PRODUCTS CATALOGUE

Z-WAVE.ME

BUILDS THE SMART HOME

RaZberry 7

The daughter card for Raspberry Pi. It turns your Raspberry Pi into a Z-Wave Controller.

Compatible with Raspberry Pi 1/2/3A/3B/3A+/3B+/4B. It is even possible to connect it to an Orange Pi.

No additional or monthly fees. RaZberry price includes all the required licenses.

Extended transmission range due to

- 7th Generation Z-Wave chip
- The best-in-class antenna designed in the US (by Linx Technologies, Inc.)
- The long-range ability, tunable transmit power and other features of a top-notch firmware

Certified Z-Wave communication stack Z-Way provides:

- Mobile apps for iOS and Android as well as web-based interface;
- Easy and reliable backup including full Z-Wave network dump and automation settings;
- Notifications via push and E-mail. Battery draining notification won't let you stay with dysfunctional equipment;
- Advanced diagnostic & network statistics tools, including Z-Wave sniffer;
- Configurable Z-Wave radio frequency (region);
- Optimized queue handling to speed up transmitting process;
- Ability to upgrade firmwares of Z-Wave devices;
- Strong Security S2 encryption standard;

Compatible with open-source projects:

Home Assistant
OpenZWave
OpenHAB
FHEM
Domoticz

Compatible with eco-systems:

Works with Apple HomeKit

amazon alexa

works with Hey Google

Hey Siri

and hundreds of others via MQTT and IFTTT

- Easiest device installation using Z-Wave SmartStart. Just scan QR-code to include your Z-Wave device;
- Many 3rd party Apps and Services;
- Open HTTP API for your tailored integrations;
- Graphical UI for smart home automation;
- Advanced home automation using scripting;
- Extensive logging abilities.

PCB antenna option

External antenna option

Raspberry Pi + RaZberry 7 + Z-Way = Z-Wave server

PLEASE NOTE:
The package includes only the Z-Wave plug-in module and the Z-Way software.
The Raspberry Pi board is NOT included.

Enables Advanced Radio Tool to provide you the full control over Z-Wave network, read 'Installation tools' part

Zniffer ART

Wiren Board 7

Wiren Board 7 is a universal automation controller powered by open-source software.

The controller is used in the tasks of monitoring server and climatic equipment, dispatching and collecting data from metering devices, as a heart of a smart home and industrial automation.

Z-Wave.Me created a Z-Wave extension for Wiren Board 7 hub. The controller supports a large number of protocols:

- Z-Wave, Zigbee — a wide range of sensors and actuators;
- Compatible with Z-Way & Home Assistant;
- Modbus RTU — a wide range of devices: relays, dimmers, I / O modules;
- Somfy, WINDECO, DOOYA, AKKO — electric curtains;
- IEC 61107, DLMS / COSEM electricity meterst;
- 1-Wire - temperature sensors DS18B20;
- Wi-Fi, Bluetooth — sensors, gateways and devices;
- Modbus TCP, MQTT, SNMP, Zabbix API — data exchange with other controllers, servers and SCADA;
- Danfoss / Carel — refrigeration controllers Danfoss EKC 202B / D, Danfoss ERC 21x, Carel BASIC / EASY.

With add-on modules, you can add support for:

- KNX — the controller can be integrated into existing KNX integrations;
- OpenTherm and eBUS — electric and gas boilers.

Extended transmission range due to:

- 7th Generation Z-Wave chip;
- The best-in-class antenna designed in the US (by Linx Technologies, Inc.);
- The long-range ability, tunable transmit power and other feature of a top-notch firmware.

The controller is made according to an industrial process technology and can operate for a long time at air temperatures from -40 to +75 ° C. It is often used in outdoor unheated billboards. Port overvoltage protection and watchdog timer allow the controller to be used for solutions requiring reliable operation.

