

Technical Data sheet



XMP-K12

2 DOOR CONTROLLER

The high-end real-time door control units are designed for access control, time recognition, time & attendance and building automation systems. These controllers are working as communication interface of the security system XMP-BABYLON and can be used as a stand-alone system with an integrated database, if required.

Besides a number of different RFID technologies the controller communicates with barcode readers, electronic cylinders and/or door handles and special biometric systems like fingerprint and palm vein.

Regarding of data protection all telegrams is fully encrypted and will send in real-time to the server. If the server-controller communication is missing the controller uses his backup data, controls all actions and stores each event into his internal log-file for later synchronization between server and controller. All door control units are able to communicate over peer-to-peer to guarantee global security features.

In addition special features are available like connection of IP cameras, elevator control or LPR interfaces which are all controlled by the door control unit.

Because of his open attribute technology special security demands like man-traps can be integrated really quick and easy.

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1 Technical Data

1.1 General

Real-time LINUX operating system	
10/100 MBit Ethernet-Interface	
CPU with 300 MHz, 32 Bit	
64 MB RAM, 2 GB MicroSD-Memory card	
Power supply electronic board:	10 - 30 VDC
Power supply	110 - 240 V AC 50Hz
Output voltage power supply 12V	13,8 V
Output voltage power supply 24V	27,6 V
Power supply	55 W
Maximum power consumption 230V	75 W
Maximum load for periphery (12V & 24V power supply)	45 W
Maximum power consumption for periphery (12V power supply)	3,3 A
Maximum power consumption for periphery (24V power supply)	1,6 A
Maximum charging current 12V battery	0,23 A
Maximum charging current 24V battery	0,16 A
Power Over Ethernet (PoE) (for detailed information's please read the installation manual)	
3V Lithium battery (supply for real-time clock during power outage for max. 6 months)	
Blowfish encryption (XMP protocol, SecuCrypt®)	
AES256 encryption (SecuCrypt®)	
AES-GCM encryption (SecuCrypt®64)	
Offline memory up to 15,000 badges, 25,000 access profiles and 50,000 bookings	Standard
Extension Offline memory to 50,000 badges, 50,000 access profiles, 50,000 bookings with software features	Optional (Software license)

Extension Offline memory to 250,000 badges, 50,000 access profiles, 50,000 bookings with software features	Optional (Software license)
Analogue or digital inputs	8
Powered or potential free relay outputs	4
COM1 interface for card reader	RS485
COM2 interface for extension boards	RS485
USB 2.0 connector	2
Maximum connection of card reader or XMP-RIM	2
Maximum extension of inputs	256 (16 x XMP-KDM)
Maximum extension of outputs	192 (8 x XMP-KDA/KDR)
Connection of IP cameras	2
Integrated UPS 12V / 24V	See order numbers

1.2 Environmental conditions

Housing temperature (Operation)	0° - 50°C, 32° - 122°F
Storage	-10° - 70°C, 14° - 158°F
Relative humidity	5 - 90 %

1.3 Dimensions





B x H x T (wall mounting housing)	230 x 335 x 100 mm
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1.4 Protection class

Protection class (wall mounting housing)	IP54
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2 Controller order numbers

