



# KNX-Intrusion Alarm System L240 Product Overview



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# The highest levels of security, comfort and cost-effectiveness



The Intrusion Alarm Panel L240 is the result of many years of experience in the security field and from three generations of intrusion alarm systems. This professional alarm system is designed for the integration into KNX installations for small to medium sized objects. The flexibility of the bus-based system and extendability of installation means that the same technology can be used for security applications in private residences as well as non-residential buildings.

The alarm panel is operated using the Keypad L240/PT. It is also required when the panel is extended or messages are to be displayed in plain text. Thus, the panel complies with the requirements to VdS class C and to the European Standard EN 50131, Grade 3.

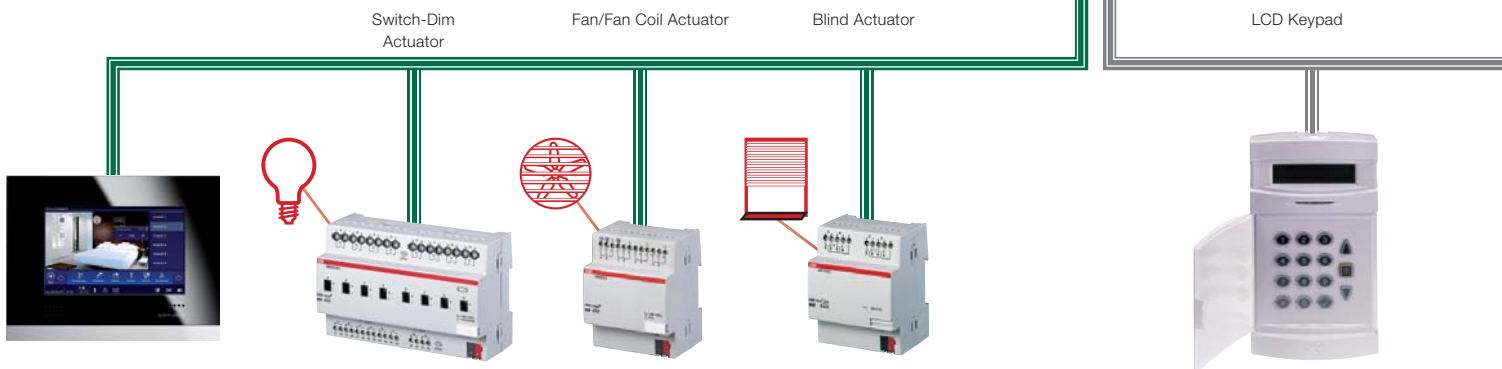


The system can be extended to incorporate up to 80 detector circuits in different setting areas using external modules, which are simply connected to the Alarm Panel bus. Consequently, the panel provides an application spectrum ranging from private to commercial buildings and from the smallest to the largest insurance risks.

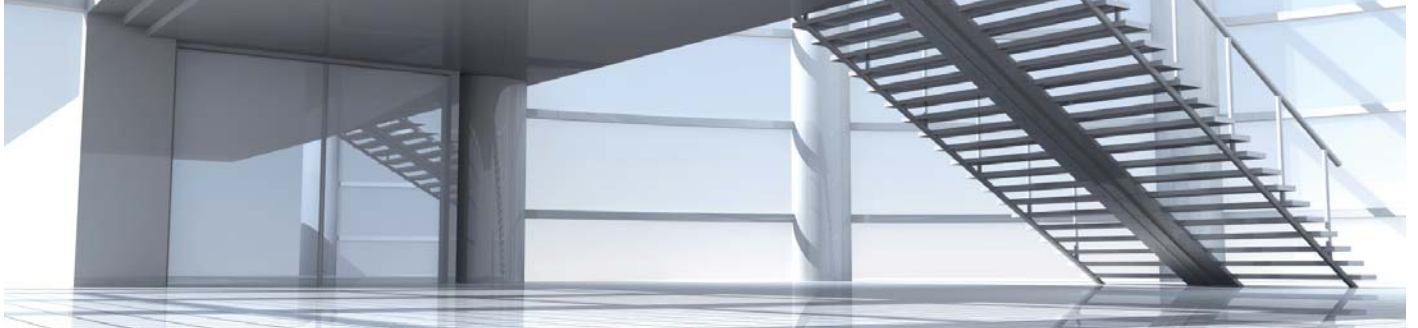
Alarm Panel



KNX



# Efficiency in the installation through bus technology



The Intrusion Alarm Panel L240 is simply extended by 4-wire connection of modules to the security bus (XIB). In addition to the Detector Circuit Modules L840/MG4 and L240/MG2, to which conventional detectors are connected, you can also connect BUS Motion Detectors with passive infrared and dual technology.

