LIST OF DEVICES

(https://wiki.chipfc.com/index.php?title=Th%E1%BB%83_lo%E1%BA%A1i:Chipi_Series)

Note:

These devices are compatible with 3.3V and 5V

They can be coded on Microbit by using Python or MakeCode

Referring to the Python Coding Environment at:

[DOC] https://microbit-micropython.readthedocs.io/en/v1.0.1/

[EDITOR] https://python.microbit.org/v/2.0

This Topic is Topic template. for you to use during the test. To avoid a lot of you posting data on the topic leading to errors while testing your system. You should create your own feeds and test on your own feeds

No.	Names of devices	Image	Description	Feed and Data

1	A 2-color single LED		OUTPUT https://wiki.chipfc.com/index.php?title=Chipi_-_2-Color_LED	Topic: CSE_BBC/feeds/bk-iot-led
				{
				"id":"1",
				"name":"LED",
				"data":"X",
				"unit":""
				}
				X = 0 – Off
				X = 1 – Red
				X = 2 – Green

2	Buzzer		OUTPUT https://wiki.chipfc.com/index.php?title=Chipi_-_Buzzer	Topic: CSE_BBC/feeds/bk-iot-speaker
				{
				"id":"2",
				"name":"SPEAKER",
				"data":"X",
				"unit":""
				}
				X in the range of 0 to 1023

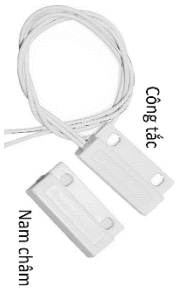
3	LCD I2C		OUTPUT
			It uses the I2C communication protocol and it is compatible with 3V3 and Microbit
				Topic: CSE_BBC/feeds/bk-iot-lcd
				{
				"id":"3",
				"name":"LCD",
				"data":"X",
				"unit":""
				}
				X = String on lcd

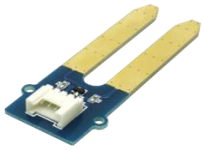
4	Single push button		INPUT
			https://wiki.chipfc.com/index.php?title=Chipi_-_Button
				Topic: CSE_BBC/feeds/bk-iot-button
				{
				"id":"4",
				"name":"BUTTON",
				"data":"X",
				"unit":""
				}
				X = 0: Press
				X = 1: Do not press

5	Touch button		INPUT
			https://wiki.chipfc.com/index.php?title=Chipi_-_Touch_Key
				Topic: CSE_BBC/feeds/bk-iot-touch
				{
				"id":"5",
				"name":"TOUCH",
				"data":"X",
				"unit":""
				}
				X = 0: Do not touch
				X = 1: Touch

6	Traffic light		OUTPUT
			Three single LEDs simulate traffic lights. It outputs 2-pin control signals corresponding to 4 different states of 3 lights (Off - 00, Green 01, Yellow 10, Red 11)
				Topic: CSE_BBC/feeds/bk-iot-traffic
				{
				"id":”6”,
				"name":"TRAFFIC",
				"data":"X",
				"unit":""
				}
				X = 00: Off
				X = 01: Green
				X = 11: Yellow
				X = 10: Red

7	DHT11		It can sense temperature. (INPUT)
			https://wiki.chipfc.com/index.php?title=Chipi_-_Humidity_%26_Temperature_Sensor
				Topic: CSE_BBC/feeds/bk-iot-temp-humid
				{
				"id":"7",
				"name":"TEMP-HUMID",
				"data":"X",
				"unit": "C-%"
				}
				X = temp-humid
				Example: X = 29-55

8	Magnetic switch		INPUT, It can detect opening door.
			https://wiki.chipfc.com/index.php?title=C%E1%BA%A3m_bi%E1%BA%BFn_m%E1%BB%9F_c%E1%BB%ADa_c%C3%B4ng_t%E1%BA%AFc_t%E1%BB%AB
				Topic: CSE_BBC/feeds/bk-iot-magnetic
				{
				"id":"8",
				"name":"MAGNETIC",
				"data":"X",
				"unit":""
				}
				X = 0: Off
				X = 1: On

