Advanced

Axis EN

Axis EN Wireless Expander Module

The Axis Expander Module is compatible with all Axis EN Wireless intelligent translators and the conventional expander. The unit provides a convenient method to increase radio communication range beyond that possible from a single translator by relaying the radio communication to further expanders or directly to the wireless field devices, allowing to build large fully wireless systems or add wireless devices into areas where cabling for translators is difficult or impossible.

The expanders are programmable for redundant path to the translator, so that if any expander in the chain fails, the transmission path can find an alternate route. The redundant paths are identified and tested during system commissioning for maximum reliability. All the wireless communication relies on a channel pair for spurious RF noise rejections and maximum link reliability. All expanders are fully monitored ensuring that the highest levels of life safety are maintained.

Features

- Bi-directional wireless communication
- 8 pairs of network channels
- Dual channel and dual path redundancy
- Long communication range
- Internal antennae design protects from environmental conditions, vandalism, accidental damage or misuse
- Requires external power supply unit
- Low current consumption
- Rich fire data transfer to translator (eg optical and thermal value, link quality, battery status, chamber drift compensation status)
- Up to 32 wireless field devices per expander
- Easy scan & link programming option
- External PSU status supervision
- Third party Approval to EN54-18 and EN54-25

Standards and Approvals

- EN54-18: Input/Output Devices
- EN54-25: Components using radio links and system requirements

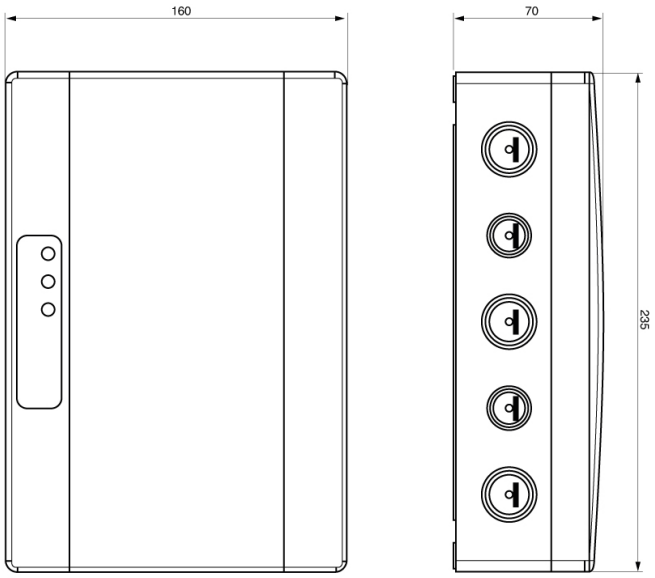
Specification

Operating frequency range	868 - 870 MHz
Power supply range	9Vdc - 30Vdc
Typical current consumption	24mA (@12Vdc)
Max radiated power	14dBm (25mW)
IP rating	65
Operating temperature range	-10°C to +55°C
Max humidity (non condensing)	90% RH
Dimensions H x W x D mm	235mm x 160mm x 70mm
Weight	700g

Order Codes and Options

Axis-TME	Axis EN Wireless Translator Module

Technical Information



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Axis EN

Axis EN Wireless Translator Module

The Axis EN Wireless Translator Module is is the core component of the Axis EN intelligent hybrid fire detection and alarm system.

When connected on to a compatible loop, the unit is capable of linking up to 128 fully intelligent wireless field devices with the fire alarm system. All wireless communications rely on a channel pair for spurious RF noise rejection and maximum link reliability.

The translator allows fully intelligent and seamless integration of the wireless devices alongside standard wired devices or can be used independently to form completely wireless systems. Using cutting edge wireless technology and a proprietary orthogonal antenna design it ensures the highest levels of life safety and system reliability.

