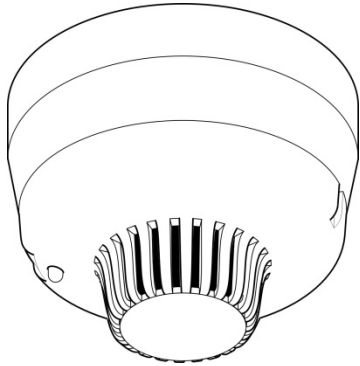# ZITON ⚡

ZR432-2P Wireless Multisensor (Optical/Heat) Detector Installation Sheet

Description

The ZR432-2P Wireless Multisensor (Optical/Heat) Detector is specifically designed for use with the Ziton ZP1, ZP2 (all versions) and ZP3 addressable control panels (firmware versions 3.12 and later).

Note: When used with legacy Ziton ZP3 (firmware version 3.11 and earlier) or ZP5 systems, the detector functions and installation methods may be different. These differences are described in this installation sheet.

The detector incorporates a red LED for visual indication of the alarm state and is designed for indoor use with the supplied wireless mounting bases.

Table 1: Detectors (with wireless base included)

Model	Description
ZR432-2P	Wireless Multisensor (Optical/Heat) Detector and base, Polar White
ZR432-2PA	Wireless Multisensor (Optical/Heat) Detector and base with Sounder, Polar White
ZR432-2PAV	Wireless Multisensor (Optical/Heat) Detector and base with Sounder and Visual Indicator, Polar White

Table 2: Replacement parts

Model	Description
ZX432-2P [1]	Multisensor (Optical/Heat) Detector, Polar White
ZR401-3P	Ziton Protocol 868 MHz, Radio Sensor Base for ZX432-2P with battery pack, Polar white
ZR401-3PA	Ziton Protocol 868 MHz, Radio Sensor Sounder Base for ZX432-2P with battery pack, Polar white
ZR401-3PAV	Ziton Protocol 868 MHz, Radio Sensor Sounder Base with Visual Indicator for ZX432-2P with battery pack, Polar white

[1] Supplied without the wireless base.

Operation

868 MHz systems

Subject to configuration, the detector can operate as a multisensor, a smoke detector, or a heat detector. For detector configuration details, see Configuration: 868 MHz systems.

Legacy systems

Subject to configuration and the detector base used, the detector can operate as a multisensor, a smoke detector, or a heat detector, as shown below.
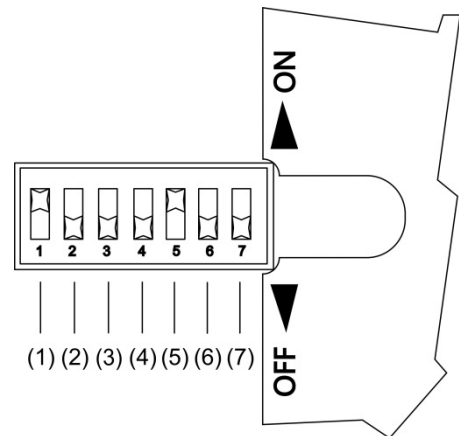
Operation	Mounting base
Smoke detector	ZR401-1, ZR401-MS-2
Heat detector	ZR401-1, ZR401-MS-2

For detector configuration details, see Configuration: Legacy systems.

Configuration: General

Configure the device using the seven-segment DIP switch (SW1) on the back of the detector.

Figure 1: DIP switch SW1

1. Sensitivity 1
2. Sensitivity 2
3. Heat band select
4. Head type (selection 1)
5. Head type (selection 2)
6. Not used
7. Base compatible

Configuration: 868 MHz systems

Dual detector mode

To operate the device in dual detector mode, DIP switch 7 (SW1) must be set to OFF (see Figure 1), enabling the detector to make the alarm decision based on both the detector's sensor readings.

Multisensor mode

When not set to dual detector mode, the detector can use one of two algorithms to control sensitivity levels.

Algorithm 1: With an increase in heat, the optical sensitivity is increased (more sensitive). Available options are shown in Table 3.

Algorithm 2: If an optical prealarm level is reached without an increase in heat, the optical sensitivity is decreased (less sensitive). Available options are shown in Table 4.

Single detector mode

The detector can also be operated in a single sensor mode. When operated in this mode, the detector can be configured to operate as a heat detector or as an optical detector. See Table 5.

Configuration: Legacy systems

Dual detector mode

To operate the device in dual detector mode, it must be used with the ZR401-MS-2 Multisensor Radio Base and DIP switch 7 (SW1) must be set to OFF (see Figure 1), enabling the detector to make the alarm decision based on both the detector's sensor readings.

Multisensor mode

To operate the device in multisensor mode, it must be used with the ZR401-MS-2 Multisensor Radio Base. In this case, the detector can use one of two algorithms to control sensitivity levels.

