



Introduction

Lokawiz offers adaptable, extendable, scalable, future-proof IoT devices that fit your application optimally. We produce these devices from our hardware platform using our IP libraries with rich interface and sensors support.

Our unique approach gives you the best of both options - develop from scratch or off-the-shelf device. You get the best application fit device in the least possible time with desired quality and reduced time to market.

This catalog aims to assist you with locating the device for your specific IoT use case. It introduces you to Lokawiz devices, their types, and their class. Each device belongs to one or more classifications - Consumer Grade, Industrial Grade, Advance Certification Fit, and Add-on Extension.

Please note that the device best fit for your application needs may have different technical specs from that of a device in the catalog. For additional info and support in realizing your IoT project and fulfilling your IoT solution needs, please write to us using info@lokawiz.com.





Classification



Consumer Grade Device

- Designed for everyday consumer use and general consumer applications.
- Not fit for industrial use with demanding standards for durability & functionality.
- Meets safe RF emission norms for use in most consumer applications.
- Comes with most benefits of Lokawiz IP Platform.



Advance Certification Fit

- Design with configuration for diverse use cases and required certification.
- Ability and customizable to support advance certifications for specialized and mission critical applications.



Industrial Grade Device

- Suits for demanding industrial standards and applications use case.
- High quality and rugged design to sustain harsh operating conditions.
- Certifications support for Industrial use esp. manufacturing & logistics.
- All benefits of Lokawiz IP Platform with rich interface & sensors' support.



Add-on Extension

- Extends the functionality & capabilities of other compatible core devices.
- Can be used externally or integrated with other compatible devices.
- Customizable for required certifications.



Device Types

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Outdoor low frequency tracking

- Slow moving asset tracking
- Farm & wild animal tracking
- Kids and pets tracking

Request Info



Functionality

GNSS based location tracker device with Cellular connectivity and single use long life battery. Simple and high accuracy tracker fit for tracking in large outdoor geographical area.



Description

Protocols

- o Location: GPS, GLONASS, Galileo, BeiDou, QZSS
- o Cellular : 2G/3G/4G

• Sensors/Actuators

- On-Off button
- Temperature (Extn.)

Versions

- o 2G GSM/GPRS
- o 4G LTE Cat-1/4 (legacy 2G/3G compatible)

Salient features

- Light weight (50g) & compact size (50x40x15mm)
- o High quality cellular and GNSS tracking modules
- o High quality on-chip Cellular and GNSS antennas
- \circ On-chip CPU for add-on applications in standalone
- o Rich internet protocols support for app integration
- $\circ \quad \text{Most GNSS tracking support for global coverage} \\$
- Cellular versions selections for better app & cost fit









Outdoor high frequency tracking

- Fast moving asset tracking
- Kids and pets tracking
- Sports and outdoor games
- Tracking the field workers

Request Info



Functionality

GNSS based location tracker device with Cellular connectivity and re-chargeable battery. High accuracy tracker with sensor extension options fit for wide range of high frequency general purpose outdoor tracking.



Description

Protocols

- o Location: GPS, GLONASS, Galileo, BeiDou, QZSS
- o Cellular : 2G/3G/4G

Sensors/Actuators

- o On-Off button
- SOS button (Extn.)
- o Temperature, humidity (Extn.)
- Motion, proximity/touch (Extn.)

Versions

- o 2G GSM/GPRS
- 4G LTE Cat-1/4 (legacy 2G/3G compatible)

Salient features

- High location accuracy and fast locking time
- Both periodic and on-demand location access
- High quality cellular and GNSS tracking modules
- o High quality on-chip Cellular and GNSS antennas
- o On-chip CPU for add-on applications in standalone
- Rich internet protocols support for app integration
- Most GNSS tracking support for global coverage
- Cellular versions selections for better app & cost fit
- Options for interface and sensors extensions

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- Tracking 2/3-wheelers
- Personal vehicle tracking
- Fleet management system
- Moving asset/machinery tracking

Request Info



Functionality

High-accuracy baseline GNSS based vehicle tracker with basic vehicle safety and security functions. The device is powered by vehicle battery/ignition and has configurable period for sending location data to the server.



