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Slave Control API

API that connects the master and slave device by using the RS-485 network. The v2 devices will now work as a dummy reader when set as a slave device. It will not store any kind of information for user and all will be stored inside the master device. The slave device will send the information scanned, and the matching and access rule check will be done from the master device. The slave device will only receive the result.

- [BS2_GetSlaveDevice](#): Searches a slave device from the RS-485 network.
- [BS2_SetSlaveDevice](#): Add/Modify/Delete a slave device from the master device.
- [BS2_GetSlaveExDevice](#): In case of CoreStation, searches a slave device from the RS-485 network.
- [BS2_SetSlaveExDevice](#): In case of CoreStation, Add/Modify/Delete a slave device from the master device.
- [BS2_SearchDevicesCoreStation](#): Searches CoreStation devices from the current network.
- [BS2_SearchDevicesCoreStationEx](#): [+ 2.6.3] Searches CoreStation devices from the current network with host IP.
- [BS2_GetDevicesCoreStation](#): Gets searched CoreStation devices.

CAUTION

When the SDK is initialized, there are no information about the slave devices. Therefore, a slave device must be searched or added before controlling.

Structure

BS2Rs485SlaveDevice

```
typedef struct {
    uint32_t deviceID;
    uint16_t deviceType;
    uint8_t enableOSDP;
    uint8_t connected;
} BS2Rs485SlaveDevice;
```

1. *deviceID*

Device ID.

2. *deviceType*

Device type.

3. *enableOSDP*

Decides whether to use a slave device.

4. *connected*

Displays whether a slave device is connected to the master device.

BS2Rs485SlaveDeviceEX

```
typedef struct {
    uint32_t deviceID;
    uint16_t deviceType;
    uint8_t enableOSDP;
    uint8_t connected;
    uint8_t channelInfo;
    uint8_t reserved[3];
} BS2Rs485SlaveDeviceEX;
```

1. *deviceID*

Device ID.

2. *deviceType*

Device type.

3. *enableOSDP*

Decides whether to use a slave device.

4. *connected*

Displays whether a slave device is connected to the master device.

5. *channelInfo*

Channel value of slave device.

6. *reserved*

Reserved space.

BS2OsdpStandardDevice

```
typedef struct {
    BS2_DEVICE_ID    deviceID;           ///< 4 bytes
    BS2_DEVICE_TYPE  deviceType;         ///< 2 bytes
    BS2_B00L         enableOSDP;         ///< 1 byte
    BS2_B00L         connected;          ///< 1 byte

    uint8_t          channelInfo;        ///< 1 byte
    uint8_t          osdpID;             ///< 1 byte
    BS2_B00L         supremaSearch;      ///< 1 byte
    BS2_B00L         activate;           ///< 1 byte

    BS2_B00L         useSecure;          ///< 1 byte
    uint8_t          vendorCode[3];      ///< 3 bytes
}
```

```
    BS2_VERSION      fwVersion;          ///< 4 bytes
    uint8_t          modelNumber;      ///< 1 byte
    uint8_t          modelVersion;     ///< 1 byte
    BS2_B00L         readInfo;         ///< 1 byte
    uint8_t          reserved[25];     ///< 25 byte (packing)
} BS20sdpStandardDevice;             ///< 48 bytes
```

1. *deviceID*

OSDP Device Identifier.

2. *deviceType*

Device type. Usually gets BS2_DEVICE_TYPE_3RD_OSDP_DEVICE.

3. *enableOSDP*

Always set to true.

4. *connected*

If true, an OSDP device is currently connected.

5. *channelInfo*

Connected channel information. CoreStation40 has 5 channels from 0 to 4, it has channel values within this range.

6. *osdpID*

OSDP Identifier.

7. *supremaSearch*

Information that is distinct from existing RS485 that does not support OSDP, and always set to false.

8. *activate*

Regardless of the connection status of the device, you can set whether the connected device is operating, which indicates the activation status of the operation.

9. *useSecure*

Indicates whether encrypted communication is enabled.

If a separate key is not set, encryption communication is used as the default key, and can be changed with [BS2_SetOsdpStandardDeviceSecurityKey](#).

10. *vendorCode*

Unique value of Vendor.

11. *fwVersion*

FW version information of OSDP device.

12. *modelName*

Model number of the OSDP device.

13. *modelVersion*

Model version of the OSDP device.

14. *readInfo*

Indicates whether OSDP device information such as vendorCode, fwVersion, or model has. If it has the OSDP device information, it means that the device has ever been connected to the master device.

15. *reserved*

Reserved Space.

BS2OsdpStandardDeviceAvailable

```
typedef struct {
    uint8_t          channelIndex;           ///< 1 byte
    BS2_OSDP_CHANNEL_TYPE channelType;      ///< 1 byte
    uint8_t          maxOsdpDevice;         ///< 1 byte
    uint8_t          numOsdpAvailableDevice; ///< 1 byte
    BS2_DEVICE_ID   deviceIDs[8];          ///< 4 x 8 = 32
bytes
} BS2OsdpStandardChannelInfo;             ///< 36 bytes

typedef struct {
    uint8_t          numOfChannel;           ///< 1 byte
    uint8_t          reserved[3];           ///< 3 bytes
    BS2OsdpStandardChannelInfo channels[BS2_RS485_MAX_CHANNELS_EX]; ///< 36
x 8 = 288 bytes
    uint8_t          reserved1[32];         ///< 32 bytes
} BS2OsdpStandardDeviceAvailable;         ///< 288 bytes + 36
```

1. *channelIndex*

The communication channel number to which the OSDP device is connected.

2. *channelType*

Indicates the type to which the device communicating RS485 is connected.

Based on CoreStation40, there are 5 assignable channels from 0 to 4, and Suprema devices and OSDP devices cannot be mixed and operated within each channel.

If no device is connected to a particular channel, it has a 0 indicating that it can be connected even if it is a Suprema device or an OSDP device.

If a Suprema device is connected to a specific channel, only Suprema devices are allowed to connect to that channel, and channelType has a value of 1. The OSDP device is ignored even if it is connected. If an OSDP device is connected to a specific channel, only OSDP devices are allowed to connect to that channel, and channelType has a value of 2. The Suprema device is ignored even if it is connected.

Each channel of CoreStation40 can be mixed and operated as Suprema device channel and OSDP device channel.

The maximum number of OSDP devices allowed to connect to a channel is limited to 2, and if the channel is already maxed out, the channelType will be 3, indicating that no more connections are allowed.

Value	Description
0	Normal

Value	Description
1	Suprema Device
2	OSDP Device
3	OSDP Device FULL

3. *maxOsdpDevice*

Indicates the maximum number of devices that can be connected in that channel. If the channelType is 1, it will get 32, if 2 or 3, it will get 2.

4. *numOsdpAvailableDevice*

Indicates the number of devices currently available for connection in that channel.

5. *deviceIDs*

The list of Device Identifier that is connected or can be connected in that channel.

6. *numOfChannel*

Number of channel. CoreStation40 has a total of 5 channels.

7. *reserved*

Reserved Space.

8. *channels*

OSDP device information of each channel.

You can have up to 8 channel information, but since CoreStation40 has 5 channels, only numbers 0 to 4 are valid.

9. *reserved1*

Reserved Space.

BS2OsdpStandardNotify

```
typedef struct {
    BS2_DEVICE_ID    deviceID;        ///< 4 bytes
    BS2_DEVICE_TYPE  deviceType;      ///< 2 bytes
    BS2_B00L         enableOSDP;      ///< 1 byte
    BS2_B00L         connected;        ///< 1 byte

    uint8_t          channelInfo;      ///< 1 byte
    uint8_t          osdpID;           ///< 1 byte
    BS2_B00L         supremaSearch;    ///< 1 byte
    BS2_B00L         activate;         ///< 1 byte

    BS2_B00L         useSecure;        ///< 1 byte
    uint8_t          vendorCode[3];    ///< 3 bytes

    BS2_VERSION      fwVersion;        ///< 4 bytes

    uint8_t          modelNumber;      ///< 1 byte
}
```

```
uint8_t      modelVersion;    ///< 1 byte
BS2_B00L    readInfo;        ///< 1 byte
uint8_t      reserved[5];    ///< 5 bytes (packing)
} BS20sdpStandardNotify;    ///< 48 bytes
```

1. *deviceID*

OSDP Device Identifier.

2. *deviceType*

Device type. Usually gets BS2_DEVICE_TYPE_3RD_OSDP_DEVICE.

3. *enableOSDP*

Always set to true.

4. *connected*

If true, an OSDP device is currently connected.

5. *channelInfo*

Connected channel information. CoreStation40 has 5 channels from 0 to 4, it has channel values within this range.

6. *osdpID*

OSDP Identifier.

7. *supremaSearch*

Information that is distinct from existing RS485 that does not support OSDP, and always set to false.

8. *activate*

Regardless of the connection status of the device, you can set whether the connected device is operating, which indicates the activation status of the operation.

9. *useSecure*

Indicates whether encrypted communication is enabled.

If a separate key is not set, encryption communication is used as the default key, and can be changed with [BS2_SetOsdpStandardDeviceSecurityKey](#).

10. *vendorCode*

Unique value of Vendor.

11. *fwVersion*

FW version information of OSDP device.

12. *modelName*

Model number of the OSDP device.

13. *modelVersion*

Model version of the OSDP device.