Algorithm 1: With an increase in heat, the optical sensitivity is increased (more sensitive). Available options are shown in Table 3.

Algorithm 2: If an optical prealarm level is reached without an increase in heat, the optical sensitivity is decreased (less sensitive). Available options are shown in Table 4.

Single detector mode

The detector can be used in single sensor mode with specific legacy mounting bases. When operated in this mode, the detector can be used as a suitable replacement for the ZR420 heat or ZR430 optical detectors.

ZR401-MS-2, ZR401-MS-2-SWE: When used with these bases, see Table 5.

ZR401-1, ZR401-1-SWE: When used with these bases, see Table 6.

Table 3: DIP switch SW1 settings for algorithm 1 device sensitivities

Description	1	2	3	4	5	6	7
0000 Algorithm 1. 58° Heat band. Normal optical sensitivity	OFF	OFF	OFF	ON	ON	OFF	OFF
0001 Algorithm 1. 58° Heat band. Medium optical sensitivity	ON	OFF	OFF	ON	ON	OFF	OFF
0010 Algorithm 1. 58° Heat band. Low optical sensitivity	OFF	ON	OFF	ON	ON	OFF	OFF
0011 Algorithm 1. 58° Heat band. Low + AVF optical sensitivity	ON	ON	OFF	ON	ON	OFF	OFF
0100 Algorithm 1. 72° Heat band. Normal optical sensitivity	OFF	OFF	ON	ON	ON	OFF	OFF
0101 Algorithm 1. 72° Heat band. Medium optical sensitivity	ON	OFF	ON	ON	ON	OFF	OFF
0110 Algorithm 1. 72° Heat band. Low optical sensitivity	OFF	ON	ON	ON	ON	OFF	OFF
0111 Algorithm 1. 72° Heat band. Low + AVF optical sensitivity	ON	ON	ON	ON	ON	OFF	OFF

Table 4: DIP switch SW1 settings for algorithm 2 device sensitivities

Description	1	2	3	4	5	6	7
1000 Algorithm 2. 58° Heat band. High optical sensitivity	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1001 Algorithm 2. 58° Heat band. Normal optical sensitivity	ON	OFF	OFF	OFF	OFF	OFF	OFF
1010 Algorithm 2. 58° Heat band. Medium optical sensitivity	OFF	ON	OFF	OFF	OFF	OFF	OFF
1011 Algorithm 2. 58° Heat band. Low + AVF optical sensitivity	ON	ON	OFF	OFF	OFF	OFF	OFF
1100 Algorithm 2. 72° Heat band. High optical sensitivity	OFF	OFF	ON	OFF	OFF	OFF	OFF
1101 Algorithm 2. 72° Heat band. Normal optical sensitivity	ON	OFF	ON	OFF	OFF	OFF	OFF
1110 Algorithm 2. 72° Heat band. Medium optical sensitivity	OFF	ON	ON	OFF	OFF	OFF	OFF
1111 Algorithm 2. 72° Heat band. Low + AVF optical sensitivity	ON	ON	ON	OFF	OFF	OFF	OFF

Table 5: DIP switch SW1 settings for single detector mode with ZR401-3 and ZR401-MS-2 bases [1]

Mode	1	2	3	4	5	6	7
Optical only	ON	OFF	OFF	ON	OFF	OFF	OFF
Heat only	ON	OFF	OFF	OFF	ON	OFF	OFF

[1] This configuration complies with EN 54-7 and EN 54-5 standards (class A1).

Table 6: DIP switch SW1 settings for single detector mode with a ZR401-1 mounting base

| Mode	1	2	3	4	5	6	7
ZR430 Optical compatibility	ON	OFF	OFF	ON	OFF	OFF	ON
ZR420 Heat compatibility	ON	OFF	OFF	OFF	ON	OFF	ON

Installation

To attach the detector to the mounting base:

1. Make sure the detector base is powered up.

2. Align the unit to the base, and then slowly turn until the location pin on the detector base engages with the slot on the detector moulding.

