



BOR - BUILT-IN OPERATION REPORT SYSTEM

BOR - 內建操作報告系統



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The Built-IN Operation Report System (BOR), developed by Viteg Company Limited, is a **wireless device** designed to **monitor** and **report** the historical status, energy usage, functionality, and performance of building services equipment.

It aims to leverage **small-scale technology** to contribute to **green** and **environmental protection** efforts.

BOR 由 Viteg Company Limited 開發，是一款**無線設備**，旨在**監控**和**報告**樓宇服務設備的**歷史狀態**、**能源使用情況**、**功能**和**性能**。旨在利用**小科技**為**綠色環保**做出貢獻。

The **BOR mobile APP** is **compatible** with both **Android and iOS**. Data can be **acquired** via **Bluetooth or Wi-Fi** and **synced** to the **cloud for integration** and **analysis**.

This makes it **suitable for** accessibility in **all locations**, including basements, pits, and other obstructed areas, addressing for non-installing a Building Monitoring System (BMS).

BOR 手機應用程式與Android 和iOS 相容。數據可以透過藍牙或Wi-Fi 獲取並同步到雲端進行整合和分析。

這使得**它適合所有位置**，包括地下室、坑和其他受阻區域，解決無法安裝樓宇服務系統 (BMS) 的問題。



BOR provides valuable **insights** into **equipment performance** through its **historical data**. It records key **statuses** such as **power on**, **running**, and **faults**, helping users make informed decisions about **equipment operation**, **control schedules**, and **maintenance plans**. **BOR** 透過**歷史資料**提供**有關設備效能**的**見解**。它**記錄****開機**、**運作**、**故障**等**關鍵狀態**，**幫助使用者**對**設備運作**、**控制計畫**和**維護計畫**做出**有效的決策**。

The **Power Meter** and **sensing equipment** can be connected to the **BOR** to **monitor**, **analyze**, **record**, and **report** on the **equipment's performance**.

電能錶和感測設備可以連接到 **BOR** 以**監控**、**分析**、**記錄**和**報告**設備的**性能**。

Even during **power outages**, **BOR** remains **functional** for over month thanks to its **battery back-up** and **sleep mode** function.

This ensures **continuous** and **reliable monitoring**, making **BOR** an essential tool for **optimizing building services equipment**.

即使在**斷電**期間，由於**其電池備份**和**睡眠模式**功能，**BOR** 仍可**運行**一個**多月**。

這**確保了****持續可靠的監控**，使 **BOR** 成為**優化樓宇服務設備**的重要**工具**。

Model:	BOR-M01A
Product Name:	BOR - Built-IN Operation Report Module
Local Indication:	10 LED Lamps – refer to indication specification for details
Power Input Type:	220VAC, 50/60Hz or 5V (USB type-C)
Status Input Type:	220VAC, 50/60Hz
Digital Input Type:	Dry contact
Serial RS-485 port:	Half-duplex RS-485 communication
Rated Supply Voltage [Us]:	220VAC, 50/60Hz
Rated Impulse Withstand	2kV
Voltage [Uiamp]:	
Maximum Supply Current:	100mA
Power Dissipation:	3W without extension
Connection Terminals:	Max. 1.5mm ² Cable
Tightening Torque:	0.5Nm
Size (W x H x D):	62 x 113 x 73 mm
Weight:	230g
Ambient Air Temperature for Operation:	5 to 55°C
Ambient Air Temperature for Storage:	5 to 55°C
Operating Altitude:	2000m (Max)
Bluetooth Specification:	Frequency: 2.4GHz Bluetooth(BLE 5.0) Max. Data Rate: 1Mbps Max. Range: 10m



Internal Memory: 4 MB (Record 10,000 log messages)