Features

- Loop powered or via external power supply unit
- Bi-directional wireless communication
- Compatible with up to 15 expander modules
- Mesh expander technology programmable for redundant path to the translator
- Internal antennae design protects from environmental conditions, vandalism, accidental damage or misuse
- Low current consumption
- 8 pairs of network channels
- Dual channel redundancy
- Long communication range
- Full analogue data availability (eg optical and thermal value, link quality, battery status, chamber drift compensation status)
- Site programmable via internal keypad, or via wireless or wired PC connection
- Full system programming capability from the translator
- Easy scan & link programming option

Standards and Approvals

- EN54-17: Short Circuit Isolators
- EN54-18: Input/Output Devices
- EN54-25: Components using radio links and system requirements

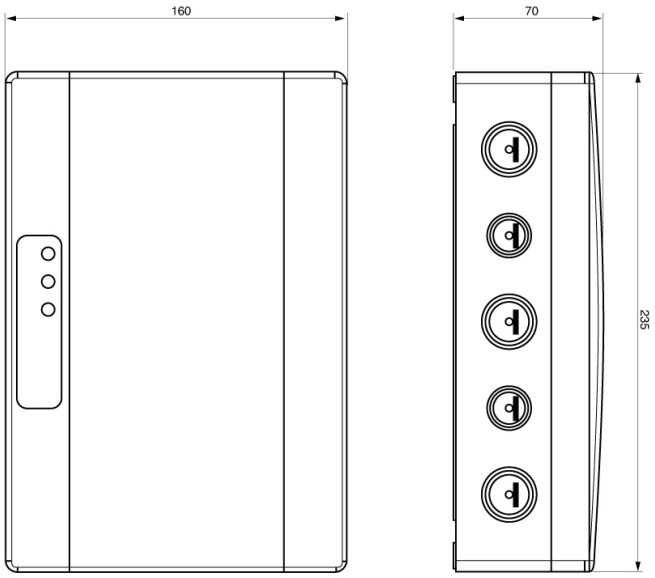
Specification

Loop power supply range	18Vdc to 40Vdc
Operating frequency range	868 - 870 MHz
Max radiated power	14dBm (25 mW)
IP rating	65
Operating temperature	–10ºC to +55ºC
Max humidity (non condensing)	90% RH
Typical current consumption	16mA (@ 24Vdc)
Dimensions H x W x D mm	235mm x 160mm x 70mm
Weight	700g

Order Codes and Options

Axis-TMT	Axis EN Wireless Translator Module

Technical Information



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Axis EN

Axis EN Wireless Single Channel Input Module

The Axis EN Wireless Input Module has a single fully monitored input circuit which allows simple integration of third party equipment with the fire system. The unit is fully compatible with all Axis EN Translator and Expander modules and the adaptive radio signal processing algorithms ensure the highest levels of life safety and system reliability.

Features

- Bi-directional wireless communication
- Input circuits are fully supervised for alarm and fault conditions (using eol resistors)
- 22 pairs of field channels
- Dual channel redundancy
- Long communication range
- 10-year battery life
- Uses dual low cost lithium battery
- Easy scan & link programming option
- Third party approval to EN54-25 & EN54-18

Standards and approvals

- EN54-18: Input / Output Devices
- EN54-25: Components using radio links and system requirements

Specification

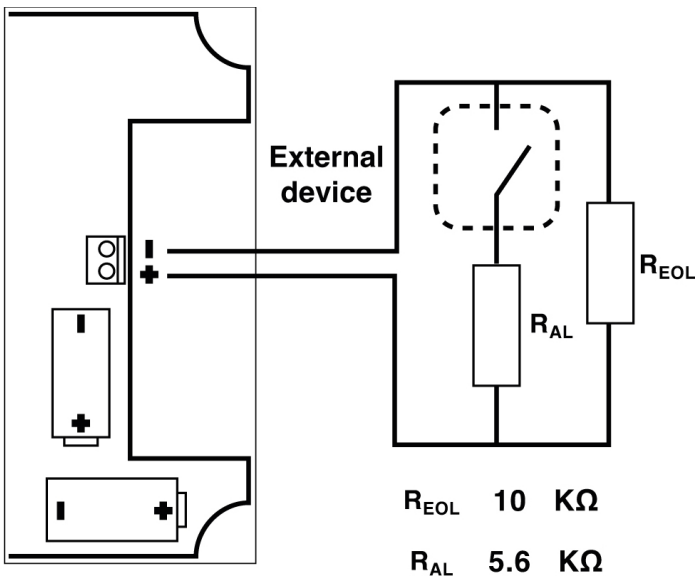
Operating frequency range	868-870 MHz
Max radiated power	14dBm (25mW)
IP rating	65
Cable entry knockout holes	6 x M16/20
Applicable wire gauge range	0.5mm2 to 2.5mm2
Weight (without batteries)	221g
Batteries	2 x CR123A (3V & 1.2Ah)
Battery lifespan (typical)	10 years
Dimensions	136mm x 96mm x 57mm
Operating temperature	-10ºC to +55ºC
Max humidity (non condensing)	95% RH
Alarm supervision resistor	5.6K
EOL supervision resistor	10K