The DIN-rail housing and the supply voltage range from 9 to 48 volts will help you integrate the controller into an existing automation panel or assemble a new one without any problems.

The open platform makes it possible to install third-party software, or develop your own. A wide range of external modules will help you build a fault-tolerant automation system for any task, and support for various data transfer protocols will help you integrate the controller into an existing one.

HARDWARE & SOFTWARE

- 1.2 GHz Quad Core ARM Cortex A7 industrial-grade CPU
- 1 GB DDR3 RAM
- 8 GB industrial-grade eMMC Flash
- Dedicated secure key storage

INTERFACES & COMMUNICATIONS

- 1 × microSD slot, up to 25 MB/s
- 2 × Ethernet 10/100
- 1 × USB Host
- Wi-Fi 802.11n (AP, client)
- Bluetooth 4.0
- 2 × RS-485
- 1 × CAN, multiplexed with one of RS-485
- 2 × 1-Wire / discrete inputs
- 3 × discrete / analog inputs / outputs “open collector”
- 1 × discrete input / output “open collector”

Additionally, using extension modules:

- 4G (LTE) dual SIM-card modem
- Z-Wave and Zigbee

Z-Station & mPCIe

Z-Wave & Zigbee extenders. The most popular Smart Home radio technologies with an omni-protocol device.

Z-STATION

Z-Station is USB-extender for Z-Wave and Zigbee. Eliminate interference by moving a transmitter away from your hub.

Supported Hardware:

- Raspberry Pi,
- PC under control of Linux, FreeBSD or Windows,
- router based platforms with OpenWRT.

mPCIe

Add Z-Wave & Zigbee connectivity by inserting this Mini PCI Express card in your mini computer.

Supported Hardware:

- PC our router with a mini PCI Express slot under control of Linux, FreeBSD or Windows.

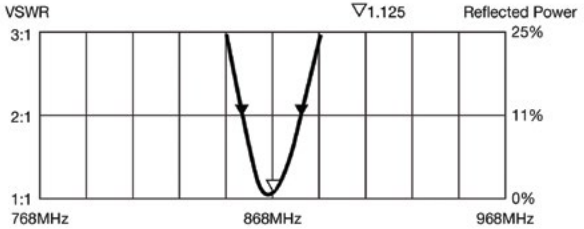
Best performance with:

- Z-Way (see p. 8)
- OpenZWave
- FHEM
- Home Assistant
- OpenHAB
- Domoticz

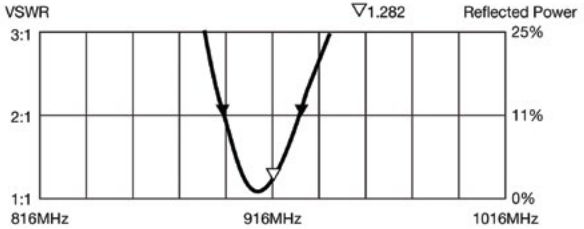
ANTENNAS

Both Z-Station and mPCIe are equipped with 2 Linx antennas. Antennas are connected with a 100 mm Linx SMA coaxial cable with a U.FL connector. You will be able to rotate antennas to 360° and tilt to 90°. A Linx antenna has a high radio signal transmission efficiency, which increases the range of the radio communication.

Z-WAVE ANTENNA

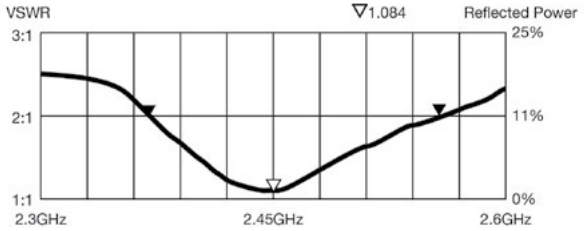


The Linx ANT-868-CW-HWR-RPS antenna is used for Z-Wave 865...869 MHz



The Linx ANT-916-CW-HWR-RPS antenna is used for Z-Wave 908...917, 919...921 MHz

ZIGBEE ANTENNA



The Linx ANT-2.4-CW-HWR-RPS antenna is used for Zigbee frequencies.

