

Robot ARM – mit Raspberry Pi

BrickPi
Bricks with a Pi Brain



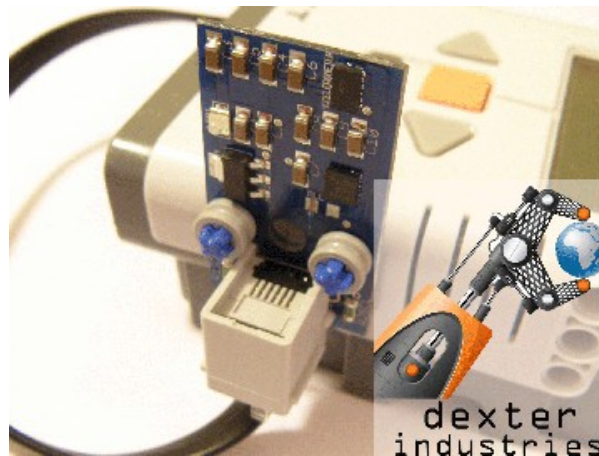
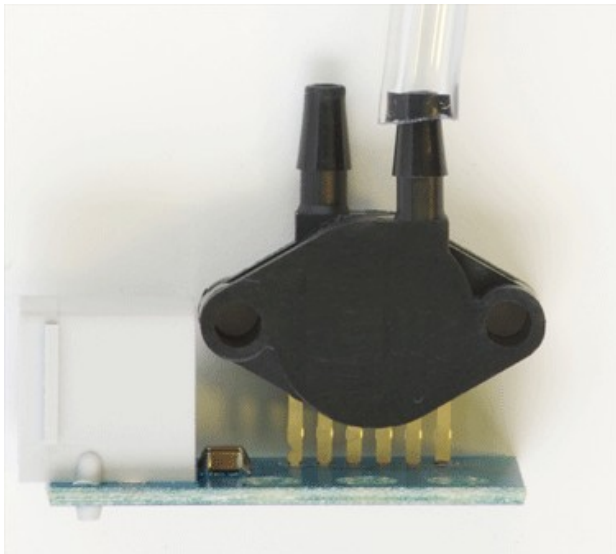
BrickPi
by
Dexter Industries

The logo for BrickPi by Dexter Industries. It features a stylized black and white illustration of a robotic arm holding a Raspberry Pi. Below the illustration, the text 'BrickPi' is written in a large, bold, sans-serif font. Underneath 'BrickPi', the words 'by Dexter Industries' are written in a smaller, bold, sans-serif font.

Lego Mindstorms (NXT)



