**SUPREMA ACCESS CONTROL DEVICE – BioStation 3**

**TECHNICAL SPECIFICATIONS**

2022-10-17

# 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. Industry Canada (IC)
8. Korea Certification (KC)
9. Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) - (EC No. 1907/2006)
10. The Waste Electrical and Electronic Equipment (WEEE) - Directive 2012/19/EU
11. UK Conformity Assessed (UKCA)
12. Regulatory Compliance Mark (RCM)
13. ANSI / IEC60529 – Degrees of Protection Provided by Enclosures
14. International Electrotechnical Commission (IEC) – Ingress Protection Rating IP65
    1. SUBMITTALS
    2. QUALIFICATIONS
15. Manufacturer shall be ISO 9001 certified with a minimum of five years’ experience in producing access control equipment.
16. Installers shall be trained by the Manufacturer to install, configure and commission the access control system.
    1. WARRANTY
17. 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, 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 Option | * **BS3-DB**: 125kHz EM & 13.56MHz MIFARE, MIFARE Plus, DESFire, DESFire EV1/EV2/EV3\*, FeliCa * **BS3-APWB**: 125kHz EM, HID Prox & 13.56MHz MIFARE, MIFARE Plus, DESFire, DESFire EV1/EV2/EV3\*, FeliCa, iCLASS SE/SR/Seos |
| RF detection distance | EM/HID Prox/MIFARE/DESFire/HID iCLASS: 30 mm, FeliCa: 15 mm  *\* The RF detection distance may vary depending on the installation environment.* |
| Mobile | Frequency: 13.56MHz NFC & 2.4GHz BLE |
| Certificates: ISO 27001 |
| Encryption: AES-256 |
| Compatible devices: iOS 7.0 above, Android 9.0 above |
| Barcode and QR code | Supported |
| 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 | 16bit |
| Operating temperature | -20°C to 50°C |
| Storage temperature | -40°C to 70°C |
| Operating humidity | 0% to 80%, non-condensing |
| Storage humidity | 0% to 90%, non-condensing |
| Camera | 2MP 2EA |
| Dimension (W x H x D) | 82.5 x 171 x 23.4 (mm) |
| Weight | Device   * **BS3-DB**: 370g * **BS3-APWB**: 380g |
| Bracket: 90g (Including washer and bolt) |
| IP rating | IP65 |
| IK rating | IK06 |
| Certificates | CE, FCC, IC, KC, RoHS, REACH, WEEE, UKCA, RCM |

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| Face | Recognition Distance | 0.6 to 1.0 m |
| Recognition Height | 1.4 to 1.9 m |
| Matching speed | Within 0.3 seconds |
| Live Face Detection | Supported |
| Storage capacity | Max. User | 100,000\*\* |
| Max. Credentials (1:N) | * **Face**: 50,000 |
| Max. Credentials (1:1) | * **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, automatic MDI/MDI-X) |
| Wi-Fi | * **BS3-DB**: Not supported * **BS3-APWB**: Supported (802.11 b/ g/ n 2.4 GHz) |
| RS-485 | 1ch Host / Slave (Selectable) |
| Wiegand | 1ch Input, 1ch Output |
| TTL input | 3ch 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 | * DC 12 V (current: 2.5 A) or DC 24 V (current: 1.2 A) * Adapter recommended specifications: DC 24 V or DC 12 V (± 10%) with a minimum of 2,500 mA\*\*\*   \* Use a 24V/2.5A adapter. Must follow the product manual when using a 12V adapter. |
| Switch input VIH | Min.: 3 V / Max.: 5 V |
| Switch input VIL | Max.: 1 V |
| Switch pull-up resistor | 4.7kΩ (The input ports are pulled up with 4.7kΩ.) |
| Wiegand output VOH | More than 4.8 V |
| Wiegand output VOL | Less than 0.2 V |
| Wiegand output pull-up resistor | Internal pull-up to 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.

\* The DESFire EV2/EV3 card is backward compatible with the DESFire EV1 card, so it provides the CSN and smart card functions, including those of the DESFire EV1 card.

\*\* Refers to the number of registered users without credential data.

\*\*\* Adapter is sold separately. Refer to the recommended specifications.

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.

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| 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