**SUPREMA ACCESS CONTROL DEVICE – BioStation 3**

**TECHNICAL SPECIFICATIONS**

2023-10-31

# PART 1 - GENERAL

The intent of this document is to specify the minimum criteria for the design, supply, installation, and commissioning of the BioStation 3.

* 1. SUMMARY

1. Section includes a biometric reader and door controller with Ethernet network connectivity.
2. Product - An IP enabled biometric reader and door controller, capable of scanning and registering faces, RFID cards, QR, and mobile access cards, managing users, and controlling access.
   1. REFERENCE
3. Standards
4. IEEE 802.3/802.3u Ethernet Standards
5. FCC - Code of Federal Regulations, Part 15, Class A
6. Conformity for Europe (CE) - R&TTE Directive 1999/5/EC
7. UK Conformity Assessed (UKCA)
8. Korea Certification (KC)
9. Industry Canada (IC)
10. Regulatory Compliance Mark (RCM)
11. Bluetooth SIG
12. Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) - (EC No. 1907/2006)
13. The Waste Electrical and Electronic Equipment (WEEE) - Directive 2012/19/EU
14. Ministry of Internal Affairs and Communications (MIC)
15. Telecom Engineering Center (TELEC)
16. ANSI / IEC60529 – Degrees of Protection Provided by Enclosures
17. International Electrotechnical Commission (IEC) – Ingress Protection Rating IP65
    1. SUBMITTALS
    2. QUALIFICATIONS
18. Manufacturer shall be ISO 9001 certified with a minimum of five years’ experience in producing access control equipment.
19. Installers shall be trained by the Manufacturer to install, configure and commission the access control system.
    1. WARRANTY
20. Manufacturer shall provide a limited ( ) month warranty for the product to be free of defect in material and workmanship.

END OF SECTION

# PART 2 - PRODUCTS

1. EQUIPMENT
2. Manufacturer   
   Suprema Inc.   
   17F Parkview Office Tower, 248, Jeongjail-ro, Seongnam-si, Gyeonggi-do, 13554, Republic of Korea  
   Tel: 82-31-783-4502, Fax: 82-31-783-4503, [https://www.supremainc.com](https://www.supremainc.com/)  
   [https://support.supremainc.com](https://support.supremainc.com/)
3. Model(s) name: BioStation 3

Part Number: BS3

Sub Model

1. BS3-DB: Face recognition, EM, MIFARE, MIFARE Plus, DESFire, DESFire EV1/EV2/EV3, FeliCa, Mobile Access Card (NFC, BLE) supported
2. BS3-APWB: Face recognition, EM, HID Prox, MIFARE, MIFARE Plus, DESFire, DESFire EV1/EV2/EV3, FeliCa, iCLASS SE/SR/Seos, Mobile Access Card (NFC, BLE) supported
3. Alternates: NONE
4. DESCRIPTION
5. The biometric reader and door controller (“reader/controller”) shall be an IP-enabled device capable of scanning faces, RFID cards, QR, and mobile access cards, managing users, and controlling access.
6. FEATURES
7. Time Attendance and Access Control device
8. Quad Core 1.5 GHz with 4GB RAM
9. Mobile Access card support (NFC, BLE)
10. Multi-class RFID card reading
11. Anti-Spoofing technology
12. Photo enrollment support
13. Upload a photo or drag & drop
14. Enrollment through an email link
15. Bulk enrollment through CSV import
16. Integration with DB/ERP/HEMS for photo importing
17. Recognize a face with a mask on
18. IP65, Dust & Waterproof
19. IK06, Impact Protection
20. 5.5” IPS color LCD with capacitive touchscreen
21. TCP/IP, Wi-Fi(BS3-APWB only), RS-485, Wiegand, TTL, Relay, PoE+(BS3-APWB only), Intercom, USB, Extended USB, Tamper, RTSP
22. Intuitive Graphical User Interface (GUI) system
23. SPECIFICATIONS