Order Codes and Options

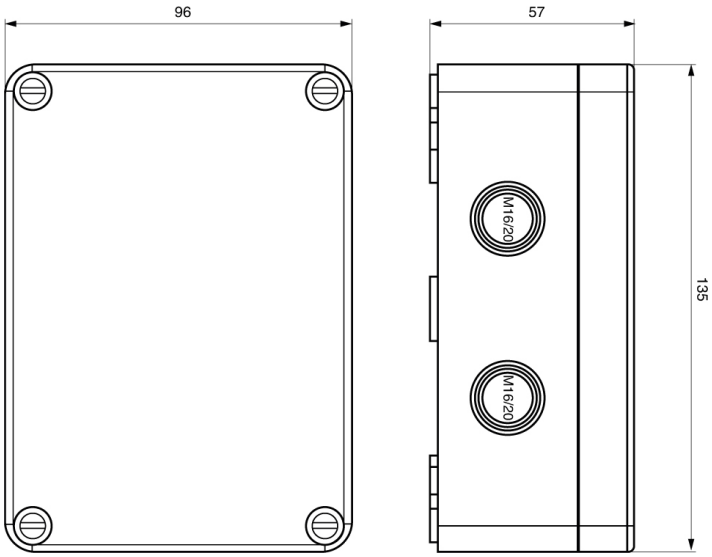
Axis-TMI:	Wireless Single Channel Input Module

Connections and configurations

Electrical scheme for the connection of the input module to the external device which transmits the input signal to the module.



Technical information



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Axis EN Wireless Output Module

The Axis EN Wireless Output Module has been designed to allow easy control of a variety of third party equipment including access control doors, ventilation plant and fire extinguishing systems.

The unit is powered entirely from its internal battery supply and is fitted as standard with both a set of change over relay contacts and a 12/24V dc output. The output is capable of supplying power for operating low current third party equipment directly from the internal batteries.

Features

- Bi directional wireless communication
- Output circuits are fully supervised for fault conditions (using EOL resistors)
- Change over relay and 12/24V output functionality
- On site programmable
- 22 pairs of field channels
- Long communication range
- Dual channel redundancy
- 5-year expected battery life (application dependent)
- Uses dual low cost lithium battery
- Easy scan & link programming option
- Third party approval to EN54-18 and EN54-25

Standards and approvals

- EN54-18: Input / Output Devices
- EN54-25: Components using radio links and system requirements

Specification

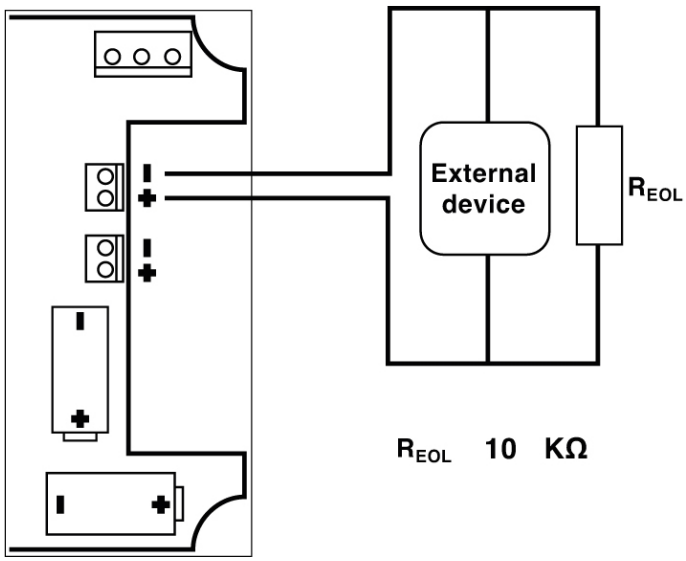
Operating frequency range	868-870 MHz
Max radiated power	14dBm (25mW)
IP rating	65
Weight (without batteries)	233g
Primary and secondary batteries	CR123A (3V and 1.2 Ah)
Dimensions	136mm x 96mm x 57mm
Relay specifications	2A @ 30Vdc
Operating temperature	-10ºC to +55ºC
Max humidity (non condensing)	95% RH
Maximum current available	100mA @ 12 Vdc / 50mA @ 24Vdc
EOL supervision resistor	10K

