

## Droplet Specifications (Hardware V5.0)



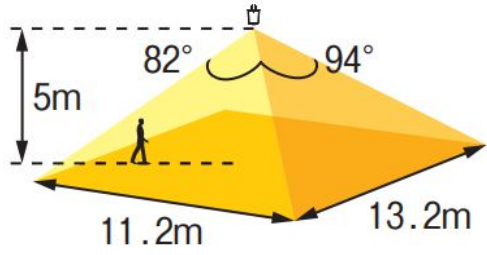
### Model Name and Definition

<b>Droplet</b>	D-LR-THLM	LoRa RAW wall mount sensor. Temp, Humidity, Lux. PIR
<b>Droplet</b>	D-LR-THL	LoRa RAW wall mount sensor. Temp, Humidity, Lux.
<b>Droplet</b>	D-LR-TH	LoRa RAW wall mount sensor. Temp, Humidity



<b>Power Options and Requirements:</b>	
Batteries	3x AA Batteries

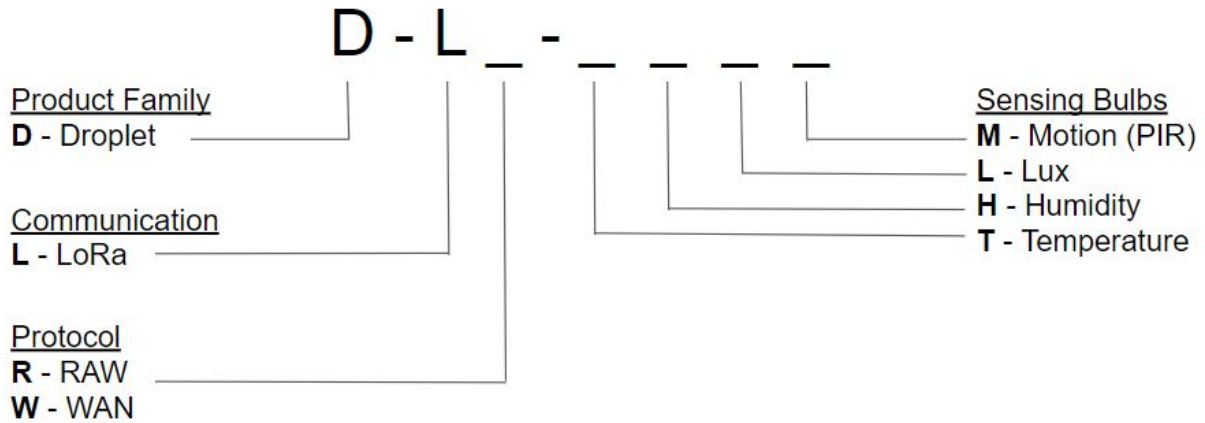
<b>LoRa Capabilities:</b>	
Supported Frequencies	868/915Mhz
Spreading Factor	6-12
Bandwidth	7.8 - 500 kHz
Effective Bitrate	.018 - 37.5 kbps
Est. Sensitivity	-111 to -148 dBm

<b>Sensor Specifications:</b>	
Temperature Sensor	@25°C ± 0.5°C, from 0...65°C ±1°C
Humidity Sensor	-40°C -> 85°C, Resolution .008 %RH
PIR Sensor	<p>Detection Distance 5. Example Coverage for ceiling mounted scenario:</p>  <p><i>Image Source: industrial.panasonic.com</i></p>
Light Sensor	Range of 1 - 65535lx

<b>Power Specifications:</b>	
Batteries	3x AA (Alkaline, non-rechargeable)
Life Span	Dependant on push rate and environment conditions, from 3-5 Years.



## Model Selection

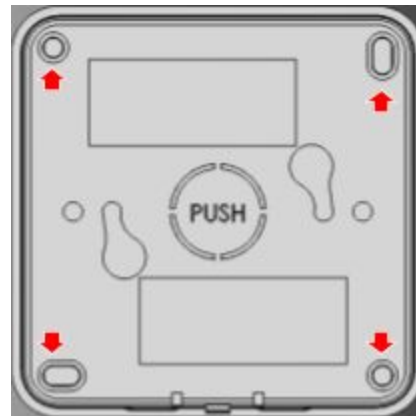


## Installation and Enclosure

The Droplet can be mounted to the wall via screws on the backing plate, or simply via double-sided-tape if you want the convenience of a drill-less setup or being able to move sensors around a facility.