Description

- Protocols
 - o Location: GPS, GLONASS, Galileo, BeiDou, QZSS
- o Cellular : 2G/3G/4G
- Sensors/Actuators
 - SOS button (Extn.)
 - o Basic Accelerometer (Extn.)
 - o Immobilizer Relay Control (Extn.)
- Versions
 - W/(o) backup battery
 - 2G GSM/GPRS
 - o 4G LTE Cat-1/4 (legacy 2G/3G compatible)
- Salient features
 - o High location accuracy and fast locking time
 - o Both periodic and on-demand location access
 - $_{\circ}$ High quality Cellular and GNSS tracking modules
 - \circ High quality on-chip Cellular and GNSS antennas
 - $\circ \quad \text{ Rich internet protocols support for app integration }$
 - Most GNSS tracking support for global coverage
 - o Cellular versions selections for better app & cost fit
 - Support for wide input power range : 5-100V
 - o Extendible for basic driver insights & ignition control



Tracker VB









Application

- Tracking 2/3-wheelers
- Personal vehicle tracking
- Fleet management system
- Moving asset tracking
- Vehicle accessories IoT
- Cargo trucks tracking
- Cold chains logistics

Request Info



Functionality

High-accuracy GNSS based vehicle tracker with Bluetooth capability for extended usability, safety & security functions. The device is powered by vehicle battery/ignition and has configurable period for sending location data to the server.



Description

Protocols

- o Location: GPS, GLONASS, Galileo, BeiDou, QZSS
- Cellular : 2G/3G/4GWireless: BLE 5+

Sensors/Actuators/Add-ons

- SOS button
- o Ambient Temperature
- o Immobilizer Relay Control (Extn.)
- o Ambient Relative Humidity (Extn.)
- o IMU/MEMS Add-on (Extn.)
- o NFC/RFID Add-on (Extn.)

Versions

W/(o) backup battery

- o 2G GSM/GPRS
- o 4G LTE Cat-1/4 (legacy 2G/3G compatible)

- All features of baseline Tracker V0
- Rich add-on sensors extension options
- $\circ \quad \text{Easy connect to universal BLE accessories} \\$
- o Additional control via smart phone app
- o Extendible for advanced driver insights
- Extendible for advance climate insights



Tracker VBC









Application

- Personal vehicle tracking
- Fleet management system
- Moving asset tracking
- Vehicle accessories IoT
- Cargo trucks tracking
- Cold chains logistics

Request Info



Functionality

High-accuracy GNSS based vehicle tracker with Bluetooth capability and CAN interface for extended usability, vehicle insights and advance safety & security functions. The device is powered by vehicle battery/ignition and has configurable period for sending location data to the server.



Description

Protocols

o Location: GPS, GLONASS, Galileo, BeiDou, QZSS

o Cellular : 2G/3G/4G

Wireless: BLE 5+

Sensors/Actuators/Add-ons

- SOS button
- Ambient Temperature
- Immobilizer Relay Control (Extn.)
- o Ambient Relative Humidity (Extn.)
- o <u>IMU/MEMS</u> Add-on (Extn.)
- o NFC/RFID Add-on (Extn.)

Versions

With backup battery

- o 2G GSM/GPRS
- 4G LTE Cat-1/4 (legacy 2G/3G compatible)

- All features of baseline <u>Tracker V0</u>
- o Rich add-on sensors extension options
- Easy connect to universal BLE accessories
- o Additional control via smart phone app
- Extendible for advanced driver insights
- o Extendible for advance climate insights
- Vehicle parameters via its CAN interface



Tracker VOD









Application

- Fleet management system
- Moving asset tracking
- Cargo trucks tracking
- Cold chains logistics
- · Farm machinery control
- Earth mover operations

Request Info



Functionality

High-accuracy GNSS based vehicle tracker with vehicle On-Board Diagnostics for advance vehicle insights, safety & security, and tracking functions. The device is powered by vehicle battery/ignition and has configurable period for sending location data to the server.



Description

Protocols

o Location: GPS, GLONASS, Galileo, BeiDou, QZSS

o Cellular: 2G/3G/4G

Sensors/Actuators/Add-ons

- SOS button
- o Ambient Temperature
- o Immobilizer Relay Control
- o Ambient Relative Humidity (Extn.)
- o IMU/MEMS Add-on (Extn.)
- NFC/RFID Add-on (Extn.)

