

Description

n|Box IoT Node is designed as a portable compact unit to monitor status or data in any application. It periodically sends collected data to server for monitoring. n|Box IoT Node can transform old offline devices / sensors by adding online data acquisition capability.

n|Box IoT Node is wireless ready and it can read digital (contacts) input, analog input, ModBus TCP (RS-485), 1-wire sensors, and it also has relay output.

Using n|Box IoT Server, customer can access their real time status, data history records, tables/charts and custom data visualizations, it also capable of sending mobile notifications in the event of failure.

IoT : Internet of Things

System

The n|Box IoT Node System includes the following:

- n|Box IoT Node unit (web interface setup)
- Web based IoT Server (to be installed in remote PC within intranet or in external cloud to allow remote monitoring of multiple n|Box IoT Node units)
- Multiple Android / IOS devices can be set to receive status notification / alerts

Applications

Multiple monitoring/metering combinations of:
Power/Energy consumption, Temperature / Humidity, Flow / Pressure, Machine status, Remote On/Off, Generator Set, Water / Fuel consumption, Liquid level, Flood alert, Customized warning condition, and many more

Features and Benefits

- Capture/digitalize data from any application and send them to data server for monitoring
- Compact portable universal mount box
- Wireless communication (RJ-45 jack is still available)
- MQTT – Lightweight real time data
- SNMP Data collection over IP Networks
- Remote monitoring through web interface
- Mobile notification to Android / IOS devices
- Customizable Data Visualization
- Customizable Reports
- Data Logging

Ordering information

Type No.

N015 - EI - IOT IoT Node



* Remark: Optional Configuration Available



Technical data

Hardware

Voltage rating	DC 12...30V AC 230V with adapter
Power consumption	typically 140mA at DC 12V typically 80 mA at DC 30V
Digital Input *	4 channel (dry contacts)
Analog Input *	2 channel isolated 16 bit
Digital Output *	1 channel
RS-485(ModBus TCP) Input	1 channel
1 – wire Input	1 channel ; up to 4 sensors
USB 2.0 port	1 channel
Connectivity	WIFI IEEE 802.11 LAN 10/100 MB Lora with USB dongle
Button	1 x reset button
LED	Power LED
Connector	Pluggable with screw in terminals

System Data

Processor	ARM cortex A7 Quad core 32 bit
RAM	256 MB
Operating System	Linux
Non volatile storage	8 GB

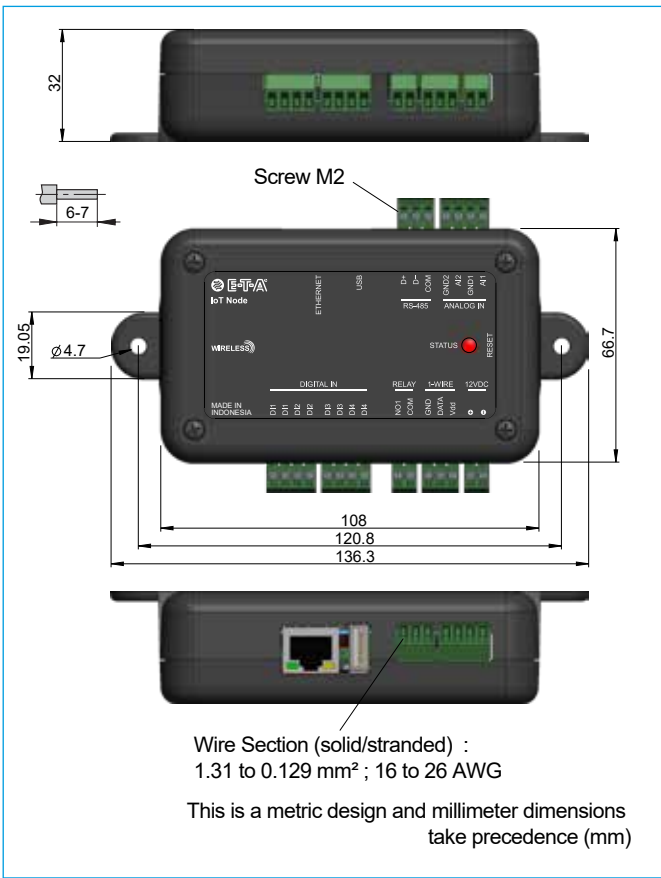
Software

http / https	Unit web access Server web access
Mobile Notification	Telegram App (Android / IOS devices)
MQTT	MQTT v3.1 / v3.1.1
SNMP *	SNMP v2C / v3
Modbus *	Modbus RTU over RS485 Modbus TCP over Ethernet

