

# Domoticz Plugin

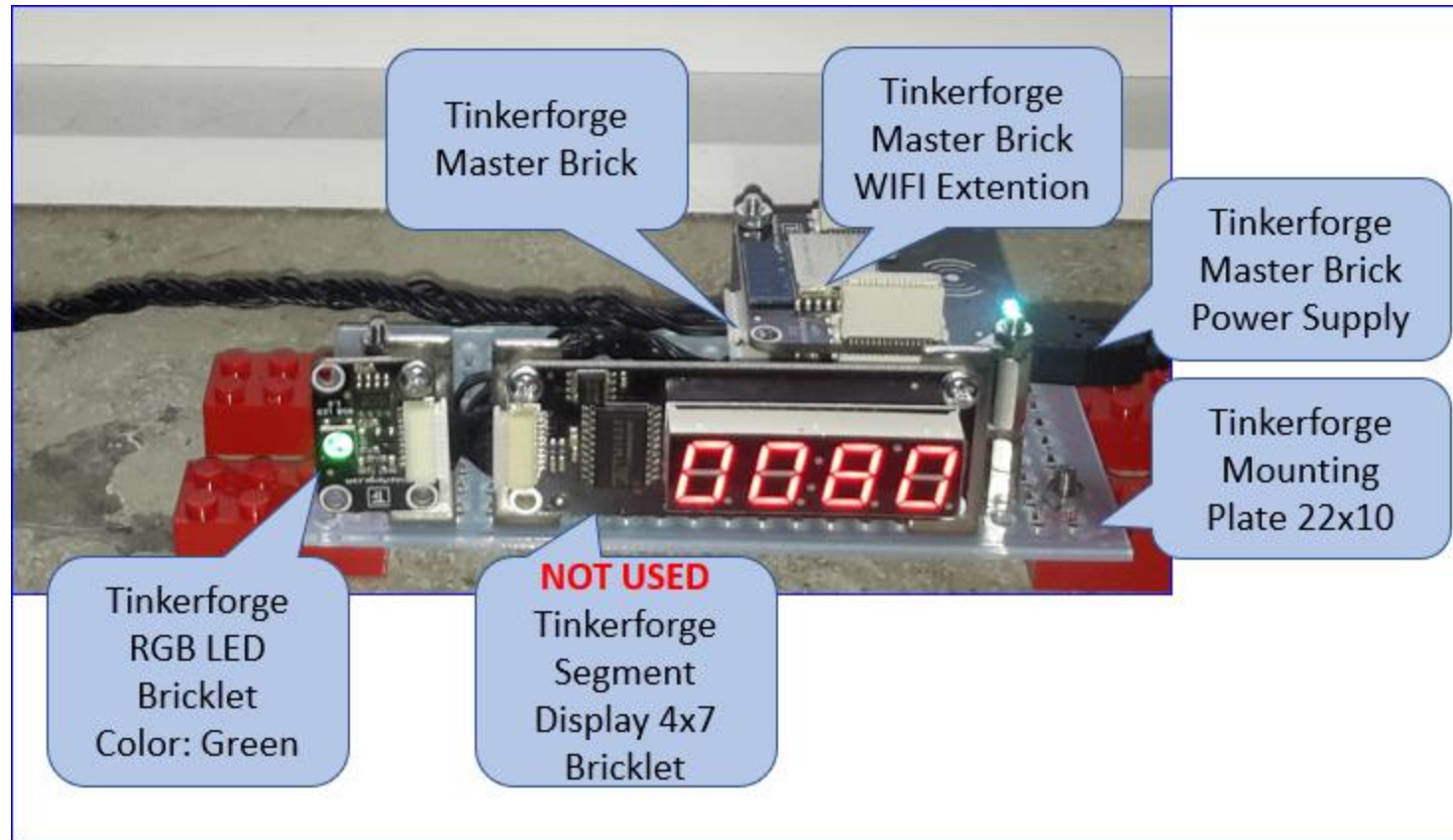
TrafficLight

(using Tinkerforge Building Blocks)

