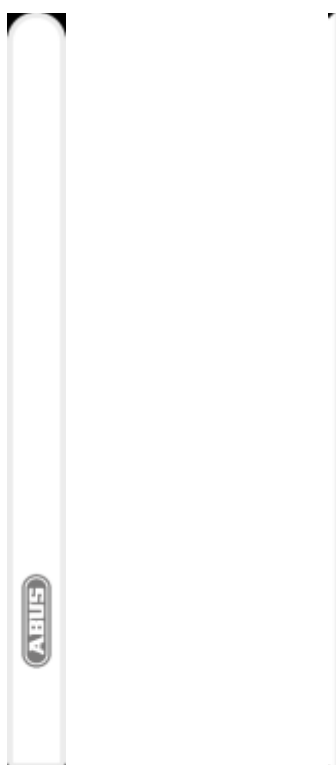




PLMK10000

Z-Wave door/window contact



Important notes and FAQs about this product and other products can be found on the Internet page

www.abus.com

Version 1.1

*Original operating instructions in english language.
Keep for future use!*



Introduction

Dear customer,

We are pleased that you have chosen our product and thank you for your trust! You made a good choice. This Door-/window-sensor (hereinafter referred to as the "device") has been developed and manufactured with the utmost care. Please read these operating instructions completely and observe all operating and safety instructions, as this ensures the best possible handling of the device. This document is an installation and maintenance manual.

**If you have any questions, please contact your specialist trade partner
or contact our customer service:**

Mail: ABUS Support, Linker Kreuthweg 5, 86444 Affing, Germany

E-mail: support@abus-sc.com

Phone: +49 8207 959 90 888

Hotline opening hours: Mon-Thu: 8 am – 5 pm ; Fri: 08 am – 2 pm

ABUS Security Center hereby declares that the enclosed product comply with the requirements of the following directives

RED Directive (2014/53/EU), EMC Directive (2014/30/EU), Low Voltage Directive (2014/35/EU) and RoHS Directive (2011/65/EU). The full EU Declaration of Conformity text can be found at:

www.abus.com/product/PLMK10000

It can also be obtained at the following address:

**ABUS Security Center GmbH & Co. KG,
Linker Kreuthweg 5, 86444 Affing, GERMANY**

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Disclaimer of Liability

These operating instructions have been prepared with the greatest care. Should you nevertheless notice omissions or inaccuracies, please inform us in writing at the above address.

Your rights are limited to the repair or replacement of this product as delivered. ABUS Security Center assumes no liability for any special, incidental or consequential damages, including but not limited to loss of revenue, loss of profit, restrictions in the use of the software, loss or recovery of data, costs for replacement equipment, downtime, property damage and claims of third parties, as a result of and in connection with the use of the software. a. warranty, contractual, legal or claims for damages notwithstanding other limited or implied warranty provisions or in the event that the limited warranty does not apply, the scope of liability of ABUS Security Center is limited to the purchase price of the product.

The contents of this manual are subject to change without notice.

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Important Safety Informations

Intended Use

Only use the device for the purpose for which it was built and designed. Any other use is considered unintended.

All guarantee claims are invalid in the event of damage caused by non-compliance with this safety information. We cannot be held liable for resulting damage.

Unboxing

Handle the device with extreme care when unpacking it.

Packaging and packaging aids can be reused and, as far as possible, should be sent for recycling.

If the original packaging has been damaged, inspect the device first. If the device shows signs of damage, return it in the original packaging and inform the delivery service.



Please ensure that the package also contains the DSK (Z-Wave Device Specific Key) – Card. This card shows the DSK of your ABUS Z-Wave device. Please keep it in a safe place. Any S2 (Security 2) certified Z-Wave Gateway will require this DSK to program your sensor.