General

Enclosure	Plastic
Flame rating	UL94V-0
Mount	Portable universal mount
Color	Black
Dimension (mm)	136.3 x 66.7 x 32
Mass	appr. 250 g
Operating temperature	-10...+50 °C
Storage temperature	-30...+70 °C

Dimension



User Interface - Dashboard and Mobile View



Example of Detail unit status view



Application Example: Custom Dashboard view to monitor Energy consumption

User Interface - Web Setting



Example of Web setting menu on IoT Node unit



Application Example: Custom Dashboard view to monitor pressure, temperature and flow of water pumps

User Interface - Dashboard and Mobile View



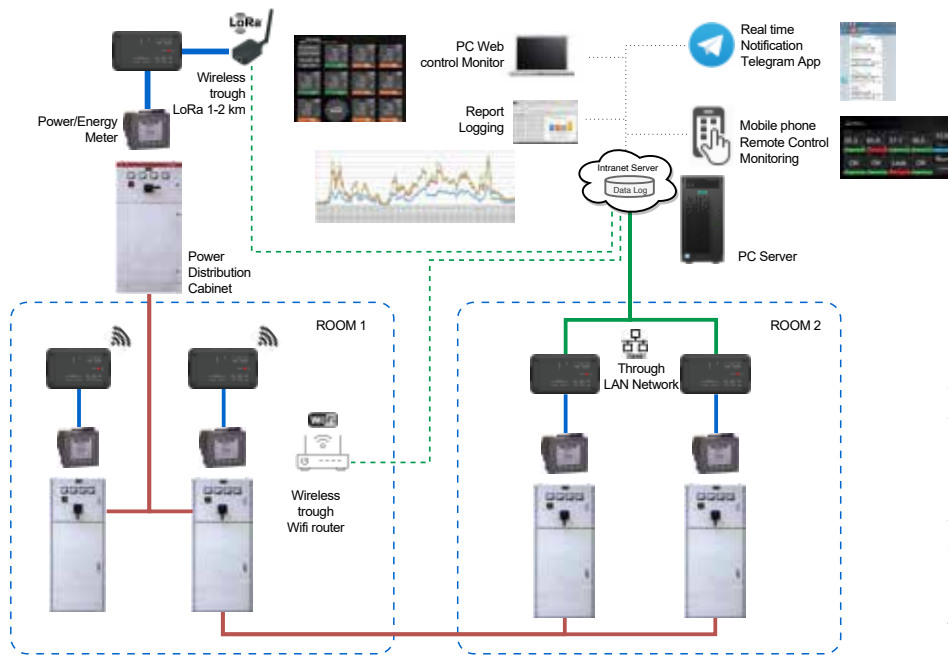
Example of Detail unit status view



Android / IOS notification : status changes and failure alarm will be sent to multiple mobile devices (by Telegram App)

