Application Note

Z-Wave Device Configuration Basics

Document No.:	APL13298
Version:	3 Device Class Ver 1.0
Description:	Best practice guidelines for supporting configuration parameters
Written By:	JFR;PSH;NTJ
Date:	2022-09-06
Reviewed By:	JFR;NOBRIOT;NTJ;PSH
Restrictions:	Approved Partners Only

Approved by:				
Date	CET	Initials	Name	Justification
2022-09-06	12:25:15	NTJ	Niels Johansen	

This document is the property of Silicon Labs. The data contained herein, in whole or in part, may not be duplicated, used or disclosed outside the recipient for any purpose. This restriction does not limit the recipient's right to use information contained in the data if it is obtained from another source without restriction.

REVISION RECORD

Doc. Rev	Date	By	Pages affected	Brief description of changes
1	20150528	ABR	ALL	First revision
2	20180306	BBR	All	Added Silicon Labs template
3	20220906	NTJ	All	Editorial clean up

1 Z-WAVE DEVICE CONFIGURATION BASICS

Z-Wave enables a variety of monitoring and control applications such as sensors can send data to a gateway and Wall controllers reporting button presses to a scene controller.

There may be certain needs in a specific customer deployment which necessitates configuration of parameters, e.g. how often a sensor sends updated information.

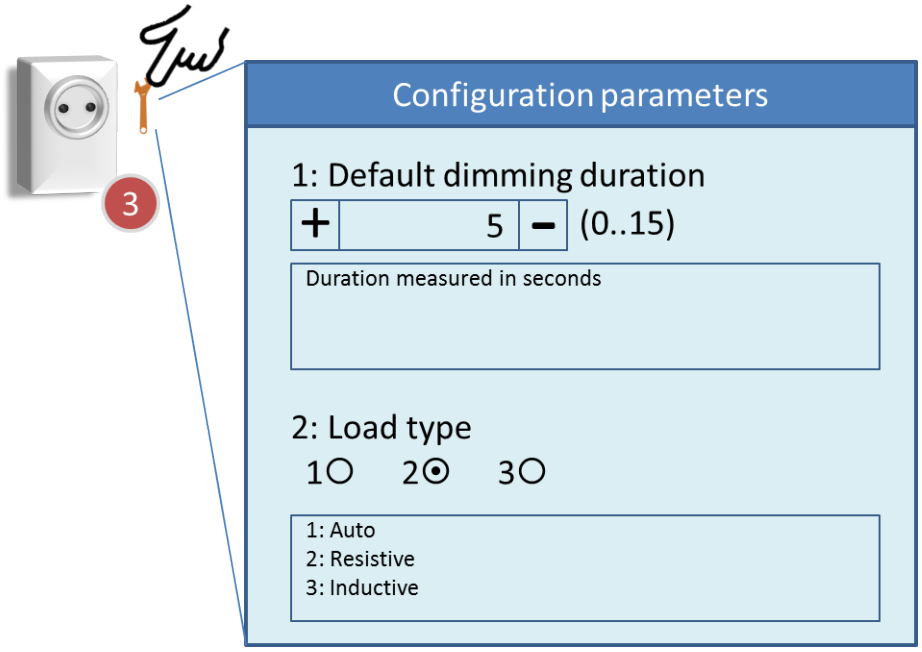
It is a firm requirement that any device operates in a meaningful way in its factory default state. For interoperability purposes it is further a requirement that all functionality that can be controlled via standardized Z-Wave application command classes also support such command classes.

