

Biometric switch Harmony

Catalogue

February 2009





Mastering your access control

Increase access protection to equipment and for operators whilst, at the same time, rationalising costs. With the Harmony biometric switch, Schneider Electric now offers an innovative solution to meet this indispensable security need for controlling access to machines and systems.

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Make the most of your energy



Provide your operators and equipment with the protection they deserve

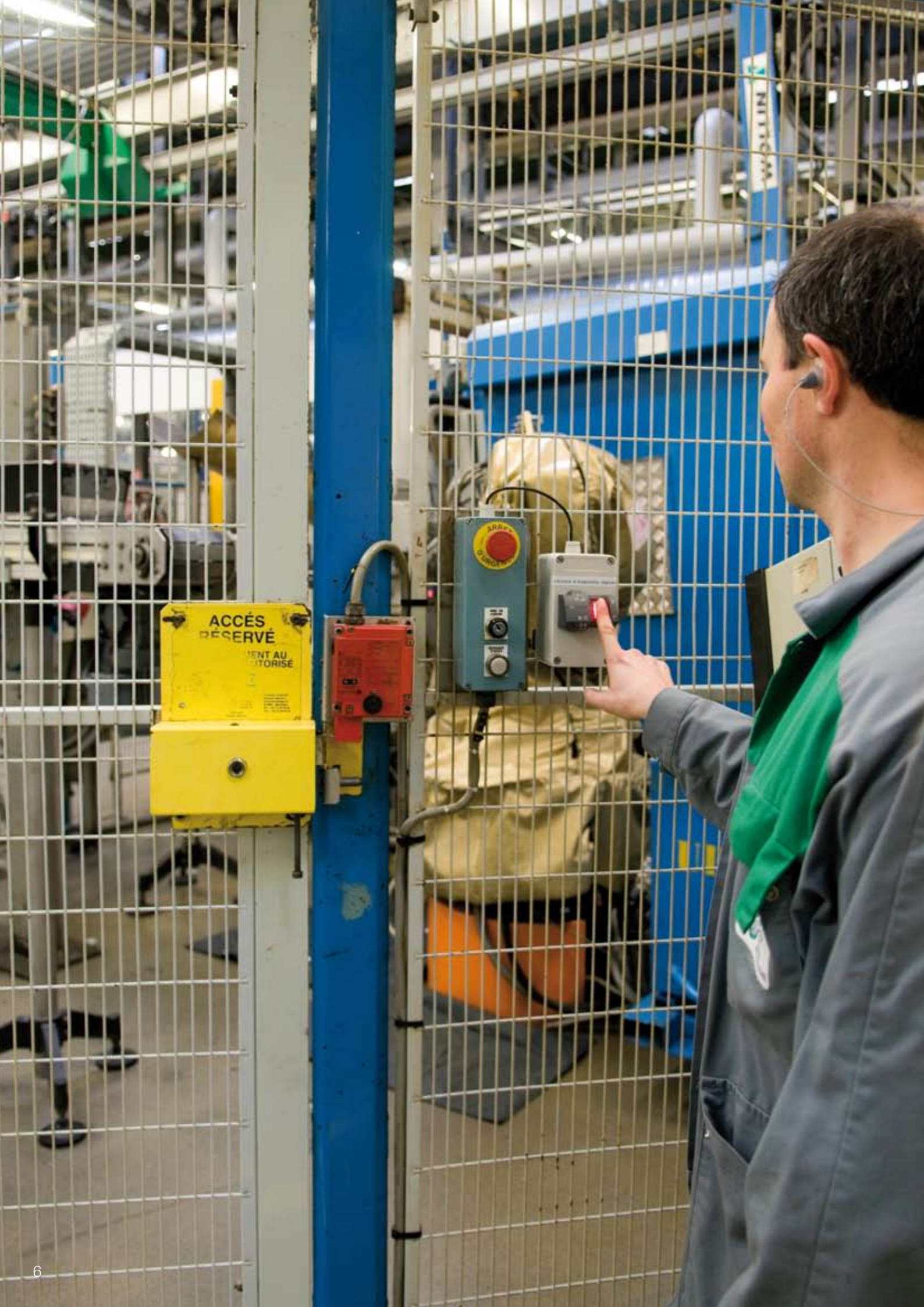


- Based on fingerprint recognition, the **Harmony biometric switch** is a competitive alternative to the weakness of the other access control systems.