Supports Zigbee HA 3.0. Zigbee chip can be switch to Zigbee, OpenThread (Matter ready), Bluetooth Low Energy or 802.15.4 raw radio mode.

Z-Way

Based on Z-Way SDK

Z-Way is a complete Smart Home Controller Software supporting Z-Wave and EnOcean radio protocols, as well as Wi-Fi, MQTT and HTTP-based devices.

Z-WAVE SUPPORT:

- Z-Wave long range. Up to 1 mile distance and up to 4k connected devices.
- Strong Security S2 encryption standard.
- Easiest device installation using Z-Wave SmartStart. Just scan QR-code to include your Z-Wave device.
- Best performance with Z-Wave transmitters: UZB, RaZberry, Z-Station, mPCIe.
- Works with all certified Z-Wave devices.
- Scripting in JavaScript.
- The application store for solving various automation tasks.
- Ability to upgrade firmwares of Z-Wave devices.

SUPPORTED HOST HARDWARE:

- Raspberry Pi
- PC under control of Linux, FreeBSD or Windows
- router based platforms with OpenWRT

SUPPORTED RF HARDWARE:

Best performance with Z-Wave transmitters:

- UZB
- RaZberry
- Z-Station
- mPCIe

Works with Apple HomeKit

MQTT

Z-WAVE

Wi Fi

enocean

zigbee

matter

Voice assistants:

amazon alexa

works with Hey Google

Hey Siri

INTERFACES:

- iOS Apps
- Android Apps
- Web-based interface
- Home Assistance
- Voice assistants

INTEGRATIONS:

- Home Assistant
- iRidi
- node-red
- OpenHAB

INTEGRATORS PREFER:

- The possibility to create own apps
- Advanced interface for debugging network quality
- Deep learning of processes within the network
- Possibility to integrate the entire Z-Way complex into a ready-made solution or as a separate library
- Availability of the HTTP and C API
- Integration with other services and systems
- Ability to develop additional services for specific needs

The power of Z-Way lies in its open design. You are more than welcome to contribute to the different building blocks.

Available integrations:

openHAB
empowering the smart home

iRidi

Node-RED

Z-Uno 2

Made on Z-Uno SDK

Perfect solution for DIY! Connect LEDs, buttons, switches, motors or any low voltage sensor including most of Arduino compatible sensors.

USE YOUR IMAGINATION TO CREATE:

- battery powered in-wall remote switch
- rotary dimmer control
- temperature / soilhumidity / luminosity / voltage / distance or any other sensors as well as dry contact sensor or tick counter
- relay switch
- IR blaster
- LED driver
- motor driver
- battery powered keypad
- converter from any protocol to Z-Wave (using SPI / UART/ I2C / 1-wire bus)

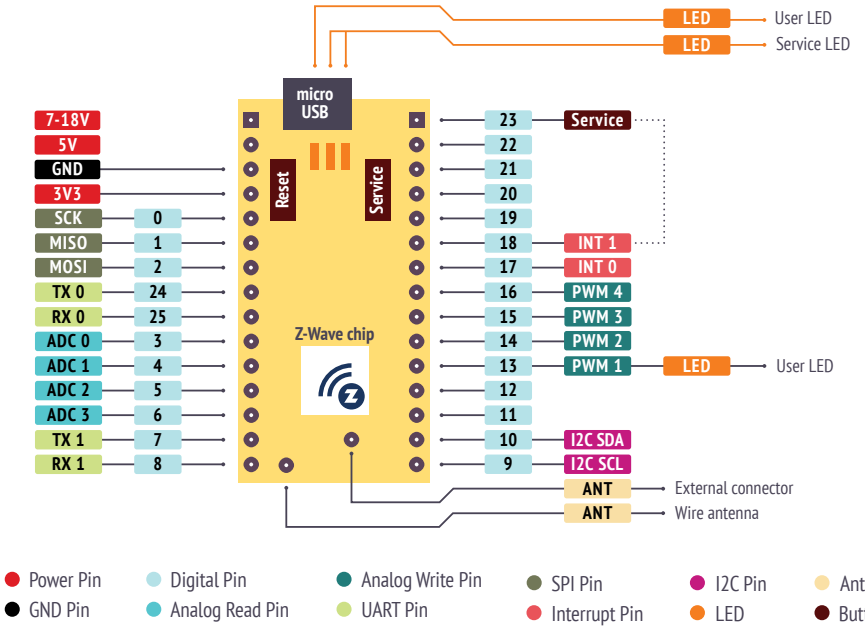
MAKE YOUR OWN Z-WAVE DEVICE:

- control any Arduino compatible peripherals
- define your own logic by modifying your sketch
- use Arduino IDE and language to write and upload sketches
- easy to use
- requires no knowledge of Z-Wave protocol
- complete DIY solution

HARDWARE SPECIFICATION:

- 40 kB Flash memory for your sketches
- 8 kB RAM
- 2 kB EEPROM
- Z-Wave RF transmitter at 9.6 / 40 / 100 kbps
- 26 GPIO, 15 are 5V tollerant, 5 are able to wakeup device from deep sleep
- 4 × ADC
- 4 × PWM
- 3 × UART
- 3 × SPI
- 16 × interrupts
- 1 × I2C
- 2 × 16 Bit timers, 1 × 32 Bit timer (GPT)
- 1-Wire (software)*
- 2 × service LEDs
- 1 × service button
- 1 × user test LED
- CSEN interface for capacitive touch-buttons
- LDMA controller for fast data transfers
- 32Bit Cortex M4F @ 39Mhz CPU

* overlaps with special hardware controllers



POWER MODE:

- USB 5 V, external 3 V, external 4-18 V or battery
- always on, sleeping or FLiRS (Frequently Listening)

Z-WAVE SUPPORTED FEATURES:

- Z-Wave Plus V2 compliant
- Support of Z-Wave Smart Start technology
- Z-Wave Long Range support
- All Z-Wave frequencies
- AES 128 bit Security S2 and S0 modes
- OTA or USB Firmware updates
- Multichannel (32 channels)
- 32 Association groups
- Controls switches, dimmers, door locks and scenes
- Works with gateways and/or directly with other Z-Wave devices

CHANNEL TYPES:

- Switch Binary
- Switch Multilevel
- Notification
- Multilevel Sensor
- Meter
- Doorlock
- Thermostat Mode
- Thermostat Set Point
- Switch Color

Z-Uno Shield 2

Includes Z-Uno 2

Z-Uno Shield 2 is a multi-functional DIN-rail smart home device that can be customized to your needs.

It can become a relay, a dimmer, a sensor, a valve controller, a door lock or an alarm system.

It requires no soldering and no programming — configure, wire and include in the Z-Wave network.