The panel can be easily configured by PC via the serial Interface Module L208/V.24 or the LAN IP Interface L240/IP. Important events and access histories can also be read from the central memory in this way.

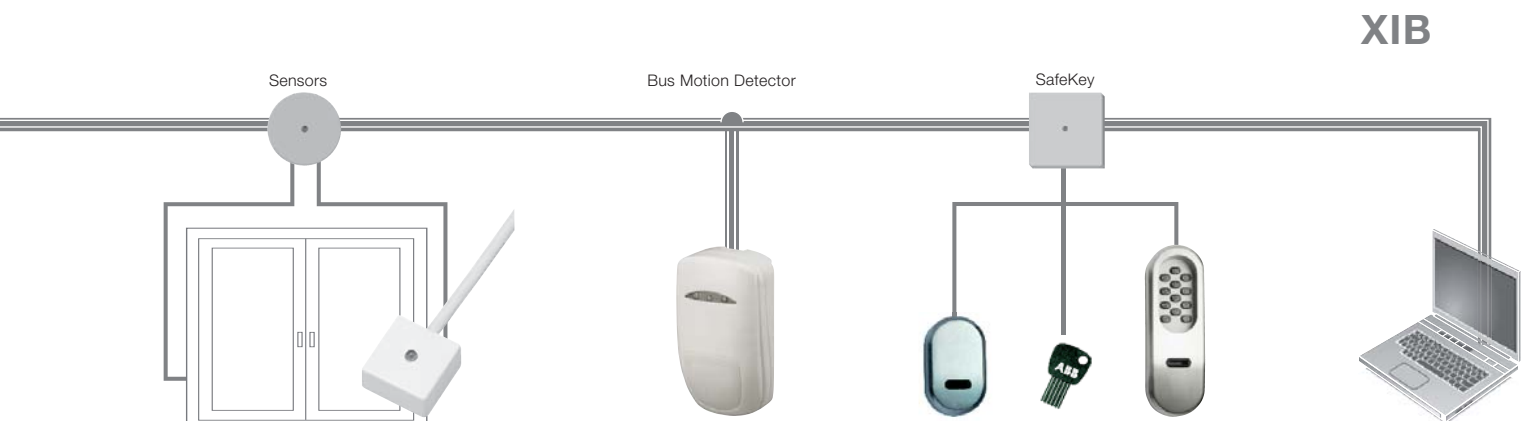
The KNX interface from ABB offers a solution for the Intrusion Alarm System L240, which integrates professional security technology in KNX systems.

All 80 detectors or detector circuits of the Intrusion Alarm System L240 are available as bi-directional communication objects on the KNX and/or on the intrusion alarm system. This allows security technology detectors to be used for other functions.

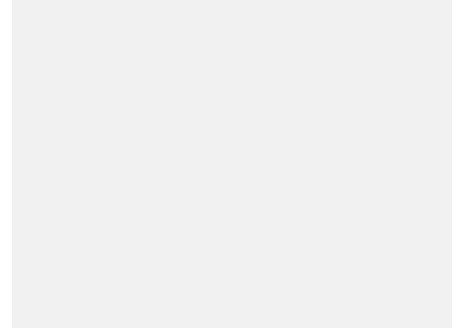
So for example, opening a window will be detected by a window contact and signalled to the KNX system, which deactivates the room temperature controller. If however, no one is at home and the alarm system is triggered, this detector will trigger an alarm. Motion detectors can be used both for intrusion detection as well as for automatically switching on a light.

If a sensor is used for 2 applications, fewer sensors are required, and if the heating is shut down, energy is also saved.

But even more functions are possible: when opening a house door using SafeKey and KNX, for example, the required level of lighting and music can be switched on. Thus, many day-to-day routines can be automated in this way.



# The SafeKey setting device



## **...is simple and comfortable to operate**

Setting device and access control from a single source!

Comfortable operation – optionally by numeric code, chipkey or a combination of both.

The system is disarmed with just a single operation.

## **...impresses with its elegant design**

SafeKey setting devices combine security and stylish ambience. Security that is convincing – elegant design which impresses! Play it safe and select a design and appearance appropriate for your entrance or foyer. SafeKey and wall reader are available with a modern stainless-steel and matt chrome-plated finish. In the classic elegant design, they can be tastefully combined with every existing style.