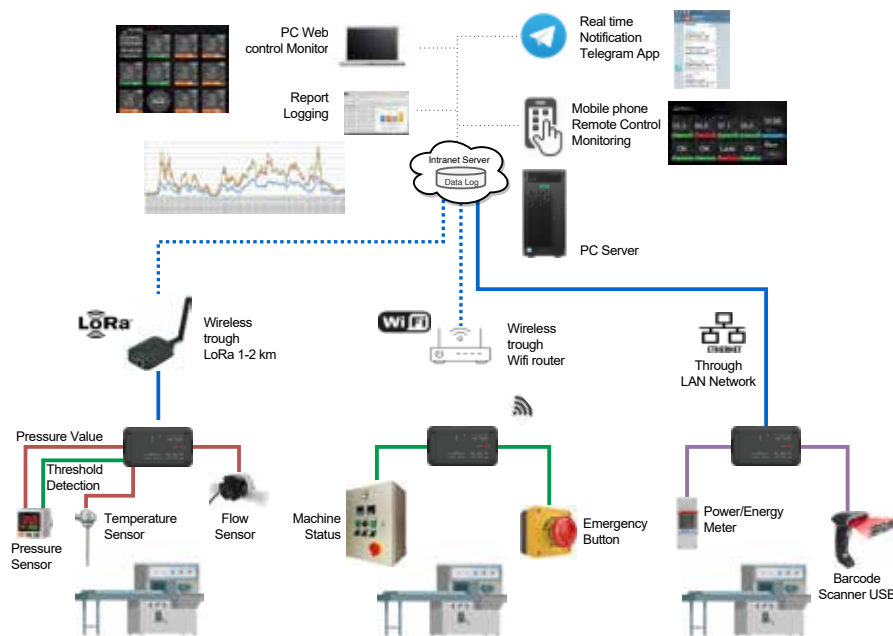
Application Example

Power / Energy Monitoring



Through Modbus protocol, the IoT Node can read the data from Power Meters. Installing several IoT Node in important power distribution points give complete view of power consumption over time. IoT Node can be programmed to send alert when power failures happen

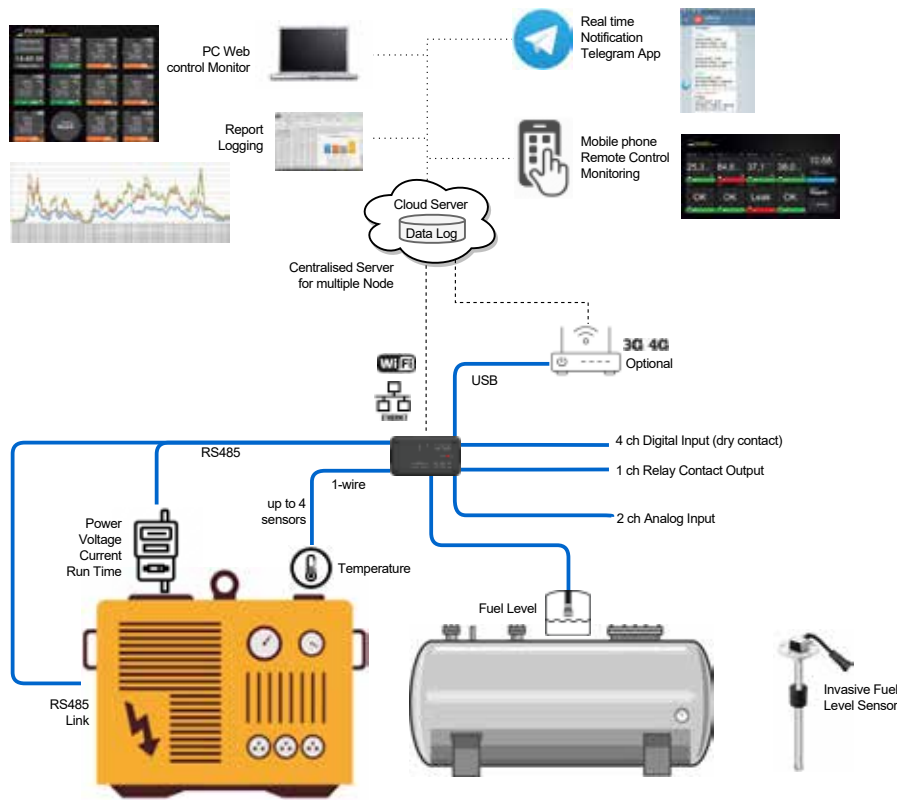
Production / Industrial Monitoring



In industrial application, the IoT Node can be used to collect data from older machinery (with no communication capability) to the server. Various sensors, measuring devices, PLCs can also be easily connected by IoT node to the monitoring platform with historical charts and notification capability

Application Example

Generator Monitoring System



IoT Node can be fitted into very specific applications. In the case of generator system, IoT Node can be use to monitor generator status, fuel level, environment conditions. Data logs are safely recorded up to 6 months. If any measurement goes over user customized threshold, immediate notification will be send to email and telegram app



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