The Configuration Command Class, version 3 (and later) allows an installer tool to request relevant information for configuration parameters of a given device.
A device may advertise the complete list of supported configuration parameters and for each parameter, it is possible to advertise

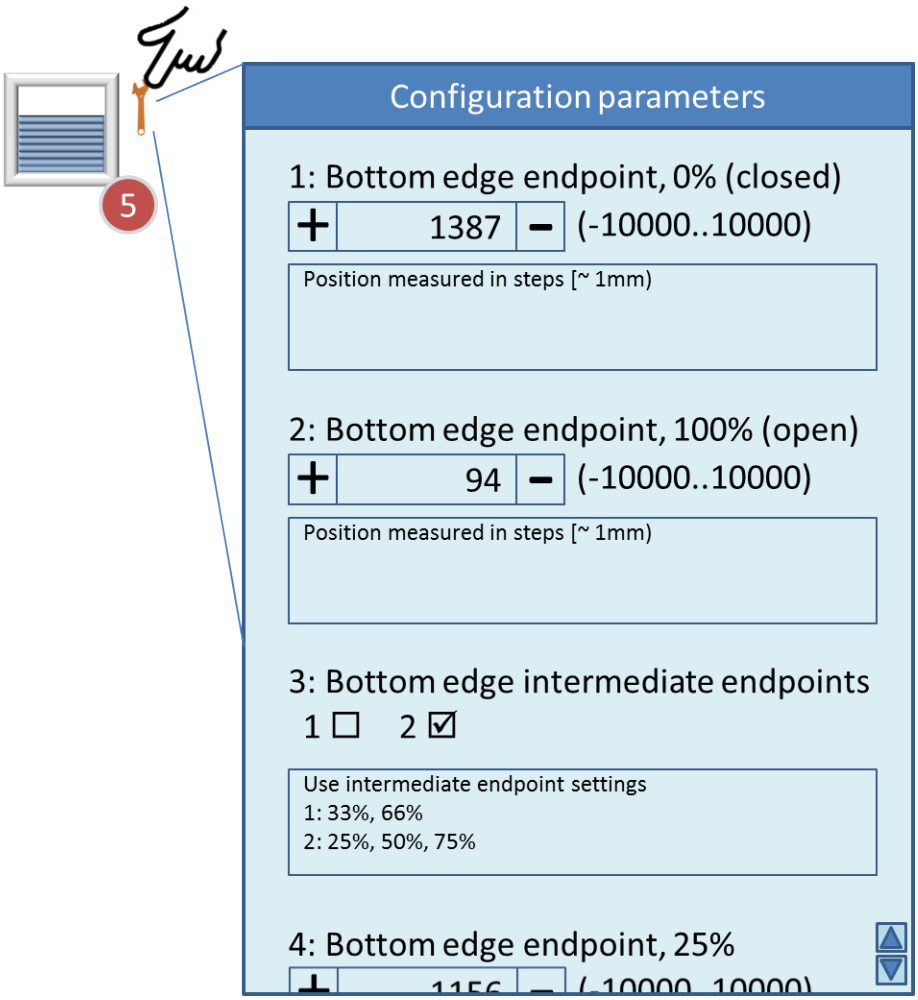
- Parameter name (Configuration Name Report)
- Intended use (Configuration Info Report)
- Parameter type (Configuration Properties Report)
- Parameter ranges (Configuration Properties Report)

The information allows a device to provide information electronically which would otherwise only be available in the product documentation.

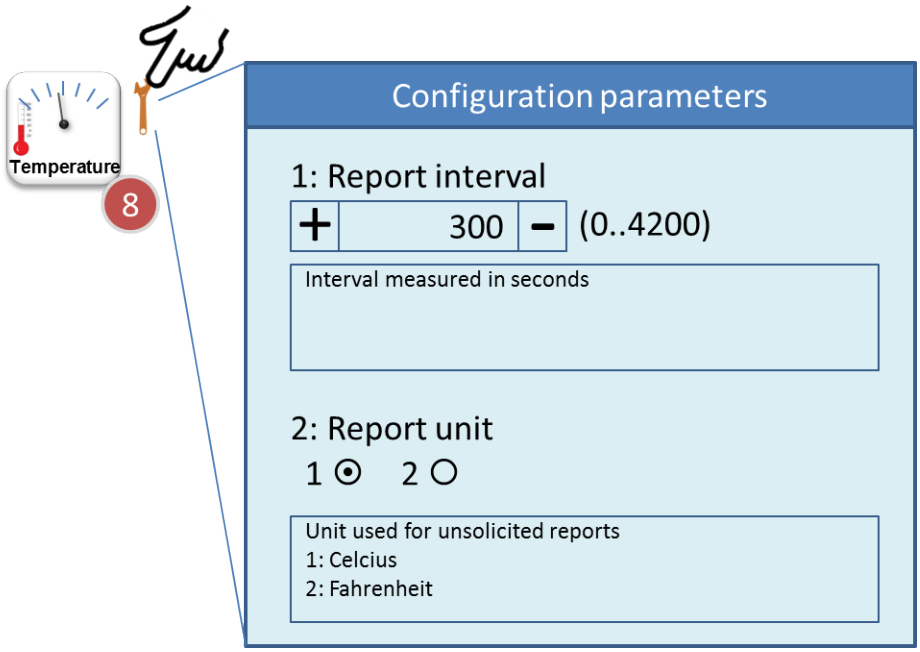
This example shows how the gateway may show configuration parameters in the properties page for a light dimmer.



