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Analysis of Vormatic ESL 1 and Vormatic ESL 2

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Model Number	Vormatic ESL 1	Vormatic ESL 2
Color	White	White
Dimensions	Ø150×36mm (Built-in antenna)	Ø150×36mm (Built-in antenna)
Weight	About 157g	About 165g
Material	ABS	ABS
External Interfaces	1 10/100M RJ45 network interface,1 USB interface	1 10/100M RJ45 network interface,1 USB interface
Installation	Ceiling, Wall-hung, horizontal arrangement	Ceiling, Wall-hung, horizontal arrangement

Vormatic ESL 1 and Vormatic ESL 2 Structural Parameters

Model Number	Vormatic ESL 1	Vormatic ESL 2
Power Supply	DC5V-1A POE power supply: in compliance with IEEE 802.3af standard 48V 0.1A	DC5V-1A POE power supply: in compliance with IEEE 802.3af standard 48V 0.1A
Maximum Power Consumption	5W (USB output power consumption is not included) Note: The actual maximum power consumption varies according to local laws and regulations.	5W (USB output power consumption is not included) Note: The actual maximum power consumption varies according to local laws and regulations.
Operating Temperature	-10~+50℃	-10~+50℃
Storage Temperature	-40~+70℃	-40~+70℃
Operating Humidity	5~95% RH (non-condensing)	5~95% RH (non-condensing)
Upgrade	USB or OTA	USB or OTA

Vormatic ESL 1 and Vormatic ESL 2 Structural Parameters

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Model Number	Vormatic ESL 1	Vormatic ESL 2
WIFI Protocols	IEEE 802.11 b/g/n	IEEE 802.11 b/g/n
WIFI Power	18dBm	18dBm
WIFI Rates	2T2R 300Mbps	2T2R 300Mbps
Bluetooth Protocols	BLE5.0	BLE5.0
Bluetooth Receive Sensitivity	-108dBm	-108dBm
Bluetooth Range	300 meters in open area	300 meters in open area
Numbers of Broadcasting Packages Received	About 400 per second/per module	About 400 per second/per module
WIFI Modules	MT7628 RAM: 128MB, FLASH: 16MB	MT7628 RAM: 128MB, FLASH: 16MB
BLE Modules	3 Nordic nrf52832 modules	6 Nordic nrf52832 modules
Antenna Types	Built-in FPC antennas	Built-in FPC antennas

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Differences of Vormatic ESL 1 and Vormatic ESL 2 in software and hardware

Hardware

- Among **structural, electrical and radio frequency parameters**, Vormatic ESL 1 and Vormatic ESL 2 gateways differ only in weight and the number of built-in BLE modules, that is, **Vormatic ESL 1 is about 157g while Vormatic ESL 2 is about 165g**; **Vormatic ESL 1 has 3 groups** of built-in BLE modules while **Vormatic ESL 2 6 groups**. The rest of their parameters are exactly the same, and so are their appearances.

- Vormatic ESL 1's WIFI module has the problem of probabilistic boot-up stuck; Vormatic ESL 2 adds a hardware reset circuit to solve the problem.

- Compared with Vormatic ESL 1, Vormatic ESL 2 optimizes the current limiting of external USB ports and solves the power supply problem of external USB network cards.

- The Vormatic ESL 2 WIFI antenna is reduced to one (it is recommended that WIFI be used only for configuration).

Software

- Vormatic ESL 1 and Vormatic ESL 2 gateways are the same in terms of network configuration, data collection frequency, service access settings, light loop settings, time configuration, and firmware upgrade methods. They are also the same in software operation.

Vormatic ESL 1 and Vormatic ESL 2 differences result in:

Package Weight

- Vormatic ESL 1 standard industrial packaging net weight: 0.22 kg each, 2.7 kg per dozen

- Vormatic ESL 2 standard industrial packaging net weight: 0.23 kg each, 2.8 kg per dozen

Data Transmission

- The gateway Vormatic ESL 2 has 3 more BLE modules than Vormatic ESL 1, and the batch delivery time is reduced by half; in other words, **one Vormatic ESL 2 is equivalent to two Vormatic ESL 1**.

Vormatic ESL 2 Features（V3 fixed）

- Radio interference is controllable even when multiple gateways work simultaneously

- More flexible binding operation with tags

- Support enterprise-level encryption

- Can be equipped with multiple upper-level hotspots, which switch automatically

- Support bridge mode

- Support uploading files or firmware via browsers

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Suggested Applications of Vormatic ESL 1 :

- There are not many electronic label devices per unit area, such as **<500**;

- The transferred file is not large, for example, the screen size of the electronic label is **below 4.2 inches**.

Suggested Applications of Vormatic ESL 2 :

- There are many electronic label devices per unit area, such as **>500**;

- The transferred file is large, for example, the screen size of the electronic label **is 4.2 inches and above**.