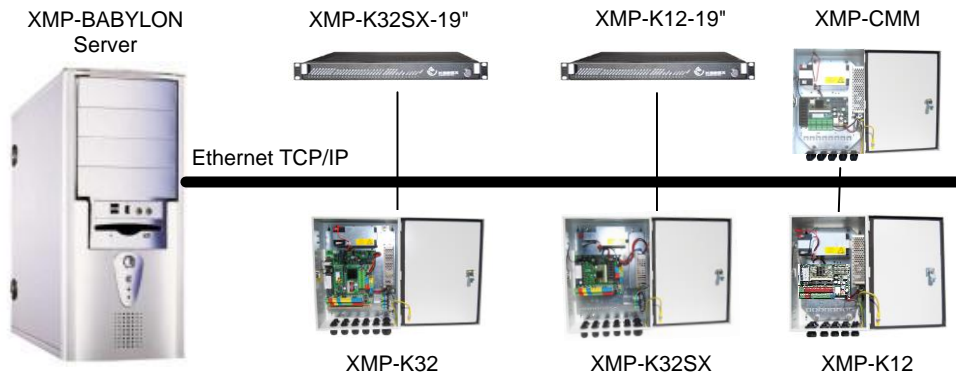
2.1 XMP-K12 – Controller - 2 Readers

Order-No.	Description	Dimensions (mm)
 <p>XMP-K12-000</p>	<p><i>Two door access controller with 12 V power supply for card readers / door strikers. Integrated uninterruptable power supply (7 Ah UPS).</i></p>	<p>335x230x100</p>
 <p>XMP-K12-002</p>	<p><i>Two door access controller with 24 V power supply for card readers / door strikers. Integrated uninterruptable power supply (2,9 Ah UPS)</i></p>	<p>335x230x100</p>
 <p>XMP-K12-014</p>	<p><i>XMP-K12 controller without power supply, battery. Powered by separate Power Over Ethernet-Hub (POE)</i></p>	<p>200x200x90</p>
 <p>XMP-K12-900</p>	<p><i>XMP-K12 board with POE (Power Over Ethernet), without housing, power supply, battery.</i></p>	<p>160x100x30</p>

2.2 XMP-K12-F* - Software licenses

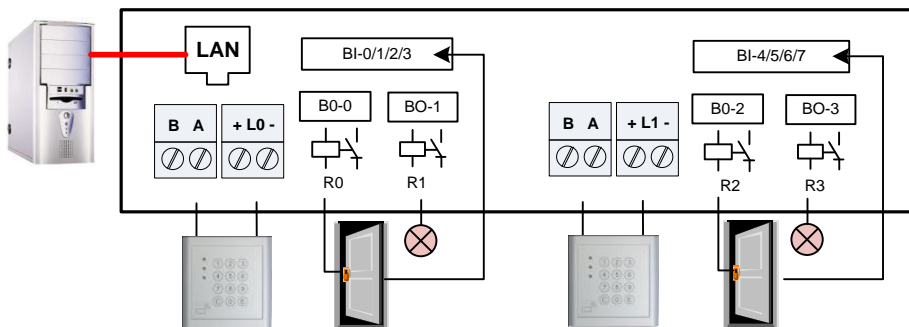
Customer protection	XMP-K12-CP
1 = Enable 50,000 badges	XMP-K12-F1
2 = 8 reader support	
3 = Alarms via Mail / SMS	XMP-K12-F3
4 = License plate detection (ANPR)	XMP-K12-F4
5 = Automatic picture comparison (FacePass-Interface)	XMP-K12-F5
6 = Interface to IP-Cameras (CCTV)	XMP-K12-F6
7 = Support for PalmPass Controllers	XMP-K12-F7
8 = Enable UFR and HADP Protocols	XMP-K12-F8
9 = Enable Aperio Protocol	
10 = Enable 250,000 badges → requires F1	XMP-K12-F10
11 = Write offline data from foreign systems to badge	XMP-K12-F11
12 = Enable Visonic interface	XMP-K12-F12
13 = Enable Key-Diversification	XMP-K12-F13
14 = Enable eLock Offline write function	XMP-K12-F14
15 = Support of Barcode Scanner (only TMC3500)	
16 = Enable Modbus/IP interface	XMP-K12-F16
17 = Reserved	
18 = Reserved	