## **...is absolutely flexible**

The user management of the Intrusion Alarm Panel manages the different authorization levels for each person on each door. New chipkeys and numeric codes are created in seconds; misplaced chipkeys can be quickly and easily deactivated without the laborious, cost-intensive task of replacing locking cylinders.

### **Special highlight:**

**A chipkey can be authorized for several SafeKey systems that are independent of one another.**

Up to 8 Evaluation Modules can be connected via the XIB security bus to the Intrusion Alarm Panel L240. This facilitates the connection of the wall reader and assures communication with the panel.

The keys are learned-in using a module in the panel and managed there via the keypad or by using the programming software WinPC. Every key can be assigned with different levels of authorization for each of the 8 doors, so that you can decide which key or person is permitted to set the intrusion alarm system. All locking actions together with the key name and the time of the action are registered in the event list memory of the panel and can be accessed on the keypad when required.

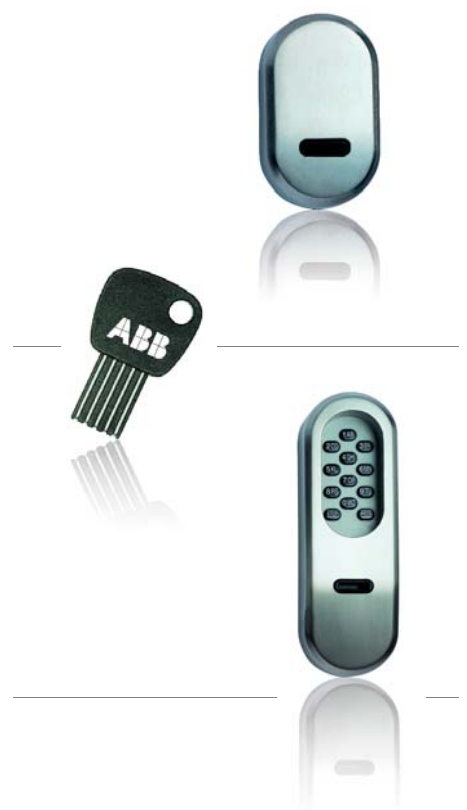
## **SafeKey chipkey**

Electronic chipkey for key operation and/or setting/unsetting. SafeKey chipkeys can be authorized for any number of different systems. Every chipkey is a unique read protected and copy protected device.

## **SafeKey wall readers with and without keypad**

Remote input device for setting/unsetting.

The connection to the SafeKey Evaluation Module is wired. A bolt lock is required to ensure unavailability compliance.



# Intrusion detection system example project increased risk



House example project, increased risk  
planning with L240 compliant to DIN VDE 0833.

## Parts list with wired technology

Units	Device	Type
1	Intrusion Alarm Panel	L240
2	Battery	SAK7
1	Keypad	L240/PT
4	Motion Detectors	IR/XB
2 (10)	Magnetic Reed Contact Set	MRS/W
2	Lock Bolt Switching Contact	WRK/W
(4)	Blocking Bolt	ADB
1 (5)	2 Zone Module	L240/MG2
1	Combination Signalling Device	SSF/GB
1	Siren	SSF/G
1	Setting Device	L240/BS in housing with WEL or WELT
1	Electric Bolt Lock	ESPE

All doors (here terrace doors) are to be monitored for opening and locking.

If complete exterior surveillance is to be implemented, all windows must be monitored for opening with magnetic contacts to ensure lock monitoring (either with VSUE or with blocking bolts).

# System overview and engineering instructions



## Exterior surveillance

What	How	With what	Note
Doors/ windows	Opening	Magnetic reed contacts	Drill hole or flush mounted Connection to a distribution unit or zone module
	Breakage/ rupture	Passive or acoustic glass break detectors	
	Locking	Strike plate contacts Lock monitoring for the windows	Installation in the strike plate. Installation in the surround. Connection to the distribution unit or zone module. Only in conjunction with monitoring of opening.