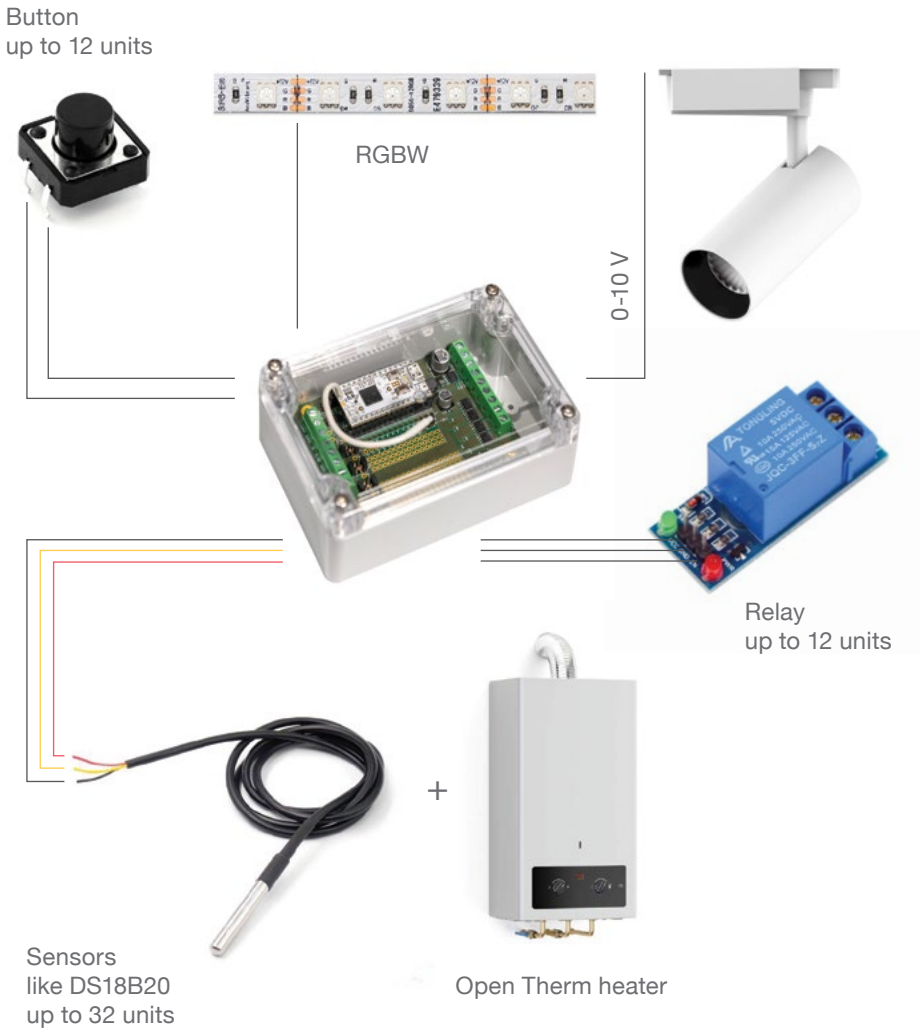
Z-Uno Shield 2 comes in DIN-rail case or Sealed case and has terminal strips for easy connection.

An easy-to-use configuration tool will help you to define the behaviour of your Z-Uno Shield 2 depending on the connected devices.

HARDWARE SPECIFICATION

Up to 4 analog 0-10 V outputs	Up to 4 PWM or switch outputs (up to 5 A per channel)
RS485 and UART	Up to 8 digital 0/3 V inputs or outputs
OneWire for DS18B20	Up to 4 digital 0/3, 0/5 or 0/12 V digital or analog inputs

USE CASES

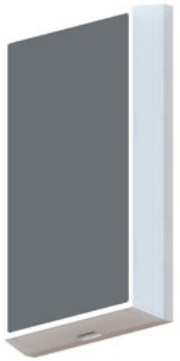


NFC Access Control

Made on Z-Uno SDK

The smartest way to access your home or office. NFC Access Control reads key fobs, tags and cards. It can manage a lock or start a scene or switch light.

- Beautiful glossy LED indication for granted/denied access
- The device is shipped with a choice of finishings of the front panel.
- Can be disguised in a doorbell button or an apartment number plate.



HARDWARE SPECIFICATION

Size 109 x 65 x 17 mm	Touch sensor door bell, light switch functions
RFID Range up to 6 cm	Supported cards Mifare access cards, PayPass and PayWave payment cards
Indicator RGB LEDs, Buzzer	Power 5-12 V / Built-in rechargeable battery

SUPPORTED CARDS AND TAGS

- Mifare key fobs, tags, cards
- ISO/IEC 14443, ISIC
- Payment cards: credit/debit cards such as MasterCard PayPass™ and Visa payWave™ (no payment is made)
- Virtual cards presented in payment mode on smartphones: Apple Pay, Google Pay, Samsung Pay (no payment is made)

ACCESS CONTROL MODES

- Send open/close command to a door lock based on the built-in white list of allowed cards.
- Send all card numbers to a hub to let it manage the access. This mode is for integration with CRM.
- Mixed mode: if a card is not in your white list, your hub resolves the access management.

