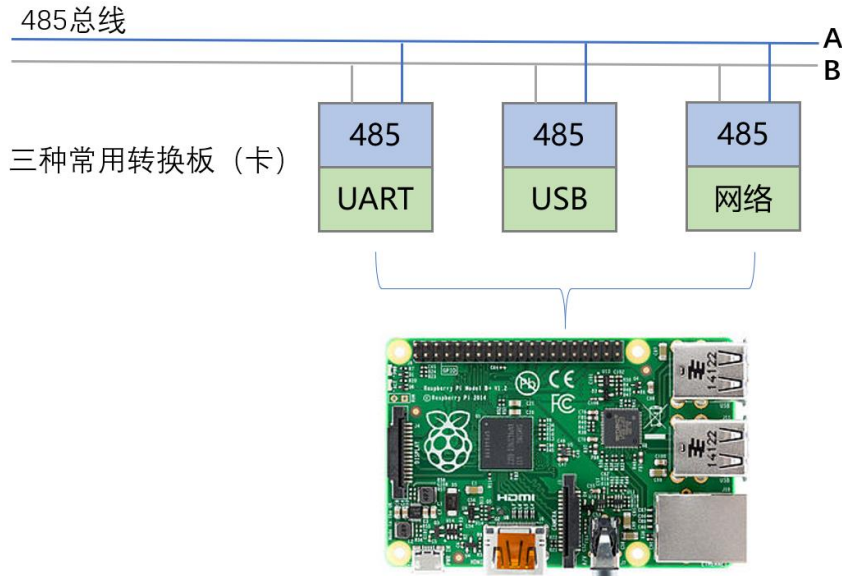


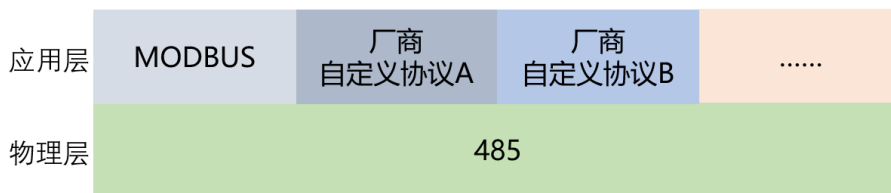
实现 485 总线通讯

【操作步骤】

1. 连接 485 总线



2. 应用层通讯协议



MODBUS 协议: <http://www.modbus.org/specs.php>

3. 一个 485 继电器实例

RS232/485继电器

- ✓ 编程控制
- ✓ 三种协议
- ✓ 超宽电压
- ✓ 专利技术

The image shows an advertisement for an RS232/485 relay controller. The device is a white box with a blue label. The label includes the text: "RS232/485继电器", "RELAY CONTROLLER", "型号: LH-02", "DC5V/DC7-36V", "RS232", "RS485", "A B (240 Ohm)", and "光耦".

接入自定义 ascii 码指令集的设备

【操作步骤】

1. 阅读与理解协议
2. 硬件连接
3. 测试需要的指令
4. 配置 switch.command_line
5. 增加 command_state 配置项

【参考】

- 接线图



- 测试命令

```
echo -e "AT+OUT2+1=ON\r\n" -n | nc -N 192.168.31.246 8899  
echo -e "AT+STATUS+1=?" -n | nc -N 192.168.31.246 8899 -i 1
```

- switch.command_line 配置说明

https://www.home-assistant.io/components/switch.command_line/

- 配置

```
switch:  
  - platform: command_line  
    scan_interval: 3  
    switches:  
      my_relay1:  
        command_on: "echo 'AT+OUT1+1=ON\r\n' | nc -i 1 -N 192.168.31.246 8899"  
        command_off: "echo 'AT+OUT1+1=OFF\r\n' | nc -i 1 -N 192.168.31.246 8899"  
        command_state: "echo 'AT+STATUS+1=?\r\n' | nc -i 1 -N 192.168.31.246 8899"  
        value_template: "{{ 'OUT1 OF No.1 IS ON' in value }}"
```

接入 modbus 设备

【操作步骤】

1. Modbus 协议
<http://www.modbus.org/specs.php>
2. HomeAssistant 中 Modbus 的配置
<https://www.home-assistant.io/components/#search/modbus>
3. 具体设备配置
4. 协议不全的问题与解决

【参考】

- LH-04 继电器模块的配置

```
modbus:
# - name: hub_tcp
#   type: rtuovertcp
#   host: 192.168.31.246
#   port: 8899
- name: hub_serial
  type: serial
  method: rtu
  port: /dev/ttyUSB0
  baudrate: 9600
  stopbits: 1
  bytesize: 8
  parity: N

switch:
  platform: modbus
  coils:
    - name: switch1
      hub: hub_serial
      slave: 1
      coil: 0
    - name: switch2
      hub: hub_serial
      slave: 1
      coil: 1
    - name: switch3
      hub: hub_serial
      slave: 1
      coil: 2
    - name: switch4
      hub: hub_serial
      slave: 1
      coil: 3
```

自定义二进制命令设备的接入

【操作步骤】

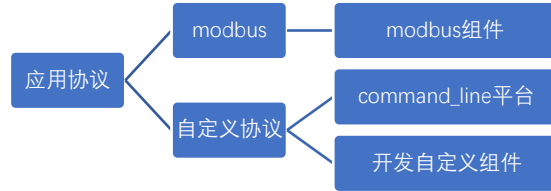
1. 自定义组件程序解释

https://github.com/zhujisheng/Home-Assistant-DIY/blob/master/%E5%8F%82%E8%80%83%E6%96%87%E6%A1%A3%EF%BC%8821-30%EF%BC%89/custom_components/bus485_example/switch.py

2. 配置自定义组件并演示

```
switch:  
  - platform: bus485_example
```

3. 485 小结



【参考】

● 自定义组件相关文件

<https://www.home-assistant.io/components/#search/command%20line>

● 样例程序

custom_components/bus485_example 目录下三文件：

- https://github.com/zhujisheng/Home-Assistant-DIY/raw/master/%E5%8F%82%E8%80%83%E6%96%87%E6%A1%A3%EF%BC%8821-30%EF%BC%89/custom_components/bus485_example/switch.py
- https://github.com/zhujisheng/Home-Assistant-DIY/raw/master/%E5%8F%82%E8%80%83%E6%96%87%E6%A1%A3%EF%BC%8821-30%EF%BC%89/custom_components/bus485_example/manifest.json
- https://github.com/zhujisheng/Home-Assistant-DIY/raw/master/%E5%8F%82%E8%80%83%E6%96%87%E6%A1%A3%EF%BC%8821-30%EF%BC%89/custom_components/bus485_example/_init_.py