Order Codes and Options

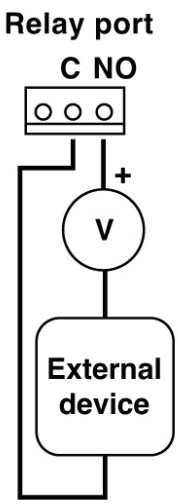
Axis-TMO:	Wireless Single Channel Battery Powered Input Module

Connections and configurations

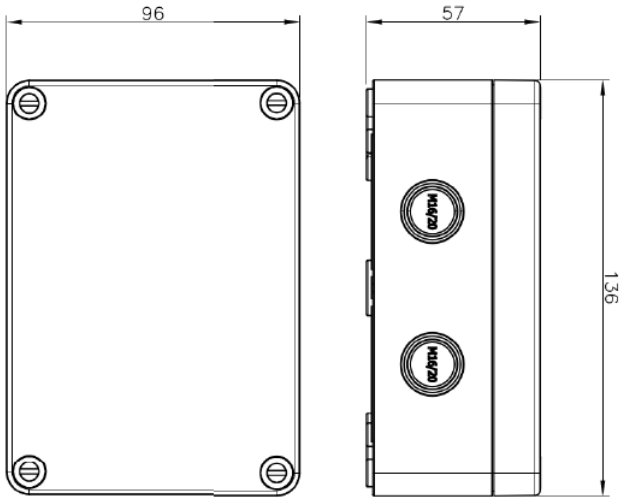
Wiring example for the 12Vdc/24Vdc output.



Wiring example for the relay switch output.



Technical information



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Axis EN

Legacy Wireless Translator Module

The Axis Wireless Translator module allows the Axis Wireless range of intelligent devices to integrate seamlessly on to the Axis hard wired addressable loop. Each Translator module allows the addition of 32 wireless sensors, sounders or output devices. Multiple Translator modules may be put on the same intelligent loop.

The Translator is loop powered, provides full intelligent sensor integration, and allows analogue values, fire and fault information and device type codes to be transmitted to the MxPro 4 series control panels. The translator processes messages received from the wireless devices and transmits information about itself and the devices to the control panel.

Operating on the European recommended frequency of 868 MHz and conforming to EN54-25 its two-way communication provides the highest level of transmission security and reliability.

Programming of the Axis Wireless devices is easily achieved through onboard keys or a PC configuration tool. On-board bi-colour LED's also indicate device status and communication strength which greatly aids commissioning.

The Axis Wireless Translator module is complemented by a range of wireless detectors and ancillary devices including battery operated wall sounders, input and output devices.

Features

- Bi-directional communication protocol between all wireless devices
- Rapid, cost effective installation with minimal disturbance
- Patented double orthogonal antennae provides reliable communication
- Unique channel hopping algorithm virtually eliminates signal corruption and fade
- Up to 32 wireless devices allowed with each translator
- System can be programmed through internal keys or a Windows based PC application

Specification

Loop power supply range	from 15Vdc to 40Vdc
Typical current consumption	20mA (at 24Vdc)
Operating frequency range	868.15 MHz - 869.85 MHz
Radiated power range	5 dBm (3 mW)
Radio signal's modulation type	FSK
Number of frequency channels	7
Communication range with wireless expander device	Up to 600 m (in open space) *
Communication range with other wireless devices	Up to 200 m (in open space) *
Maximum linked wireless devices	32 **
Maximum linked wireless expander devices	7 ***
Temperature range	from –30ºC to +50ºC
Tolerated humidity range (no condensing)	from 5% RH to 90% RH

Dimensions H x W x D mm (without antennas)	120 x 160 x 51
Number of antennas	2
External antenna’s length	74 mm
Weight grams	300
IP Rating	51C

Order Codes and Options

20-VW2W100-ADV:	Wireless Translator Module

Limitations

* Ideal operating range: may vary consistently according to environmental conditions.
** 16 output devices (output modules, sounders...) maximum.
*** 5Axis wireless expanders in cascade connection, maximum.
*** 3Axis wireless expanders connected to another Axis wireless expander, maximum.

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Axis EN

Legacy Wireless Expander

The Axis Wireless Expander is an externally powered module that supports the Axis Wireless Translator module. The Expander module provides the ability to communicate with wireless devices over greater distances and in difficult radio environments.

