ACL800SUW-BCMF Biometric Touch Capacitive Mifare Reader Installation Sheet



Description

The ACL800SUW-BCMF is a Wiegand biometric and Mifare reader for access control applications with programmable Wiegand output. It offers storage of up to 9500 fingerprints, it reads Mifare Classic 1K & 4K, Ultralight, Desfire cards/tags and has a programmable Wiegand Output (24 to 80 bits).

Configuration of the readers and fingerprint enrollment is done through the ACL800 BioManager software.

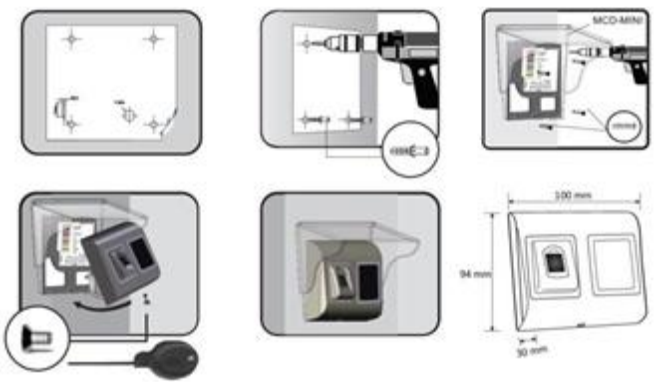
Connection between the biometric readers is via RS485 and it is used for fingerprint transfer and configuration.

The connection between the biometric readers and the PC is done through ACL800FL-CONV-W converter (RS485 to TCP/IP). Only one converter is needed per system and supports up to 31 biometric readers.

The tamper switch output can trigger the alarm system, if an attempt is made to open or remove the unit from the wall.

Mounting

Figure 1: Mounting instructions

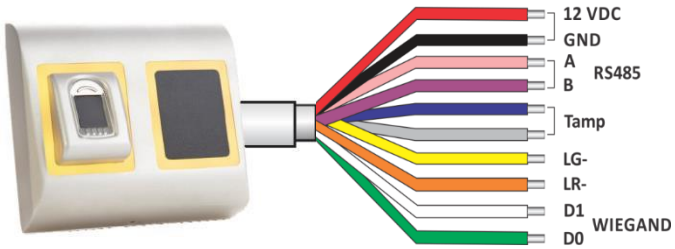


If the biometric reader is installed and used outdoor, the reader *must* be fitted with cover available in our accessories to protect the sensor from direct rainfall. For the operating temperature, see “Specifications” on page 6. If the reader is installed in an environment where the temperature can drop below limits, or if the sensor could only be exposed to direct sunlight, it is strongly recommended to install the reader inside a third party sealed wall mount box (fitted with additional heater if very low temperature) to keep a constant sensor level performance. We cannot guarantee the functionality of the product if measures and advice before are not followed.

It is also strongly recommended to use double technology biometric readers when use outdoor to offer first higher security but also the possibility to use different readers depending on users.

Wiring

Figure 2: Wiring instructions

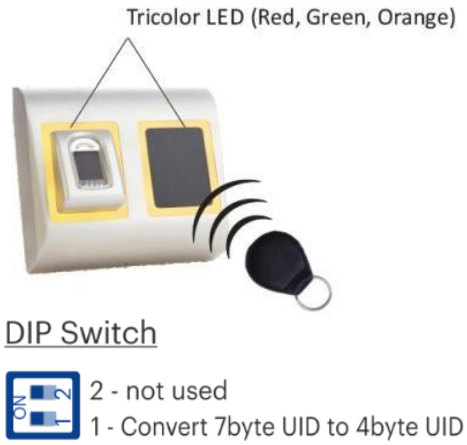


12 VDC	Red	+12 VDC
GND	Black	Ground
A	Pink	A (RS485)
B	Violet	B (RS485)
Tamp	Blue	Tamper
Tamp	Green	Tamper
LG−	Yellow	LED green −
LR−	Orange	LED red −
D1	White	Data 1
D0	Green	Data 0

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DIP switch



Note: The conversion from 7-byte ID to 4-byte ID is only possible with cards that have 7-byte ID Number. Those are: Mifare plus, Desfire and Ultralight. The number is converted according to NXP algorithm. It corresponds to the number obtained by the USB desktop reader

Connecting biometric readers to controllers

Connect the lines D0, D1, LR−, LG−, GND and +12V to the TruPortal controller.

Connect the RS485 Line (A, B) to the converter. Connect the converter in the PC.

