The Fibaro Motion Sensor is a universal Z-Wave multi-sensor. Along with detecting motion from its red/green/orange LED, it measures the temperature and light intensity. Its battery powers the device, offering tamper protection. The Fibaro Motion Sensor is battery-powered, designed to be installed quickly and easily on any surface. The LED indicator signals motion, temperature level, operating status, and network health.

**OPERATING MANUAL**

**FIBRO MOTION SENSOR**

**FGMS-001-EN-V1.00**

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**SPECIFICATIONS**

- **Power Supply:** 30-36 VDC
- **Radio Protocol:** Z-Wave
- **Temperature Measuring Accuracy:** ±1°C (within 0°C-40°C)
- **Light Intensity Measuring Range:** 0-32,000 LUX
- **Radio Frequency:** 868 MHz: EU, 915 MHz: US, AS
- **Temperature:** -40°C to 70°C
- **Humidity:** 0-100%
- **Altitude:** up to 3000 m
- **Range:** up to 30 m outdoors, up to 10 m indoors (depending on sensor and surrounding structures)

**TECHNICAL INFORMATION**

- **Compatibility:** with any Z-Wave controller.
- **Dimensions:** 200 x 105 x 23 mm
- **Weight:** 85 g
- **Measures the temperature:**
  - **Minimum:** -40°C
  - **Maximum:** 70°C
  - **Humidity:** 0-100%
- **Measures the light intensity:**
  - **Minimum:** 0 LUX
  - **Maximum:** 32,000 LUX
- **Measures the battery life:**
  - **Minimum:** 2 years (at 28°C)
- **Temperature and light intensity reports are sent too frequently:**
  - **Interval:** recommended to modify this association group.
- **Wake up interval is too short:** it’s recommended to lengthen the interval.
- **Battery life:** 2 years at 28°C
- **Tampering with the device:** tamper feature can be disabled.

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**INSTALLATION**

**I. GLOSSARY OF TERMS**

- **EXCLUSION:** setting a device to operate mode, a device sends the 2-Node Info command allowing to add the device to the Fibaro System
- **EXCLUSION:** removing a device, a device sends the 2-Node Info command removing the device from the Fibaro System
- **ASSOCIATION:** connecting the device to the Fibaro System
- **Multichannel association:** connecting other multi-channel devices within the Fibaro System

**II. Z-WAVE NETWORK INCLUSION**

The Fibaro Motion Sensor can be included into the Z-Wave network using the B-button.

1. Insert the battery into the Fibaro Motion Sensor. Exclusions lack is filled after a short time. Ensure the device is located within the direct range of the main controller.
2. Set the main controller into the learning mode (see main controller’s operating manual).
3. Rapidly double-click the B-button. LED diode will glow red.
4. Fibaro Motion Sensor will be detected and included in the Z-Wave network.
5. Test the sensor’s operation - check whether the LED diode indicates motion detection.

**III. EXCLUDING SENSORS FROM THE Z-WAVE NETWORK**

1. Make sure the sensor is connected to power source.
2. Bring the main controller into the repair mode (see main controller’s operating manual).
3. Rapidly double-click the B-button, located on Fibaro Motion Sensor’s enclosure.
4. LED diode will glow blue confirming the device has been excluded from the network.

**IV. SENSOR INSTALLATION**

1. Include the device into the Z-Wave network (see I). Note that this procedure may be performed ONLY in direct range of the main controller.
2. Insert the sensor into the Fibaro Motion Sensor’s holder.
3. Install the sensor’s holder in desired location.
4. Test the sensor’s operation - check whether the LED diode indicates motion detection.
5. Set the Z-Wave network ignoring the device is within range.

**V. DETECTION AREA AND WORKING CONDITIONS**

**VI. INSTALLATION NOTES**

**VII. RESETTING THE FIBRO MOTION SENSOR**

The Fibaro Motion Sensor reseets the ERR0D memory, including all information on the Z-Wave network and the main controller.

- **Error Code:** 1: Battery not at 100% charge.
- **Error Code:** 2: Battery life is low, replace the battery.

