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Harmony® XB5S Biometric switch

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### Control and signaling units

#### Description of range

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<td>Pilot lights</td>
<td>Relay antenna</td>
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#### Type references

- **XVLA**
- **XB6, XB6E**
- **XB4**
- **XB5**
- **XB5S**

#### Features

- Monolithic, compact, low-consumption
- Complete units or sub-assemblies (body + head)
- Monolithic

- Bazel
  - Double insulated
  - Double insulated (3)
  - Metal, chromium plated or black
  - Double insulated, dark grey

- Shape of head
  - Circular
  - Circular, square or rectangular
  - Circular
  - Circular or square

- Drilling or cut-out for fixing
  - Ø 8 mm and Ø 12 mm/0.315 in. and 0.472 in.
  - Ø 16 mm/0.630 in.
  - Ø 22 mm/0.866 in.

- Degree of protection
  - Conforming to IEC 60529
    - IP 40
    - IP 65
    - IP 65 with seal
  - IP 66, IP 67, IP 69, and IP 69K
  - IP 65 (control button)

  - Conforming to UL 508 and CSA C22.2 N° 14
    - Enclosure type 4, 4X and 13
    - Enclosure type 12

- Cabling
  - Tags for 2...8 x 0.5 mm/0.110 in. or 0.020 in. connectors or threaded connector
  - Faston connectors
  - Solder pins for printed circuit boards (3)
  - Fast connector
  - Socket (4)
  - Screw clamp terminal connections
  - Spring clamp terminal connections
  - Faston connectors
  - Connector with adapter for printed circuit board
  - Cable or connectors

- Mounting
  - Panel thickness
    - 1...8 mm/0.039...0.319 in.
    - 1...8 mm/0.039...0.236 in.

- TYPE references

  - XVLA
  - XB6, XB6E
  - XB4
  - XB5
  - XB5S

---

(1) Compatible with Magelis, iPC, STU, GT, SXO, GT (except GT7000 series), GP, GH, and GTO models.

(2) Wireless and batteryless pushbutton and receiver ready-paired at the factory.
# Control and signaling units Ø 22

**Harmony XB5S, plastic**

**Biometric switches for fingerprint recognition**

## Applications
- Simple access control for indoor industrial restricted areas
- Secure the control of automated lines and test machines
- Protect the start function of special vehicles

## Type of products
- Stand-alone biometric switch
- Stand-alone biometric switch with RGPD compliance

## Conformity to Standards
- UL, CSA, GOST, CE
- Compliance with European RGPD regulation
  - It is suitable for EU area
  - UL, CSA, GOST, CE

## Functions
- 1 level of authorization
- Authorizes user through fingerprint recognition
- 1 level of authorization
- Authorizes user through fingerprint recognition
- 1 level of authorization
- Authorizes user through fingerprint recognition

## Static Output
- Bistable output, machine operation at 2 fixed states
- Monostable output, machine operation at pulse control
- Bistable output, machine operation at 2 fixed states
- Monostable output, machine operation at pulse control
- Bistable output, machine operation at 2 fixed states
- Monostable output, machine operation at pulse control

## Power
- 24 V
- 24 V

## Connection
- Pre-wired 3 wire cable (2 m/6.56 ft long) or
- M12 connector
- Pre-wired 3 wire cable (2 m/6.56 ft long) or
- M12 connector
- Pre-wired 3 wire cable (2 m/6.56 ft long) or
- M12 connector

## Memory capacity
- 200 records of fingerprints
- 100 authorized users with each registering 2 fingerprints or 200 authorized users with each registering 1 fingerprint
- 400 records of fingerprints
- 200 authorized users with each registering 1 or 2 fingerprints

## Communication
- No communication
- No communication
- Connects with a PC via the USB port for database management when required

## Database management software tools
- None
- With Harmony XB5S Soft (2) on a PC
- None

## User database update
- Stand-alone as updates are done directly on the biometric switch
- Should be connected to a PC
- Download the new user database to the biometric switch from Harmony XB5S Soft application (3)

## Associated accessories
- Translucent protective cover
- Fixing nut
- Legend plate
- Translucent protective cover
- Fixing nut
- Legend plate
- Female/Female USB extension cable with a female USB port of Ø 22 mm/0.866 in. on one end for panel mount

## Type references
- XB5S1, XB5S2
- XB5S6, XB5S7
- XB5S8, XB5S9

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(1) Compatible with Magelis iPC, STU, OT, GXO, GT (except GT1000 series), GK, GH and GTO models.
(2) Compatible with all versions of Harmony XB5S Soft application. The XB5S Soft is a freeware application and can be downloaded from our website www.schneider-electric.com.
(3) The user database cannot be uploaded from biometric switch to the PC.
The biometric switches of the Harmony® XB5S range are designed to control and secure access to systems and machines by checking users’ authorization through fingerprint recognition.

The following types of biometric switches are available:
- Stand-alone biometric switches
  - type XB5S1, with 2 fixed states (bistable) and type XB5S6 with 2 fixed states (bistable) plus RGPD compliance
  - type XB5S2, with pulse control (monostable) and type XB5S7, with pulse control (monostable) plus RGPD compliance
- Stand-alone USB biometric switches
  - type XB5S8, with 2 fixed states (bistable) plus RGPD compliance
  - type XB5S9, with pulse control (monostable) plus RGPD compliance

The biometric switches are aimed at 2 categories:
- Administrators, who decide and manage the list of users
  - the only people who can record the fingerprints in the device memory
- Users, who are authorized to use the biometric switch as a control unit
  - at least 1 of their fingerprints should be recorded in the device memory
  - access is granted when the finger is placed on the sensing screen

The USB switches communicate with the PC via the USB port to manage the user database. This database can be visualized, saved, and duplicated by PC with XB5S Soft application (1) (2). The fingerprint records can also be erased in the absence of users.