Simple, reliable and efficient
it enables restricting access to sensitive zones and machine functions (starting, adjustment, maintenance...) to only authorised personnel.

- The advances and level of performance achieved in biometric technology has now enabled us to offer a solution featuring excellent robustness, which is essential in an industrial environment.

- As a worldwide leader in operator dialogue components, our role is to offer you the most reliable and most affordable access control solution, without forgetting the importance of user-friendliness and simplicity of installation.



Opt for maximum infallibility...

Use the most trustworthy technology to overcome the weakness of existing systems, which do not guarantee 100% reliable access control. This is the aim of the Harmony biometric switch.

Specialised and reliable technology

- Efficient protection against theft, copying, loss, lending and forgetfulness (as opposed to keys, badges, codes and passwords...).
- Possibility of cheating greatly reduced due to uniqueness of fingerprint.
- Very low error and rejection rate for a high level of reliability.
- Authentication perfected: registration managed by the administrator and usage by the operator.



Example of applications: Resetting following activation of an emergency stop.

Robustness suited to industry

- Excellent resistance to mechanical shock and vibration.
- EMC protection.
- IP65 degree of protection.
- Protective cover (option).

Performance

- Memory capacity: 200 fingerprints.
- The fingerprints of several fingers of the operator can be recorded for more flexibility and precision.
- High intensity LEDs.



-1 second

to authenticate an operator and authorise or refuse their access

<0.1%

False Acceptance Rate (FAR)



... whilst gaining in simplicity

+ Harmony innovation: an extremely compact and stand-alone product, as simple to use as any other Harmony control component, not requiring the use of an interface.

User-friendly

- No password to be remembered, no losing or forgetting of key or badge - your finger becomes your key.
- Acceptance rate higher than 98% on first reading of fingerprint.
- The fingerprint processing assures anonymity of persons since the purpose of the product is authorisation and not identification.
- Fully stand-alone: programming and operational status achieved without use of supplementary interface.

Simplicity of use

- Simple and intuitive user interface: parametering and registration/recording directly on front face of the product using LED dialogue.
- Ease of registration: teaching in the blink of an eye.

Compactness and simplicity of installation

- Minimum size, enabling mounting in a standard Ø22 mm cut-out.
- Quick connection using bared wires or M12 connector.
- Integration as quick as any other Harmony control component, either on new or existing equipment.

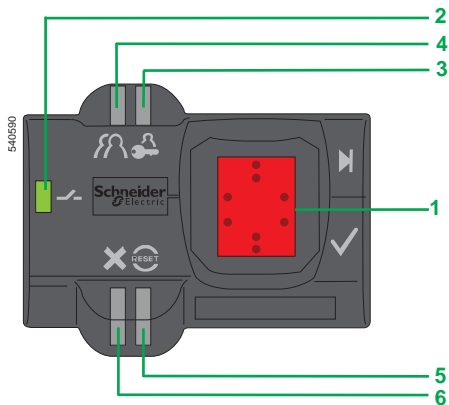
★ Rationalise your costs

- Reduce maintenance and machine downtime resulting from unauthorised operation (inappropriate adjustment of machine settings, vandalism...)
- Eliminate costs associated with the administration or loss of keys, cards, badges...

Intuitive coloured LED dialogue system (patent applied for)



Fixing by single nut, no tool required



Presentation

The fingerprint reader biometric switch is designed for use in industry to protect access to systems or machines. No type of interface is required for programming and operating the switch: it is an independent unit.

2 types of product are available:

- bistable biometric switches type XB5 S1B, with 2 fixed states,
- monostable biometric switches type XB5 S2B, with pulse control.

The biometric switch is aimed at 2 types of user:

- the administrator, who manages the registration and deletion of fingerprints,
- the operator who, once registered, uses the product as a control unit.

The product is of monolithic design (a single plastic housing) and is fixed by means of a nut (hand-tightened without need for tools) in a standard, 22 mm diameter hole. It operates on a 24 V d.c. supply.

Connection to the power supply and to the control output (relay or plc) is by means of a 2 metre cable or by M12 connector.

It can be installed on a flat, horizontal or vertical surface.

A protective cover is available as an accessory to protect the active face of the sensing screen. This cover is fixed by means of a self-adhesive hinge.