Installation location / operating environment

Do not place any heavy objects on the device. The device is only designed for operation in spaces with appropriate temperatures or humidity (e.g. not for bathrooms). Do also not place the device in areas with excessive accumulation of dust. Please refer to the individual devices' technical data for more detailed information. Ensure that: adequate ventilation is always guaranteed; no direct sources of heat can affect the device; interior devices are not exposed to direct sunlight or strong artificial light; the device is not in the immediate vicinity of magnetic fields (e.g. loudspeakers); no naked flames (e.g. lit candles) are placed on or next to the device; sprayed or dripping water is prevented from coming into contact with interior devices and caustic fluids are avoided; the device is not operated in the vicinity of water, in particular, the device should never be submerged (do not place objects containing fluids, e.g. vases or drinks, on or near the device); no foreign bodies penetrate the device; the device is not exposed to wide temperature variations, as otherwise there may be condensation from humidity causing electrical short circuits; the device is not exposed to excessive shock or vibration.

Children

Keep electrical devices out of reach of children. Never allow children to use electrical devices unsupervised. Children may not always properly identify possible hazards. Small parts may be fatal if swallowed. Keep packaging film away from children. There is a risk of suffocation. This device is not intended for children. If used incorrectly, parts under spring tension may fly out and cause injury to children (e.g. to eyes).

Information on handling batteries

The device is supplied with 3 V direct current from a built-in 3 V lithium battery. The battery cannot be exchanged or recharged.

Cleaning

- Dusty devices must be cleaned. You can clean dust from the air vents using a vacuum cleaner or compressed air. If necessary, you can remove the dust with a brush.
- You can clean the surface using a cloth slightly dampened in soapy water. Only use suitable microfiber cloths for high-gloss surfaces.
- Do not allow water to penetrate the device.
- Do not clean the device in a dishwasher.
- Do not use sharp, pointed, abrasive or corrosive cleaning materials or hard brushes.
- Do not use chemicals.
- Do not use flammable liquids for cleaning the device.

Information on device disposal

Important: The EU Directive 2012/19/EU regulates the proper return, treatment and recycling of used electronic devices. This symbol means that in the interest of environmental protection the device must be disposed of separately from household or industrial waste at the end of its service life in accordance with applicable local legal guidelines. Disposing of used devices can be done at official recycling centers in your country. Obey local regulations when disposing of material. Further details on returns (also for non-European countries) can be obtained at your local authority. Separate collection and recycling saves natural resources and ensures that all the provisions for protecting health and environment are observed when recycling the product.

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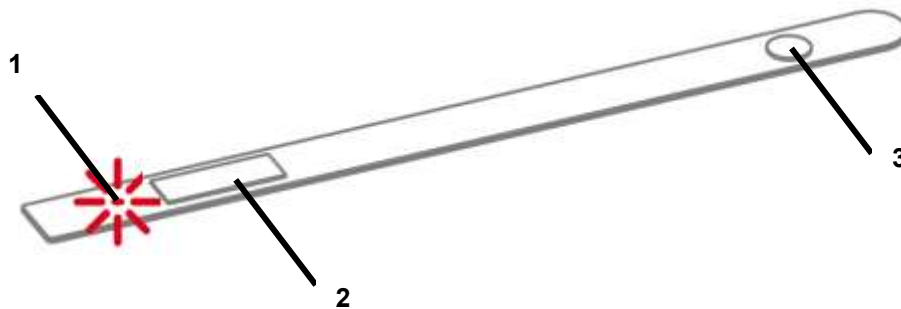
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1. product launch

1.1. Scope of delivery

- ABUS by Sensative Z-Wave door/window contact
- 2 magnets (rectangular, round)
- cleaning cloth
- Quick guide & safety instructions
- DSK card

1.2. device features



No	designation	comment
1	LED Indicator	Status display for various processes (inclusion, exclusion, reset, error)
2	Opening contact or square magnet	Detects Open, Closed
3	Configuration contact or round magnet	Manual triggering of wake-up command, inclusion, exclusion and reset

1.3. Functionalities

The PLMK10000 is designed for use in alarm and home automation systems using the Z-Wave radio standard. The device includes the following sensors:

- Hall sensor for detection of open/closed.

1.4. performance characteristics

The device...:

- ...is a battery-operated door/window contact
- ...is suitable for concealed installation in door/window frames due to its design
- ...is Z-Wave PLUS compatible & certified
- ...supports the Z-Wave S2 standard (Security 2)
- ...has a battery-empty warning function.
- ...was developed for installation indoors and protected outdoor areas.

1.5. Use in systems of different manufacturers


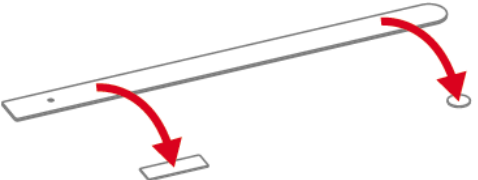

Communication takes place via the Z-Wave EU frequency (868.4 Mhz). You can integrate the device into any Z-Wave network with a certified Z-Wave gateway, regardless of the manufacturer. All non-battery nodes in the network act as amplifiers to amplify the radio communication of the network.

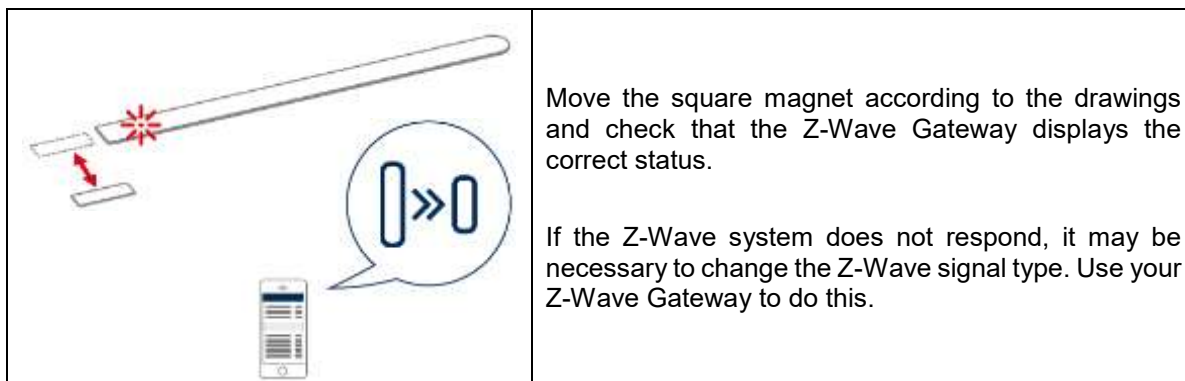
1.6. DSK-Code

The DSK Code (Device-Specific-Key) is the device-specific key of your device and is required for Security Inclusion (teach-in) via S2 to the gateway. The first 5 digits of the DSK code can be found on the rear side of the product. Please enter them in the inclusion process when prompted. Alternatively, you can enter the entire DSK code found on the enclosed DSK card to the gateway via QR Code Scan. Please keep the DSK card in a safe place!

2. functional overview

2.1. Inclusion / Teach-in device

	<p>Activate the inclusion mode (teach-in mode) at the gateway. (for further details please refer to the gateway manual)</p> <p>Press the "+" key (Add / Inclusion) in your Z-Wave app and follow the instructions to set the gateway to Inclusion mode.</p> <p>Advice: We recommend secure S2 inclusion (needs to be supported by the gateway) When prompted, please enter the 5 digits of the DSK code (rear side of device) or the entire DSK code (QR code).</p>
	<p>Keep the device within range of the gateway.</p> <p>Remove both magnets from the sensor (remove the adhesive strips to which the magnets are attached).</p>
	<p>The successful inclusion is displayed in the app or at the gateway and the status LED lights up for several seconds.</p> <p>If the inclusion process was unsuccessful, repeat it again.</p>



2.2. Planning & Mounting and Installation

The sensor uses low-power radio signals to communicate with the Z-Wave Gateway. To achieve the best results, please note the following:

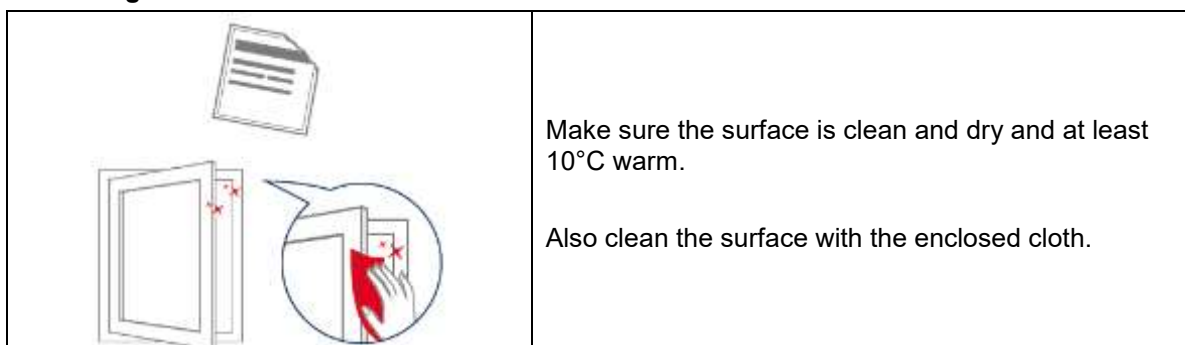
- The device has been designed to remain invisible when placed on wooden and plastic windows/doors.
- Please do not attach it directly to metal levels or metal structures as this may limit the range.
- The magnet should not be placed on a metal surface.
- The device has a radio range of up to 40 m.
- The battery life of the device is reduced if the radio connection to the Z-Wave Gateway is not direct but via a repeater.

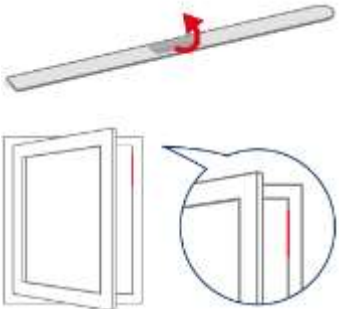
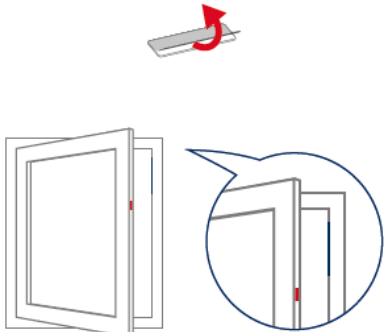
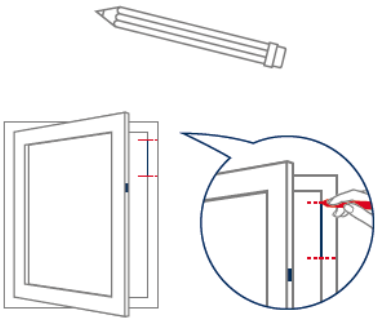
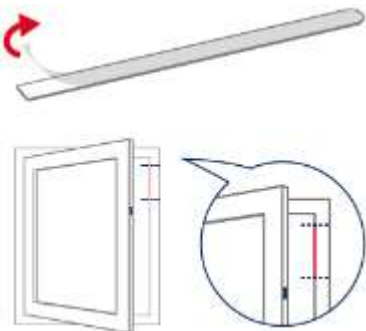
Preparation:

Place the sensor so that it cannot be seen. A clearance of at least 3.5 mm depth is required for this. If the round magnet fits into the free space, the depth is sufficient.

- The sensor can be mounted in the frame (recommended) and the magnet on the door/window or vice versa.
- Make sure that the square magnet is positioned so that it is at least 10 mm from the flat end of the sensor when the window is closed. When the window is open, the magnet should be at least 30 mm away from the sensor.
- Open the window or door and make sure that the locking mechanisms are not blocked and that your Z-Wave Gateway detects the status.

Mounting instructions:

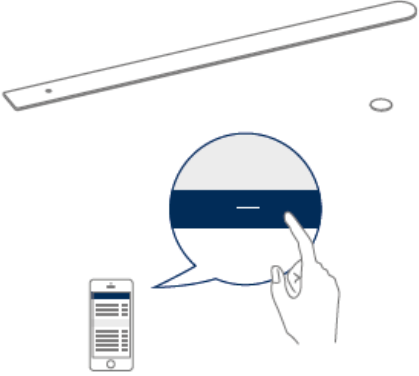
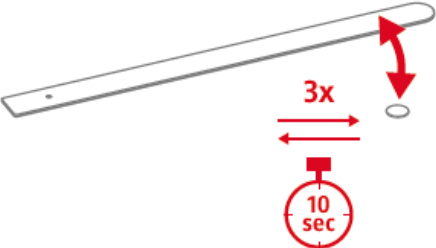
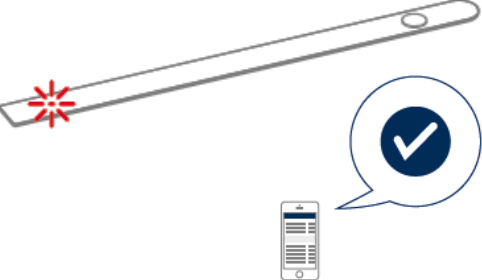