The Axis Wireless system utilizes a unique and powerful 'Microcell' architecture with a capacity of up to 7 Expanders and 32 wireless devices per translator module. Wireless devices can be any combination of detectors, call points, sounders or input and output modules.

Standards and Approvals

- EN54-18:2005
- EN54-25:2008
- Approved by BRE/LPCB and certified by the UAE Civil Defence

Features

- Bi-directional communication protocol between all wireless devices
- Rapid, cost effective installation with minimal disturbance
- Patented double orthogonal antennae provides reliable communication
- Unique channel hopping algorithm virtually eliminates signal corruption and fade
- Up to 7 Expanders allowed with each translator
- Flexible 'Microcell' structure

Specification

Communication range	Up to 600 meters in open space
Communication range with other wireless devices	Up to 200 meters in open space
Operating frequency	868.15 MHz - 869.85 MHz
Modulation type	FSK
Operating frequency channels	7
Radiated power	5 dBm (3 mW) typical
Transmission message period	12 seconds default
Power supply voltage range	From 9 V to 27 V
Current consumption	85 mA @ 12 Vdc
Dimensions H x W x D mm	120 x 160 x 51 w/o antennas
Weight grams	330
Operating temperature range	From -30ºC to +50ºC
Antennas	Two External, in orthogonal configuration
Primary and backup power supply voltage's lower fault threshold	11 +/- 0.5 V
IP Rating	51C

Order Codes and Options

20-SGWE-ADV:	Wireless Expander

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Legacy Wireless Battery Operated Input Module

The Axis Wireless Battery Powered Input Module allows the switched on/off status of an external device to be transmitted to the control panel through translator/expander's devices.

These module types are intended to interface a control panel and normally open contact devices. The connection between the module and the external device is supervised with the aid of an end of line resistor.

Communication between the input module and the translator/expander's modules is wireless.

Features

- Bi-directional communication protocol between all wireless devices
- Rapid, cost effective installation with minimal disturbance
- Fully Intelligent devices
- Up to 32 wireless devices allowed with each translator
- Fully Monitored Primary and Secondary Power Source

Specification

Operating frequency range	868 MHz
Max radiated power	5 dBm (3 mW)
Radio signal's modulation type	FSK
Operating frequency channels	7
Communication range	Up to 200 m (in open space)
Main battery type	CR123A (3 V & 1.2 Ah)
Backup battery type	CR2032A
Main battery lifespan	** 5 years ***
Secondary battery lifespan	** 2 months ***
Operating temperature	-30ºC to +55ºC
IP Rating	65

Order Codes and Options

20-SGMI200-ADV:	Wireless Battery Powered Input Module

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Legacy Wireless Battery-Powered Output Module

The Axis Wireless Battery-Powered Output Module allows the activation, deactivation or switching of circuits and Axis devices connected to its outputs.

The activation switching command is sent from the control panel to the module via the Axis wire to wireless translator and other possible wireless expander devices.

Bi-directional communications with the wireless translator is based on a proven protocol and wireless technology and is fast, reliable and provides the highest level of security.

Features

- Bi-directional communication protocol between all wireless devices
- Rapid, cost effective installation with minimal disturbance
- Fully Intelligent devices
- Up to 32 wireless devices allowed with each translator
- Fully Monitored Primary and Secondary Power Source

Specification

Operating frequency range	868 MHz
Max radiated power	5 dBm (3 mW)
Radio signal's modulation type	FSK
Operating frequency channels	7
Communication range	Up to 200 m (in open space)
Main battery type	CR123A (3 V & 1.2 Ah)
Secondary battery type	CR123A (3 V & 1.2 Ah)
Operating temperature	0 ºC - +55ºC (12/24 output at 24 Vdc)
Max tolerated humidity	95% RH
Dimensions H x W x D mm	??
Cable Entry / Knockout Holes Specifications	6 x M16/20
Applicable Wire Gauge Range	0.5 mm² to 2.5 mm²
IP Rating	65