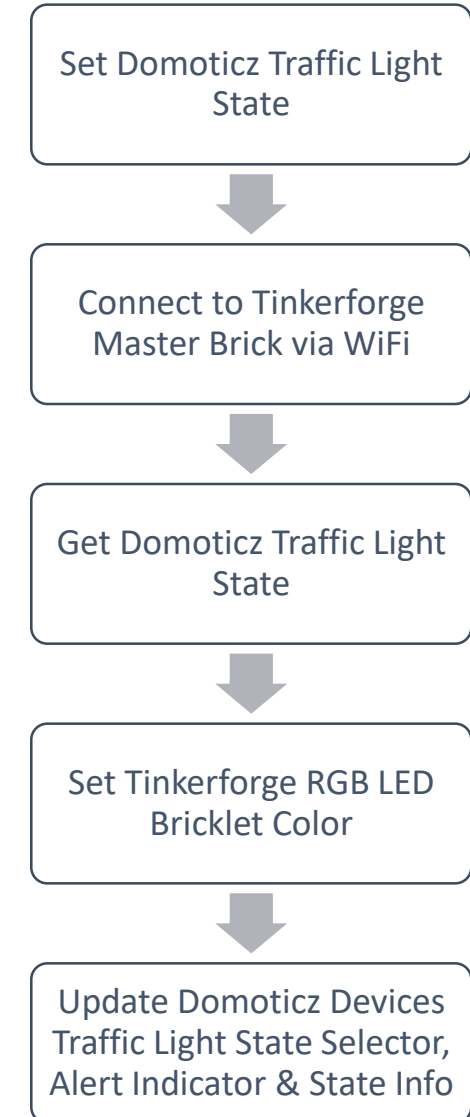
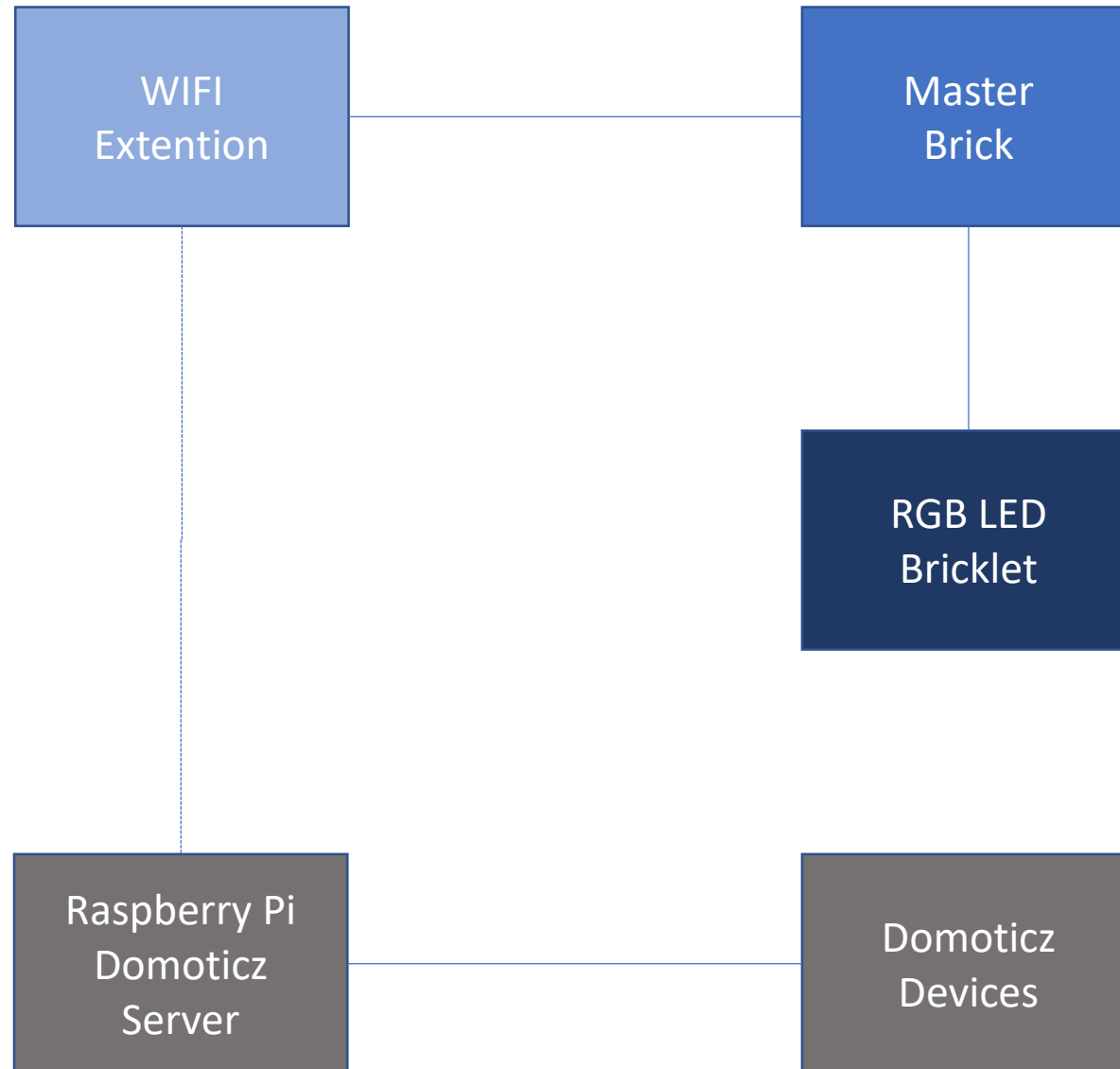
By Robert W. B. Linn