Description

The product consists of a dark grey housing, with the following on its front face:

- a sensing screen **1** that allows the registration of fingerprints and subsequent recognition of fingerprints registered,
- a green LED output state indicator **2**, that illuminates when the output is activated (N/O solid state contact),
- an orange LED **3**, indicating an administrator's "Registration" mode,
- an orange LED **4**, indicating an operator's "Registration" mode,
- a red «RESET» LED **5**, which indicates, in "Delete" mode, that the administrator is deleting all or part of the memory,
- a red LED **6** which flashes in the presence of an "unrecognised" fingerprint or in the case of incorrect operation.

References

Complete units

Description	Output	Connection	Reference	Weight kg
Bistable biometric switch, 24 V d.c.	PNP	By 2 m cable	XB5 S1B2L2	0.170
		By M12 connector	XB5 S1B2M12	0.183
	NPN	By 2 m cable	XB5 S1B3L2 ▲	0.170
		By M12 connector	XB5 S1B3M12 ▲	0.183
Monostable biometric switch, 24 V d.c.	PNP	By 2 m cable	XB5 S2B2L2	0.170
		By M12 connector	XB5 S2B2M12	0.183
	NPN	By 2 m cable	XB5 S2B3L2 ▲	0.170
		By M12 connector	XB5 S2B3M12 ▲	0.183

Accessories

Description	Function	Sold in lots of	Reference	Weight kg
Protective cover, translucent and self-adhesive	Protection of the sensing screen	5	ZB5 SZ70	0.020
Fixing nut Ø 22 mm	Replacement part	5	ZB5 SZ71	0.030
Legend plate, 28 x 7 mm, self-adhesive, blank, with black background, for engraving		10	ZBY 0101T	0.005



XB5 S1B2L2

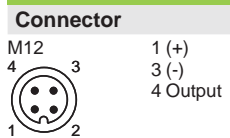


ZB5 SZ70

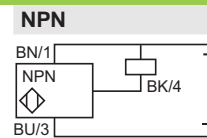
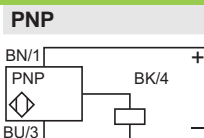
▲ Available: 3rd quarter 2009.

Characteristics			XB5 S1B●●●● and XB5 S2B●●●●
Biometric switch type		XB5 S1B●●●● and XB5 S2B●●●●	
Product certifications		UL, CSA, CE IEC 61000-6-2 / IEC 61000-6-4	
Degree of protection	Conforming to EN/IEC 60529	IP 65 NEMA 12	
Ambient air temperature around the device	Storage	°C	- 25...+ 70
	Operation	°C	- 5...+ 50
Vibration resistance	Conforming to IEC 60068-2-6	1 gn - 9 to 500 Hz Amplitude 3 mm - 5 to 9 Hz	
Electric shock resistance	Conforming to IEC60068-2-27	50 gn, duration 11 ms	
Connection method	Cable	Length: 2 m, 3-wire, pre-wired	
	Connector	M12	
Materials	Housing	Polyamide PA66	
	Cable	PvR 3 x 0.34 mm ²	
Memory capacity	200 records (100 users, operators or administrators, each registering 2 fingerprints)		
Output state indicator	Green LED		
Short-circuit protection	By gG fuse - 250 mA		
Rated supply voltage	V	--- 24 with protection against reverse polarity	
Voltage limits (including ripple)	V	--- 20...30	
Switching capacity	mA	≤ 200 with protection against overloads and short-circuits	
Residual voltage, closed state	V	≤ 1	
No-load current consumption	mA	≤ 50	
Delays	First-up	s	< 2
	Response time	s	< 1
	Recovery time	s	< 1

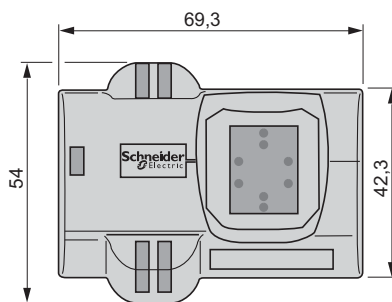
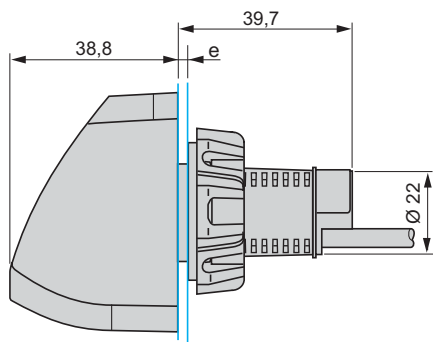
Connections



Cable
BU: Blue
BN: Brown
BK: Black



Dimensions



e = 1 to 6 mm

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