Z-Wave Multisensor

Made on Z-Uno SDK

Hybrid digital sensor of humidity, temperature, illumination, noise, CO2 and VOC level.

It is equipped with the IR blaster (and the receiver for learning).

Designed for climate control in residential and office premises.

MEASURED VALUES

Temperature -40°C — +80°C (±0.5°C)	CO2 concentration 0 — 5000 ppm.
Humidity 0 — 98% (±3%)	VOC concentration 0 — 60000 ppb.
Light 0.02 — 100000 lux	Motion up to 8 m, angle — 120°
Noise level 40 — 82 dB	

ADDITIONAL FUNCTIONALITY

- IR commands sending
- Built-in buzzer with pre-defined alarm sounds
- Two-color indication
- Heated sensor designed for operation in high humidity conditions
- Supply voltage: 9 — 28 VDC
- Plastic enclosure with wall mounting option (83 x 83 x 21 mm)

wirenboard

The Zniffer / A.R.T.

Z-Wave.Me created Zniffer and an Advanced Radio Tool (A.R.T.) for Z-Wave installers helps to make trouble free networks.

A.R.T. is the must have tool for installers allowing them to:

- Inspect Z-Wave and Z-Wave Long Range packets
- Decode and analyze Z-Wave commands
- Decrypt secure Z-Wave commands (Security S0 and S2)
- Generate Z-Wave commands
- Make on-site signal strength probes
- Gather network statistics
- Probe the network using multiple Zniffers
- Inspect BLE, Zigbee, Thread and Matter packets.

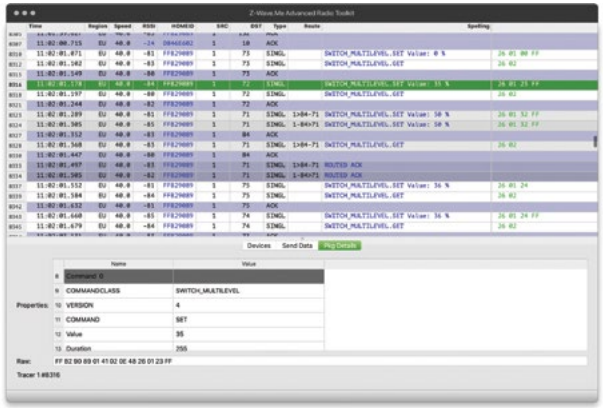
Supported technologies:

WHY A.R.T. LETS INSTALLERS AVOID THE COSTS DOUBLING

A.R.T. can work with any Z-Wave controller: Z-Way, Fibaro Home Center, Yubii, Vera, Smart Things, Zipato.

It can be complemented with the Z-Way network diagnostics tool or work as a standalone tool.

With Zniffer / A.R.T. an experienced engineer can do remote assistance to a junior colleague and instruct how to solve on-site problems.



SUPPORTED RF HARDWARE

- RaZberry 7 and 7 Pro
- Z-Station
- mPCIe
- Wiren Board 7

SUPPORTED OPERATING SYSTEMS

- Debian (Buster and upper, 64 bits)
- Ubuntu (21.04 and upper, 64 bits)
- Windows (10 and upper, 64 bits)
- macOS
- Raspberry Pi OS (Bullseye and upper, 64 bits)

A.R.T. can decode secure packets (network keys need to be learned from the primary controller by including into the network or by exporting keys), parse received Z-Wave commands, construct and send Z-Wave commands.