27.05.2019

# Prototype



# Overview Hardware & Flow



# Domoticz – Add new Hardware Traffic Light

Idx	Name	Enabled	Type	Address	Port	Data Timeout
7	Traffic Light	Yes	Traffic Light	192.168.1.112		Disabled

Showing 1 to 1 of 1 entries (filtered from 4 total entries) [First](#) [Previous](#) [1](#) [Next](#) [Last](#)

[Update](#) [Delete](#)

Enabled: ☒

Name:

Type:

Data Timeout:   
Specifying a Data Timeout will restart the hardware device if no data is received for the specified time.  
**Do not enable this option for devices that do not receive data!**

### Traffic Light

Set the color of a Tinkerforge RGB LED Bricklet to RED,YELLOW or GREEN via Domoticz Selector Switch device.

**Features**

- Traffic Light Color (R-G-B): RED=255-0-0; YELLOW=255-255-0; GREEN=0-255-0
- Traffic Light Brightness

**Traffic Light Devices**

- Set Traffic Light Color via Selector Switch with options RED, YELLOW or GREEN
- Display Traffic Light Alert Indicator
- Display Traffic Light Change Info

**Configuration**  
Requires the HTTP address and Port of the Master Brick WiFi Extention and the UID of the Tinkerforge RGB LED Bricklet.

Host:

Port:

UID:

Brightness:

Debug:

## Notes

<ADD>

[Read plugin.py](#)

```
""
<plugin key="TrafficLight" name="Traffic Light" author="rwbl" version="1.0.0">
  <description>
    <h2>Traffic Light</h2><br/>
    Set the color of a Tinkerforge RGB LED Bricklet to RED,YELLOW or GREEN via Domoticz Selector Switch device.
    <h3>Features</h3>
    <ul style="list-style-type:square">
      <li>Traffic Light Color (R-G-B): RED=255-0-0; YELLOW=255-255-0; GREEN=0-255-0</li>
      <li>Traffic Light Brightness</li>
    </ul>
    <h3>Traffic Light Devices</h3>
    <ul style="list-style-type:square">
      <li>Set Traffic Light Color via Selector Switch with options RED, YELLOW or GREEN</li>
      <li>Display Traffic Light Alert Indicator</li>
      <li>Display Traffic Light Change Info</li>
    </ul>
    <h3>Configuration</h3>
    Requires the HTTP address and Port of the Master Brick WiFi Extention and the UID of the Tinkerforge RGB LED Bricklet.
  </description>
  <params>
    <param field="Address" label="Host" width="200px" required="true" default="ip-address"/>
    <param field="Port" label="Port" width="75px" required="true" default="4223"/>
    <param field="Mode1" label="UID" width="75px" required="true" default="zMF"/>
    <param field="Mode4" label="Brightness" width="75px" required="true" default="100"/>
    <param field="Mode6" label="Debug" width="75px">
      <options>
        <option label="True" value="Debug" default="true"/>
        <option label="False" value="Normal"/>
      </options>
    </param>
  </params>
</plugin>
""
```

# Domoticz – Add new Hardware Traffic Light - Domoticz Log

The Domoticz Log after adding the new hardware. There are 3 new devices created and set to used.