TF Card

Support 128MB to 512GB Memory Card

Slot Specifications

Slot No.	Description	Specification	Application
7	Power (E)		Earth
5 - 6	Power 1 (L-N)	220VAC/50Hz	PowerStatus of equipment and Power input for BOR
3 - 4	Run 2 (L-N)	220VAC/50Hz	Running Status of equipment
1 - 2	Fault 3 (L-N)	220VAC/50Hz	Fault Status of equipment
12 - 13	Serial RS - 485 port	RS485	Communication with Modbus - RTU devices (eg. Power Meter or Sensing Equipment)
11	DC Output	12V, 70mA	Output power for Sensor devices
10	Common	0V	Common for Dry Contact
9	Digital input 4	12V Contact	Dry Contact for equipment status connection
8	Digital input 5	12V Contact	Dry Contact for equipment status connection
TF Slot	TF Card	128MB to 512GB Memory Card	Data logging for Sensing equipment
USB-C	USB	USB Type C	DC5V input and console

Indication Specifications

Indication	Description	Function
	BOR in operation	Lamp flashes during BOR in operation Lamp on data syncing function enabled
	Data Syncing	Lamp flashes during data syncing with BOR App via Bluetooth(BLE) Lamp on Webpage function is enabled (connect via Wi-Fi)
Wi-fi Web	Webpage	Lamp flashes during massage sending via Wi-Fi
1 Power	Power On	Lamp on during Power On
2 Running	Running	Lamp on during Running or Slot 3 - 4 is Power On
3 Fault	Fault	Lamp on during Fault or Slot 1 - 2 is Power On
4 DI	DI4 Close	Lamp on during Slot 10 - 9 is Close
5 DI	DI5 Close	Lamp on during Slot 10 - 8 is Close
Sensor	Sensing equipment	Lamp on during Sensing Equipment or Power Meter is connected Lamp flashes during receive data from Sensing equipment
App Service	Mobile application	Lamp on BOR App service in effect Lamp off BOR App service not available or expired
TF	TF card	Lamp on TF card inserted Lamp flashes TF card in use. Do not remove TF card



What is BOR?

BOR, short for Built-IN Operation Report, is a product developed by Viteg Company Limited. This wireless device syncs via Bluetooth or Wi-Fi and offers app functionalities. BOR is designed to monitor and report the historical status, energy usage, functionality, and performance of building services equipment.

什麼是BOR？

BOR是Built-IN Operation Report的縮寫，是Viteg Company Limited 開發的產品。此無線設備透過藍牙或 Wi-Fi 進行同步，並提供應用程式功能。BOR旨在監控和報告樓宇服務設備的歷史狀態、能源使用、功能和性能。



Why do we create BOR?

BOR is designed to handle all situations. It is compact, lightweight, easy to install, suitable for all locations, costeffective, and highly beneficial.

我們為什麼創建 BOR？

BOR 設計用於處理所有情況。它結構緊湊、重量輕、易於安裝、適合所有地點、成本效益高、效益高。



How can BOR help users?

The historical operational data provided by BOR helps users analyze building services equipment, enabling them to make informed decisions about equipment operation, control schedules, and maintenance plans to ensure optimal performance.

BOR 如何幫助使用者？

BOR提供的歷史運作資料可協助使用者分析樓宇服務設備，使他們能夠就設備運作、控制計畫和維護計畫做出有效的決策，以確保最佳效能。



What is the recommended location for installing the BOR?

It is recommended to install the BOR in the control panel. Its size is similar to an MCB, making it flexible. This setup allows the BOR to provide data analysis for the equipment, even without a Building Monitoring System (BMS).

建議安裝 BOR 的位置在哪裡？

建議在控制面板內安裝BOR。

其尺寸與 MCB 類似，因此非常靈活。即使在沒有樓宇監控系統(BMS)的情況下，這種設定也使 BOR 能夠為設備提供數據分析。

What are examples of building service equipment suitable for installing BOR?

