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# Smartcard API

## API

- [BS2\\_ScanCard](#):
- [BS2\\_WriteCard](#): SmartCard
- [BS2\\_EraseCard](#): SmartCard
- [BS2\\_WriteQRCode](#): [+ 2.8] X-Station 2 QR

## BS2CSNCard

```
typedef struct {
    uint8_t type;
    uint8_t size;
    uint8_t data[BS2_CARD_DATA_SIZE];
} BS2CSNCard;
```

### 1. type

Access

가

|      |         |   |
|------|---------|---|
| 0x00 |         |   |
| 0x01 | CSN     |   |
| 0x02 | Secure  |   |
| 0x03 | Access  |   |
| 0x0A | Wiegand | BS2WiegandConfig.format ( BS2WiegandConfig.CSNIndex<br>BS2WiegandConfig.CardMask가 0 |
| 0x0B | Config  |   |
| 0x1A | Wiegand | BS2WiegandMultiConfig.formats[0]  |
| 0x2A | Wiegand | BS2WiegandMultiConfig.formats[1]  |
| 0x3A | Wiegand | BS2WiegandMultiConfig.formats[2]  |
| 0x4A | Wiegand | BS2WiegandMultiConfig.formats[3]  |
| 0x5A | Wiegand | BS2WiegandMultiConfig.formats[4]  |
| 0x6A | Wiegand | BS2WiegandMultiConfig.formats[5]  |
| 0x7A | Wiegand | BS2WiegandMultiConfig.formats[6]  |
| 0x8A | Wiegand | BS2WiegandMultiConfig.formats[7]  |
| 0x9A | Wiegand | BS2WiegandMultiConfig.formats[8]  |
| 0xAA | Wiegand | BS2WiegandMultiConfig.formats[9]  |
| 0xBA | Wiegand | BS2WiegandMultiConfig.formats[10]   |
| 0xCA | Wiegand | BS2WiegandMultiConfig.formats[11]   |
| 0xDA | Wiegand | BS2WiegandMultiConfig.formats[12]   |

|      |         |                                   |
|------|---------|-----------------------------------|
|      |         |                                   |
| 0xEA | Wiegand | BS2WiegandMultiConfig.formats[13] |
| 0xFA | Wiegand | BS2WiegandMultiConfig.formats[14] |

**2. size**

**3. data**

**BS2SmartCardHeader**

```
typedef struct {
    uint16_t hdrCRC;
    uint16_t cardCRC;
    BS2_CARD_TYPE cardType;
    uint8_t numOfTemplate;
    uint16_t templateSize;
    uint16_t issueCount;
    uint8_t duressMask;
    uint8_t cardAuthMode;
    uint8_t useAlphanumericID;
    uint8_t cardAuthModeEx;
    uint8_t numOfFaceTemplate;
    uint8_t reserved[1];
} BS2SmartCardHeader;
```

**1. hdrCRC**

card header . (cardCRC - reserved)

**2. cardCRC**

card data . (BS2SmartCardHeader.cardType - BS2SmartCardData.accessOnData)

**3. cardType**

|      |         |
|------|---------|
|      |         |
| 0x00 |         |
| 0x01 | CSN     |
| 0x02 | Secure  |
| 0x03 | Access  |
| 0x0A | Wiegand |
| 0x0B | Config  |

**4. numOfTemplate**

|     |          |   |
|-----|----------|---|
| AOC | template | <a href="#">BS2SmartCardCredentials</a> |
|-----|----------|---|

|     |          |                     |   |
|-----|----------|---------------------|---|
| AOC | template | , numOfFacetemplate | 0 |
|-----|----------|---------------------|---|

**5. templateSize**

BioStar 2 가 300 가 384 300

**6. issueCount**

**7. duressMask**

**8. cardAuthMode**

FaceStation F2  
FaceStation F2 **cardAuthModeEx**

|     |         |
|-----|---------|
|     |         |
| 2   |         |
| 3   |         |
| 4   | PIN     |
| 5   | PIN     |
| 6   | , , PIN |
| 254 |         |
| 255 | ( )     |

**9. useAlphanumericID**

Alphanumeric ID flag

**10. cardAuthModeEx**

FaceStation F2 **cardAuthMode**  
[+ V2.7.1] FaceStation F2

|    | 1 | 2   | 3   |
|----|---|-----|-----|
| 21 |   |     |     |
| 22 |   |     |     |
| 23 |   |     |     |
| 24 |   | PIN |     |
| 25 |   |     |     |
| 26 |   |     | PIN |
| 27 |   |     | PIN |
| 28 |   | PIN |     |
| 29 |   |     |     |
| 30 |   |     | PIN |
| 31 |   |     |     |
| 32 |   |     | PIN |

|     |   |   |     |
|-----|---|---|-----|
|     | 1 | 2 | 3   |
| 33  |   |   | PIN |
| 34  |   |   | PIN |
| 35  |   |   | PIN |
| 254 |   |   |     |
| 255 | ( |   |     |

**11. numOfFaceTemplate**

template 가 ( :384, :552)  
 BS2SmartCardCredentials templateData

AOC template BS2SmartCardCredentials

AOC template , numOfTemplate 0

**12. reserved**

**BS2SmartCardCredentials**

```
typedef struct {
    uint8_t pin[BS2_PIN_HASH_SIZE];
    uint8_t templateData[BS2_SMART_CARD_MAX_TEMPLATE_COUNT *
BS2_FINGER_TEMPLATE_SIZE];
} BS2SmartCardCredentials;
```

**1. pin**

pin code

**2. templateData**

4

**BS2AccessOnCardData**

```
typedef struct {
    uint16_t accessGroupID[BS2_SMART_CARD_MAX_ACCESS_GROUP_COUNT];
    BS2_DATETIME startTime;
    BS2_DATETIME endTime;
```

```
} BS2AccessOnCardData;
```

**1. accessGroupID**

**2. startTime**

가 , 0

**3. endTime**

가 , 0

**BS2SmartCardData**

```
typedef struct {
    BS2SmartCardHeader header;
    uint8_t cardID[BS2_CARD_DATA_SIZE];
    BS2SmartCardCredentials credentials;
    BS2AccessOnCardData accessOnData;
} BS2SmartCardData;
```

**1. header**

SmartCard

**2. cardID**

Access on Card 32 byte Card ID  
 Secure Credential card 24 byte Card ID  
 Secure Credential Card(SCC) , 32 byte Card ID(24 bytes), issueCount(4 byte) Time Stamp(4 byte)  
 , BS2UserBlob cardObjs array가 SC Card , SC Card cardObjs

**3. credentials**

pin code

**4. accessOnData**

AOC 가

**BS2Card**

```
typedef struct {
    uint8_t isSmartCard;
    union {
        BS2CSNCard card;
        BS2SmartCardData smartCard;
    };
}BS2Card;
```

**1. isSmartCard**

SmartCard flag

## 2. *card*

### 3. *smartCard*

SmartCard

From:

<http://kb.supremainc.com/bs2sdk/> - **BioStar Device SDK**

Permanent link:

[http://kb.supremainc.com/bs2sdk/doku.php?id=ko:smartcard\\_api&rev=1622010886](http://kb.supremainc.com/bs2sdk/doku.php?id=ko:smartcard_api&rev=1622010886)

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