## Interior monitoring

What	With what	Note
Motion in rooms	Passive infrared detector	Observe sources of interference! Heat and cold sources. Various effective ranges through exchangeable lenses.
	Dual detectors	Observe sources of interference! Draughts, interfering transmitters.
Fire/smoke	Smoke alarm	Not in kitchen/bathroom/sauna.
Gas	Gas alarm	All combustible gasses Observe installation location! (light/heavy gasses)
Water	Water alarm	







## Alarms

What	With what	Note
Internal	Internal siren	
External local	External siren with/without strobe light	At least 3 m from the ground
External silent	Dialling device with voice output	A/B cable



## Panel and accessories

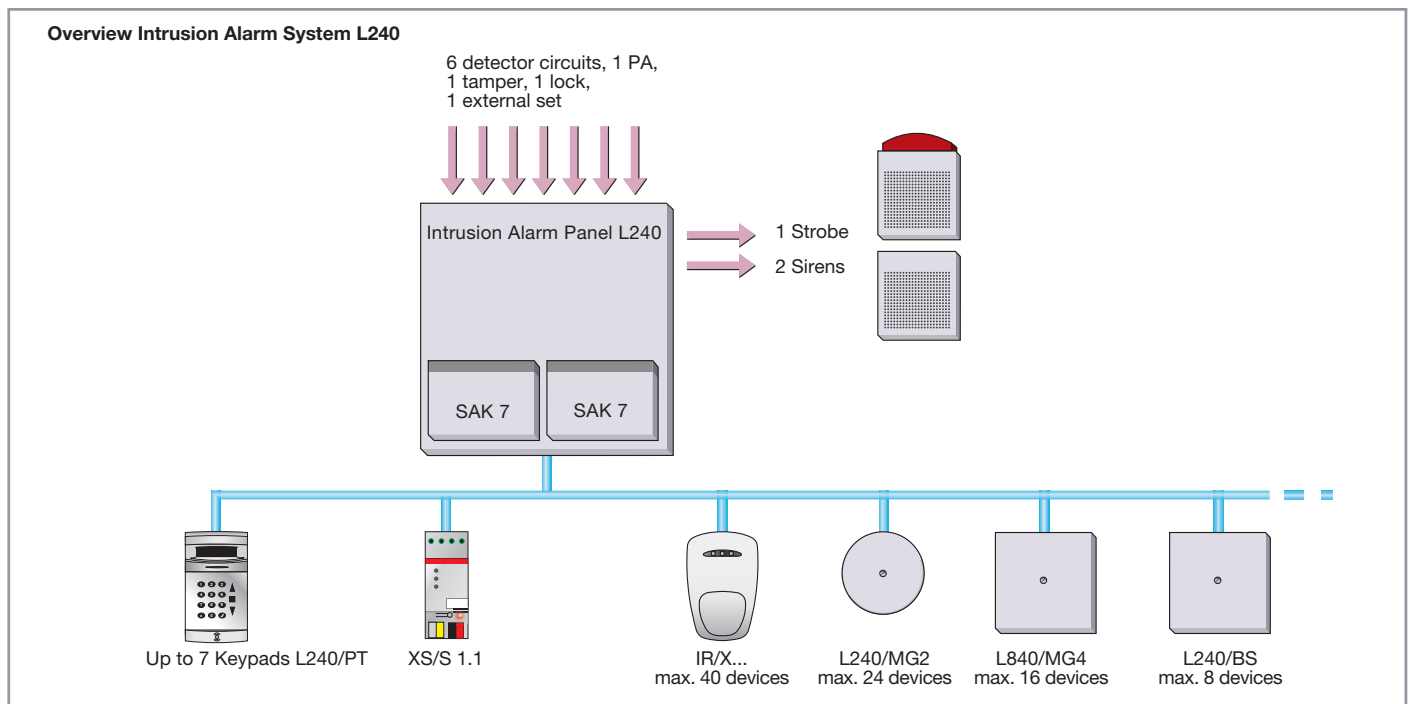
What	Note
Panel	Installation location
Batteries	Consider the current consumption of the entire system
Keypads	At least one keypad Enhanced operation and programming: At least one L840/PT is necessary for all expansions and programming!
Connection module for SafeKey	Also contains connections for MRS, WRK and ESPE; situated beside the door.
Detection circuit expansions	L240/MG2: for connection of magnetic reed contact and glass break detectors (windows). L840/MG4; for connection of contact-relevant detectors.
Remote programming via Notebook	Serial port on the PC or LAN interface on the PC or via the network.



## Installation

What	Note
Main distribution board	For clearly arranged wiring to the panel.
Junction boxes	On windows, doors.
Cable ducts	From the door wing to frame. From door panel to frame (colour variants).
Cables	I-Y(ST) Y n x 0.6 or 0.8 mm

# Product range overview



## Intrusion Alarm Panel L240 with bus technology

is the universal solution for all applications. The following bus modules can be connected to the panel: 2 Zone Modules L240/MG2 for connection to the exterior perimeter detectors such as magnetic reed contacts and passive glass break sensors. The module has 2 zones, to which 2 detectors can be connected via LSA terminals. The module is an intelligent distributor by simple installation in a 60 mm installation box in the vicinity of the window.