3 Connection Overview



3.1 XMP-K12 – Sample of connection

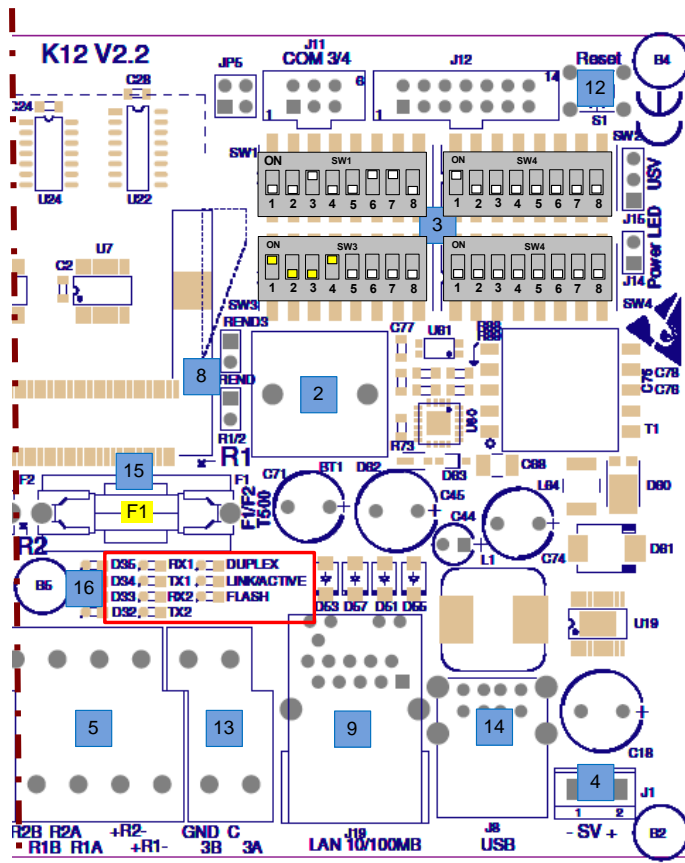
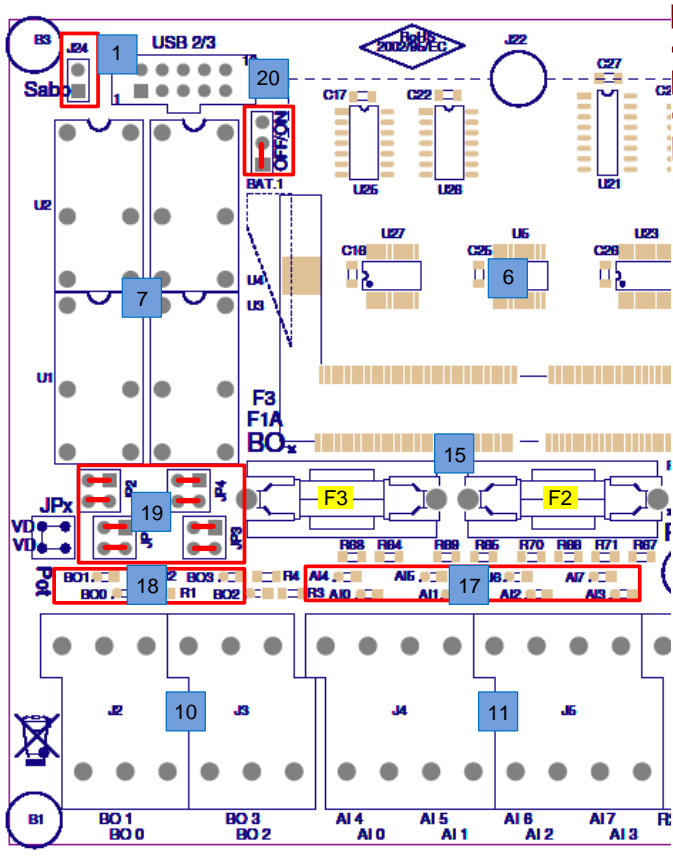
Per reader two relays and four inputs are available.



