**SUPREMA ACCESS CONTROL DEVICE - BioStation 2**

**TECHNICAL SPECIFICATIONS**

2017-06-05

# PART 1 - GENERAL

The intent of this document is to specify the minimum criteria for the design, supply, installation, and commissioning of the BioStation 2.

* 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 fingerprints and RFID cards, managing users and controlling access.
   1. REFERENCE
3. Standards
4. IEEE 802.3 Ethernet Standards
5. FCC - Code of Federal Regulations, Title 47, Part 15, Class B
6. ANSI / IEC60529 – Degrees of Protection Provided by Enclosures
7. International Electrotechnical Commission (IEC) – Ingress Protection Rating IP65
   1. SUBMITTALS
   2. QUALIFICATIONS
8. Manufacturer shall be ISO 9001 certified with a minimum of five years’ experience in producing access control equipment.
9. Installers shall be trained by the Manufacturer to install, configure and commission the access control system.
   1. WARRANTY
10. 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, Jeongja, Bundang, Seongnam, Gyeonggi, 463-863, Republic of Korea  
   Tel: 82-31-783-4502, Fax: 82-31-783-4503, [www.supremainc.com](http://www.supremainc.com)  
   [support@supremainc.com](mailto:support@supremainc.com)
3. Model(s): BioStation 2
4. Alternates: NONE
5. DESCRIPTION
6. The biometric reader and door controller (“reader/controller”) shall be an IP-enabled device capable of scanning fingerprints and RFID cards, managing users and controlling access.
7. FEATURES
8. NIST MINEX certified and compliant
9. 1:20,000 matches in 1 second
10. IP65, Dust & Water Proof
11. Built-in Wi-Fi module (IEEE 802.11 b/g)
12. Wi-Fi, RS-485, Wiegand, TTL, Relay, USB, SD Card, PoE, Tamper
13. Built-in card reader with card options (125kHz EM, HID Prox, 13.56MHz MIFARE, MIFARE Plus, DESFire/DESFire EV1, NFC, Felica, iClass SE/SR)
14. Intuitive Graphical User Interface (GUI) system
15. Function Keys (F1, F2, F3, F4)
16. SPECIFICATIONS

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| **Category** | **Feature** | **Specification** |
| Credential | Biometric | Fingerprint |
| RF Option | **BS2-OEPW**: 125kHz EM |
| **BS2-OHPW**: 125kHz HID Prox |
| **BS2-OMPW**: 13.56Mhz MIFARE, MIFARE Plus, DESFire/EV1, FeliCa, NFC |
| **BS2-OIPW**: 13.56MHz MIFARE, MIFARE Plus, DESFire/EV1, FeliCa, iCLASS SE/SR, NFC |
| RF read range | MIFARE: 50 mm, DESFire: 50 mm, Felica: 30 mm  HID Prox : 50mm  *\* RF read range will vary depending on the installation environment.* |
| General | CPU | 1.0 GHz Single Core |
| Memory | 8GB Flash + 256MB RAM |
| LCD type | 2.8” color TFT LCD |
| LCD resolution | 240 x 320 pixels |
| LED | Multiple colors |
| Sound | 16-bit Hi-Fi |
| Operating temperature | -20°C - 50°C |
| Storage temperature | -40°C - 70°C |
| Operating humidity | 0% - 80%, non-condensing |
| Storage humidity | 0% - 90%, non-condensing |
| Dimension (W x H x D) | 155 mm x 155 mm x 40 mm |
| Weight | Device: 440g |
| Bracket: 130g (Including washer and bolt) |
| Certificates | CE, FCC, KC, RoHS, REACH, WEEE |
| Fingerprint | Image dimension | 272 x 320 pixels |
| Image bit depth | 8bit, 256 grayscale |
| Resolution | 500 dpi |
| Template | SUPREMA / ISO 19794-2 / ANSI 378 |
| Extractor / Matcher | MINEX certified and compliant |
| Capacity | Max. User (1:1) | 500,000 |
| Max. User (1:N) | 20,000 |
| Max. Template (1:1) | 1,000,000 (Two templates per finger) |
| Max. Template (1:N) | 40,000 (Two templates per finger) |
| Max. Text Log | 3,000,000 |
| Interface | Wi-Fi | Supported (Built-in, IEEE 802.11 b/g) |
| Ethernet | Supported (10/100 Mbps, auto MDIX) |
| RS-485 | 1ch Host or Slave (Selectable) |
| Wiegand | 1ch Input, 1ch Output |
| TTL input | 2ch Inputs, 2ch Outputs |
| Relay | 1 Relay |
| USB | USB 2.0 (Host) |
| PoE | Supported (IEEE 802.3af compliant) |
| Tamper | Supported |
| Analog intercom | Supported |
| Electrical | Power | Voltage: DC 12V  Current: Max. 1 A |
| Switch input VIH | Min. 3V Max. 5V |
| Switch input VIL | Max. 1V |
| Switch Pull-up resistance | 4.7kΩ (The input pots are pulled up with 4.7kΩ.) |
| Wiegand output VOH | More than 4.8V |
| Wiegand output VOL | Less than 0.2 V |
| Wiegand output Pull-up resistance | Internally pulled up with 1 kΩ |
| Relay | Voltage: Max. 30VDC Current: Max. 1A |
| Platform | BioStar 2 | Supported |
| BioStar 1 | Supported |

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 - +70°C.
8. The device shall be stored in an environment where humidity is in the range of 0% - 90%, non-condensing.
9. INSTALLATION
10. The device shall be installed in an environment where temperature is in the range of -20°C - 50°C.
11. The device shall be installed in an environment where humidity is in the range of 0% - 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. To avoid RF interference, a minimum separation distance must be maintained.

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| Wall thickness | Distance |
| 100 mm | 400 mm |
| 120 mm | 350 mm |
| 150 mm | 300 mm |

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

END OF SECTION