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**VIII. OPERATING WITHIN THE Z-WAVE NETWORK**

**Fibaro Motion Sensor**

- **Simple earthquake detector mode.**
- **Alarms of movement and temperature are signaled by LED diode:**
  - **LED diode will glow blue confirming the device was excluded** from the network.
  - **LED diode will glow red and fading.**
  - **Again, press the B-button briefly.**
  - **Signaling the 2nd menu level.**

**IX. ASSOCIATIONS**

- **Fibaro Motion Sensor**
  - **controling other devices within the Fibaro System**
  - **assigning a single device only (the main controller by default - the main controller’s range tester).**
  - **NOTE:**
    - **Fibaro Motion Sensor does NOT support alarm functions.**
    - **Home Center 2 and may not be supported by other controllers.**
    - **NOTE:**
      - **Maximum association groups:** 3

**X. Z-WAVE RANGE TEST**

**XI. INSTALLATION NOTES**

- **Fibaro Motion Sensor**
  - **cannot be pointed at any source of heat (e.g. sunlight, lamps).**
  - **may be caused by moving masses of air and heat as well.**
  - **If the device keeps on detecting false alarms, despite eliminating all of the above-mentioned factors, install the device in another place.**

**XII. BATTERY USAGE TIPS**

**Fibaro Motion Sensor**

- **is approximately 2 years at factory default settings.**
- **Current level is displayed on a Home Center 2 module.**
- **Battery level is checked periodically and replaced if necessary.**
- **NOTE:**
  - **Fibaro Motion Sensor**
    - **is a battery-powered technology.**
    - **battery life is affected by external factors such as temperature.**
    - **Even if the battery is fully charged, a certain level of energy is constantly used.**

**XIII. EARTHQUAKE DETECTOR MODE**

**Fibaro Motion Sensor**

- **cannot be pointed at any source of heat (e.g. sunlight, lamps).**
- **can be used in any environment.**
- **is recommended to install the sensor in places prone to static.**
- **sensor can be mounted using screws in the sticker.**

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**NOTE:**

- **Highly recommended to use in specified environment conditions, as the sensor may not function properly.**
- **Recommended to observe ladders, lifts and other equipment in perfect working order.**
- **Highly recommended to take all safety precautions to ensure safety and property protection.**

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**REFERENCES**

1. Motion Alarm’s color varies depending on the temperature. The larger the value of parameter 10, the higher the temperature. The alarm is signaled with an alternating blinking in red and blue.
2. The 2-Node Info command frame is signaled with glowing in blue. Node Info command frame is sent each time the device is in another state.
3. To enter MENU press and hold the B-button for 2 to 3 seconds. MENU levels will be signaled by the LED color. VIOLET - Z-Wave network range tester.
4. FIBRO MOTION SENSOR is a battery-powered technology. Battery life is affected by external factors such as temperature. Even if the battery is fully charged, a certain level of energy is constantly used. Dispose of properly, observe environmental protection rules.
NOTE

It is not recommended to set the value of Wake Up Interval to 0. The Motion Sensor will not wake up.

14. BASIC ON command frame value

The parameter determines the start of operation of the PIR sensor after the period of time set in parameter 22.

Parameter size: 1 [byte]

Available settings: 0 - 255
Default setting: 0

15. OFF BASIC command frame value

The parameter determines the start of operation of the PIR sensor after the period of time set in parameter 22.

Parameter size: 1 [byte]

Available settings: 0 - 255
Default setting: 0

16. BASIC OFF command frame value

The parameter determines how often the temperature will be measured.

Parameter size: 1 [byte]

Available settings: 0 - 65535
Default setting: 600 (560 seconds)

17. TEMPERATURE OFFSET

The parameter determines how much the temperature will be measured.

Parameter size: 1 [byte]

Available settings: -100 to +100
Default setting: 0

18. BASIC ALARM BROADCAST MODE

The parameter determines whether the alarm frame will be sent or not in broadcast mode.

Parameter size: 1

Available settings: 0 - 2
Default setting: 0

19. TAMPER REPORTS INTERNAL

The parameter determines how many reports will be sent to the main controller.

Parameter size: 2 [bytes]

Available settings: 0 - 65535
Default setting: 0

20. TAMPER REPORTS TOTAL

The parameter determines how many reports will be sent to the main controller.

Parameter size: 2 [bytes]

Available settings: 0 - 65535
Default setting: 0

21. TAMPER SENSITIVITY

The parameter determines the change in light intensity level associated with tamper and how it will be measured.

Parameter size: 1 [byte]

Available settings: 0 - 65535
Default setting: 0

22. TAMPER ALARM CANCELLATION DELAY

The parameter determines the time period after which the tamper alarm will be canceled.

Parameter size: 2 [bytes]

Available settings: 1 - 65535
Default setting: 100 (100 seconds)

23. TAMPER OPERATING MODE

The parameter determines the behavior of tamper and how it will be measured.

Parameter size: 1

Available settings: 0 - 9
Default setting: 0

24. ILLUMINATION REPORTS INTERVAL

The parameter determines the time interval between consecutive illumination reports.

Parameter size: 2 [bytes]

Available settings: 0 - 65535
Default setting: 600 (560 seconds)

25. ILLUMINATION REPORTS INTENSITY LIMIT

The parameter determines the light intensity level at which the illumination reports will be sent.