Versions

With backup battery

- o 2G GSM/GPRS
- o 4G LTE Cat-1/4 (legacy 2G/3G compatible)

- $_{\circ}$ All features of baseline <u>Tracker V0</u>
- o Rich add-on sensors extension options
- o Supports advanced driver insights
- o Extendible for advance climate insights
- o Supports advance vehicle insights via OBD



Tracker VOW









Application

- Fleet management system
- · Commercial vehicle tracking
- Cargo truck & trailer tracking
- Advance cold chains logistics
- Farm machinery management
- Advance earth mover operations
- Advance vehicle accessories IoT

Request Info



Functionality

High-accuracy GNSS based vehicle tracker with On-Board Diagnostics, Bluetooth and Wi-Fi capabilities for advances vehicle tracking and management functions. The device is powered by vehicle battery/ignition and has configurable period for sending location data to the server.



Description

Protocols

o Location: GPS, GLONASS, Galileo, BeiDou, QZSS

o Cellular : 2G/3G/4G

Wireless: BLE 5+, Wi-Fi IEEE 802.11

Sensors/Actuators

- SOS button
- o Ambient Temperature
- o Immobilizer Relay Control
- Ambient Relative Humidity (Extn.)
- o IMU/MEMS Add-on (Extn.)
- NFC/RFID Add-on (Extn.)

Versions

With backup battery

- o 2G GSM/GPRS
- 4G LTE Cat-1/4 (legacy 2G/3G compatible)

Salient features

- All features of baseline Tracker V0
- o Rich add-on sensors extension options
- Easy connect to universal BLE accessories
- $\circ \quad \text{Additional control via smart phone app} \\$
- Supports advanced safety & driver insightsExtendible for advance climate insights
- Supports advance vehicle insights via OBD
- Supports Wi-Fi based advance applications



PIF BC3.3









Application

- Vehicle system tracking
- Vehicle accessories IoT
- CAN add-on management

Request Info



Functionality

Peripheral device to interface with CAN based systems to a core master device via Bluetooth Low Energy (BLE). This device is powered by 3.3V regulated power supply from its master device for which it works as an add-on for additional CAN based accessory or system.



Description

- Protocols
 - Wired IF: CAN Bus Interface
 - Wireless: BLE 5+
- Sensors/Actuators
 - Ambient Temperature
 - Ambient Relative Humidity (Extn.)
- Versions
 - Baseline to with basic capability
 - o Advance to with processing intelligence
- Salient Features
 - Low power consumption for least drain
 - $\circ \quad \text{Seamless BLE connectivity with master} \\$
 - o Configurable via BLE based application
 - Easy pairing with universal BLE devices
 - o Rich add-on sensors extension options











- Vehicle driver behavior monitoring
- Motion (speed change, turns) tracking
- Basic and advance gesture detection
- Indoor navigation and tracking system
- Intelligent power saving for master
- Vibration monitoring & compensation
- Device & display orientation tracking
- Advance geo & marine navigation

Request Info



Functionality

Peripheral to extend the device functionality with add-on motion sensor the default ones being and Accelerometer & a Gyroscope and a Magnetometer for the advanced use cases. This device is powered by 3.3V regulated power supply from its master device.



Description

- Protocols
 - Wired IF: UART/I2C/SPI Peripheral Interface
- Sensors/Actuators
 - Accelerometer
 - o Gyroscope
 - Magnetometer*
- Versions
 - o Baseline 6-DOF Accelerometer & Gyroscope
 - o Advance 9-DOF Accelerometer, Gyroscope & Magnetometer
- Salient Features
 - o Low power consumption for least drain
 - Standard serial IF connectivity with master
 - Versions with cost-feature-accuracy tradeoffs
 - o Easy access and control via master device
 - o Rich add-on sensors extension options

^{*} Available in the advance version.











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Application

- Attendance management system
- Driver and passenger record in vehicle
- Moving asset tracking indoors
- Warehouse management system
- Goods tracking in retail stores/storage

Request Info



Functionality

Peripheral device with rich NFC/RFID tags types support for systems with tag read, write and/or emulation. A useful device to extend trackers and industrial devices with NFC/RFID based features. This can be powered by 3-3.6V power supply from a stand-alone battery or its master device.