Zone Module L840/MG4 for expansion of the panel by up to 4 detector circuits. A SAD enclosure is required.

Interface Module L240/IP for programming of the L240 via PC, incl. WinPC software.

SafeKey Evaluation Module L240/BS for connection of the SafeKey components as well as all components required for a setting door (magnetic contacts, lock bolt switching contact, bolt lock, internal siren). The management of the electronic keys from the SafeKey range is undertaken completely on the LCD keypad of the panel.

In total, 80 detectors or detector circuits (zones) (10 groups to the panel and a further 70 on the bus).

Furthermore, up to 8 x L240/BS – a total of 8 doors – can be connected, and 4 setting zones can be formed.

The interface to KNX facilitates complete integration of the security functions into the KNX system, up to VdS class C.

## Risk allocation, classification

- VdS approved as an Intrusion Alarm Panel for VdS classes A, B, C
- Corresponds to DIN VDE 0833 parts 1 & 3
- Grade 3 according to European standard EN 50131-1 "medium to high risk"

## Typical areas of application

Residential and commercial properties with more than one security zone, commercial zones up to stage 6, and banks with an insurance company/police requirement for a medium to high risk alarm system

Application limitations:

- The Intrusion Alarm Panel is suitable for all types of risk
- The limits of the application are only in the scale of the system (number of detector zones)
- The Intrusion Alarm Panel is suitable for up to four setting zones

## Degree of expansion

- 4 setting zones
- 80 programmable inputs
- Motion detectors can be connected to the bus
- Window contacts and glass break sensors can be connected to the bus via the Bus Module L240/MG2

The panel can be extended with up to 8 SafeKey Evaluation Modules L240/BS and Zone Modules L240/MG2 and/or L840/MG4.

## Obligatory system accessories

- 1 Battery SAK7
- 1 Keypad L240/PT per setting zone

## Optional system accessories

- Max. 7 Keypads L240/PT
- Max. 2 Batteries SAK7
- 8 SafeKey Evaluation Modules L240/BS
- Zone Modules L240/MG2 and/or L840/MG4
- 1 Serial Interface L208/V.24
- 1 Ethernet Interface L240/IP
- Supplementary Power Supply L240/N
- KNX Interface XS/S 1.1

## Suitable alarm equipment

- Internal siren for occupancy alarm: 1 SSS
- External siren/strobe: 1 SSF/G and 1 SSF/GB
- Silent alarm: Local devices

## Suitable setting devices

- Internal setting via Keypad L240/PT

## External setting






- Via Keypad L240/PT delayed in the security zone
- With SafeKey components on L240/BS up to 8 doors

## Suitable sensors




All detectors and contacts from the ABB intrusion alarm range. The total current consumption must be observed.





Type	Detail	Order code	PG	MB
	<p><b>Intrusion Alarm Panel</b></p> <p>For residential and commercial properties with more than one security zone, commercial zones up to stage 6, and banks with an insurance company/ police requirement for a medium to high risk alarm system.</p> <p>VdS approved as an Intrusion Alarm Panel for VdS classes A, B, C.</p> <p>Corresponds to DIN VDE 0833 parts 1 &amp; 3, Stage 3 according to European standard EN 50131-1 "medium to high risk".</p>			
L240/ENG	English	2CDG 230 017 R0011	50	-
	<p><b>Interface for Intrusion Alarm Panel, MDRC</b></p> <p>Integration into KNX systems is possible using the Interface XS/S1.1.</p> <p>Accordingly, there are numerous benefits:</p> <p>For example, a door/window opening detector can be used to switch off the heating and save energy in the unset state. When an alarm is triggered, the KNX devices can carry out actions such as switching on the light or operating the blinds.</p> <p>The interaction offers further benefits in terms of system integration, which comply to the demands of the VdS up to class C.</p>			
XS/S 1.1		2CDG 110 075 R0011	26	-
	<p><b>LCD Keypad</b></p> <p>For operation and programming of the panel. The messages are displayed on a two-line LCD display. Menu driven operation and programming of the panel. Internal and external setting on the keypad is possible. VdS class C.</p>			
L240/PT		2CDG 230 014 R0011	50	-
	<p><b>Serial Interface Module</b></p> <p>For programming of the L240 via PC with serial interface V24, incl. WinPC software.</p>			
L208/V.24		GH Q328 0220 R0001	50	-
	<p><b>IP Interface Module</b></p> <p>For programming of the L240 via PC with Ethernet interface, incl. WinPC software.</p>			
L240/IP		2CDG 230 013 R0011	50	-


