



JUST E6020
(W05GAC-Ux0-Y-EN3)
Product Specifications
V2.0

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CONFIDENTIAL

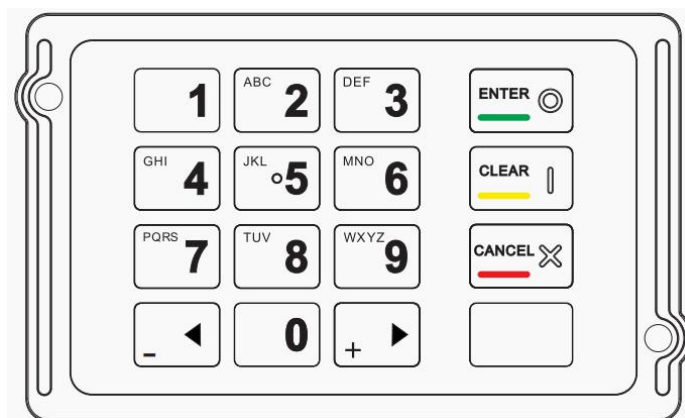
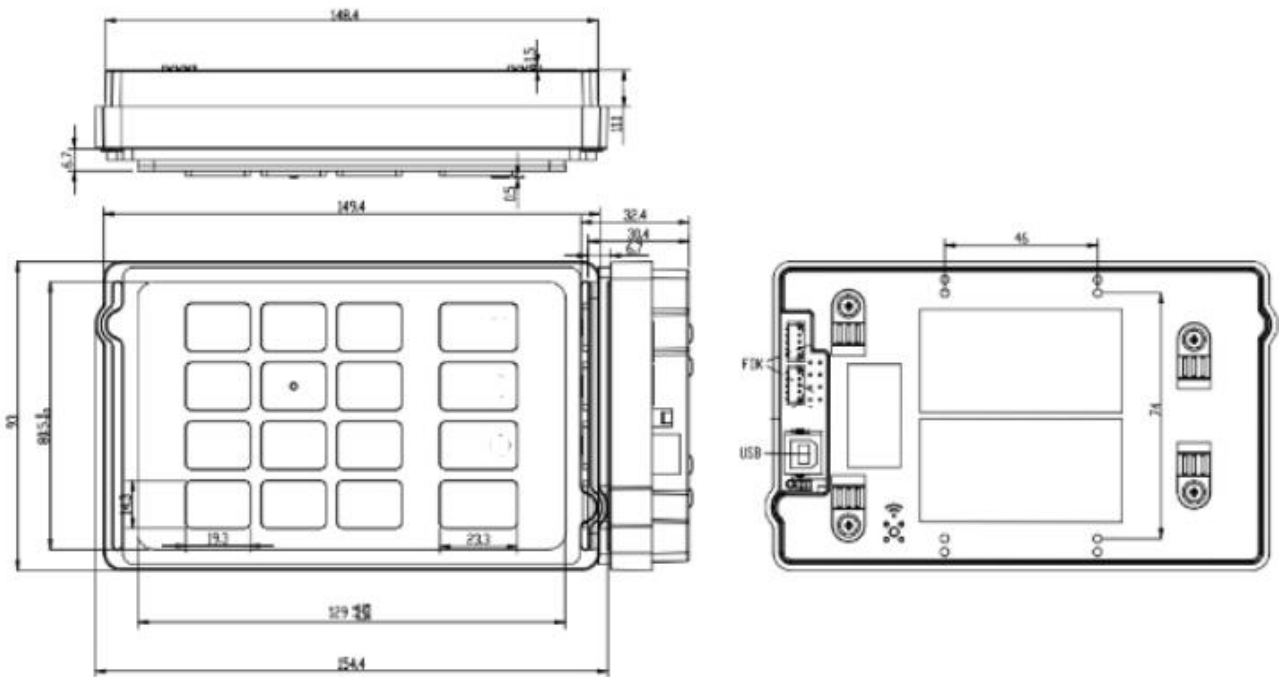
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1 Physical features

1.1. Size and weight

- Dimensions
 - L×W×H:154.4 mm×93mm×30.4mm
- Weight
 - 1kg
- JUST E6020 (W05GAC-Ux0) series drawing:



EN3

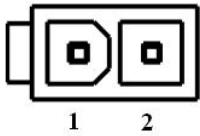
1.2. Appearance design

- Made of high quality stainless steel with laser
- GPO(Glass Pearl Blasted Surface) on key panel's surface
- Easy to use for handicapped
- 'X', 'O' and 'I' are color embossed signs for the visually-impaired (optional)
- Button '5' is designed with one stud dot for the visually-impaired

2 Electrical interface

2.1 POWER

JUST E6020 (W05GAC -Ux0-Y-EN3) series adopts 2-Pin interface for external power .The voltages of external power is DC+5.0V \pm 5%. Maximum current consumption requirement of the EPP is 500mA using this interface.