Description

- Protocols
 - Wired IF: UART/SPI/Interrupts
 - o Wireless: NFC/RF @13.56 MHz
- Sensors/Actuators
 - NFC/RFID Tags Sensor
 - Single I/O Sensor (Extn.)
 - SPI or UART Extension (Extn.)
- Versions
 - $_{\odot}$ $\;$ Type A & B, ISO/IEC & NFC Forum Tags Support
 - With additional Reader Mode & Card Emulation
- Salient Features
 - o High sensitivity on board NFC antenna
 - o Optimized and low power configuration
 - Support for wide range of common tags
 - o Card emulation modes and versions
 - o Basic add-on sensors extension options



Tag BL









Application

- Personal & lab asset tracking
- Warehouse management system
- Goods tracking on shipping ports
- Factory goods movement tracking
- Staff attendance management system

Request Info



Functionality

Bluetooth Low Energy (BLE) Tag with single use long life battery for general purpose asset movement tracking in an indoor or local area setup.



Description

- Protocols
- Wireless: BLE 5+
- Sensors/Actuators
 - ON-OFF/Reset Button
 - o Ambient Temperature
 - Ambient Relative Humidity (Extn.)
- Versions
 - o Baseline version for tag & beacon applications
- Salient features
 - Pair with universal BLE devices
 - Easy control via smart phone app
 - \circ Very long shelf life while not in use
 - o Ultra-low power design & Long battery life
 - o Bluetooth triangulation for indoor tracking











- Smart city & smart infrastructure
- Environment monitoring systems
- Trailer and consignment tracking
- Factory & shipped goods tracking
- Fire alarm and fire safety systems
- Lab asset tracking & management
- Industry 4.0 automation & sensing

Request Info



Functionality

Bluetooth Low Energy (BLE) End Point Device with single use long life battery for Consumer and Industrial IoT applications. It can capture data from a range of sensors connected to it via available interfaces or wirelessly via Bluetooth and send it to nearest BLE hotspot, another BLE device or a mobile phone.



Description

Protocols

- Wired IF: UART, SPI, I2C, Analog
- o Wireless: BLE 5+

Sensors/Actuators

- ON-OFF/Reset Button
- o Ambient Temperature
- Battery Voltage Sensor
- Environment Sensors (Extn.)
- o Proximity/Touch Sensor (Extn.)
- Motion Detection Sensors (Extn.)
- Fluid/Gas/Smoke/Fire Sensors (Extn.)

Versions

- Baseline capability for simple applications
- Moderate capability for moderate applications

- o Pair with universal BLE devices
- Easy control via smart phone app
- Low power design for long battery life
- o Bluetooth Triangulation for indoor location
- o Extend with a wide range of IoT sensors











- Buildings management system
- Smart infrastructure applications
- Environment monitoring systems
- Lab asset tracking & management
- Industry 4.0 application use cases
- Sensors enabled shipment tracking
- Machine command & control system
- Cold chain goods condition monitoring

Request Info



Functionality

Bluetooth Low Energy (BLE) End Point Device suitable for moderate and advance Industrial applications. The device can capture data from a range of sensors connected to it via available interfaces or wirelessly via Bluetooth and send it to nearest BLE hotspot, another BLE device or a mobile phone.



Description

Protocols

- Wired IF: UART, SPI, I2C, Analog, I2S*
- o Wireless: BLE 5+

Sensors/Actuators/Add-ons

- All Sensors/Actuators of End IBL
- o Battery Capacity Level Sensor (Extn.)
- o <u>Interface</u> Add-ons (Extn.)

