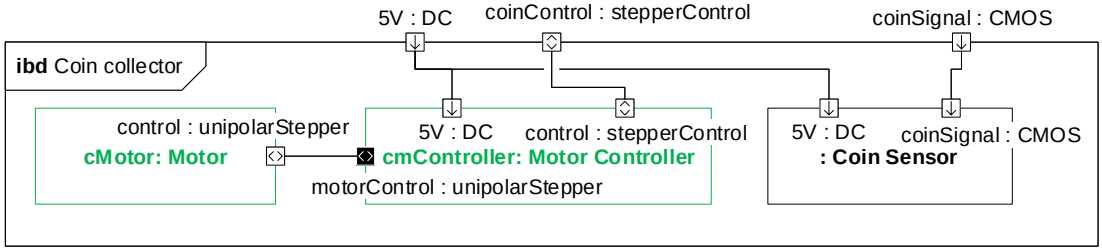

ibd Player side
interrupt : open-drain
RPi : I2C
230V : AC
230V : AC
: Power Supply
5V : DC
5V : DC
5V : DC
interrupt : open-drain
RPi : I2C
lightsControl : SPI
lightsControl : SPI
lightCtrls[6] : rgbPWM
6
holder1: Cup Holder
lightCtrl : rgbPWM
irControl[6] : CMOS
6
irControl[6] : CMOS
irCtrls[6] : CMOS
6
: PSoC Player side
: Cup Holders Controller
irCtrl : CMOS
5V : DC
6
sensors : analog current
sensorsOutput : analog current
sensorsOutput : analog current
sensors[6] : analog current

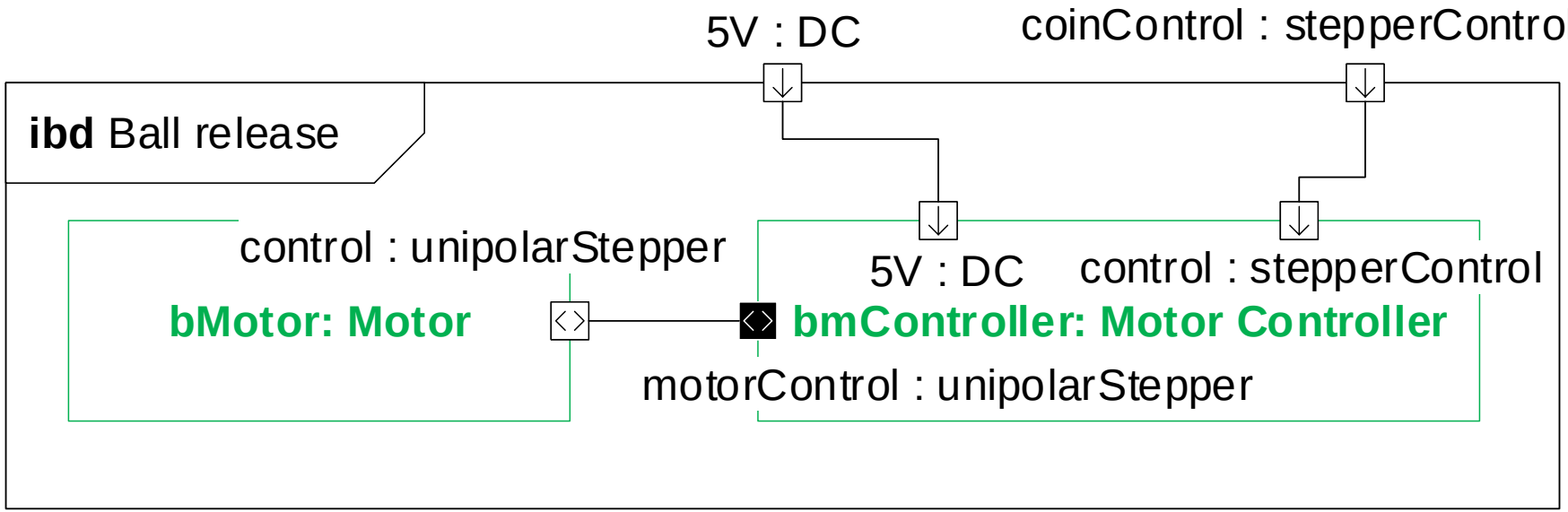

ibd Ball dispenser
230V : AC
230V : AC
: Power Supply
5V : DC
5V : DC
: Ball release
ballControl : stepperControl
5V : DC
ballControl : stepperControl
interrupt : open-drain
coinControl : stepperControl
5V : DC
: Coin collector
coinSignal : CMOS
coinControl : stepperControl
interrupt : open-drain
RPi : I2C
: PSoC Ball dispenser
coinSensor : CMOS
RPi : I2C
empty: CMOS
5V : DC
: Status LEDs
full: CMOS
emptyLed : CMOS
ballSensor : analog voltage
ballLedCtrl : CMOS
fullLed : CMOS
sensorOutput : analog voltage
5V : DC
: Ball count sensor
ledControl : CMOS


5V : DC
ibd Cup Holder
5V : DC
: Cup light
lightCtrl : rgbPWM
lightCtrl : rgbPWM
5V : DC
: Cup sensor
irCtrl : CMOS
sensorOutput : analog current
irCtrl : CMOS
sensorOutput : analog current


bdd RPi
«block»
RPi
ports
In 230V : AC
Out disp : HDMI
Inout I2CBus : I2C
in ps1Int : open-drain
in ps2Int : open-drain
In bdInt : open-drain
Inout webpage : WiFi
«block»
Rpi Power Supply
In 230V : AC
Out 5V: Micro USB B
«block»
RPi Zero W
ports
In 5V : Micro USB B
Out 3.3V : DC
Out disp : HDMI
Inout I2CBus : I2C
in ps1Int : open-drain
in ps2Int : open-drain
In bdInt : open-drain
Inout webpage : WiFi
«block»
Pull up resistors
in 3.3V : DC
inout ps1Int : open-drain
inout ps2Int : open-drain
inout bdInt : open-drain


ibd RPi
disp : HDMI
webpage:WiFi
disp : HDMI
webpage:WiFi
: RPi Zero W
I2CBus : I2C
I2CBus : I2C
ps1Int : open-drain
ps1Int : open-drain
ps2Int : open-drain
ps2Int : open-drain
bdInt : open-drain
bdInt : open-drain
3.3V : DC
: RPi Power Supply
230V : AC
230V : AC
5V : Micro USB B
5V : Micro USB B
3.3V : DC
: Pull up resistors
ps1Int : open-drain
ps2Int : open-drain
bdInt : open-drain


5V : DC
coinControl : stepperControl
coinSignal : CMOS
ibd Coin collector
control : unipolarStepper
cMotor: Motor
5V : DC
control : stepperControl
cmController: Motor Controller
motorControl : unipolarStepper
5V : DC
coinSignal : CMOS
: Coin Sensor


5V : DC
coinControl : stepperControl
ibd Ball release
control : unipolarStepper
5V : DC
control : stepperControl
bMotor: Motor
bmController: Motor Controller
motorControl : unipolarStepper