9	Soil moisture		It can sense humidity. (INPUT)
			https://wiki.chipfc.com/index.php?title=C%E1%BA%A3m_bi%E1%BA%BFn_%C4%91%E1%BB%99_%E1%BA%A9m_%C4%91%E1%BA%A5t
				Topic: CSE_BBC/feeds/bk-iot-soil{
				"id":”9",
				"name":"SOIL ",
				"data":"X",
				"unit":"%"
				}
				X = from 0 to 1023
				X < 100: Dry soil
				X > 100: Wet soil

10	DRV power circuit		OUTPUT, It can control the Engine.
			https://wiki.chipfc.com/index.php?title=Chipi_-_Motor_DRV
				Topic: CSE_BBC/feeds/bk-iot-drv
				{
				"id":"10",
				"name":"DRV_PWM",
				"data":"X",
				"unit":""
				}
				X in the range of -255 to 255.
				X < 0: Spin counterclockwise
				X > 0: Spin clockwise
				Spin speed is absolute value of X.

11	Relay circuit		OUTPUT, It can control Switch.	CSE_BBC1/feeds/bk-iot-relay
				{
				"id":"11",
				"name":"RELAY",
				"data":"X",
				"unit":””
				}
				X = 0, Device off
				X = 1, Device On

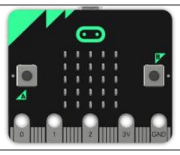
12	Sound Sensor		Sensor, INPUT
			It detects noise / measures noise
			https://wiki.chipfc.com/index.php?title=Chipi_-_Sound_Sensor
				CSE_BBC1/feeds/bk-iot-sound
				{
				"id":"12",
				"name":"SOUND",
				"data":"X",
				"unit":""
				}
				X in the range of 0 to 1023
				X < 100: Quiet
				X > 100: Noisy

13	Light Sensor		Sensor, INPUT
			https://wiki.chipfc.com/index.php?title=Chipi_-_Light_Sensor1
				CSE_BBC1/feeds/bk-iot-light
				{
				"id":"13",
				"name":"LIGHT",
				"data":"X",
				"unit":""
				}
				X in the range of 0 to 1023
				X < 100: Dark
				X >100: Bright

14	Mini pump		This is an actuator and is usually attached to a motor circuit or a Relay	Device attached to Relay and have no data.
15	Mini motor + propeller		This is an actuator and is usually attached to a motor circuit or a Relay	Device attached to DRV and have no data.

16	Infrared sensor		Sensor, INPUT
			It can detect an obstacle effectively
				CSE_BBC1/feeds/bk-iot-infrared
				{
				"id":"16",
				"name":"INFRARED",
				"data":"X",
				"unit":""
				}
				X=OUT1OUT2 (example: 00,01,10,11)
				OUT1, OUT2 = 0: No obstacles at sensor1, sensor2.
				OUT1, OUT2 = 1: Obstacles at sensor1, sensor2.

17	RC servo 590		This is an actuator and is driven at a rotating angle.	CSE_BBC1/feeds/bk-iot-servo
				{
				"id":"17",
				"name":"SERVO",
				"data":"X",
				"unit":"degree"
				}
				X in the range of 0 to 180.

18	Expansion circuit		This circuit connects the peripherals	
19	Microbit		This is the central control circuit	
20	Adapter 5V		This device supplies power to the system	
21	AAA Battery Box		This device supplies power to the system	

22	Real- time clock	
		 
			This is a real- time clock that uses IC DS3107 and I2C communication protocol https://wiki.chipfc.com/index.php?title=Chipi_-_RTC	CSE_BBC1/feeds/bk-iot-time
				{
				"id":"22",
				"name":"TIME",
				"data":"X",
				"unit":""
				}
				X: hh:mm:ss-dd:mm:yyyy
				hh:mm:ss: hour,minute,second
				dd:mm:yyyy: day-month-year

23	Gas sensor		Sensor, INPUT
			It measures the gas concentration
				CSE_BBC1/feeds/bk-iot-gas
				{
				"id":"23",
				"name":"GAS",
				"data":"X",
				"unit":""
				}
				X = 0: < threshold
				X = 1: > threshold