	13	Traffic Light	00070001	1	Traffic Light - State Selector	Light/Switch	Selector Switch	Off
	14	Traffic Light	00070002	2	Traffic Light - Alert Indicator	General	Alert	No Alert!
	15	Traffic Light	00070003	3	Traffic Light - Change Info	General	Text	

```
2019-05-27 09:43:31.992 Status: (Traffic Light) Started.
2019-05-27 09:43:32.550 (Traffic Light) Debug logging mask set to: PYTHON PLUGIN QUEUE IMAGE DEVICE CONNECTION MESSAGE ALL
2019-05-27 09:43:32.550 (Traffic Light) 'DomoticzHash': 'fccd39bb'
2019-05-27 09:43:32.550 (Traffic Light) 'HardwareID': '7'
2019-05-27 09:43:32.550 (Traffic Light) 'Database': '/home/pi/domoticz/domoticz.db'
2019-05-27 09:43:32.550 (Traffic Light) 'Version': '1.0.0'
2019-05-27 09:43:32.550 (Traffic Light) 'HomeFolder': '/home/pi/domoticz/plugins/TrafficLight/'
2019-05-27 09:43:32.550 (Traffic Light) 'DomoticzVersion': '4.10826'
2019-05-27 09:43:32.550 (Traffic Light) 'Name': 'Traffic Light'
2019-05-27 09:43:32.550 (Traffic Light) 'Mode6': 'Debug'
2019-05-27 09:43:32.550 (Traffic Light) 'DomoticzBuildTime': '2019-05-24 10:04:40'
2019-05-27 09:43:32.550 (Traffic Light) 'Mode4': '100'
2019-05-27 09:43:32.550 (Traffic Light) 'StartupFolder': '/home/pi/domoticz/'
2019-05-27 09:43:32.550 (Traffic Light) 'Port': '4223'
2019-05-27 09:43:32.550 (Traffic Light) 'Key': 'TrafficLight'
2019-05-27 09:43:32.550 (Traffic Light) 'Language': 'en'
2019-05-27 09:43:32.550 (Traffic Light) 'Address': 'ip-address'
2019-05-27 09:43:32.550 (Traffic Light) 'Author': 'rwbL'
2019-05-27 09:43:32.550 (Traffic Light) 'UserDataFolder': '/home/pi/domoticz/'
2019-05-27 09:43:32.550 (Traffic Light) 'Model': 'zMF'
2019-05-27 09:43:32.550 (Traffic Light) Device count: 0
2019-05-27 09:43:32.550 (Traffic Light) Creating new Devices
2019-05-27 09:43:32.551 (Traffic Light) Creating device 'State Selector'.
2019-05-27 09:43:32.552 (Traffic Light) Device created: Traffic Light - State Selector
2019-05-27 09:43:32.552 (Traffic Light) Creating device 'Alert Indicator'.
2019-05-27 09:43:32.553 (Traffic Light) Device created: Traffic Light - Alert Indicator
2019-05-27 09:43:32.553 (Traffic Light) Creating device 'Change Info'.
2019-05-27 09:43:32.554 (Traffic Light) Device created: Traffic Light - Change Info
2019-05-27 09:43:32.554 (Traffic Light) Pushing 'PollIntervalDirective' on to queue
2019-05-27 09:43:32.554 (Traffic Light) Processing 'PollIntervalDirective' message
2019-05-27 09:43:32.554 (Traffic Light) Heartbeat interval set to: 60.
2019-05-27 09:43:32.547 Status: (Traffic Light) Entering work loop.
2019-05-27 09:43:32.548 Status: (Traffic Light) Initialized version 1.0.0, author 'rwbL'
```

# Domoticz Traffic Light - Devices

There are 3 new devices created, with an initial state & info, set to used and manually added to the dashboard.

	13	Traffic Light	00070001	1	Traffic Light - State Selector	Light/Switch	Selector Switch	Off
	14	Traffic Light	00070002	2	Traffic Light - Alert Indicator	General	Alert	No Alert!
	15	Traffic Light	00070003	3	Traffic Light - Change Info	General	Text	

The dashboard after setting the Traffic Light to RED via the State Selector Device.

### Light/Switch Devices:

Traffic Light - State Selector

RED

 Last Seen: 2019-05-27 09:51:51

RED YELLOW GREEN

### Utility Sensors:

Traffic Light - Alert Indicator

RED

 Last Seen: 2019-05-27 09:51:51

Traffic Light - Change Info

 Traffic Light changed from 0 to 10

Last Seen: 2019-05-27 09:51:51

# Domoticz Traffic Light – State Changed from Off to RED

The initial state is Off.