Versions

W/(o) re-chargeable battery & power configs

- o Moderate capability for moderate apps
- High capability for advance & complex apps

- o Pair with universal BLE devices
- Easy control via smart phone app
- Low power design for long battery life
- o Firmware Over-The-Air (FOTA) upgrade
- o Charging by common cell phone chargers
- \circ Bluetooth Triangulation for indoor location
- Extendible with a wide range of IoT sensors
- $\circ \quad \text{Support for add-on functionality extensions} \\$
- $\circ \quad \text{ Rich interfaces to connect with other systems }$

End IWR









Application

- Buildings management system
- Smart infrastructure applications
- · Industrial environment monitoring
- Lab asset tracking & management
- Advance Industry 4.0 applications
- Industrial machine control & operation
- Cold chain goods condition monitoring
- Sensors enabled tracking & monitoring

Request Info



Functionality

Wireless Fidelity (Wi-Fi) End Point Device suitable for advance Industrial applications. It can capture data from a range of sensors, add on interfaces, machines and other devices via available interface or over Wi-Fi and send that to the server via available Wi-Fi access point/gateway.



Description

Protocols

- Wired IF: UART, SPI, GPIOs, Analog, I2S*
- o Wireless: IEEE 802.11 a/b/g, 802.11n*

Sensors/Actuators/Add-ons

- ON-OFF/Reset Button
- SD/SDIO card (Extn.)*
- Capacitive touch and dual IO*
- o Battery voltage & current (Extn.)
- o Environment, light, motion, proximity (Extn.)
- o <u>Interface</u> Add-ons (Extn.)*

Versions

W/(o*) re-chargeable battery & power configs

- $\circ \quad \text{ Baseline with only sensors add-on support }$
- Advance with sensors & interface add-on support

- o Firmware Over-The-Air (FOTA) upgrade
- Power configurations and control options
- \circ Configuration for wide range of applications
- Extendible with a wide range of IoT sensors
- o Battery level monitory & low-level indication
- o Support for add-on functionality extensions
- o Rich interfaces to connect with other systems



Access IWC









Application

- Buildings management system
- Smart infrastructure applications
- Industrial monitoring and control
- Lab asset tracking & management
- Advance Industry 4.0 applications
- Industrial machine control & operation
- · Sensors enabled monitoring & control

Request Info



Functionality

Industrial grade access point device with Cellular connectivity for wireless Local Area Network (LAN) for BLE and Wi-Fi based IoT end points. The device sends the data from end points to the server and the command messages in the return path.



Description

Protocols

- Wired IF: UART, SPI, I2C, Analog, I2S
- o Wireless: IEEE 802.11 a/b/g/n, BLE 5+
- o Cellular : 2G/3G/4G

Sensors/Actuators/Add-ons

- ON-OFF/Reset Button
- o Environment, light, motion, proximity (Extn.)
- o NFC/RFID Add-on (Extn.)
- o Interface Add-ons (Extn.)

Versions

W/(o) re-chargeable backup battery

- o 2G GSM/GPRS
- o 4G LTE Cat-1/4 (legacy 2G/3G compatible)

- o Pair with universal BLE devices
- Easy control via smart phone app
- Wi-Fi gateway for the end devices
- o Firmware Over-The-Air (FOTA) upgrade
- Extend with a wide range of IoT sensors
- Support for add-on functionality extensions
- \circ Rich interfaces to connect with other systems
- Uninterrupted connectivity with battery backup











- Environment monitoring system
- Converting legacy systems to IoT
- Industrial monitoring and control
- Industrial sensors & machine network
- Industrial machine control & operation

Request Info



Functionality

Baseline Industrial link hub device that provides to-and-fro connectivity with internet/cloud server. The device is powered by standard external power source. It can send the connected sensors and/or interface data based on a configurable period and/or a trigger event.



Description

- Protocols
 - Wired IF: UART, Analog, PCM, I2C*
 - o Cellular: 2G/3G/4G
- Sensors/Actuators/Add-ons (Limited)
 - ON-OFF/Reset Button
 - o Environment Sensors (Extn.)
 - Light/PIR/Sound Sensors (Extn.)
 - Motion & Vibration Sensors (Extn.)
 - Fluid/Gas/Smoke/Fire Sensors (Extn.)
 - o <u>Interface</u> Add-ons (Extn.)
- Versions

W/(o) backup battery

- o 2G GSM/GPRS
- o 4G LTE Cat-1/4 (legacy 2G/3G compatible)
- Salient features
 - o High quality Cellular modules
 - o High quality on-chip Cellular antennas
 - o Rich internet protocols support for app integration
 - Cellular versions selections for better app & cost fit
 - Support for wide input power range : 5-100V











- Environment monitoring system
- Converting legacy systems to IoT
- Industrial monitoring and control
- Industrial sensors & machine network
- Industrial machine control & operation
- · Industrial machine accessories IoT
- Fixed asset monitoring and control

Request Info



Functionality

An Industrial link hub device with BLE capability that provides to-and-fro connectivity with internet/cloud server. The device is powered by the standard external power source. It can send the connected sensors and/or interface data based on a configurable period and/or a trigger event.