3. Rotate the detector clockwise until it clicks into position.

   The detector may be locked into the mounting base if required. To do this, remove the locking tab before installation. See Figure 2.
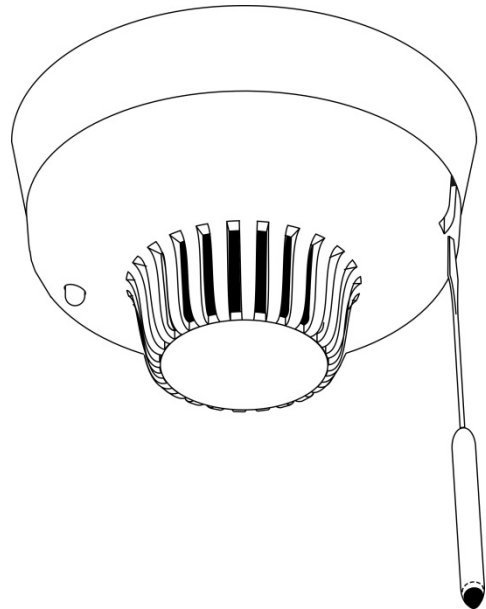
Figure 2: Detector breakout locking tab
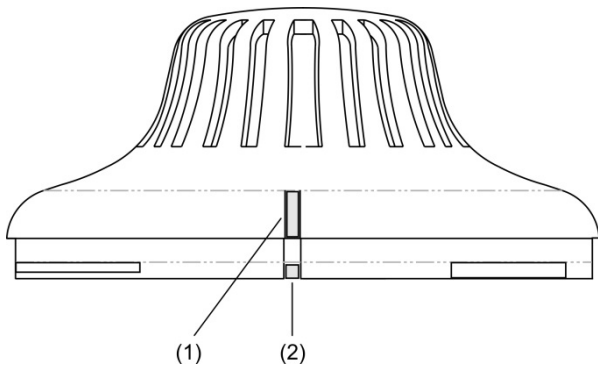
1. Locking tab slot   2. Locking tab

To remove a locked detector:

1. Insert a small screwdriver into the locking tab slot. See Figure 3.

2. Press the screwdriver to disengage the lock, and then rotate the detector counterclockwise to remove it.

Figure 3: Removing a locked detector

Maintenance

The detector is shipped from the factory as an assembled unit; it contains no user-serviceable parts and should not be disassembled.

Perform a visual inspection and an operational test once a year or as directed by the local authority having jurisdiction.

Specifications

Operating voltage	3 VDC
LED indicator	Red alarm LED
Addressing	Unique address embedded
Monitoring	Continuously self-checking
Detection principle	
Smoke element	Photoelectric light scatter
Heat element	Thermistor
Area coverage [1]	
Smoke element	100 m^2
Heat element	50 m^2
Compatible wireless mounting bases	ZR401-3P
	ZR401-3PA
	ZR401-3PAV

Compatible legacy mounting bases	ZR401-1 ZR401-1-SWE ZR401-MS-2 ZR401-MS-2-SWE
Compatibility	Ziton ZP1, ZP2 and ZP3 systems (firmware versions 3.12 and later) via ZPR868 loop module
Mounting	Plugs into surface base
IP rating	IP32
Material	Moulded ABS

Operating environment
    Operating temperature
    Storage temperature
    Relative humidity
	
	−10 to +55°C
	−20 to +70°C
	10 to 95% noncondensing

Dimensions (Ø × H) [2]	106 × 58 mm
Weight [2]	105 g

[1] Subject to local regulations
[2] Excluding mounting base

Regulatory information

This section provides a summary on the declared performance according to the Construction Products Regulation (EU) 305/2011 and Delegated Regulations (EU) 157/2014 and (EU) 574/2014.

For detailed information, see the product Declaration of Performance (available at firesecurityproducts.com).

EU compliance	CE
Certification body	0370
Declaration of Performance number	360-4213-0199
Year of first CE marking	14

Product identification
    Detector (with base)
    Detector (without base)
	
	ZR432-2P, ZR432-2PA, ZR432-2PAV
	ZX432-2P

Intended use	See the product Declaration of Performance
Declared performance	See the product Declaration of Performance
Manufacturer	United Technologies Safety Systems, 80 Changjiang East Road, QETDZ, Qinhuangdao, Hebei, China 066004. Authorized EU manufacturing representative: UTC Fire & Security B.V. Kelvinstraat 7, 6003 DH Weert, Netherlands.
European Union directives	2014/53/EU (Radio Equipment Directive): Hereby, UTC Fire & Security declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

2012/19/EU (WEEE Directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: http://www.recyclethis.info.

Contact information

For contact information, visit firesecurityproducts.com.

Product warnings and disclaimers

THESE PRODUCTS ARE INTENDED FOR SALE TO AND INSTALLATION BY QUALIFIED PROFESSIONALS. UTC FIRE & SECURITY CANNOT PROVIDE ANY ASSURANCE THAT ANY PERSON OR ENTITY BUYING ITS PRODUCTS, INCLUDING ANY "AUTHORIZED DEALER" OR "AUTHORIZED RESELLER", IS PROPERLY TRAINED OR EXPERIENCED TO CORRECTLY INSTALL FIRE AND SECURITY RELATED PRODUCTS.

For more information on warranty disclaimers and product safety information, please check https://firesecurityproducts.com/policy/product-warning/ or scan the QR code: