



JUST E6020
(W04GAC-Bx0-2-EN0)
Product Specification
V2.0

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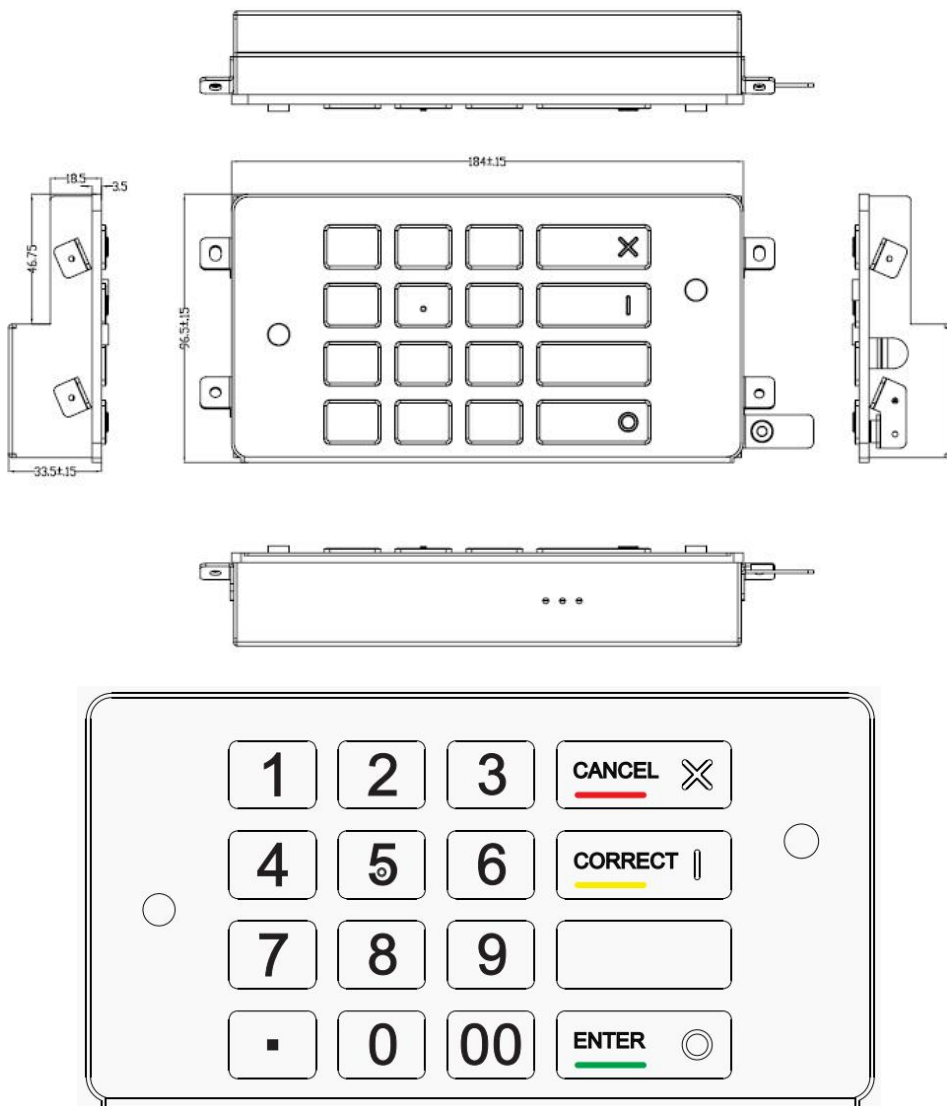
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1 Physical features

1.1. Size and weight

- Dimensions
 - L×W×H:220.5 mm×96.5mm×33.5mm
- Weight
 - 1kg
- JUST E6020 (W04GAC) series drawing:



EN0

1.2. Appearance design

- Made of high quality stainless steel with laser
- GPO(Glass Pearl Blasted Surface) on key panel's surface
- 'X', 'O' and ']' 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 USB

JUST E6020 (W04GAC-Bx0-2-EN0) series adopt standard "A" receptacle for USB interface with connector. 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

2.2 RS232 Communication

EPP E6020 (W04GAC-Bx0-2-EN0) adopts DB9 interface of RS232 by which EPP is connected. Pins are defined as followings:

DB9 compatible connector (DB9 male)	
Connector Pin No.	Function
1	NC
2	RXD
3	TXD
4	NC
5	System Ground
6,7,8,9	NC

3 Keypad features

3.1 Security Performance

- Tamper Resistant
- Foreign matters prevention from the back cover
- EPP removal detect
- SPA and DPA attacks detect
- Kuhn attack detect
- Secure firmware download & upgrade

3.2 Environmental characteristics and certifications

- Operation temperature range: $-25^{\circ}\text{C}\sim+65^{\circ}\text{C}$
- Storage temperature range: $-35^{\circ}\text{C}\sim+75^{\circ}\text{C}$
- Environment humidity: $\leq 95\%$ 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)
- EMI/EMP: EN55022 B for Emission
EN55024 for Immunity
- Certifications: PCI5.x

3.3 Keystroke performance

Removal switches operating force:	$2.5\text{N} \pm 0.4\text{N}$
Numerical keys actuating force:	$3.0\text{N} \pm 0.3\text{N}$ (Center) ; $1.5\text{N} \pm 0.3\text{N}$ (Edges)
Function keys actuating force:	$6.0\text{N} \pm 0.4\text{N}$ (Center) ; $4.0\text{N} \pm 0.4\text{N}$ (Long edge); $3.0\text{N} \pm 0.4\text{N}$ (Short edge)
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
- 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

4.3 Key Management

- MK/SK
- TR31
- TR34(optional)
- RKL(optional)
- NAC(optional)