

Treatlife DS3 Fan Controller

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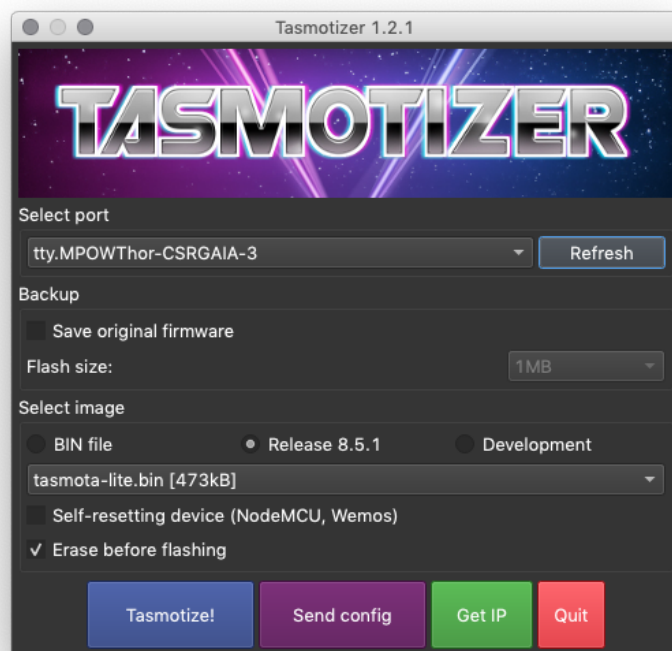
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Flashing

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Using Tasmotizer

```
pip3 install --upgrade pip wheel
pip3 install tasmotizer
tasmotizer.py
```



Setup

From Console on Tasmota UI



Issue the following commands:

```
module 54
backlog so97 1 ; tuyamcu 11,1 ; tuyamcu 12,9 ; tuyamcu 21,10
backlog ledtable 0 ; dimmerrange 100,1000 ; so59 1 ; so68 0
```

Add the following rule, this should be all on ONE line.

This rule will not turn the fan on when the fan speed is changed.

```
Rule1 on TuyaReceived#Data=55AA03070005030400010016 do publish2 stat/%topic%/speed 3,0 endon
on TuyaReceived#Data=55AA03070005030400010117 do publish2 stat/%topic%/speed 3,1 endon
on TuyaReceived#Data=55AA03070005030400010218 do publish2 stat/%topic%/speed 3,2 endon
on TuyaReceived#Data=55AA03070005030400010319 do publish2 stat/%topic%/speed 3,3 endon
```

Enable the rule with the following

```
Rule1 1
```

Homebridge Config

Light

```

{
  "accessory": "mqttthing",
  "type": "lightbulb",
  "name": "John's Light",
  "url": "http://192.168.1.60:1883",
  "username": "homebridge",
  "password": "pass",
  "topics": {
    "getOn": "stat/johnlight/POWER2",
    "setOn": "cmdn/johnlight/POWER2",
    "getBrightness": {
      "topic": "stat/johnlight/RESULT",
      "apply": "return JSON.parse(message).Dimmer;"
    },
    "setBrightness": "cmdn/johnlight/Dimmer"
  },
  "onValue": "ON",
  "offValue": "OFF",
  "startPub": {
    "cmdn/johnlight/POWER2": "",
    "cmdn/johnlight/Dimmer": ""
  },
  "confirmationPeriodms": 1000
}

```

Fan

```

{
  "accessory": "mqttthing",
  "type": "fan",
  "name": "John's Fan",
  "url": "http://192.168.1.60:1883",
  "username": "homebridge",
  "password": "pass",
  "topics": {
    "getOn": "stat/johnlight/POWER1",
    "setOn": "cmdn/johnlight/POWER1",
    "getRotationSpeed": {
      "topic": "stat/johnlight/speed",
      "apply": "return( ( message == '3,0' ) ? 25 : null || ( message == '3,1' ) ? 50 : null || ( message == '3,2' ) ? 75 : null || ( message == '3,3' ) ? 100 : null );"
    },
    "setRotationSpeed": {
      "topic": "cmdn/johnlight/tuyasend4",
      "apply": "return( ( message <= 25 ) ? '3,0' : null || ( message > 25 && message <= 50 ) ? '3,1' : null || ( message > 50 && message <= 75 ) ? '3,2' : null || ( message > 75 && message <= 100 ) ? '3,3' : null );"
    }
  },
  "onValue": "ON",
  "offValue": "OFF",
  "startPub": {
    "cmdn/johnlight/POWER1": "",
    "cmdn/johnlight/speed": ""
  },
  "confirmationPeriodms": 1000
}