Type	Detail	Order code	PG	MB
	<p><b>Sealed Lead Acid Battery, 12 V DC, 7 Ah</b></p> <p>For Intrusion Alarm Panel emergency power. 2 units can be installed. VdS class C.</p>			
SAK7		GH V924 0001 V0011	50	-
	<p><b>BUS-IR Motion Detector</b></p> <p>For direct connection to the bus of the Intrusion Alarm Panel L240, whereby a maximum of 40 detectors can be addressed by the panel.</p> <p>The motion detectors with passive infrared technology are registered for VdS classes B and C (anti-masking monitored). They facilitate monitoring of an area with an IR range of up to 15 m.</p>			
IR/XB	VdS class B	2CDG 230 023 R0011	50	-
IR/XC	VdS class C	2CDG 230 024 R0011	50	-
MW	Mounting Bracket	GH V923 0039 V0020	50	-
	<p><b>BUS Dual Motion Detector</b></p> <p>For direct connection to the bus of the Intrusion Alarm Panel L240, whereby a maximum of 40 detectors can be addressed by the panel.</p> <p>The Dual-Motion Detector combines proven passive infrared technology with temperature-independent microwave technology. The combination of both functional principles results in a detector featuring high immunity to false alarms, even with unfavourable ambient conditions, and which still has high detection security. The detectors are registered for VdS classes B and C (anti-masking monitored). They facilitate monitoring of an area with an IR range of up to 15 m.</p>			
EIM/XB	VdS class B	2CDG 230 025 R0011	50	-
EIM/XC	VdS class C	2CDG 230 026 R0011	50	-
MW	Mounting Bracket	GH V923 0039 V0020	50	-
	<p><b>Zone Bus-Module, 2-fold</b></p> <p>For expansion of the panel by 2 detector circuits. Used for connection to the exterior perimeter detectors such as magnetic reed contacts and passive glass break sensors. The module has 2 zones, to which 2 detectors can be connected via LSA terminals. The module is an intelligent distributor by simple installation in a 60 mm installation box in the vicinity of the window.</p>			
L240/MG2		2CDG 220 003 R0011	50	-
	<p><b>Zone Bus-Module, 4-fold</b></p> <p>For expansion of the panel by 4 detector circuits. A SAD enclosure is required for installation.</p>			
L840/MG4		GH Q328 0011 R0001	50	-

Type	Detail	Order code	PG	MB
	<b>SafeKey Wall Reader</b> For setting/unsetting with the Evaluation Module L240/BS. The unit is actuated by inserting the electronic SafeKey chipkey. The SafeKey Wall Reader WEL is equipped with the key reader and an acknowledgement buzzer. VdS class C.			
	WEL/A,ES	Stainless steel	GH Q305 0023 R0001	53
	<b>SafeKey Wall Reader with Keypad</b> For setting/unsetting with the Evaluation Module L240/BS. The unit is actuated by inserting the electronic SafeKey chipkey and/or by a code keypad. The SafeKey Wall Reader WELT is equipped with the key reader, an acknowledgement buzzer and a code keypad. VdS class C.			
	WELT/A,ES	Stainless steel	GH Q305 0024 R0001	53
WELT/A,MC	Matt chrome-plated	GH Q305 0024 R0011	53	-
	<b>SafeKey Chipkey</b> It is an electronic carrier medium for lock actuation and for setting/unsetting on a strike plate, door cylinder or wall reader. A SafeKey Chipkey can be authorized for any number of different SafeKey systems with different levels of authorization.			
	SCS		GH Q305 0027 R0001	53
	<b>SafeKey Evaluation Module</b> For connection of the SafeKey components as well as all components required for a setting door (magnetic contacts, lock bolt switching contact, bolt lock, internal siren). The management of the electronic keys from the SafeKey range is undertaken completely on the LCD keypad of the panel.			
	L240/BS		GH Q305 0031 R0001	53
	<b>Electromechanical Bolt Lock</b> Prevents access to the set zone of an Intrusion Alarm Panel. The unit is mounted in the door frame. Only a single bore or the counterpart for the locking bolt in the door panel is required. Suitable for use with WEL and WELT. VdS class C.			
	ESPE		GH V925 0010 V0001	50
EVSB	Replacement Locking Bolt	GH V925 0010 V0002	50	-
AMSP	Mounting kit, flat door panel and frame	GH V925 0010 V0004	50	-
AMSE	Mounting kit, raised door panel	GH V925 0010 V0003	50	-