Fingerprint enrollment is done from the ACL800 BioManager software. Connection between the biometric readers and the PC must be established.

The Biometric readers communicate with each other with a RS485 and with the ACL800 BioManager software through a converter.

The RS485 line should be configured in the form of a daisy chain, *not* in a form of a star. Keep the stubs from the RS485 backbone as short as possible (not more than 5 meters).

Only one converter per installation is needed, not per reader.

RS485 tuning

Figure 3: RS485 tuning

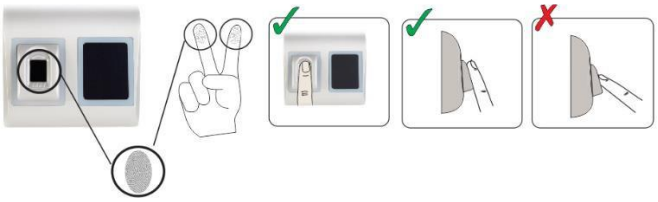


Terminate both ends of the line with 120 Ohm resistor.

If the communication is not established and stable, use the external resistors provided in the hardware kit.

Enrollment

Figure 4: Enrollment



Configuring the biometric readers in ACL800 BioManager

ACL800 BioManager is software for fingerprint management of Biometric readers, when used with third party access controllers.

Main functions:

- Fingerprint Enrollment

  It can be done by ANY biometric reader in the network or by desktop (USB) Biometric reader.

- Fingerprint transfer

  Finger templates can be sent to any reader in the network.

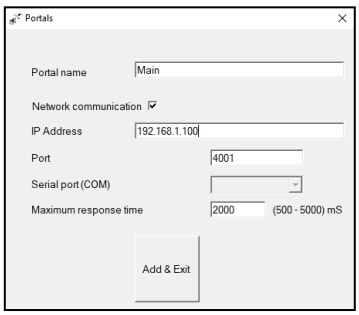
  Different users can be sent to different biometric readers.

- Wiegand output configuration

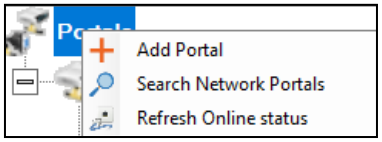
  The Wiegand output of the biometric reader can be customized bitwise.

Add Portal

1. Right-click on “Portals” and select Add Portal.
2. If the converter used for the biometric readers is RS485 to TCP/IP, then create a portal by adding the IP Address of the converter.

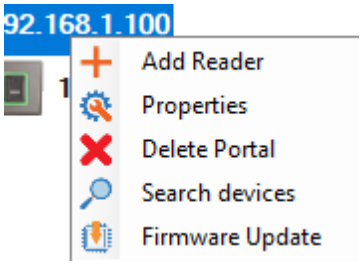


Note: The portal can be added automatically with the Search function.

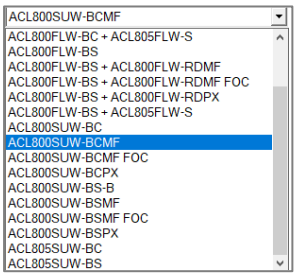


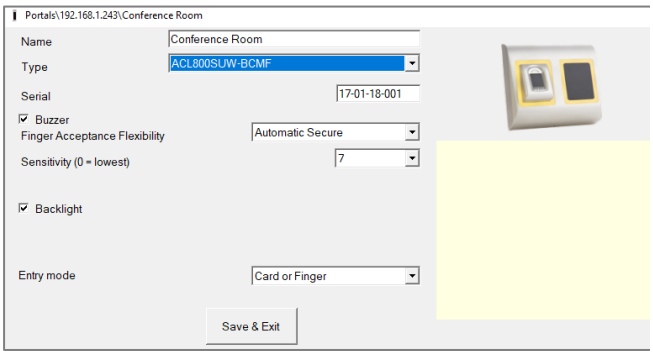
Add Reader

1. Right-click on the portal connected to the reader and select Add Reader.

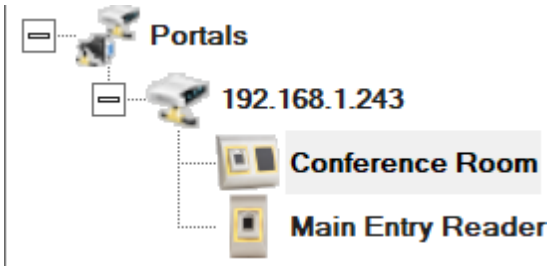


2. Select the type of the reader and fill the reader form. Put the serial number of the biometric reader. The serial number is written on the back side of the reader, but also can be searched from the software.