Order Codes and Options

20-SGMCB200-ADV:	Wireless Battery Powered Output Module

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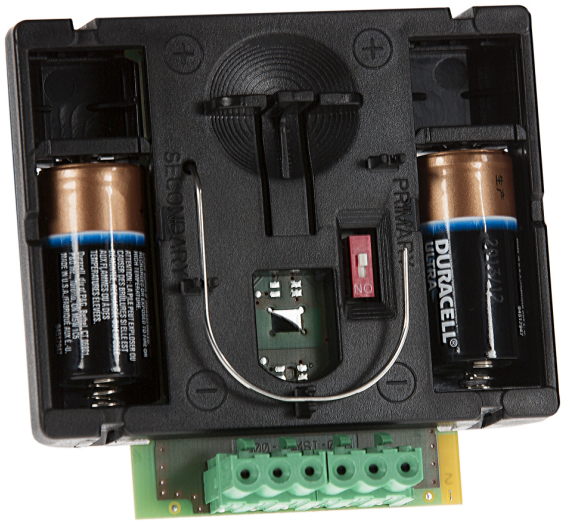
Legacy Wireless Wall Sounder Module

The Wireless Wall Sounder Module is designed for use with the Axis range of modular wall sounders and sounder beacons. When either the conventional sounder or sounder beacon are fitted with this module, they become fully compatible with all Axis wireless translators and expander modules.

When configured onto a compatible translator, the wireless sounder or sounder beacon are fully addressable and benefit from an extensive range of intelligent control, test and monitoring functionality.

The well-proven adaptive radio signal processing algorithms ensure the highest levels of life safety and reliability.



Standards and Approvals

For the wireless interface module (Axis-RWSM) and conventional wall sounder (Axis-CWS):

- EN54-3:2001 +A1:2002 +A2:2006
- EN54-25:2008
- Approved by BRE/LPCB and certified by the UAE Civil Defence

For the wireless interface module (Axis-RWSM) and conventional wall sounder visual (Axis-CWSV):

- EN54-3:2001 +A1:2002 +A2:2006
- EN54-25:2008
- EN54-23:2010
- Approved by BRE/LPCB and certified by the UAE Civil Defence

Features

- Flexible modular design
- Bi-directional wireless communication
- Fits Axis modular wall sounders and sounder beacons
- Utilises standard low-cost lithium battery technology
- Self-optimising wireless communication

Specification

Operating frequency range	868 MHz
Maximum radiated power	14 dBm (25 mW)
Operating frequency channels	7
Communication range	Up to 200 m (in open space)
Battery voltage range	3 V
Battery type	CR123A (3 V & 1.2 Ah) x 2
Radiated power	14 dBm (25 mW)
Operating temperature	-25°C to 70ºC
Relay switching characteristics	I = 2A V = 30 Vdc

Order Codes and Options

Axis-RWSM	Wireless Wall Sounder Module
Axis-CWS	Conventional Wall Sounder
Axis-CWSV	Conventional Wall Sounder Visual

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Legacy Wireless Door Holder

The Wireless Door Holder is compatible with all of the Axis Translator and Expander Modules, enabling it to be easily integrated into a new or existing wireless system, linked to any wired system or even used as a standalone system.

Its fully wireless and battery powered capability means it requires no wiring or power supply, making installation quick, easy and cost effective. The Axis range of wireless devices are third party approved and utilise the latest cutting edge technologies and features. The well-proven adaptive radio signal processing algorithms combined with the latest in magnet technology ensure the highest levels life safety and system reliability.

Features

- Easy and fast installation
- Local door release button
- Utilises standard low cost lithium battery technology
- Bi-directional wireless communication
- Fail safe monitoring to BS 7273 - 4:2015 category A, B and C
- High holding force
- Door closed monitoring option