Parameter size: 1 [byte]

Available settings: 0 - 65535
Default setting: 0

26. ALARM ILLUMINATION LEVEL BELOW WHICH LED WILL NOT BE ON

The parameter determines the intensity level below which the LED will not be on.

Parameter size: 1 [byte]

Available settings: 0 - 65535
Default setting: 0

27. ALARM ILLUMINATION LEVEL ABOVE WHICH LED WILL TURN ON

The parameter determines the intensity level above which the LED will turn on.

Parameter size: 1 [byte]

Available settings: 0 - 65535
Default setting: 0

28. TEMPERATURE SENSOR OPERATING MODE

The parameter determines the behavior of the temperature sensor.

Parameter size: 1

Available settings: 0 - 16
Default setting: 0

29. TAMPER SENSITIVITY

The parameter determines the sensitivity of the PIR sensor.

Parameter size: 1 [byte]

Available settings: 0 - 122
Default setting: 0

30. TAMPER ALARM CANCELLATION DELAY

The parameter determines the time period after which the tamper alarm will be canceled.

Parameter size: 2 [bytes]

Available settings: 1 - 65535
Default setting: 100 (100 seconds)

31. TAMPER OPERATING MODE

The parameter determines the behavior of tamper and how it will be measured.

Parameter size: 1

Available settings: 0 - 9
Default setting: 0

32. ALARM ILLUMINATION LEVEL BELOW WHICH LED WILL NOT BE ON

The parameter determines the intensity level below which the LED will not be on.

Parameter size: 1 [byte]

Available settings: 0 - 65535
Default setting: 0

33. ALARM ILLUMINATION LEVEL ABOVE WHICH LED WILL TURN ON

The parameter determines the intensity level above which the LED will turn on.

Parameter size: 1 [byte]

Available settings: 0 - 65535
Default setting: 0

34. TAMPER SENSITIVITY

The parameter determines the sensitivity of the PIR sensor.

Parameter size: 1 [byte]

Available settings: 0 - 122
Default setting: 0

35. TAMPER ALARM CANCELLATION DELAY

The parameter determines the time period after which the tamper alarm will be canceled.

Parameter size: 2 [bytes]

Available settings: 1 - 65535
Default setting: 100 (100 seconds)

36. TAMPER OPERATING MODE

The parameter determines the behavior of tamper and how it will be measured.

Parameter size: 1

Available settings: 0 - 9
Default setting: 0

37. ILLUMINATION REPORTS INTERVAL

The parameter determines the time interval between consecutive illumination reports.

Parameter size: 2 [bytes]

Available settings: 0 - 65535
Default setting: 600 (560 seconds)

38. ILLUMINATION REPORTS INTENSITY LIMIT

The parameter determines the light intensity level at which the illumination reports will be sent.

Parameter size: 1 [byte]

Available settings: 0 - 65535
Default setting: 0

39. TEMPERATURE SENSOR OPERATING MODE

The parameter determines the behavior of the temperature sensor.

Parameter size: 1

Available settings: 0 - 16
Default setting: 0

40. TAMPER SENSITIVITY

The parameter determines the sensitivity of the PIR sensor.

Parameter size: 1 [byte]

Available settings: 0 - 122
Default setting: 0

41. TAMPER ALARM CANCELLATION DELAY

The parameter determines the time period after which the tamper alarm will be canceled.

Parameter size: 2 [bytes]

Available settings: 1 - 65535
Default setting: 100 (100 seconds)

42. ILLUMINATION REPORTS INTERVAL

The parameter determines the time interval between consecutive illumination reports.

Parameter size: 2 [bytes]

Available settings: 0 - 65535
Default setting: 600 (560 seconds)

43. L15D BRIGHTNESS

The parameter determines the brightness of the LED when indicator is lit.

Parameter size: 1 [byte]

Available settings: 0 - 65535
Default setting: 0

44. ILLUMINATION REPORTS INTENSITY LIMIT

The parameter determines the light intensity level at which the illumination reports will be sent.

Parameter size: 1 [byte]

Available settings: 0 - 65535
Default setting: 0

45. TEMPERATURE SENSOR OPERATING MODE

The parameter determines the behavior of the temperature sensor.

Parameter size: 1

Available settings: 0 - 16
Default setting: 0

46. TAMPER SENSITIVITY

The parameter determines the sensitivity of the PIR sensor.

Parameter size: 1 [byte]

Available settings: 0 - 122
Default setting: 0

47. TAMPER ALARM CANCELLATION DELAY

The parameter determines the time period after which the tamper alarm will be canceled.

Parameter size: 2 [bytes]

Available settings: 1 - 65535
Default setting: 100 (100 seconds)