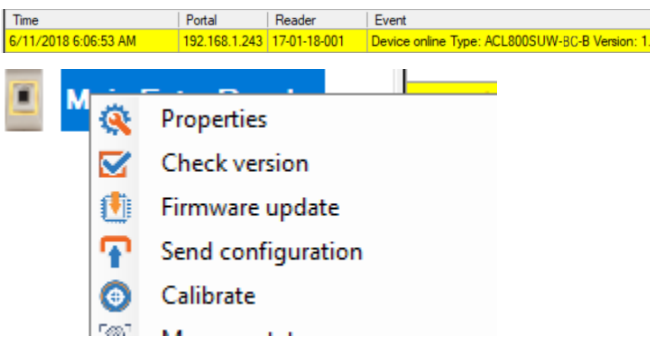




3. Click on Save and the reader icon appears under the selected portal.



4. Right-click on reader and select Check version to see if the reader is online.



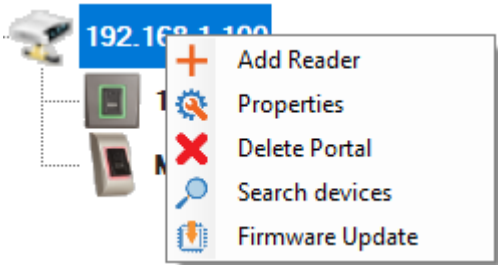
If reader is online, new line is added on top of the event table.

Time	Portal	Reader	Event
6/11/2018 6:06:53 AM	192.168.1.243	17-01-18-001	Device online Type: ACL800SUW-BC-B Version: 1.1

If reader is not online, following line is added on top of the event table.

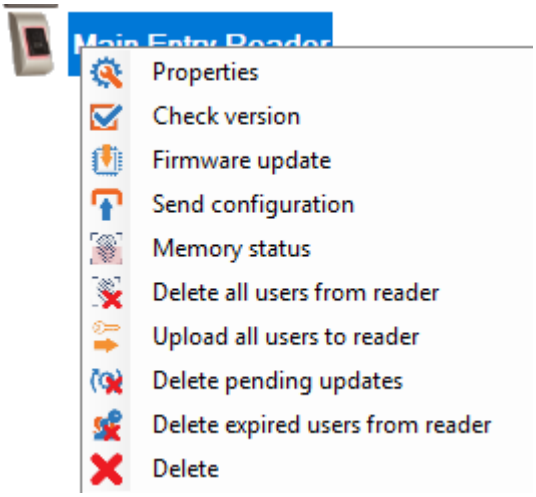
Time	Portal	Reader	Event
4/1/2018 6:48:21 AM	192.168.1.100	Main Entry Reader	No response

Note: The reader can be added automatically with the Search function.



Edit reader

1. Right-click on the reader and select Properties.

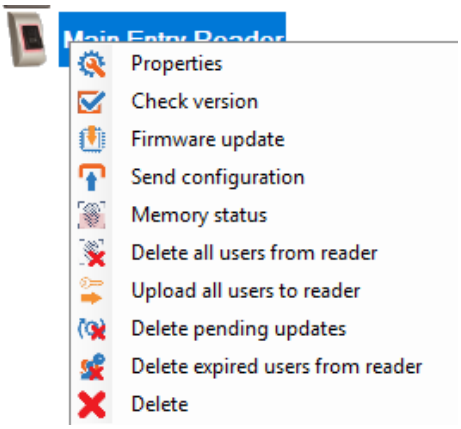


2. Edit reader properties and click Save button.
3. Check at event table if the configuration was successful.

Time	Portal	Reader	Event
4/1/2018 6:48:42 AM	192.168.1.100	17-01-18-001	Configure parameters Success
4/1/2018 6:48:42 AM	192.168.1.100	17-01-18-001	Configure parameters Success

Delete reader

Right-click on the reader and select Delete reader.