The log shows changing the state to RED by pressing RED button on the State Selector Switch.

```
2019-05-27 09:51:50.997 Status: User: Admin initiated a switch command (13/Traffic Light - State Selector/Set Level)
2019-05-27 09:51:51.002 (Traffic Light) Processing 'onCommandCallback' message
2019-05-27 09:51:51.002 (Traffic Light) Calling message handler 'onCommand'.
2019-05-27 09:51:51.003 (Traffic Light) onCommand called for Unit 1: Parameter 'Set Level', Level: 10
2019-05-27 09:51:51.012 (Traffic Light) IP Connection - OK
2019-05-27 09:51:51.012 (Traffic Light) Traffic Light - State Selector-Traffic Light State New=10
2019-05-27 09:51:51.012 (Traffic Light) Traffic Light - State Selector-nValue=0,sValue=
2019-05-27 09:51:51.017 (Traffic Light) Traffic Light - State Selector-RGB LED Colors R-G-B:0-100-0
2019-05-27 09:51:51.018 (Traffic Light) RGB LED Brightness updated:100
2019-05-27 09:51:51.018 (Traffic Light - State Selector) Updating device from 0:'' to have values 2:'10'.
2019-05-27 09:51:51.030 (Traffic Light) Traffic Light - State Selector-nValue=2,sValue=10
2019-05-27 09:51:51.030 (Traffic Light - Alert Indicator) Updating device from 0:'No Alert!' to have values 4:'RED'.
2019-05-27 09:51:51.038 (Traffic Light) Traffic Light - Alert Indicator-nValue=4,sValue=RED
2019-05-27 09:51:51.038 (Traffic Light - Change Info) Updating device from 0:'' to have values 0:'Traffic Light changed from 0 to 10'.
2019-05-27 09:51:51.045 (Traffic Light) Traffic Light - Change Info-nValue=0,sValue=Traffic Light changed from 0 to 10
2019-05-27 09:51:51.148 (Traffic Light) TrafficLight Update: OK
```

# Domoticz Traffic Light – Plugin Code Snippet onCommand

```
def onCommand(self, Unit, Command, Level, Hue):
    try:
        ipcon = IPConnection()
        lb = BrickletRGBLED(Parameters["Mode1"], ipcon)
        ipconnected = 0
        try:
            ipcon.connect(Parameters["Address"], int(Parameters["Port"]))
            ipconnected = 1
        except:
            Domoticz.Debug("[ERROR] IP Connection failed")
        oldtrafficlightstate = 0
        if Devices[1].sValue != "":
            oldtrafficlightstate = int(Devices[1].sValue)
        newtrafficlightstate = Level
        rgbvalue = lb.get_rgb_value()
        lbbrightness = int(Parameters["Mode4"])
        trafficlightcolor = "UNKNOWN"
        trafficlightalert = 0
        if newtrafficlightstate == 10:
            lb.set_rgb_value(lbbrightness, 0, 0)
            trafficlightcolor = "RED"
            trafficlightalert = 4
        if newtrafficlightstate == 20:
            lb.set_rgb_value(lbbrightness, lbbrightness, 0)
            trafficlightcolor = "YELLOW"
            trafficlightalert = 2
        if newtrafficlightstate == 30:
            lb.set_rgb_value(0, lbbrightness, 0)
            trafficlightcolor = "GREEN"
            trafficlightalert = 1
        Devices[1].Update( nValue=2, sValue=str(newtrafficlightstate) )
        Devices[2].Update( nValue=trafficlightalert, sValue=trafficlightcolor )
        Devices[3].Update( nValue=0, sValue="Traffic Light changed from " + str(oldtrafficlightstate) + " to " + str(newtrafficlightstate) )
        ipcon.disconnect()
    except:
        if ipconnected == 1:
            ipcon.disconnect()
            Domoticz.Log("[ERROR] Check settings, correct and restart Domoticz")
```



# Domoticz Traffic Light – Set State via HTTP

**Set the Traffic Light (idx=13) State to GREEN by setting the level to 30:**

<http://ip-address:8080/json.htm?type=command&param=switchlight&idx=13&switchcmd=Set%20Level&level=30>

*Resulting in HTTP response*

```
{ "status" : "OK", "title" : "SwitchLight" }
```

The plugin onCommand function is triggered and the devices are updated.

Check the Domoticz Web-UI:

- <http://ip:8080/#/Dashboard>
- <http://ip:8080/#/Log>

**The Traffic Light Levels can be set to:**

10=RED,20=YELLOW,30=GREEN