Type	Detail	Order code	PG	MB
	<b>Distribution Enclosure</b> For installation of the Bus Modules L840/MG4 and L240/BS.			
	SAD/GAP	Surface mounting	GH Q328 0015 R0001	50
SAD/GUP	Flush mounting	GH Q328 0013 R0001	50	-
SAD/ED	Wall box for SAD/GUP	GH Q328 0014 R0001	50	-
	<b>Security Terminal, 4-fold, MDRC</b> is used for the monitored connection of sensors from security technology (e.g. magnetic contacts or glass-breakage sensors) to the ABB i-bus® KNX. The device has four inputs ("zones") available and can be used as a stand-alone security system or in combination with the security module or control panel with KNX interface. 12 V DC SELV power supply required, e.g. NTU/S 12.2000.1. Typical applications are door and window surveillance, glas-breakage detection as well as area surveillance.			
	MT/S 4.12.2M		2CDG 110 109 R0011	26
	<b>Security Terminal, 8-fold, MDRC</b> is used for the monitored connection of sensors from security technology (e.g. magnetic contacts or glass-breakage sensors) to the ABB i-bus® KNX. The device has eight inputs ("zones") available and can be used as a stand-alone security system or in combination with the security module or control panel with KNX interface. 12 V DC SELV power supply required, e.g. NTU/S 12.2000.1. Typical applications are door and window surveillance, glas-breakage detection as well as area surveillance.			
	MT/S 8.12.2M		2CDG 110 110 R0011	26
	<b>Security Terminal, 2-fold, FM</b> is used for the monitored connection of sensors from security technology (e.g. magnetic contacts or glass-breakage sensors) to the ABB i-bus® KNX. The device has two inputs ("zones") available and can be used as a stand-alone security system or in combination with the security module or control panel with KNX interface. 12 V DC SELV power supply required, e.g. NTU/S 12.2000.1. Typical applications are door and window surveillance, glas-breakage detection as well as area surveillance.			
	MT/U 2.12.2		2CDG 110 111 R0011	26

Type	Detail	Order code	PG	MB
	 <p><b>Magnet Reed Contact Set</b> For opening surveillance of windows and doors, complete for bolting or drilling Contents: 1 magnet, 1 reed contact with 4.0 m connection cable LIYY 4 x 0.14 mm<sup>2</sup>, 2 housings, 3 spacer plates, 2 flanges and 4 anti-magnetic fixing screws. VdS class B.</p>			
MRS/W	White	GH Q320 1972 R0001	50	-
MRS/B	Brown	GH Q320 1972 R0002	50	-
	<p><b>Magnet Reed Contact Saver Set</b> For opening surveillance of windows and doors, complete for bolting or drilling. Contents: 20 magnets, 20 reed contacts with 4.0 m connection cable LIYY 4 x 0.14 mm<sup>2</sup>, 40 housings, 60 spacer plates, 40 flanges and 80 anti-magnetic fixing screws. VdS class B.</p>			
VMRS/W	White	GH Q320 1972 R0011	50	-
VMRS/B	Brown	GH Q320 1972 R0012	50	-
	 <p><b>Rolling Door Magnet Reed Contact Set</b> For monitoring opening or rolling doors or other large doors in the industrial field. Contents: 1 magnet, 1 reed contact with 2 m connection cable 4 x 0.14 mm<sup>2</sup>, 1 m protective tubing and 1 set of mounting accessories. Dimensions: H x W x D = Reed contact 159 x 50 x 19 mm; magnet 100 x 40 x 35 mm; degree of protection: IP 68; Environmental class to VdS 4; VdS class B.</p>			
RTK		GH Q320 1973 R0021	50	-
	 <p><b>Glass Break Sensor, passive</b> For surveillance of glass surfaces of windows, display windows and doors with high interference immunity and integrated memory display. For operation directly on detector circuits of Intrusion Alarm Panels or Zone Terminals. Extremely compact dimensions. Dimensions: H x W x D = 18 x 18 x 9 mm. Mounted onto glass using Loctite Adhesive (LKS). With 5 m connection cable. VdS class B.</p>			
SPGS/W	White	GH V922 0004 V0009	50	-
SPGS/B	Brown	GH V922 0004 V0010	50	-
GP2	Mechanical Glass Break Test Device	GH V922 0004 V0004	50	-
LKS	Loctite Adhesive	GH Q400 1906 R0001	50	-