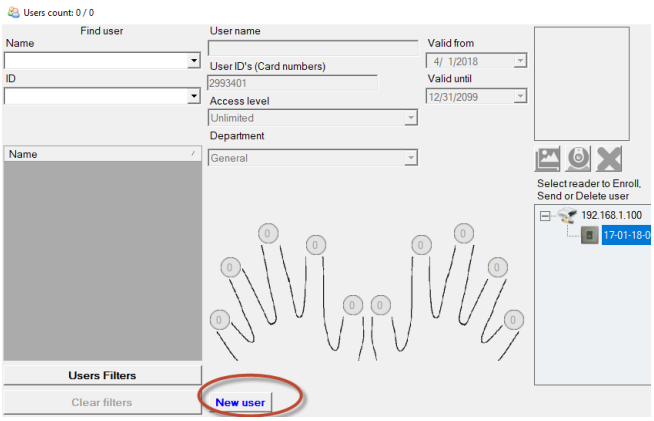


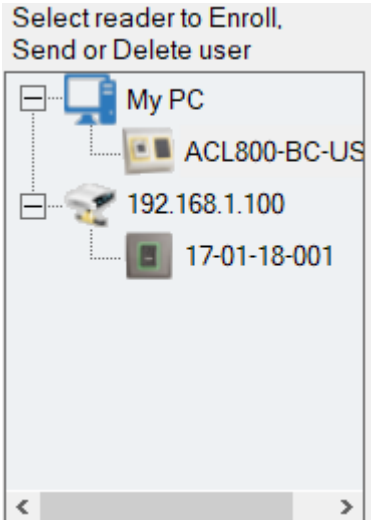
ADD user

1. Open the Users Window and create a new user.

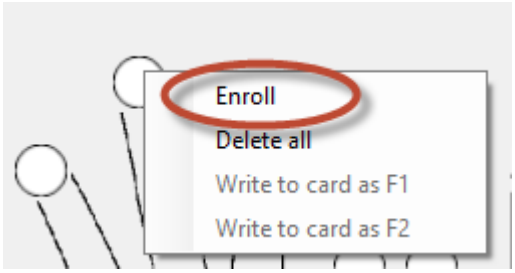
   Click on New User, put a name and ID (card number).

2. Select the reader (with left click) from which the enrollment will be done.

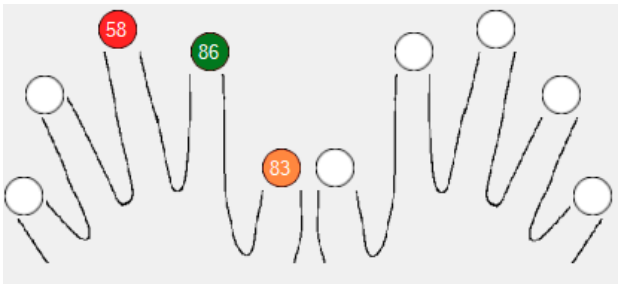




3. Right click on the fingertip and select enroll.



4. Place the finger on the Reader and fingertip will turn red, orange, or green, with percentage of successful enrollment shown next to the fingertip.



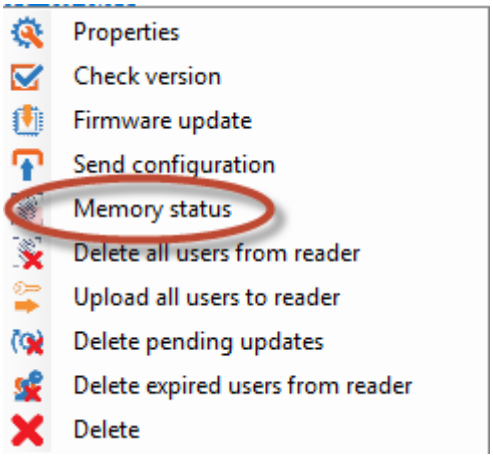
   In these 25 seconds the reader will continuously blink.

5. Repeat point 3 and 4 for each finger that should be enrolled.

6. Click on Save New and the fingerprint will be sent automatically to all biometric readers where that user has access — according to the Access Level assign to that user.

Example: If the user has Unlimited Access level, then the fingerprints will be sent to all readers, if the user has Access level only for Reader 1 and Reader 3 then the fingerprints will be sent only to those two readers.

Note: To check if all the fingerprints are sent to the reader, right click on the reader, and select Memory Status.