	<p>Remove the protective film from the small adhesive sticker of the sensor.</p> <p>This allows the sensor to be easily moved before final mounting.</p> <p>Attach the sensor to the desired location and check the position by carefully closing and fully opening the window/door.</p>
	<p>Check and determine where the square magnet should be placed.</p> <p>Then remove the protective film and place the magnet. Open and close the window/door to see if your Z-Wave Gateway detects the changes.</p> <p>Reposition the sensor if necessary.</p>
	<p>Once you have found the optimum position, mark it and remove the sensor again.</p> <p>Make sure that the area remains clean.</p>
	<p>Remove the long protective film that protects the Self-adhesive backside, and stick the sensor exactly to the marked spot.</p> <p>The long adhesive side is required to be used for the final assembly.</p> <p>Check whether the door or window can be completely closed and opened and whether the Z-Wave Gateway displays the status.</p>

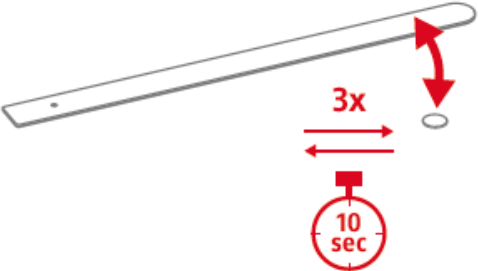


Note: Also keep the round magnet - it can be used for wake-up-command, removing (exclusion) or reset the sensor.

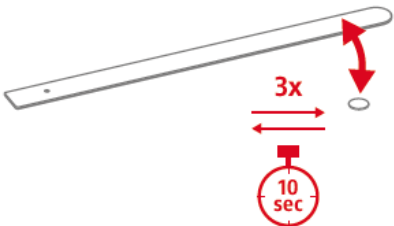
2.3. Exclusion / remove device

	<p>Activate the exclusion mode (remove mode) at the gateway. (for further details please refer to the gateways manual)</p> <p>Press the "-" key (Remove / Exclusion) in your Z-Wave app and follow the instructions to set the gateway to exclusion mode.</p>
	<p>Place the round magnet on the upper rounded edge and remove it as soon as the LED lights up.</p> <p>Repeat 3 times within 10 seconds.</p>
	<p>The successful exclusion is displayed in the app or at the gateway and the status LED now flashes 1x long.</p> <p>Repeat the exclusion process again if it was unsuccessful.</p>

2.4. Reset (factory reset) / reset factory settings

	<p>Place the round magnet on the upper rounded edge and remove it as soon as the LED lights up.</p> <p>Repeat the procedure 3 x ... and leave the magnet on the rounded edge for 10 seconds at the third time. The LED now flashes 1 x long to confirm the process.</p> <p>The unit is now reset to factory settings.</p> <p>Important: This procedure should only be used if the primary gateway is not capable of acting. If the device is set to factory default, the status is set to "not included", the association settings and possible configurations are reset to default.</p>
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2.5. Wake up device / Wake-up

	<p>Place the round magnet on the upper rounded edge and remove it as soon as the LED lights up.</p> <p>Repeat 3 times within 10 seconds.</p> <p>Please note that in this case the device sends "Sabotage" to the primary gateway.</p>
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3. Advanced Z-Wave Parameters

3.1. association groups

Z-Wave devices can control other devices directly. This direct control is called Z-Wave Association. The device ID of the device to be controlled must be stored in the controlling devices. This is done in so-called association groups. An association group is always linked to an event in the controlling device (keystroke or triggering of a sensor). When this event occurs, a control command - usually a BASIC SET - is sent to all devices stored in an association group.

