Description

E-T-A n|BoxBMM monitors battery cells performance status. The realtime status record and alarm provide effective solution to maintain battery performance over its lifetime.

n|Box BMM comes in 2 types. BMM cells to measure individual battery cells and BMM string to measure a group of battery cells.

The battery status, alarms, and reports can be viewed in web dashboard. The system can be set to send mobile notifications in the event of failure.

BMM : Battery Monitoring Module

System

The Battery Monitoring System typically consists of:

- n|Box BMM Cell
  monitors voltage, temperature, liquid level, and impedance on each battery cells.

- n|Box BMM String
  monitors voltage and current in a group of battery cells.

- n|Box IoT Node
  communication gateway to web dashboard.

An n|Box IoT Node unit can manage up to 160 string and cell units.

Applications

Data center and UPS, Base Transceiver Station (BTS), Building Automation, Telecom Infrastructure, Solar Powered Infrastructure.

Features and Benefits

- Compact portable universal mount box
- Online monitoring with web dashboard
- Mobile notification to Android / iOS devices
- Wireless communication
- Data Logging
- SNMP, Modbus interface ready with n|Box IoT Node
- Technical support
- Customizable data visualization
- Customizable reports
- Local HMI display (custom request)

Ordering information

Type No.	
IOT05A - X - C - 01	BMM Cell
IOT05A - X - S - 01	BMM String

nBox BMM

Technical data

Hardware

Voltage Supply Rating	DC 9 ... 24V, 24 ... 75V
Current Supply Rating	Sleep mode: 5mA Normal mode: 100mA
Voltage sensor	1 channel cell: DC 0 ... 2V, 8.5 ... 18V string: DC 20 ... 75V, 260 ... 750V (accuracy ± 0.5%)
Current sensor	1 channel (BMM String) 400 A, 800 A (accuracy ± 1%)
Temperature sensor	1 channel (BMM cell) NTC: 0 ... 70°C (accuracy ± 0.1°C)
Liquid sensor	1 channel (BMM cell) Non intrusive
LED	Power LED
Processor	32-bit
Memory	4 MB
Connectivity	WiFi 2.4 GHZ IEEE 802.11b/g/n
Digital Output	1 channel (dry contact)
Internal Resistance	20 mΩ
Protection	Overvoltage Overcurrent Reversed polarity

Software

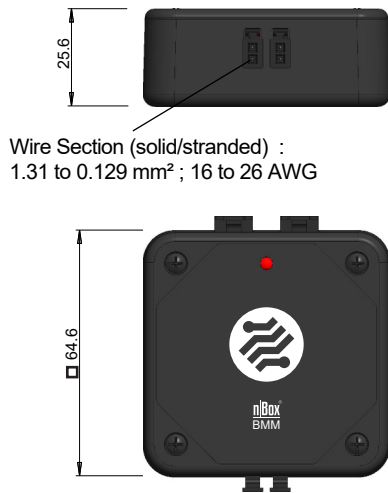|	
HTTP / HTTPS	Unit web access
	Server web access
Mobile Notification	Telegram Apps (Android / iOS)
SNMP	SNMP V2C / V3
Modbus	Modbus RTU over RS-485 Modbus TCP over Ethernet / WiFi

General

Enclosure	Plastic
Flame rating	UL94V-0
Mount	Portable universal mount
Color	Black
Dimension (mm)	63.5 x 63.5 x 22.9
Mass	Appr. 180 g
Operating temperature	-10…+50 °C
Storage temperature	-30…+70 °C

2375/SJ-IND.8/TKDN/3/2023
44.72%

82183/SDPPI/2022
14121

KEMKOMINFO

SDPPI CERTIFIED

Dimension and Type

25.6

Wire Section (solid/stranded) :
1.31 to 0.129 mm² ; 16 to 26 AWG
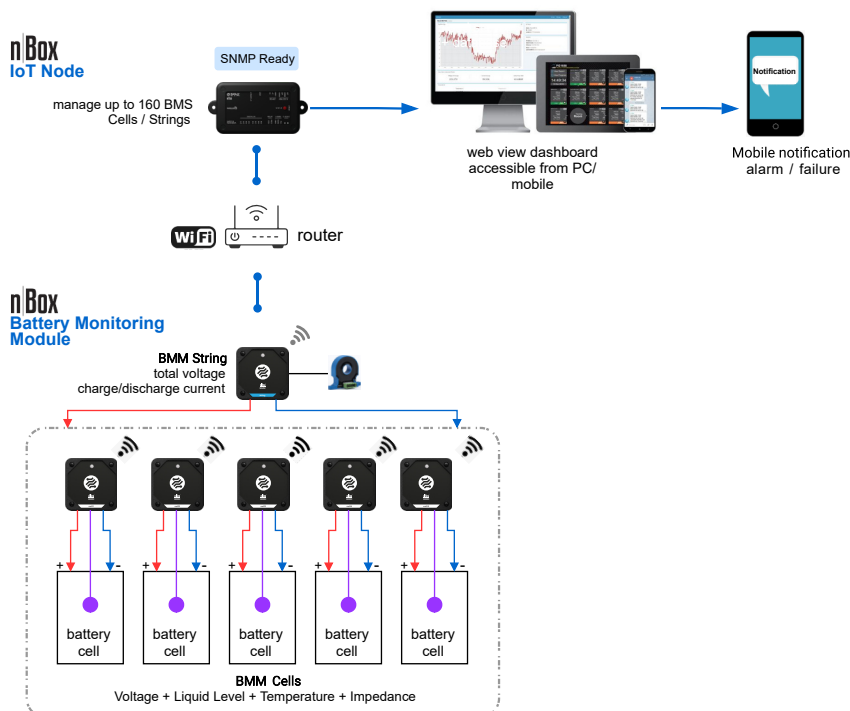
□ 64.6

Device Type

IOT05A-X-S
string

IOT05A-X-C
cell

This is a metric design and millimeter dimensions (mm)
The dimension is not binding and there might be further updates

Application Example

nBox
IoT Node

manage up to 160 BMS
Cells / Strings

SNMP Ready

web view dashboard
accessible from PC/
mobile

Mobile notification
alarm / failure

Notification

WiFi router

nBox
Battery Monitoring Module

BMM String
total voltage
charge/discharge current

+ − + − + − + − + −

battery cell | battery cell | battery cell | battery cell | battery cell

BMM Cells
Voltage + Liquid Level + Temperature + Impedance

In Battery monitoring application, BMM cells monitor individual battery cells status and performance, including voltage level, temperature, liquid level, and impedance.

While BMM strings monitor the battery group voltage and current. The BMM string units also can be deployed to monitor voltage and current of particular load groups or equipment connected to the battery.

IoT node will serve as data aggregator to send periodic data and immediate event notification to the server