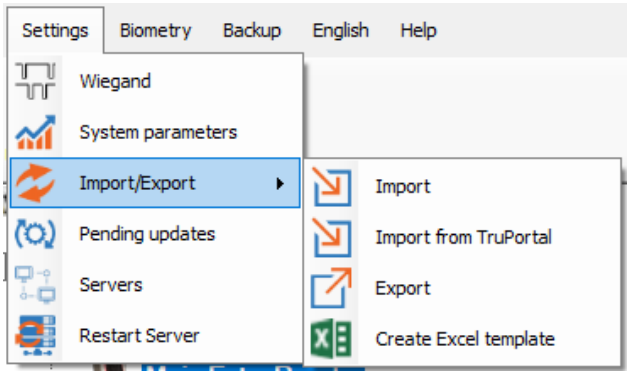


In the event window, a line will appear indicating the number of fingerprints stored in the reader.

Time	Portal	Reader	Event
4/1/2018 8:13:13 AM	192.168.1.100	17-01-18-001	Enrolled fingers : 4

Notes

- If more fingerprints are added for one user, all fingerprints will send the same Wiegand code to the controller, the one written in the field User ID (card Number).
- Users can be imported from Excel file or from TruPortal.

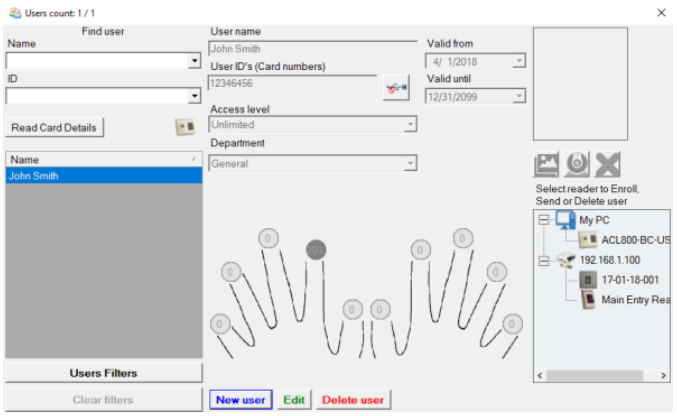


Deleting Fingerprints

In General, the fingerprints are stored in the biometric reader and in the ACL800 BioManager software.

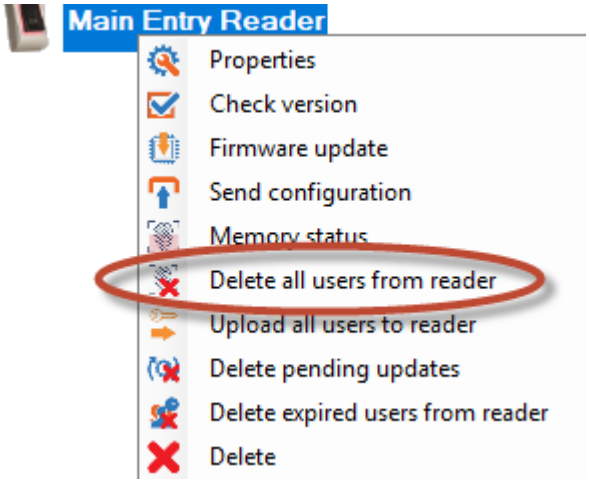
Deleting one user from the biometric reader

1. Select the user.
2. Click on Delete User. The user, together with its fingerprints will be deleted from both the software and the fingerprint readers.



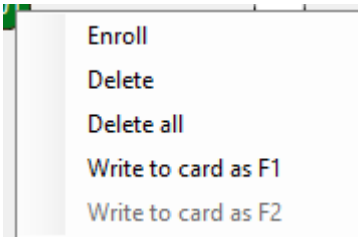
Deleting all users from the biometric reader

Right click on the reader and select Delete all users from reader.



Delete one or more fingerprints

1. Select the User and click Edit.
2. Go to the fingertip that needs to be deleted, right click and select Delete for one finger, or Delete All for all fingers of the User.

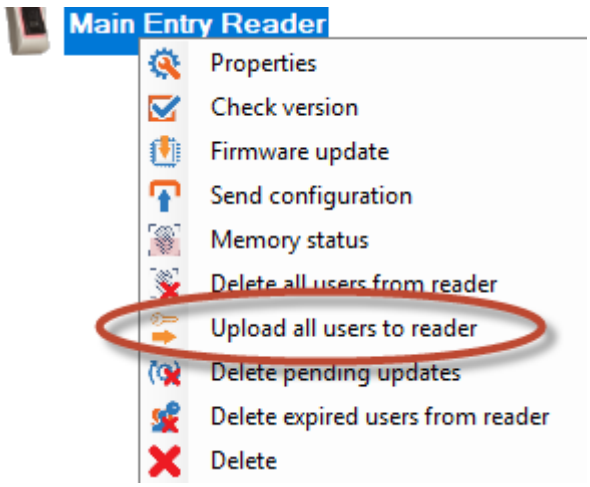


3. Click Save.

With this procedure, the fingerprints are deleted from the software and from the reader.