Type	Detail	Order code	PG	MB
	 <p><b>Lock Bolt Switching Contact</b> For installation in the strike plate, for lock monitoring on doors. Water-tight IP 67, with 2.5 m connection cable LIYY 3 x 0.14 mm<sup>2</sup>. VdS class C.</p>			
WRK/W		2CDG 250 003 R0011	50	-
	 <p><b>Window Opening Plunger</b> Lock monitoring is carried out with a special magnet and a reed contact. The magnet is mounted on the push rod of the window sash, while the reed contact is mounted on the frame.  The connection cable LIYY 4 x 0.14 mm<sup>2</sup> is 4 m in length. VdS class C.</p>			
VSUE		GH V921 0018 V0022	50	-
	 <p><b>Blocking Bolt</b> Indirect lock monitoring by mechanical push opening of the window in conjunction with magnetic contacts that monitor opening. Available in 2 spring strengths.</p>			
ADB	150 N	GH V921 0018 V0020	50	-
ADB1	35 N	GH V921 0018 V0021	50	-
	 <p><b>Emergency Call Button</b> For manual alarm tripping. Complies with Police regulations, since it features permanent trip recognition, momentary-contact function, with cover contact.  Available in surface mount and flush mount versions. The cover plate is used primarily in the banking sector or other institutions, where unintentional alarm triggering is possible due to public access. Colour: white. VdS class C.</p>			
ND/W	Surface mounting	GH Q713 2443 R0011	50	-
NDU/W	Flush mounting	GH Q713 2443 R0021	50	-
EP	Spare Papers (10 pcs.)	GH Q713 2443 R0003	50	-
NDA/W	Cover plate	GH Q713 2443 R0004	50	-

Type	Detail	Order code	PG	MB
	<p><b>Gas Detector</b></p> <p>For measurement and evaluation of the concentration of natural gas or liquefied gas in the air. The detector requires a (10 – 30 V DC) voltage supply and has a normally open floating relay output contact for connection to the Intrusion Alarm Panels, features an LED display and a Piezo buzzer. For ceiling and wall mounting.</p> 			
SGL		GH Q305 0008 R0001	50	-
	<p><b>Water Detector</b></p> <p>A resin-encapsulated water detector with gold-plated Termipoint pins, detects water ingress, e.g., pipe fractures, ingress of groundwater and sewage, water damage caused by washing machines and dishwashers etc., before the damage becomes too expensive. For operation directly on detector circuits of Intrusion Alarm Panels or Zone Terminals.</p> 			
SWM4		GH Q403 0001 R0004	50	-
	<p><b>Smoke Detector</b></p> <p>For early detection of fire in buildings.</p> <p>The VdS certified detector can be connected to 12 V intruder zones with the detector base.</p> <p>A floating two-way contact serves as an alarm output. An optional reed relay in the last detector of the zone monitors the supply voltage and the removal of a smoke detector from the base. For testing the detector, a testing aerosol or a remote test unit can be used.</p>  			
FC600/O	Optical Smoke Detector	2CDG 430 047 R0011	52	-
FC600/TMAX	Optical/Thermal Detector	2CDG 430 049 R0011	52	-
FC600/BREL	Detector Base, 12 V	2CDG 430 051 R0011	52	-
FPA03	Testing Aerosol, 250 ml	GH V902 0012 V0021	52	-
RL	Reed Relay, 12 V	GH V927 0013 V0100	50	-

Type	Detail	Order code	PG	MB
	<p><b>Electronic Solid-State Siren</b></p> <p>Electronic solid-state siren with intermittent tone for alarm purposes in indoor installations. External dimensions: <math>\varnothing \times H = 90 \times 37</math> mm.</p> 			
SSS		GH V927 0001 V0001	50	-
	<p><b>Combination Signalling Device</b></p> <p>Siren in an aluminium protective housing with additional protective enamel coating. Protected against sabotage by a case tamper contact. The alarm inputs are wired onto a terminal strip. Dimensions: H x W x D = 200 x 205 x 88 mm</p>  <p>Strobe light mounted on top. Dimensions: H x W x D = 258 x 205 x 88 mm</p> <p>Colour RAL 9002. VdS class C.</p>			
SSF/G	Without strobe light	GH Q305 0017 R0001	50	-
SSF/GB	With strobe light	GH Q305 0018 R0001	50	-



# Contact

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