Connector Pin No.	Function
1	+5.0V
2	GND

2.2 USB

JUST E6020 (W05GAC -Ux0-Y-EN3) series adopt standard “B” receptacle for USB interface with connector from FOXCONN . The EPP is a bus-powered Full-Speed USB2.0-compliant device. Maximum current consumption requirement of the EPP is 500mA using this interface.

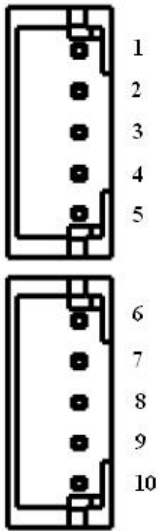
Pin definition of USB interface as follow:

Connector Pin No.	Function
1	VBUS
2	D-
3	D+
4	GND

2.3 Expansion port for FDK

An 8-key function keypad can be connected through this expansion port. . The associated interface cable for this port is shipped with the EPP and it can be custom designed.

Pin definition of FDK interface as follow:



Connector Pin No.	Function (J1 Left)	Connector Pin No.	Function (J2 Right)
1	KEY1	6	KEY2
2	KEY3	7	KEY4
3	GND	8	GND
4	KEY5	9	KEY6
5	KEY7	10	KEY8

3 Keypad features

3.1 Security Performance

- Tamper Resistant
- Foreign matters prevention from the back cover
- Low and high temperature attack detect
- Low and high voltage attack detect
- EPP removal detect
- SPA and DPA attacks detect
- Kuhn attack detect
- Secure firmware download & upgrade
- Prevent attacks associated with EMI radiation

3.2 Environmental characteristics and certifications

- Operation temperature range: -25°C~+65°C
- Storage temperature range: -35°C~+75°C
- Environment humidity: ≤98% r.h, non-condensation
- Guaranteed MTBF: 100,000 hours minimum
- Data retention lifetime: ≥5 years without external power supply attached
- Water spray/dust protection: IP65 (Front only)
- Certifications: PCI5.x
ROHS

3.3 LED Status

Status Light			Boot loader	Firmware	Description
Green	Yellow	Red	Exists	Exists	
ON	ON	ON	NO	NO	EPP is self-destructed
OFF	ON	ON	Yes	NO	Firmware verification failed
OFF	Flash	ON	Yes	Downloading	Downloading Firmware
ON	B	C	Yes	Yes	Firmware is working
Flash	B	C	Yes	Yes	Data communication in process
A	ON	C	Yes	Yes	PIN Entry
A	Flash	C	Yes	Yes	Being Removed

Note:

A: On or Flash B: On, Off or Flash C: Flash or Off

3.4 Keystroke performance

- Removal switches operating force: 2.5N \pm 0.4N
- Numerical keys actuating force: 3.5N \pm 0.7N (Center)
- Function keys actuating force: 5.0N \pm 1.0N (Center)
- Lifespan of keys: 2,000,000 cycles minimum at 5N force applied

4 Logical features

4.1 Support functions

- Built in beeper
- Clear entry
- PIN entry
- PIN encryption with following PIN formats
 - ANSI X9.8
 - ISO 9564 format 0
 - ISO 9564 format 1
 - ECI2
 - ISO 9564 format 3
 - IBM3624
 - Diebold
 - DieboldCo
- User data encryption / decryption with following algorithms
 - Electronic Code Book (ECB)
 - Cipher Block Chaining (CBC)
 - Cipher Feed Back (CFB)
- Message Authentication Code (MAC) calculation using CBC algorithm
- Algorithm of China Cryptographic Authority
 - SM2
 - SM3
 - SM4

- Enter master keys from pinpad
- Load session keys from application
- Remote Key Loading with SHA1 or SHA256
- Device diagnosis through LED control
- Firmware upgrade control

4.2 Key performance

Algorithm	Key length(bit)	Algorithm	Average speed (ms)
RSA	2048	Key generation	16,000
		Decryption/Signature	450
		Encryption/Verification	6
DES	128	256 Bytes Encryption/Decryption	35
		1024 Bytes Encryption/Decryption	55
		2048 Bytes Encryption/Decryption	110