A mixed-mode of SecuCrypt® devices and third-party products is not recommended

4 Overview electronic board

4.1 XMP-K12 – Meaning of the elements



Security System XMP-BABYLON

1	Tamper
2	Lithium-Battery
3	Micro-DIP-switch SW1 to SW4
4	Power supply (12-24VDC)
5	Reader clamps R0 to R1
6	Connecting socket (Geode GX1 Module)
7	Relays to control the BOs
8	Jumper for reader and XMP-KDA/KDM bus line REND-resistors
9	RJ45 Host interface
10	Clamps for binary outputs BO
11	Clamps for BI/AI-Inputs
12	Reset-Button
13	Connection for XMP-KDA/KDM modules
14	USB 2.0 interface (reserved)
15	Fuses
16	Status LEDs
17	Input LEDs (BI/AI)
18	Output LEDs (BO)
19	Jumper JP1 to JP4 for relay voltage
20	Li-Battery jumper BAT.1 OFF/ON

4.2 Meaning of the fuses

By factory the following fuses are build-in (5x20mm).

Door controller	Fuse value
12V Relay outputs	F1A
24V Relay outputs	F1A
Interface card readers	T500mA



For detailed information's please see the installation manual of the door controller.

4.3 Meaning of the LEDs



For detailed information's about the LED functions please see the installation manual of the door controller.

4.4 Meaning of the Jumpers



For detailed information's about the Jumpers please see the installation manual of the door controller.

4.5 Meaning of the Dip-switch SW1 to SW4

SW1	1..8	Hardware address (2^0 to 2^7) Low significant byte
SW2	1..4	Hardware address (2^8 to 2^{11}) Most significant byte
	5	DHCP / DNS support
	6	Reserved
	7	Reset IP-settings
	8	Reserved
SW3	1..2	Baud rate for reader interface (COM1)
	3..4	Baud rate for XMP-KDM-016/XMP-KDA-024 (COM2)
	5	Reserved
	6	SecuCrypt64 (AES-GCM) on Ethernet interface
	7	Telegram encryption on Ethernet Interface
	8	Perform Cold-Start
SW4	1	FTP Server, Telnet Server (only for service)
	2	Start WEB configuration (for installation only)
	3-7	Reserved
	8	Protection against replay attacks (SW3-7 should be set)



For detailed information's please see the installation manual of the door controller.

5 Connection of card reader

The card reader will be connected on the RS485 interface (COM1) on the door controller.

Card reader	Door controller	Description
~	+ or -	Power supply
~	+ or -	Power supply
B	B	Reader interface RS485
A	A	Reader interface RS4785



For detailed information's about cable distance, cable types, configuration, please see the installation manual of the door controllers and/or card readers.

6 Connection of inputs

The terminator pairs designated with AI-0 to AI-7 correspond to the 8 configurable inputs of the XMP-K12. Normally the inputs are used as binary inputs with two states (0 or 1). For higher quality access control systems all inputs can be configured as line supervising inputs with four states (0, 1, 2 or 3).



The wiring of the inputs is allowed exclusively with potential free contacts. External voltages on the terminals of the XMP-K12 can lead to the destruction of the device.



For detailed information's about cable distance, cable types, configuration, please see the installation manual of the door controllers and/or card readers.

7 Connection of relay outputs

When connecting DC-door striker freewheeling diodes of type 1N4004 are required!

When connecting AC-door striker, varistors are needed. We recommend using the varistor type S10K. If not already available in the door opener, please install the freewheeling diode or varistor as close as possible to the door opener.

Maximum load of the relay outputs by 12V / 24V DC internal power supply

1 x relay output	12V DC 500 mA	1 x relay output	24V DC 500 mA
4 x relay output	12V DC 1 A	4 x relay output	24V DC 1 A
Fuse value: T1A		Fuse value: T1A	

Maximum load of dry contacts (external power supply)