It is also possible to attach multiple Zniffers placed in different parts of the house to one A.R.T. tool (using LAN) to see the same packet visible from different locations. It is also possible to make probes from each Zniffer to measure signal strength at different locations.

Custom development

We are ready to create a device according to your specifications: fast, inexpensive, with low risk.

HOW TO LOWER THE RISK

Creating a new device is always a thriller. You are dreaming about Red Dot Design award, but what if nobody will buy it? The risk is enormous.

To reduce risks we follow these steps:

Step	Description	Output	Duration
First test	Check technical feasibility	Technical prototype. Several pieces.	1-5 days
	Produce a small number of smart devices for showrooms and test sales.	Marketing prototype 1–100 pieces.	1-3 months
	Test the market, measure demand, collect feedback	Orders, Sales forecast	1-3 months
Adjusting to market	Improve your marketing approach and software and hardware features.	• Medium amount of devices. Up to 500 devices. • Improved product • Improved sales activities • Improved sales forecast	1-2 quarters
	Produce devices for the upcoming test.		
	Conduct the next test. Measure improvements in marketing, sales and influence on the brand.		
	Repeat steps 4-6 until you are sure the product is ready.		
Scaling stage	Certify your product.	A successful product	
	Produce in series!		

TOOLS TO SAVE TIME, COSTS AND EFFORT

	Custom Hub Development	Custom Device Development
SDK	Z-Way SDK	Z-Uno SDK
OS	• Linux • Windows • OpenWRT	Not applicable
Smart Home protocols	• Z-Wave • EnOcean • Zigbee • Matter ready	Z-Wave
Hardware	• RaZberry • UZB • mPCIe • Z-Station • your own hardware based on SiLabs ZG- and MG-series	• Z-Uno • Z-Uno module • your own hardware based on SiLabs ZG-series

For the detailed description turn the page.

Our key customers:

REHAU

swisscom

POPP

DIEHL

z-wave europe

UNIVERSAL DEVICES

and others

Z-Way SDK

Z-Way SDK is an IoT hub software and SDK. You won't have to hire a high-level professional to implement the transport protocol or mandatory components such as voice assistance integration, remote access, apps store and others. Your team could be focused on creating the customer values. See page 8 for more information on Z-Way software.

Z-WAY SDK EXISTS AS

	Full-stack	C-library
	Best for the swift creation of a branded hub. All your customer needs are already included: voice assistance integration, remote access, apps store and other.	Best for creating hubs with minimal hardware requirements and integration in your existing IoT hub.
Smart Home protocols	Z-Wave, matter, Works with Apple HomeKit, zigbee, enocean	
Hardware	• RaZberry • UZB • PCIe • Z-Station • your own hardware based on SiLabs ZGand MG-series	
Home Automation	• Home automation engine: rules and schedules • Remote Access	Your own automation logic
Interfaces	• iOS & Android Apps • Web-based interface • Home Assistance integration • Voice assistants: Amazon Alexa, Apple Siri, Google Home	Your own interface
Integrations	• Home Assistant • iRidi • node-red • OpenHAB • HTTP API	Integration with your software using C API
Supported OS	Linux, Windows and OpenWRT-based distributions	Linux, FreeBSD, Windows, macOS and OpenWRT-based distributions

Development Tools

Z-WAVE.ME PROGRAMMER

Z-Wave.Me Programmer flashes SiLabs modules:

- Z-Uno sketches to Z-Uno Modules and ZG-series
- Z-Wave firmwares to ZG-series
- Zigbee, OpenThread and BLE firmwares to MG-series
- BLE firmwares to BG-series

Handles S2 security keys creation and QR-code printing. Multiple programmers can be driven by the same software to work in parallel mode to flash simultaneously up to 20 chips on a single PCB (for multiplicated PCBs).

The Z-Wave.Me programmer helps to protect your firmware: stores your firmware securely and counts the number of devices burned.