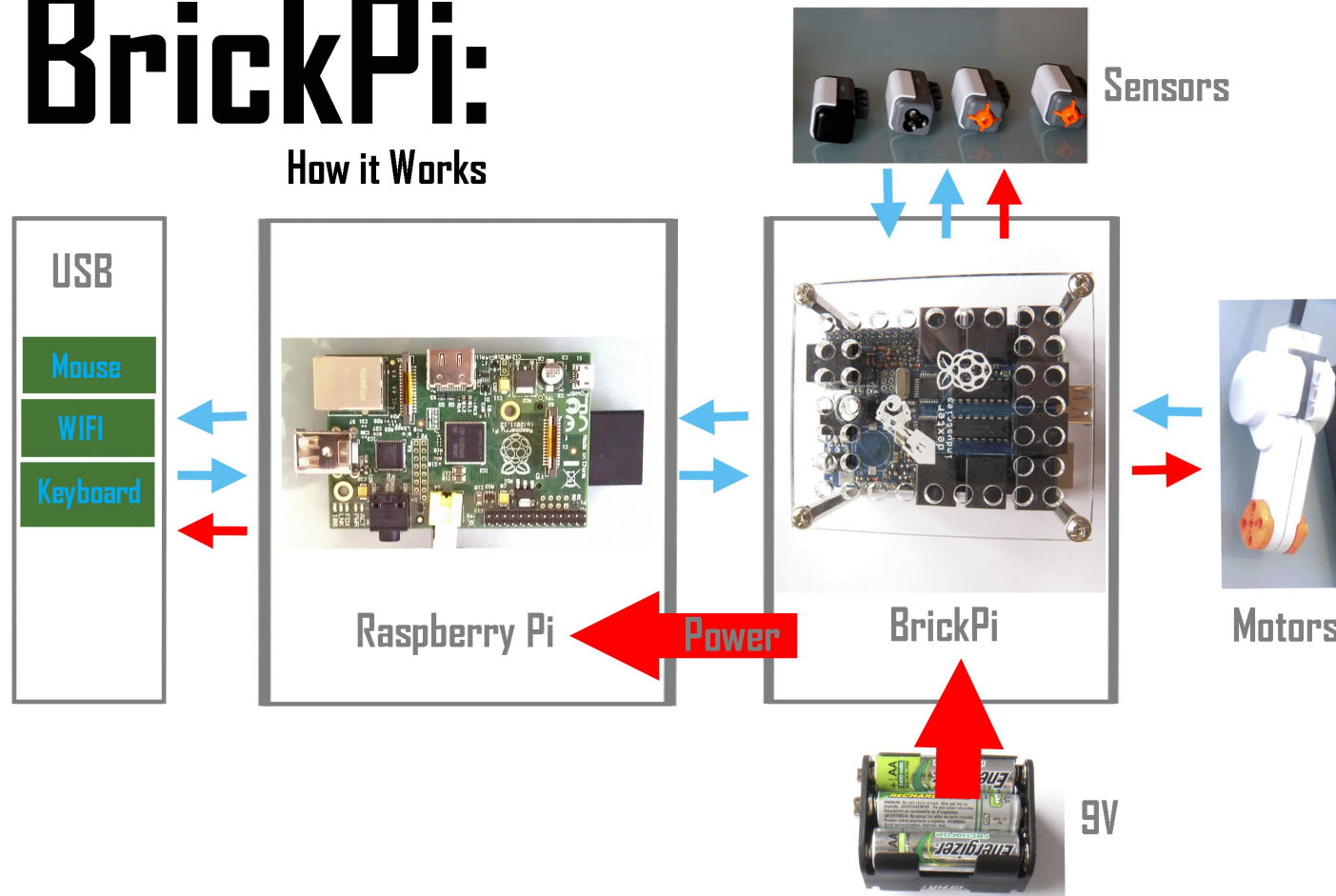
Dexter Industries - Sensoren



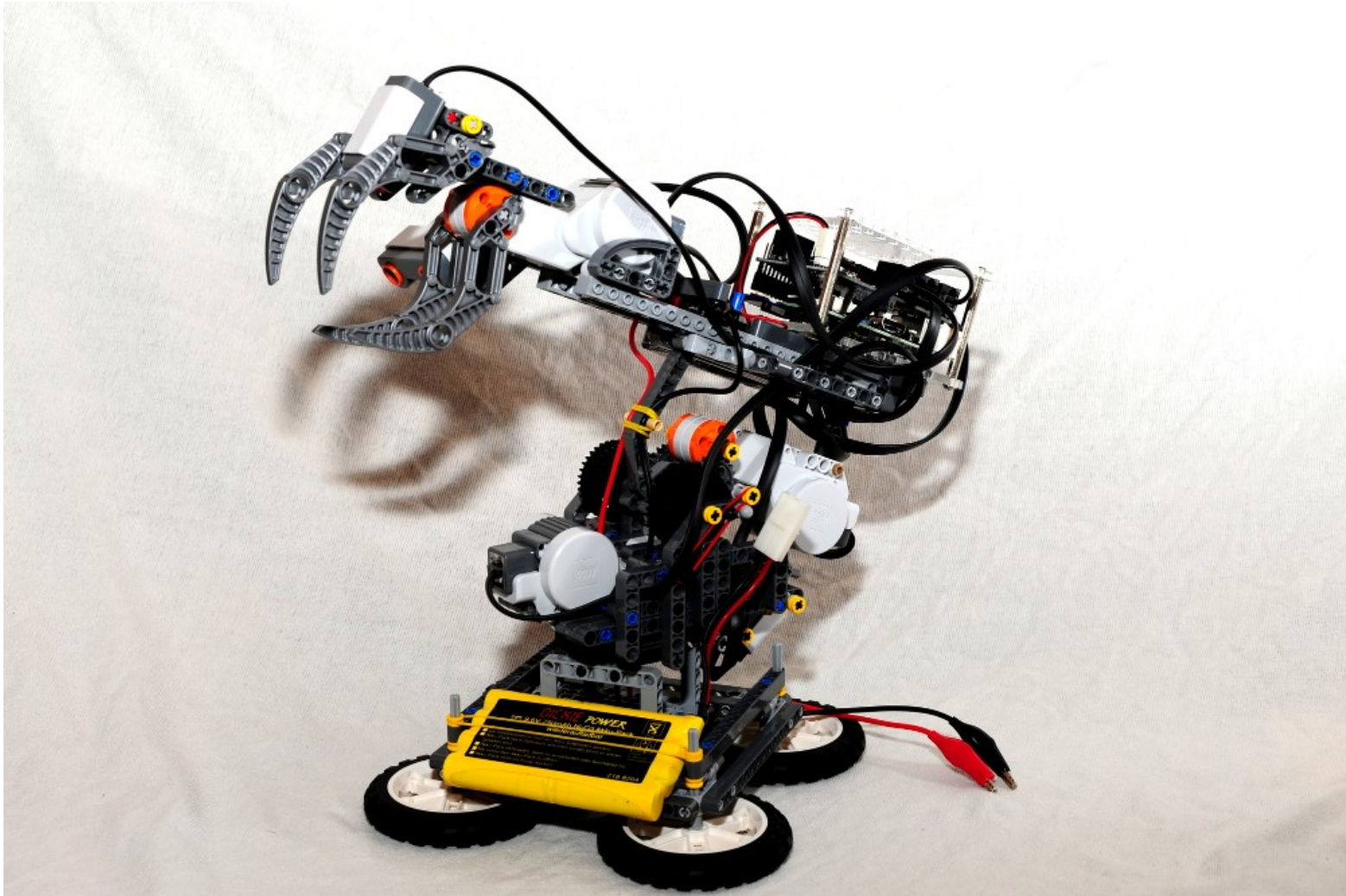
Lego + Raspberry Pi => BrickPi !

BrickPi:

How it Works



RobotARM



RobotARM mit BrickPi - Manfred Wallner

Brick Pi – API ?

1.Voraussetzungen

- patch raspbian
- BrickPi – raspbian

2.Programmieren mit

- Python
- Scratch
- C
- BlocklyTalky
- Java

Programmierung mit C

```
struct BrickPiStruct{  
    . . .  
    unsigned char Address      [2];  
    unsigned long Timeout  
    int          MotorSpeed    [4];  
    unsigned char MotorEnable  [4];  
    . . .  
}
```

```
int BrickPiSetupSensors();  
int BrickPiUpdateValues();  
Int BrickPiSetup();  
void BrickPiTx(unsigned char dest,  
               unsigned char ByteCount,  
               unsigned char OutArray[]);  
Int BrickPiRx (unsigned char *InBytes,  
              unsigned char *InArray,  
              long timeout);
```

```
wiringPiSetup();  
BrickPi.Address[0] = 1;  
BrickPi.Address[1] = 2;  
BrickPi.Timeout = nTimeout;  
BrickPiSetTimeout();  
int nDegree = BrickPi.Encoder[motor];  
.  
.  
while(TRUE) {  
    char *strIn = Promt();  
    if (IsQuit(strIn)) {  
        break;  
    } else if (ToggleVerboseMode(strIn)) {  
        continue;  
    } else if (ToggleBlinkLED(strIn)) {  
        continue;  
    } else {  
        int nCount;  
        ACTION* pActions = Evaluate(strIn, &nCount);  
        if (NULL == pActions) {  
            printf("ERROR! - please check your input!\n");  
        } else {  
            DoRunActions(pActions, nCount);  
            free(pActions);  
        }  
    }  
    free(strIn);  
}  
.  
.  
.
```

Danke!

Fragen? / Diskussion?

Herzlichen Dank!

Quellen / Grafiken:

- <http://www.lego.com/>
- <http://www.dexterindustries.com/BrickPi/>

Kontakt:

@susothatsucks
raspberry@mwallner.net