Uploading the fingerprints to the biometric readers

1. Right click on the biometric reader.
2. Select Upload all users to reader.



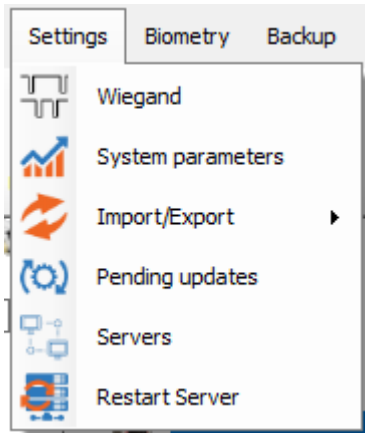
While receiving the fingerprints, the reader will blink.

Note: Use this feature when you change or add a reader, if pending tasks are deleted in the software or if there are doubts that fingerprints in the reader memory are not synchronized with the software database.

In normal usage, the fingerprints are sent automatically, and this feature is not used.

Wiegand output selection

1. Select the Wiegand output format of the reader in Settings/Wiegand.



2. Select among the predefined Wiegand outputs or create custom one.
3. Send the configuration to the biometric reader

Safety precautions

Do not install the device in a place subject to direct sun light without protective cover.

Do not install the device and cabling close to a source of strong electro-magnetic fields like radio-transmitting antenna.

Do not place the device near or above heating equipment.

If cleaning, do not spray or splash water or other cleaning liquids but wipe it out with smooth cloth or towel.

Do not let children touch the device without supervision.

Note that if the sensor is cleaned by detergent, benzene or thinner, the surface will be damaged, and the fingerprint can't be entered.

In the event window a line will appear indicating the number of fingerprints stored in the reader.

Note: If more fingerprints are added for one user, all fingerprints will send the same Wiegand code to the controller, the one written in the field User ID (Card numbers).

Specifications

Fingerprint capacity	Up to 9500 fingerprints
Technology	Biometry and Mifare (13,56 MHz, Mifare Classic 1K & 4K, Ultralight, Desfire, selectable by DIP switch)
Power supply	9 to 14 VDC
Current consumption	160 mA
Authentication	Finger, card, finger or/and card, finger on card
Fingerprints per user	1 to 10 fingerprints
Proximity reading type	Mifare Classic 4UID 1K & 4K (7UID converted to 4UID) Mifare Ultralight 4UID 1K & 4K (7UID converted to 4UID) DesFire EV1 2K, 4K, and 8K
Reading distance	1.5 to 5.5 cm
Interface	Wiegand 24 to 80 bits; default: Wiegand 26 bit
Protocol programming	By ACL800 BioManager software
Cable distance	50 m
Fingerprint sensor type	Capacitive
1:1000 identification time	970 ms, including feature extraction time
Fingerprint enrolment	On the reader or from the USB desktop reader
Panel connection	Cable, 1 m
Green and Red LED	Externally controlled
Orange LED	Idle mode
Buzzer ON/OFF	Yes
Backlight ON/OFF	Yes, by software setting
Tamper	Yes
Operating temperature	−20 to +50°C noncondensing
Dimensions	100 x 94 x 30 mm
Use	Indoors
IP rating	65
Housing	ABS

Regulatory information

Manufacturer	KGS Fire & Security B.V. Kelvinstraat 7, 6003 DH Weert, Netherlands
Product warnings and disclaimers	THESE PRODUCTS ARE INTENDED FOR SALE TO AND INSTALLATION BY QUALIFIED PROFESSIONALS. KGS 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.
	CE
European Union directives	KGS Fire & Security hereby declares that this device is in compliance with the applicable requirements and provisions of all applicable rules and regulations, including but not limited to the Directive 2014/53/EU. For more information see: firesecurityproducts.com
REACH	Product may contain substances that are also Candidate List substances in a concentration above 0.1% w/w, per the most recently published Candidate List found at ECHA Web site. Safe use information can be found at https://firesecurityproducts.com/en/content/intrusion-intro

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Product documentation 	Please consult the following web link to retrieve the electronic version of the product documentation. This link will guide you to the EMEA regional contact page. On this page you can request your login to the secured web portal where all manuals are stored. https://firesecurityproducts.com/en/contact

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