The notification sensor supports an association group:

group number	Maximum appliances	Transmitted content
Group 1 (Lifeline)	1 (0x01)	Battery Report, Notification Report, Sensor Binary Report, Basic report, Device Reset Locally Notification

3.2. Notification Commands and Status / Events

Command Class (CC)	Command	Status\Values	Comments
0x71 (Notification CC)	0x05 (Notification Report)	0x07 (Home Security\Burglar) -> 0x0B (Magnetic field interference detected)	Based on the configuration set it will be one of the Command classes followed for the Door Open/Close status + Notification CC Door Open/Close status. Default is just Notification CC Door Open/Close status.
		0x07 (Home Security\Burglar) -> 0x00 (Magnetic field interference state cleared)	
		0x06 (Access Control) -> 0x16 (Door Open)	
		0x06 (Access Control) -> 0x17 (Door Close)	
0x30 (Sensor Binary CC)	0x03 (Sensor Binary Report)	0xFF (Door Open)	
		0x00 (Door Close)	
0x20 (Basic CC)	0x03 (Basic Report)	0x16 (Door Open)	
		0x17 (Door Close)	
0x03 (Battery report)	0x80 (CC Battery V1)	Battery 100% (0x64)	
		Battery 75% (0x4B)	
		Battery 50% (0x32)	
		Battery 25% (0x19)	
		Battery 10% (0x0A)	
		Battery dead (0xFF)	

3.3. Overview configuration parameters

Z-Wave products can be used directly after inclusion in the network. Configuration settings, however, can be used to adapt the device's behavior even better to the requirements of the application and to activate additional functions.

Configuration Parameters				
No.	Description	Size	Values	Default
1	Notification type (Door Open/Door Close)	1 byte	0: Binary Sensor Report (0xFF/0x00)	1
			1: Notification Report (Notification Type: Access Control 0x06, Notification Events: 0x16/0x17)	
			2: Basic Report (0x16/0x17)	
2	LED indication	1 byte	0: Specific event indication (*) Off	1
			1: On	
			* Specific event detected (e.g. door opened)	
3	Activate supervision	1 byte	0: Off	0
			1: Alarm Reports (*)	
			2: Unsolicited Reports	
			* Specific event detected (e.g. door opened)	

3.4. Overview Supported Command Classes

1. Association Group Information V1
2. Association V2
3. Basic V1
4. Battery V1
5. Configuration V1
6. Device Reset Local V1
7. Manufacturer Specific V1
8. Notification V8
9. Power Level V1
10. Security 2 V1
11. Sensor Binary V1
12. Supervision V1
13. Transport Service V2
14. Version V3
15. Wake Up V2
16. Z-Wave Plus Info V2

4. Technical data

parameter	PLMK10000
Dimensions (W x H x D)	sensor: 195 x 15 x 2.98 mm magnet: 20 x 10 x 0.7 mm
weight	16 g
operating temperature	-20 – 60°C
radio frequency	868.4 MHz (Z-Wave PLUS, Europe)
modulation	FSK (BFSK/GFSK)
Transmission power:	< 4.5 db
power supply	3 V DC
battery type	Battery pack (LiMnO ₂)
battery life	10 years (based on 1 x wake-up/day and 40 opening triggers)
Sabotage Protection	Yes - (once wake-up is performed manually on the device)
Firmware updateable	no
Z-Wave Beaming supported	No
SmartStart supports	No
Z-Wave Plus supports	Yes
Z-Wave Network Security	Yes
Z-Wave AES-128 Security (S0)	No
Z-Wave S2 Security	Yes (S2 Authenticated)
Z-Wave Chip Generation	500
Z-Wave Sensor Type	Binary Sensor
Zwave library type	Routing Slave
Device Type / Role type	Notification sensor / Reporting sleeping slave
Z-Wave DevKit Version	6.81.03
Default wake-up interval	24 hours

4.1. Additional remarks:

Basic Command Class V1 - Basic Get\Report\Set value is mapped to Notification Status (Enable\Disabled) of the Notification Command Class.

- Basic Set = Enable/disable the unsolicited transmission of all types of Notification Reports via the Association groups.
- Basic Get = Query the unsolicited transmission status of Notification Reports via the Association groups.
- Basic Report = Advertises the unsolicited transmission status of Notification Reports via the Association groups. Reports 0xFF (enabled) if at least one Notification Type status is enabled.