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| --- | --- | --- |
| **Category** | **Feature** | **Specification** |
| Credential | Biometric | Face |
| RF Card | * **BS3-DB**: 125kHz EM & 13.56MHz MIFARE, MIFARE Plus, DESFire, DESFire EV1/EV2/EV3**1)**, FeliCa * **BS3-APWB**: 125kHz EM, HID Prox & 13.56MHz MIFARE, MIFARE Plus, DESFire, DESFire EV1/EV2/EV3**1)**, FeliCa, iCLASS SE/SR/Seos |
| RF Read Range**2)** | EM/HID Prox/MIFARE/DESFire/HID iCLASS: 30 mm, FeliCa: 15 mm |
| Mobile | Frequency: 13.56MHz NFC & 2.4GHz BLE |
| Certificates: ISO 27001 |
| Encryption: AES-256 |
| Compatible devices: iOS 7.0 above, Android 9.0 above |
| Scramble Keypad (PIN) | Supported |
| QR/Barcode**3)** | Supported**4)** |
| General | CPU | 1.5 GHz Quad Core |
| Memory | 32 GB Flash + 4 GB RAM |
| Crypto Chip | Supported |
| LCD Type | 5.5” IPS color LCD |
| LCD Resolution | 720 x 1280 pixels |
| Sound | 16 bit |
| Operating Temperature | -20 °C ~ 50 °C |
| Storage Temperature | -40 °C ~ 70 °C |
| Operating Humidity | 0 % ~ 80 %, non-condensing |
| Storage Humidity | 0 % ~ 90 %, non-condensing |
| Camera | 2 MP 2 EA |
| Dimension (W x H x D) | 82.5 x 171 x 23.4 (mm) |
| Weight | Device   * **BS3-DB**: 370 g * **BS3-APWB**: 380 g |
| Bracket: 90 g (Including washers and bolts) |
| IP Rating | IP65 |
| IK Rating | IK06 |
| Certifications | CE, UKCA, KC, FCC, IC, RCM, BIS, SIG, RoHS, REACH, WEEE, MIC, TELEC |
| Face | Authentication Distance | 0.6 ~ 1.0 m |
| Authentication Height | 1.4 ~ 1.9 m |
| Matching Speed | Within 0.2 seconds |
| Live Face Detection | Supported |
| Storage capacity | Max. User | 100,000**5)** |
| Max. Credentials (1:N) | * **Fingerprint**: 100,000**6)** * **Face**: 50,000 |
| Max. Credentials (1:1) | * **Fingerprint**: 100,000**6)** * **Face**: 100,000 * **Card**: 100,000 * **PIN**: 100,000 |
| Max. Text logs | 5,000,000 |
| Max. Image logs | 50,000 |
| Capacity | Ethernet | Supported (10/100/1000 Mbps, auto MDI/MDI-X) |
| Wi-Fi | * **BS3-DB**: Not supported * **BS3-APWB**: Supported (802.11 b/ g/ n 2.4 GHz) |
| RS-485 | 1 ch Master / Slave (Selectable) |
| RS-485 Communication Protocol | OSDP V2 compliant |
| Wiegand | 1 ch Input, 1 ch Output |
| TTL Input | 3 ch Inputs |
| Relay | 1 Relay |
| PoE+ | * **BS3-DB**: Not supported * **BS3-APWB**: Supported (IEEE 802.3at compliant) |
| Intercom | Supported |
| RTSP | Supported |
| USB | USB 2.0 (Host) |
| USB Expansion Port | Supported |
| Tamper | Supported |
| Electrical | Power | * **Voltage**: 12 Vdc * **Current**: Max. 1 A |
| * **Voltage**: 24 Vdc * **Current**: Max. 0.65 A |
| Switch Input VIH | * **Min.**: 3 V * **Max.**: 5 V |
| Switch Input VIL | Max.: 1 V |
| Switch Pull-up Resistance | 4.7 kΩ (The input ports are pulled up with 4.7 kΩ) |
| Wiegand Output VOH | More than 4.8 V |
| Wiegand Output VOL | Less than 0.2 V |
| Wiegnad Output Pull-up Resistance | Internally pulled up with 1 kΩ |
| Relay | 2 A @ 30 VDC Resistive load  1 A @ 30 VDC Inductive load |
| Platform | BioStar 2 | Supported |

* These documents must be kept completely confidential.

1) DESFire EV2/EV3 cards are supported by having backward compatibility of DESFire EV1 cards. CSN and smart card functions are compatible with BioStation 3.

2) RF read range will vary depending on installation environment.

3) Supports QR/Barcodes composed of up to 32 ASCII code strings.

4) Requires a separate license.

5) The number of users registered without having any credential data.

6) If a device with a fingerprint sensor is connected as a slave, the slave device can be used for fingerprint authentication.

END OF SECTION

# PART 3 - EXECUTION

1. INSTALLER
2. Contractor personnel shall comply with all applicable state and local licensing requirements.
3. PREPARATION
4. Contractor shall avoid locating the reader/controller in a location subject to direct sunlight, dust or soot.
5. IP addressing shall be coordinated with the Owner’s responsible IT personnel.
6. STORAGE
7. The device shall be stored in an environment where temperature is in the range of -40°C to 70°C.
8. The device shall be stored in an environment where humidity is in the range of 0% to 90%, non-condensing.
9. INSTALLATION
10. The device shall be installed in an environment where temperature is in the range of -20°C to 50°C.
11. The device shall be installed in an environment where humidity is in the range of 0% to 80%, non-condensing.
12. All wires shall be run through conduit to prevent failure caused by rodent damage.
13. Connections between card readers and a door controller shall not exceed 100 meters.
14. All peripheral devices shall be grounded.
15. Keep at least 10 cm distance between the devices when install multiple devices
16. To avoid RF interference, a minimum separation distance must be maintained.

|  |  |
| --- | --- |
| Wall thickness | Distance |
| 100 mm | 200 mm |
| 120 mm | 180 mm |
| 150 mm | 150 mm |

1. EXAMINATION
2. All network connections to the reader/controller shall be tested for proper levels of performance.

END OF SECTION