The backing plate is removable, to allow for access to the batteries and reset switch, and also so the wall plate can be mounted.

<b>Height</b>	86 mm
<b>Width</b>	86 mm
<b>Depth</b>	25.5 mm
<b>Material Type</b>	Plastic (ABS)
<b>UL Rating</b>	UL94-V0
<b>IP Rating</b>	IP40



Use the holes indicated to mount the backing plate onto the wall, with the “PUSH” word facing towards the wall.

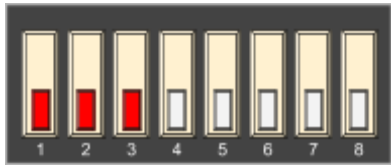



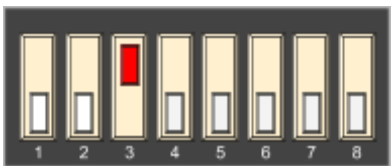
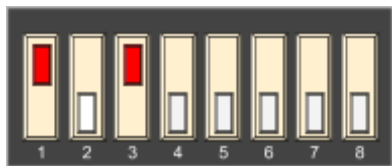

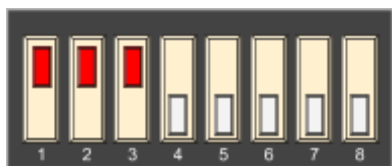
## Dip Switch Settings:

For general use, the dip switches define what frequency the droplet should transmit on and what "ID" should be used for the network. These settings would then need to be duplicated on the LoRa Connect Modem to enable communication between the two.

The rules for the settings are as follows:


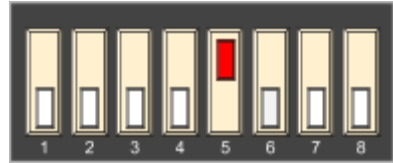




The **first** DIP switch is to the special operation modes, so this should be off for general use.

**1-3 is used for interval timing (push rate)**

<p><b>1-3</b> <b>0=15mins</b></p>		<p><b>1-3</b> <b>1=30sec</b></p>	
<p><b>1-3</b> <b>2=1 min</b></p>		<p><b>1-3</b> <b>3=3 mins</b></p>	
<p><b>1-3</b> <b>4=5 min</b></p>		<p><b>1-3</b> <b>5=10mins</b></p>	
<p><b>1-3</b> <b>6=30 min</b></p>		<p><b>1-3</b> <b>7=1hr</b></p>	



2, 3 and 4 are for "Channel" (Used for separating close by networks):

<b>4-Interrupt for PIR</b>		<b>5-Serial Print :</b> will print the payload msg on the serial	
<b>6-Node Hard reset (new Node ID)</b>		<b>7-8 Test mode</b> Node ID AAB2AAAA 9 sec push rate	
<b>7-8 Test mode</b> Node ID BBB2BBBB 9 sec push rate		<b>7-8 Test mode</b> Node ID CCB2CCCC 9 sec push rate	

1-3 are for interval timing - 0-7 binary:

- 0 = 15min //000
- 1 = 30sec //100
- 2 = 1min //010
- 3 = 3min //110
- 4 = 5min //001
- 5 = 10min //101
- 6 = 30min //011
- 7 = 1hr //111

- 4 Interrupt for PIR : true to attach Interrupt

- 5 Serial Print : will print the payload msg on the serial

- 6 Hard Reset : will give device new ID every time it boots

- 7-8 are Testing Mode - 0-3 binary:

- 0 = normal mode ID set randomly from first boot or from hard\_reset
- 1 = ID : AAB2AAAA - 6Sec Intervals //10
- 2 = ID : BBB2BBBB - 6Sec Intervals //01
- 3 = ID : CCB2CCCC - 6Sec Intervals //11



## About Nube iO

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