This example shows how the gateway may show configuration parameters in the properties page for a window covering device.



This example shows how the gateway may show configuration parameters in the properties page for a temperature sensor.



2 REFERENCES

Smart. Connected. Energy-Friendly.

IoT Portfolio
www.silabs.com/products

Quality
www.silabs.com/quality

Support & Community
www.silabs.com/community

Disclaimer
Silicon Labs intends to provide customers with the latest, accurate, and in-depth documentation of all peripherals and modules available for system and software implementers using or intending to use the Silicon Labs products. Characterization data, available modules and peripherals, memory sizes and memory addresses refer to each specific device, and "Typical" parameters provided can and do vary in different applications. Application examples described herein are for illustrative purposes only. Silicon Labs reserves the right to make changes without further notice to the product information, specifications, and descriptions herein, and does not give warranties as to the accuracy or completeness of the included information. Without prior notification, Silicon Labs may update product firmware during the manufacturing process for security or reliability reasons. Such changes will not alter the specifications or the performance of the product. Silicon Labs shall have no liability for the consequences of use of the information supplied in this document. This document does not imply or expressly grant any license to design or fabricate any integrated circuits. The products are not designed or authorized to be used within any FDA Class III devices, applications for which FDA premarket approval is required or Life Support Systems without the specific written consent of Silicon Labs. A "Life Support System" is any product or system intended to support or sustain life and/or health, which, if it fails, can be reasonably expected to result in significant personal injury or death. Silicon Labs products are not designed or authorized for military applications. Silicon Labs products shall under no circumstances be used in weapons of mass destruction including (but not limited to) nuclear, biological or chemical weapons, or missiles capable of delivering such weapons. Silicon Labs disclaims all express and implied warranties and shall not be responsible or liable for any injuries or damages related to use of a Silicon Labs product in such unauthorized applications.
Note: This content may contain offensive terminology that is now obsolete. Silicon Labs is replacing these terms with inclusive language wherever possible. For more information, visit www.silabs.com/about-us/inclusive-lexicon-project

Trademark Information
Silicon Laboratories Inc.®, Silicon Laboratories®, Silicon Labs®, SiLabs® and the Silicon Labs logo®, Bluegiga®, Bluegiga Logo®, EFM®, EFM32®, EFR, Ember®, Energy Micro, Energy Micro logo and combinations thereof, "the world's most energy friendly microcontrollers", Redpine Signals®, WiSeConnect , n-Link, ThreadArch®, EZLink®, EZRadio®, EZRadioPRO®, Gecko®, Gecko OS, Gecko OS Studio, Precision32®, Simplicity Studio®, Telegesis, the Telegesis Logo®, USBXpress® , Zentri, the Zentri logo and Zentri DMS, Z-Wave®, and others are trademarks or registered trademarks of Silicon Labs. ARM, CORTEX, Cortex-M3 and THUMB are trademarks or registered trademarks of ARM Holdings. Keil is a registered trademark of ARM Limited. Wi-Fi is a registered trademark of the Wi-Fi Alliance. All other products or brand names mentioned herein are trademarks of their respective holders.

SILICON LABS

Silicon Laboratories Inc.
400 West Cesar Chavez
Austin, TX 78701
USA

www.silabs.com