```

Investigating Tuya Messages

> weblog 4

Manipulating the fan

Console Output

```
02:06:52 {"TuyaReceived":{"Data":"55AA03070005030400010218","Cmnd":7,"CmndData":"0304000102","DpType4Id3":2,"3":{"DpId":3,"DpIdType":4,"DpIdData":"02"}}}
02:06:52 RUL: TUYARECEIVED#DATA=55AA03070005030400010218 performs "publish2 stat/johnlight/speed 3,2"
02:06:52 SRC: Rule
02:06:52 CMD: Group 0, Index 2, Command "PUBLISH", Data "stat/johnlight/speed 3,2"
02:06:52 MQT: stat/johnlight/speed = 3,2 (retained)
```

Data: 55AA03070005030400010218

CmndData: 0304000102

Speed: 2

Rule:

```
Rule1 on TuyaReceived#Data=55AA03070005030400010016 do publish2 stat/%topic%/speed 3,0 endon
on TuyaReceived#Data=55AA03070005030400010117 do publish2 stat/%topic%/speed 3,1 endon
on TuyaReceived#Data=55AA03070005030400010218 do publish2 stat/%topic%/speed 3,2 endon
on TuyaReceived#Data=55AA03070005030400010319 do publish2 stat/%topic%/speed 3,3 endon
```

Manipulating light brightness

```
1:49:08 {"TuyaReceived":{"Data":"55AA030700080A020004000003183C","Cmnd":7,"CmndData":"0A02000400000318","DpType2Id10":792,"10":{"DpId":10,"DpIdType":2,"DpIdData":"00000318"}}}
01:49:08 TYA: fnId=21 is set for dpId=10
01:49:08 TYA: RX value 792 from dpId 10
01:49:09 {"TuyaReceived":{"Data":"55AA030700080A020004000002D2F5","Cmnd":7,"CmndData":"0A020004000002D2","DpType2Id10":722,"10":{"DpId":10,"DpIdType":2,"DpIdData":"000002D2"}}}
01:49:09 TYA: fnId=21 is set for dpId=10
01:49:09 TYA: RX value 722 from dpId 10
```

Observations:

Data: **55AA030700080 A02000400000318 3C**

CmndData: **A02000400000318**

318hex = 792

Checksum: 3C

Rule:

<Doesn't WORK>

```
Rule2 on TuyaReceived#DpId=10 do publish2 stat/johnlight/bb DpIdData endon
Rule2 1
```

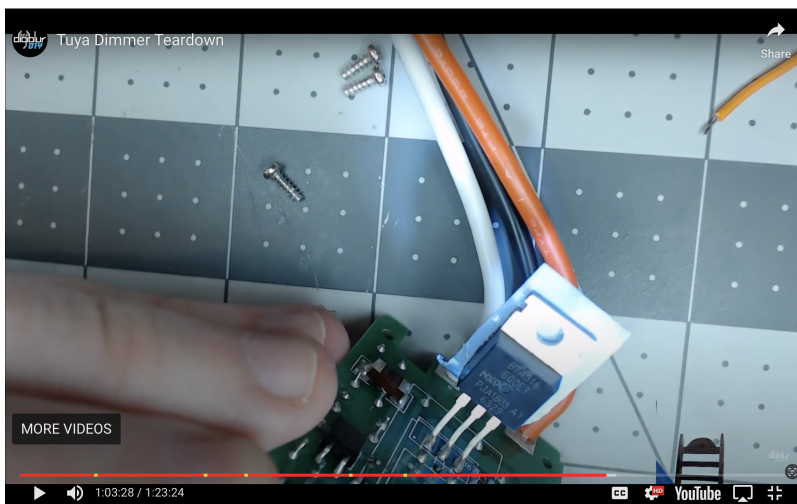
Even this doesn't work! Don't know why.

```
Rule2 on TuyaReceived#Data=5AA030700080A020004000000 do publish2 stat/%topic%/bb 1,1 endon
Rule2 1
```

Issues

Flickering Light

I think this issue is a result of the triac not having proper adhesion to the heat sink. The triac is simply pushed up against the heatsink. It has a foam pad that allows heat transfer from the triac to the heatsink.



Could we do something better here?

Triac - BTA316-600ET

<https://www.digikey.ca/en/products/detail/ween-semiconductors/BTA316-600ET-127/2530340>

Datasheet:

<https://www.ween-semi.com/sites/default/files/2018-10/bta316-600et.pdf>

References

Reference	URL
The Tasmota Fan Controller I've been waiting for...	https://www.digiblur.com/2020/07/the-tasmota-fan-controller-ive-been.html
Blakadder's DS03	https://templates.blakadder.com/treatlife_DS03.html

Combo Speed Fan Controller/Dimmer with Tasmota - How to Flash Shelly devices with NO wires!	https://www.youtube.com/watch?v=o813Kjw76_I
Tasmotizer	https://github.com/tasmota/tasmotizer