Standards and approvals

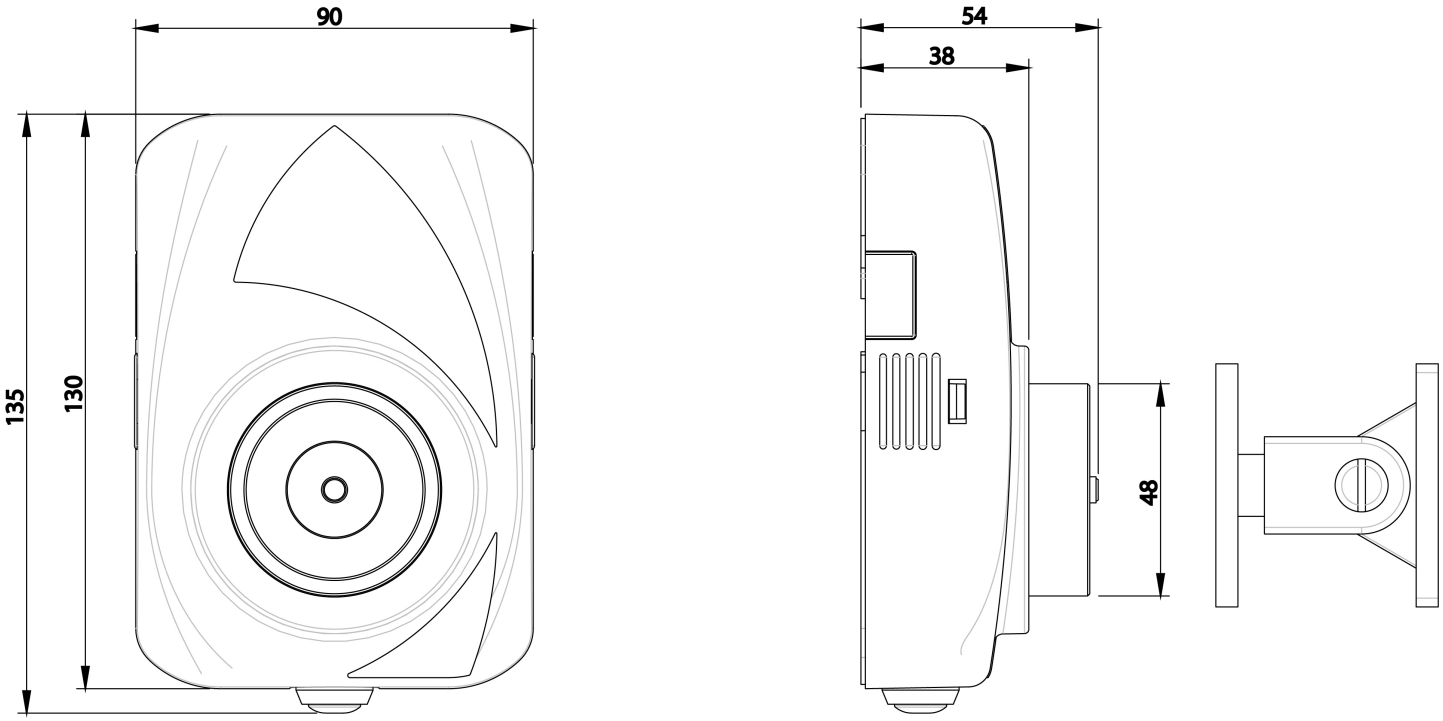
- EN 1155: Electrically Powered Hold Open Devices
- EN 7273-4:2015: Actuation of Release Mechanisms for Doors

Specification

Operating frequency range	868 MHz - 870 MHz
Maximum radiated power	14 dBm (25 mW)
Operating frequency channels	7
Communications range	Up to 200 m (in open space)
Batteries	2 x CR123
Dimensions	90mm x 135mm x 54mm
Weight	740g
Temperature range (no icing)	-10°C to +55°C
Maximum humidity	95%RH
IP rating	30
Holding force	200N

Order Codes and Options

Axis-RDH	Wireless Door Holder



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Axis EN

Legacy Wireless EOL Unit for use with 240V Mains Relay

The wireless battery powered output module allows the activation, deactivation or switching of circuits and devices connected to its outputs. The activation-switching command is sent from the control panel to the module via the wire to wireless translator and other possible wireless expander devices.

Communication between the module and its translator or expander is wireless, via the analogue-intelligent bidirectional protocol.

The wireless battery powered output module is equipped with a bi-colour LED (red/green) that provides visual indication for functional conditions and battery levels.

Features

- Wireless communication between the module and its translator or expander
- Bi-colour LED provides visual indication for functional conditions and battery levels
- Self-optimising wireless communication
- Utilises standard low-cost lithium battery technology

Specification

Operating frequency range	868 MHz
Maximum radiated power	5 dBm (3 mW)
Radio signal's modulation type	FSK
Operating frequency channels	7
Communication range	200 m (in open space)
Battery type	CR123A (3 V & 1.2 Ah) x 2
Maximum current supply	50 mA
Maximum switched voltage	30 Vdc
Maximum switched current	2 A
Maximum switched power	60 W
Operating temperature	-30°C to 55ºC
IP rating	65
Maximum tolerated humidity (non condensing)	95% RH
Relay switching characteristics	I = 2A V = 30 Vdc

Order Codes and Options

Axis-SGMCB-EOLM	Wireless Connection and EOL Unit for use with Mains Relay Unit

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