Description

Protocols

Cellular : 2G/3G/4GWireless: BLE 5+

Sensors/Actuators/Add-ons

- ON-OFF/Reset Button
- o Environment Sensors (Extn.)
- Light/PIR/Sound Sensors (Extn.)
- Motion & Vibration Sensors (Extn.)
- Fluid/Gas/Smoke/Fire Sensors (Extn.)
- NFC/RFID Add-on (Extn.)
- o <u>Interface</u> Add-ons (Extn.)

Versions

W/(o) backup battery

2G GSM/GPRS

Extn.: Extendible by add-on.

4G LTE Cat-1/4 (legacy 2G/3G compatible)

- o All features of baseline Linker IO
- o Rich add-on sensors extension options
- Easy connect to universal BLE sensors
- Easy access & control via smart phone app
- Extendible for advance environment insights
- Support for wide input power range : 5-100V











- Converting legacy systems to IoT
- · Industrial monitoring and control
- Industrial sensors & machine network
- Industrial machine control & operation
- Industrial machine accessories IoT

Request Info



Functionality

Industrial interface for machine or another device system with Controller Area Network (CAN). The device can be externally to or integrated with a master device that connects to it via the UART. It draws power from the machine or other device system (CAN side) and also supplies regulated power to the master device using this as an interface extension.



Description

- Protocol
 - CAN bus to a machine or other system
 - UART & Power IF to the connected master
- Supported Add-ons
 - o Power convert 5-100V to 3.3V/5V (Extn.)
- Versions
 - o 3.3V and 5V CAN interface versions
- Salient Features
 - Support high speed CAN (up to 5 Mbps)
 - o Overvoltage and surge current protection
 - Versions with cost-quality tradeoffs
 - Easy connectivity to master via UART











- Converting legacy systems to IoT
- · Industrial monitoring and control
- Industrial sensors & machine network
- Industrial machine control & operation
- Industrial machine accessories IoT

Request Info



Functionality

Industrial interface for machine or another device system with RS232 serial interface. The device can be externally to or integrated with a master device that connects to it via the UART. It draws power from the machine or other device system (RS232 side) and also supplies regulated power to the master device using this as an interface extension.



Description

- Protocol
 - o RS232 to a machine or other system
 - UART & Power IF to the connected master
- Supported Add-ons
 - Power convert 5-100V to 3.3V/5V (Extn.)
- Versions
 - o Normal and high data rate versions
- Salient Features
 - o Interface RS232 data rate up to 1 Mbps
 - o Overvoltage and surge current protection
 - Cost-performance-quality tradeoffs options
 - Easy connectivity to master via UART











- Converting legacy systems to IoT
- · Industrial monitoring and control
- Industrial sensors & machine network
- Industrial machine control & operation
- Industrial machine accessories IoT

Request Info



Functionality

Industrial interface for machine or another device system with RS422/485 serial interface. The device can be externally to or integrated with a master device that connects to it via the UART. It draws power from the machine or other device system (RS422/485 side) and also supplies regulated power to the master device using this as an interface extension.



Description

- Protocol
 - o RS422/485 to a machine or other system
 - UART & Power IF to the connected master
- Supported Add-ons
 - o Power convert 5-100V to 3.3V/5V (Extn.)
- Versions
 - o 3.3V and 5V RS422/485 interface versions
 - o Half-duplex & full-duplex interface versions
- Salient Features
 - Interface speed options (up to 20 Mbps)
 - Overvoltage and surge current protection
 - Cost-performance-quality tradeoffs options
 - o Easy connectivity to master via UART
 - o ESD Protection up to 15 kV



Info & Support

For additional info and support in realizing your IoT project and fulfilling your IoT solution needs, please write to us using info@lokawiz.com.

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