Examples of building service equipment suitable for installing the BOR include:

適合安裝BOR的樓宇服務設備有哪些例子？

適合安裝 BOR 的樓宇服務設備範例包括：



HVAC Systems: Heating, ventilation, air conditioning systems, etc

HVAC 系統：暖氣、通風、空調系統等



Plumbing & Drainage Systems: Up-feed, booster, circulator, sump pumping systems, etc

P&D 系統：上水、加壓、循環、污水泵系統等



EL Systems: Power distribution units, LV switchboards, motor control centers, normal and essential power auto-changeover systems, lighting control systems, etc

EL 系統：配電裝置、低壓配電櫃、馬達控制中心、常用及緊急電源自動轉換系統、照明控制系統等



Elevators and Escalators Systems

電梯和自動扶梯系統



Water Treatment Systems

水處理系統

What historical statuses should the BOR record, and how can these statuses help in analyzing equipment data?

The history of the equipment root status, Power On, Running, Fault shall be recorded.

Root status analysis can help determine the underlying causes of problems, leading to more effective solutions. It can provide valuable insights into the equipment's performance and maintenance needs.

Power Status: Monitoring the equipment's usage patterns and operational hours.

Running Status: Knowing when the equipment is running helps assess its performance and operational efficiency. Frequent stops may signal inefficiencies or issues.

Fault Status: Recording faults helps identify recurring issues and plan preventive maintenance to avoid unexpected breakdowns.

Root Cause Analysis: Analyzing fault patterns can help determine the underlying causes of problems, leading to more effective solutions.

BOR 要記錄什麼歷史狀態？這些狀態怎樣幫助設備分析？

記錄設備的基本狀態、電源開關、運行、故障的歷史記錄。

設備的基本狀態原因分析可以幫助確定問題的根本原因，從而得出更有效的解決方案。

它可以提供有關設備性能和維護需求的見解。

電源狀態：監控設備的使用模式和運作時間。

運作狀態：了解設備何時運作有助於評估其性能和運作效率。頻繁停止可能表示效率低或有問題。

故障狀態：記錄故障有助於識別重複出現的問題並規劃預防性維護，以避免意外故障。

根本原因分析：分析故障模式可以幫助確定問題的根本原因，從而得出更有效的解決方案。

What are the design features of BOR?

BOR is designed to be small, fast, easy, and flexible for installation. Low cost and highly beneficial.

BOR 的設計特點是什麼？

BOR 的設計理念是體積小、速度快、安裝簡單且靈活、成本低、效益高。

Which interfaces are used for operating BOR?

BOR integrates with both Android and iOS interfaces.

哪些介面用於操作 BOR？

BOR 設有 Android 和 iOS 界面。

Is BOR relevant to green practices?

Yes, the BOR (Build-IN Operation Report) can contribute to green and environmentally friendly practices in several ways:

Energy Efficiency: By monitoring and analyzing energy usage, BOR helps identify inefficiencies and areas where energy consumption can be reduced, leading to lower energy usage and a smaller carbon emission.

Preventive Maintenance: Regular monitoring and fault detection enable timely maintenance, which can extend the lifespan of equipment and reduce the need for replacements, thus minimizing waste.

Optimized Performance: Ensuring that equipment operates at optimal efficiency reduces unnecessary energy consumption and emissions.

Data-Driven Decisions: The historical data provided by BOR allows for informed decision-making regarding equipment operation and maintenance, promoting sustainable practices.

Compliance: BOR helps in meeting regulatory requirements for energy usage and environmental standards, supporting overall sustainability goals.

By enhancing the efficiency and reliability of building services equipment, BOR supports efforts to create more sustainable and environmentally friendly buildings.