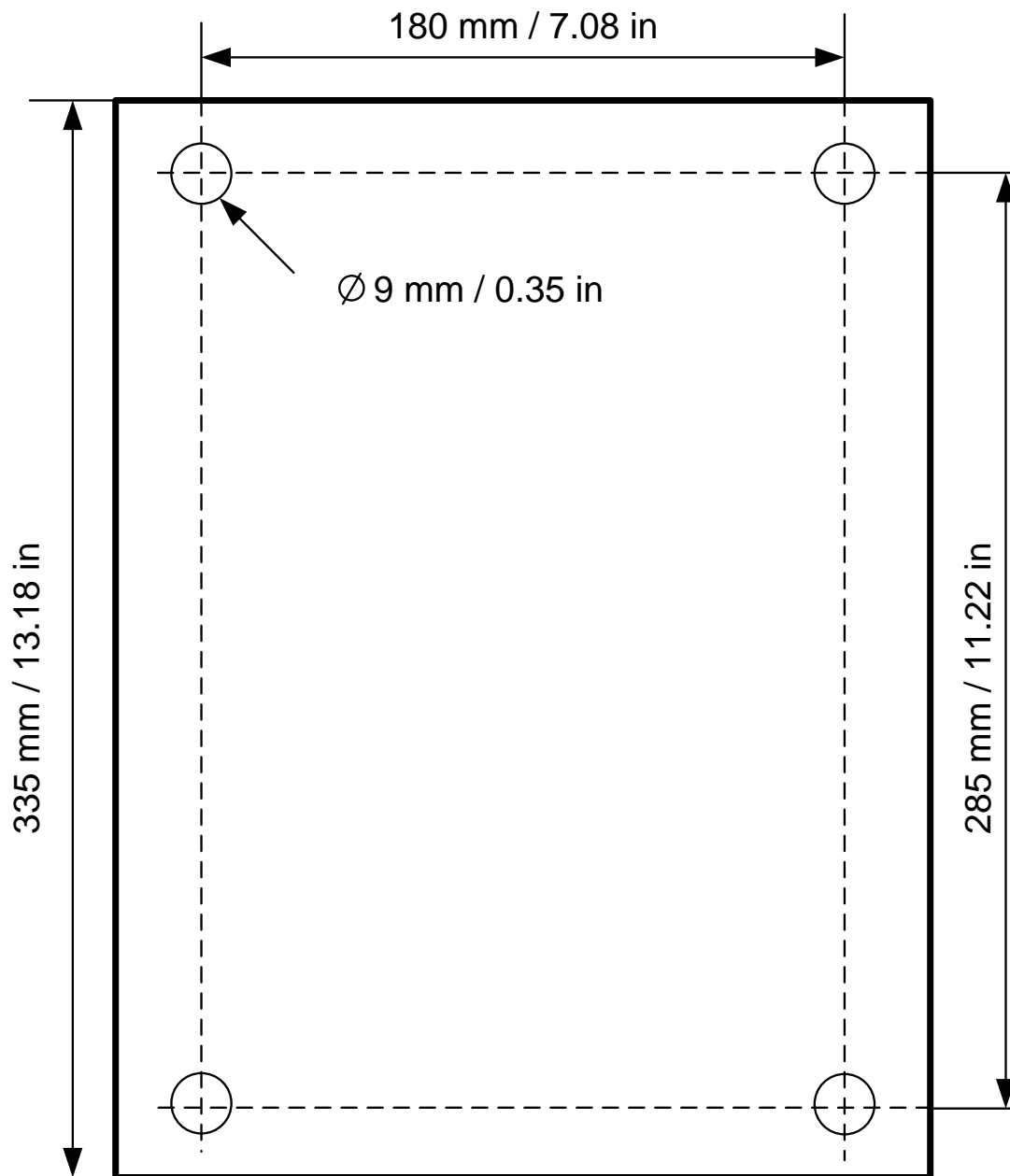
Each relay output	12V DC 1 A	Each relay output	24V AC 1 A
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Detailed information's about the Jumpers, cable types, configuration, please see the installation manual of the door controller.

8 Dimension housings

8.1 Controller XMP-K12 – wall mounting



9 Document History

Version	Date	Description
V3.0	04.01.2017	New design of controller data sheets.



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