

PWM Example - Advantech

Advantech devices with Pulse Width Modulation - PWM are supported by MatDeck functions. Here is an example that illustrates how the PWM channel is configured and started, it can be done using a GUI form or using code. In order to see the output, an oscilloscope should be used.

Step 1: Open device in "pwmoutput" mode

```
1 sel := 0
2 pwMoulatorCtrl := atdevice_ct_open(sel, "pwmoutput")
```

Here, the variable sel is used to identify the device which is being used, and pwMoulatorCTRL is the device handle which is used to access the device. If sel is equal to zero, the demo device will be used. Next, the PWM channel is defined.

```
3 startChannel := 0
```

Step 2: Start the PWM Output

```
4 atdevice_ct_start_output(pwMoulatorCtrl, startChannel, [0.08; 0.02])
```

In the line above, the third argument is used to set the parameters of the PWM output. The two value vectors define the duration of the pulse's high level, and the duration of the low level in seconds. The sum of these two values defines the period of PWM output in seconds. For example, the line four defines a PWM output that has a high level duration equal to 80ms, low level duration of 20ms, and frequency of 10Hz.

The output is generated for one second.

```
5 for(n := 0; n < 10; n += 1)
6 {
7     sleep(100)
8 }
```

Once finished, the PWM output should be stopped and the device handle should be closed in order to release any allocated resources.

```
9 atdevice_ct_stop(pwMoulatorCtrl)
```

Step 3 : Close the device and release any allocated resources.

```
10 atdevice_close(pwMoulatorCtrl)
```