BOR 與綠色環保實踐有關嗎？

是的，BOR 可以透過多種方式為綠色環保實踐做出貢獻：

能源效率：透過監控和分析能源使用情況，BOR 幫助識別低效率和可以減少能源消耗的領域，從而降低能源使用和碳排放。

預防性維護：定期監控和故障檢測可以及時維護，從而延長設備的使用壽命並減少更換的需要，從而最大限度地減少浪費。

優化效能：確保設備以最佳效率運行，減少不必要的能源消耗和排放。

數據驅動的決策：BOR 提供的歷史數據可以幫助您就設備操作和維護做出明智的決策，從而促進永續實踐。

合規性：BOR 有助於滿足能源使用和環境標準的監管要求，並支持整體永續發展目標。

透過提高樓宇服務設備的效率和可靠性，BOR 支持創建更永續和環保的樓宇。

Directives

Radio Equipment Directive: 2014/53/EU
EMC Directive: 2014/30/EU
LVD Directive: 2014/35/EU
RoHS Directive: 2011/65/EU & 2015/863/EU

Standards

ETSI EN 301 489-1 V2.2.3 (2019-11)
ETSI EN 301 489-17 V3.2.4 (2020-09)
ETSI EN 300 328 V2.2.2 (2019-07)

EN IEC 61000-3-2: 2019
EN 61000-3-3: 2013+A1: 2019
EN 55032:2015+A11: 2020
EN 55035:2017+A11: 2020

EN IEC 62368-1-2020+A11: 2020
EN 62479: 2010

IEC 62321-1: 2013;
IEC 62321-3-1: 2013;
IEC 62321-4: 2013+A1: 2017;
IEC 62321-5: 2013;
IEC 62321-6: 2015;
IEC 62321-7-1: 2015;
IEC 62321-7-2: 2017;
IEC 62321-8: 2017

Approvals



How to pair the BOR for the first operation?

To use BOR for the first time, download our app from Google Play or the Apple Store, create an account, and pair with BOR step-by-step following the app's instructions.

第一次操作如何配對BOR？

要首次使用 BOR，請從 Google Play 或 Apple Store 下載我們的應用程序，建立帳戶，然後按照應用程式的說明逐步與 BOR 配對。



How to sync BOR data?

Registered users can sync data easily by clicking a button within the app.

如何同步BOR 資料？

註冊用戶可以透過點擊應用程式內的按鈕輕鬆同步資料。

How to check the report for synced BOR data?

Authorized users can easily download monthly records from the app's download page with simple click.

如何查看同步BOR 資料的報告？

授權使用者只需點擊下即可從應用程式的下載頁面輕鬆下載每月記錄。



How to store the data from the power meter to meet the EMSD requirement?

For the power meter or sensing equipment, data can be synced to the cloud by APPS via. Wifi or Bluetooth.

Additionally, an SD card is provided to record data for up to 36 months.

如何儲存功率計的資料以滿足機電工程署的要求？

對於電能錶或感測設備，資料可以透過藍牙或 Wi-Fi 進行應用程式同步到雲端。

此外，還提供SD 卡，可記錄長達 36 個月的數據。

What is the power supply for BOR?

The BOR operates on a 220VAC power supply, which is a standard voltage commonly used.

BOR 的電源是什麼？

BOR 的電源是220VAC，這是常用的標準電壓。

How to connect the signal to BOR?

Here are the general steps which might be depending on your specific application:

Direct Connection: If the signal is 220VAC, you can directly connect it to the BOR.

Through a Contact: You can connect the signal through a contact to the BOR.

如何將訊號連線到BOR？

以下是可能取決於您的具體應用程式的一般步驟：

直接連接：如果訊號是220VAC，可以直接連接到BOR。

透過觸點：您可以透過觸點，可以接駁觸點訊號到BOR。

What happens if the BOR or equipment powers off?

When the BOR is powered off, the battery back-up will be activated.

With the sleep mode function, the BOR can remain powered off for over a month while still maintaining its functionality.

如果 BOR 或設備斷電會發生什麼事？

當BOR 斷電時，備用電池將被啟動。借助睡眠模式功能，BOR 可以在斷電狀態下保持一個月以上，同時仍保持其功能。

