Template:Networking trb141 manual input output status

```
ioman.acl.acl0     - Analog Current loop
ioman.adc.adc0     - Analog input
ioman.dwi.dwi0     - Passive/Active input (PIN1)
ioman.dwi.dwi1     - Passive/Active input (PIN2)
ioman.gpio.dio0    - Configurable input/output (PIN3)
ioman.gpio.dio1    - Configurable input/output (PIN4)
ioman.gpio.iio     - Isolated input
ioman.gpio.onewire - One wire
ioman.relay.relay0 - Relay
ioman.relay.relay1 - Latching relay
```

In order to read values, use the ***status*** command:

```
ubus call ioman.gpio.dio0 status
ubus call ioman.relay.relay0 status
```

To change input settings, use the ***update*** command and specify a value:

```
ubus call ioman.gpio.dio0 update '{"value":"0"}'
ubus call ioman.gpio.dio0 update '{"value":"1"}'
```

To change relay settings, use the ***update*** command and specify a state:

```
ubus call ioman.relay.relay0 update '{"state":"open"}'
ubus call ioman.relay.relay0 update '{"state":"closed"}'
```

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Contents

Reading I/O values from directory

You can also collect I/O values straight from directories in your device.

Digital inputs, Relay outputs

The following is a list of I/O directories in */sys/class/gpio/*:

```
dwi1(dry wet) input 14; toggle 12 (to read value refer to gpio14, to change
state dry/wet refer to gpio12)
dwi2(dry wet) input 15; toggle 38 (to read value refer to gpio15, to change
state dry/wet refer to gpio38)
relay open 20; closed 22; (turn off gpio20 set to 0, turn on gpio22 set value
to 1; and visa versa)
latching relay open 23; close 21 (turn off gpio23 set to 0, turn on gpio21
set value to 1; and visa versa)
dio0 (power socket) input 13; output 16 (direction can be changed, to read
input use gpio13, to control output use gpio16)
dio1 (power socket) input 17; output 78 (direction can be changed, to read
input use gpio17, to control output use gpio78)
iio (isolated input) input 1021 (to read value refer to gpio1021)
```

In order to read digital input values, use the ***cat*** command:

```
cat /sys/class/gpio/gpio14/value
cat /sys/class/gpio/gpio15/value
cat /sys/class/gpio/gpio1021/value
```

To change an input state, use the ***echo*** command (where "1" is "dry" state and "0" is "wet" state):

```
echo 0 > /sys/class/gpio/gpio12/value
echo 1 > /sys/class/gpio/gpio38/value
```

When one Relay output is open, the other one is closed; so to turn an output on or off, you will have to change the value on both pins:

```
echo 1 > /sys/class/gpio/gpio20/value & echo 0 > /sys/class/gpio/gpio22/value
echo 1 > /sys/class/gpio/gpio23/value & echo 0 > /sys/class/gpio/gpio21/value
```

ADC (Analog Input)

The ADC (Analog Input) value can be read from a different directory:

```
cat /sys/devices/qpnp-vadc-8/mpp4_vadc
```

Divide the result by 126582 in order to convert the number into volts (V).

Note: ADC can have tolerance of 0.5%.

One-wire

In order to read one-wire sensor data you will need to follow these steps:

1. Set one-wire sensor value to "1' using the *ubus* command:

   ```
   ubus call ioman.gpio.onewire update '{"value":"1"}'
   ```

2. List the connected one-wire devices from the */sys/bus/w1/devices* directory using the ***ls*** command:

   ```
   ls /sys/bus/w1/devices
   ```

3. Choose a sensor to read and obtain its state from the */sys/bus/w1/devices/<device_name>/w1_slave* directory:

   ```
   cat /sys/bus/w1/devices/<device_name>/w1_slave
   ```