Easy in operation: can run together with a PC software or in a standalone mode (flashing is initiated on a button press).

CERTIFICATION ASSISTANCE

Z-Wave.Me provides special firmwares and tools for FCC and CE RED certification, as well as Z-Wave certification assistance.

With our SDK your chance to certify your device is extremely high.

Programmer:

SILICON LABS, Z-WAVE, THREAD, zigbee, Bluetooth

FC CE

Z-WAVE ALLIANCE

Z-Uno SDK

Z-Uno is a rapid prototyping board. Leverage it to create a technical prototype within a week. Technical prototype is assembled on a breadboard. It proves that your general concept is right.

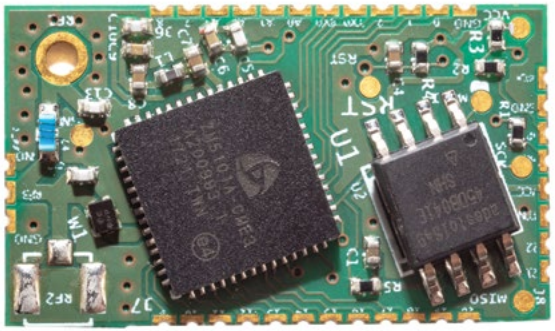
See pages 10-11 to get acquainted with the technical description.

After a feasibility test, the company management has to observe a device prototype. We provide you with a Z-Uno module for this stage.

Z-Uno Module is a tiny version of Z-Uno designed to fit in your devices. It is fully compatible with Z-Uno sketches. Designed for the SMD production process. With our Z-Uno smartification module, you don't have to become a smart home professional.

Z-Uno manages all basic smart home functions: energy efficiency, security, ease of installation, mesh network. You can focus just on programming the core functions of managing your device. The time it takes to make your device compliant with the Z-Wave ecosystem is about a week.

We can assist you in the creation of a prototype.



Z-UNO ECONOMY CALCULATION

For the calculations, we compare in-house development of a smart device versus Z-Uno utilization:

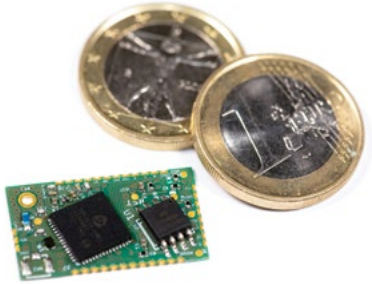
- Z-Wave developer fee:
  > 3,000 €/m. + taxes + overheads
  Total: > 6,000 €/m.
- the minimal time to create a unique smartification module is 6 months
- purchase components (~7 €/unit):
  native Z-Wave module
  EEPROM
  SAW filter

40,000 €
with Z-Uno

50,000 €
without Z-Uno

* for a 2,000 pieces series for 6 months

For a series of fewer than 3,000 pieces, Z-Uno is less expensive and way less risky



SILABS ZG-SERIES

Z-Uno sketch can be flashed to SiLabs Z-Wave 700 and 800 series module and chips. The operation requires our programmer.

https://z-wave.me

Z-WAVE>ME

BUILDS THE SMART HOME

Z-Wave.Me is a team of engineers. Our aim is to provide stable, easy to use and highly powerful building blocks for IoT: Z-Wave, Zigbee, BLE, OpenThread, Matter.

- Installers prefer our high-quality tools saving their money.
- Manufacturers shortcut time-to-market with our software and hardware stacks.
- We ‘ve been in business since 2009.
- We helped to create more than 300 000 devices.
- We are Z-Wave Alliance award winners.

Z-Wave has a well-developed ecosystem. Over 100M Z-Wave devices were sold worldwide, all of them are interoperable:

- smart plugs & outlets
- smart thermostats
- smart lighting
- smart locks
- smart sensors (temperature, smoke humidity, CO2, etc.)
- others

Over 20M households are equipped with Z-Wave.