The switch operates on 24 V and provides protection against:
- Reverse polarity
- Overload and short-circuit (switching capacity ≤ 200 mA)

Mounting

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 22.5 mm/0.886 in. diameter hole. 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 using a self-adhesive hinge.

A Female/Female USB extension cable makes it possible for the USB biometric switch to have the female USB port within a 22 mm/0.866 in. diameter hole on the control panel front.

Environment

- Conformity to standards: UL, CSA, GOST, and Č.
  - XB5S6 and XB5S7, RGPD compliance (Strong encryption, thanks to privacy by design)
- Product certifications:
  - CSA C22-2 n° 14
  - UL 508
  - IEC 61000-6-2 and IEC 61000-6-4
- Degree of protection conforming to standard IEC 60529:
  - IP 65
  - NEMA 12
- Ambient air temperature:
  - For storage: -25 to +70 °C/-13 to +158 °F
  - For operation: -5 to +50 °C/23 to +122 °F

(1) Compatible with all versions of Harmony XB5S Soft application. The XB5S Soft is a freeware application and can be downloaded from our website www.schneider-electric.com.
(2) The user database cannot be uploaded from USB biometric switch to the PC.
**Description**

- The stand-alone biometric switch (XB5S1/XB5S2) consists of a dark gray housing, with the following on its front face:
  - A sensing screen that allows the registration and subsequent recognition of the registered fingerprints,
  - A green LED output state indicator that illuminates when the output is activated (solid-state NO contact),
  - An orange LED, indicating an administrator’s “Registration” mode,
  - An orange LED, indicating an operator’s “Registration” mode,
  - A red “RESET” LED which indicates, in “Delete” mode, that the administrator is deleting all or part of the memory,
  - A red LED which flashes when the reader is presented with an “unrecognized” fingerprint or in the event of incorrect operation.
- RGPD logo help customer to see easily if the product is RGPD compliant

**References**

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<th>Complete units</th>
<th>Connection</th>
<th>Reference</th>
<th>Weight kg/lb</th>
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<tr>
<td>Bistable biometric switch 24 V PNP output</td>
<td>By 2 m/6.56 ft cable</td>
<td>XB5S1B2L2</td>
<td>0.170/0.375</td>
</tr>
<tr>
<td></td>
<td>By M12 connector</td>
<td>XB5S1B2M12</td>
<td>0.183/0.403</td>
</tr>
<tr>
<td>Monostable biometric switch 24 V PNP output</td>
<td>By 2 m/6.56 ft cable</td>
<td>XB5S2B2L2</td>
<td>0.170/0.375</td>
</tr>
<tr>
<td></td>
<td>By M12 connector</td>
<td>XB5S2B2M12</td>
<td>0.183/0.403</td>
</tr>
<tr>
<td>Bistable biometric switch RGPD 24 V PNP output</td>
<td>By 2 m/6.56 ft cable</td>
<td>XB5S6B2L2</td>
<td>0.170/0.375</td>
</tr>
<tr>
<td></td>
<td>By M12 connector</td>
<td>XB5S6B2M12</td>
<td>0.183/0.403</td>
</tr>
<tr>
<td>Monostable biometric switch RGPD 24 V PNP output</td>
<td>By 2 m/6.56 ft cable</td>
<td>XB5S7B2L2</td>
<td>0.170/0.375</td>
</tr>
<tr>
<td></td>
<td>By M12 connector</td>
<td>XB5S7B2M12</td>
<td>0.183/0.403</td>
</tr>
<tr>
<td>Bistable USB biometric switch RGPD 24 V PNP output</td>
<td>By 2 m/6.56 ft cable</td>
<td>XB5S8B2L2</td>
<td>0.202/0.445</td>
</tr>
<tr>
<td></td>
<td>By M12 connector</td>
<td>XB5S8B2M12</td>
<td>0.215/0.474</td>
</tr>
<tr>
<td>Monostable USB biometric switch RGPD 24 V PNP output</td>
<td>By 2 m/6.56 ft cable</td>
<td>XB5S9B2L2</td>
<td>0.202/0.445</td>
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<td></td>
<td>By M12 connector</td>
<td>XB5S9B2M12</td>
<td>0.215/0.474</td>
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</tbody>
</table>

**Accessories**

<table>
<thead>
<tr>
<th>Description</th>
<th>Function</th>
<th>Reference</th>
<th>Weight kg/lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female/Female USB extension cable with Ø 22 mm/0.866 in. female USB port on one end</td>
<td>For connecting biometric switch to the PC via the Ø 22 mm/0.866 in. hole on the control panel front</td>
<td>XB5SSFUSBEXT</td>
<td>0.108/0.238</td>
</tr>
<tr>
<td>Protective cover, translucent and self-adhesive</td>
<td>Protection of sensing screen</td>
<td>ZB5SZ70</td>
<td>0.020/0.044</td>
</tr>
<tr>
<td>Fixing nut Ø 22 mm/0.866 in.</td>
<td>Spare part</td>
<td>ZB5SZ71</td>
<td>0.030/0.066</td>
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<tr>
<td>Legend plate, 27 x 8 mm/ 1.06 x 0.32 in., self-adhesive, blank, black background, for engraving</td>
<td></td>
<td>ZBY0101T</td>
<td>0.005/0.011</td>
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<tr>
<td>XB5S1B2L2</td>
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