14. *readInfo*

Indicates whether OSDP device information such as vendorCode, fwVersion, or modelName has. If it has the OSDP device information, it means that the device has ever been connected to the master device.

15. *reserved*
Reserved Space.

BS2OsdpStandardDeviceAdd

```
typedef struct {  
    uint8_t      osdpID;           ///< 1 byte  
    uint8_t      activate;        ///< 1 byte  
    uint8_t      useSecureSession; ///< 1 byte  
    uint8_t      deviceType;      ///< 1 byte  
    BS2_DEVICE_ID deviceID;       ///< 4 bytes  
} BS2OsdpStandardDeviceAdd;      ///< 8 bytes
```

1. *osdpID*

OSDP Identifier. The identifier must be set to a random value between 0 and 126 by the user. This value does not allow duplication within the same channel and may raise an error if duplicated or out-of-range values are set. If the channels are different within the master device, you can add devices by setting them to the same identifier.

2. *activate*

Specifies the device activation state. Regardless of the connection state of the device, if set to false, the operation of the device is ignored even if it is successfully connected.

3. *useSecureSession*

Specifies whether to encrypt communication. If a separate key is not set, encryption communication is used as the default key, and can be changed with [BS2_SetOsdpStandardDeviceSecurityKey](#).

4. *deviceType*

Device type. Should be set to BS2_DEVICE_TYPE_3RD_OSDP_DEVICE.

5. *deviceID*

Device Identifier. When set to 0, the master device automatically allocates.

BS2OsdpStandardDeviceUpdate

```
typedef struct {  
    uint8_t      osdpID;           ///< 1 byte  
    uint8_t      activate;        ///< 1 byte  
    uint8_t      useSecureSession; ///< 1 byte  
    uint8_t      deviceType;      ///< 1 byte  
    BS2_DEVICE_ID deviceID;       ///< 4 bytes  
} BS2OsdpStandardDeviceUpdate;   ///< 8 bytes
```

1. *osdpID*

OSDP Identifier. The identifier must be set to a random value between 0 and 126 by the user.

This value does not allow duplication within the same channel and may raise an error if duplicated or out-of-range values are set.

If the channels are different within the master device, you can add devices by setting them to the same identifier.

2. *activate*

Specifies the device activation state.

Regardless of the connection state of the device, if set to false, the operation of the device is ignored even if it is successfully connected.

3. *useSecureSession*

Specifies whether to encrypt communication.

If a separate key is not set, encryption communication is used as the default key, and can be changed with [BS2_SetOsdpStandardDeviceSecurityKey](#).

4. *deviceType*

Device type. Should be set to BS2_DEVICE_TYPE_3RD OSDP_DEVICE.

5. *deviceID*

Device Identifier.

BS2OsdpStandardDeviceCapability

```
typedef struct {
    uint8_t          compliance;
    uint8_t          count;
} BS2osdpStandardDeviceCapabilityItem;

typedef struct {
    BS2osdpStandardDeviceCapabilityItem input;    ///< 2 bytes
    BS2osdpStandardDeviceCapabilityItem output;   ///< 2 bytes
    BS2osdpStandardDeviceCapabilityItem led;      ///< 2 bytes
    BS2osdpStandardDeviceCapabilityItem audio;    ///< 2 bytes
    BS2osdpStandardDeviceCapabilityItem textOutput; ///< 2 bytes
    BS2osdpStandardDeviceCapabilityItem reader;   ///< 2 bytes

    uint16_t         recvBufferSize;    ///< 2 bytes
    uint16_t         largeMsgSize;      ///< 2 bytes

    uint8_t          osdpVersion;       ///< 1 byte
    uint8_t          cardFormat;        ///< 1 byte
    uint8_t          timeKeeping;       ///< 1 byte
    uint8_t          canCommSecure;     ///< 1 byte

    BS2_B00L         crcSupport;        ///< 1 byte
    BS2_B00L         smartCardSupport;  ///< 1 byte
    BS2_B00L         biometricSupport;   ///< 1 byte
}
```

```

    BS2_B00L          securePinEntrySupport;          ///< 1 byte
    uint8_t           reserved[4];                    ///< 4 bytes
} BS20sdpStandardDeviceCapability;                  ///< 28 bytes

```

1. *compliance*

PD의 기능(function)에 따른 준수수준(compliance level)을 나타냅니다.

기능은 input, output, led, audio, textOutput 등이 있으며, 기능 별로 준수수준이 상이하므로 관련 OSDP 문서를 참고바랍니다.

2. *count*

PD의 기능(function)에 따른 갯수(number of objects)를 의미하는데, 기능 별로 갯수에 부여되는 의미가 다르므로 관련 OSDP 문서를 참고바랍니다.

3. *input*

입력(모니터링) 기능을 정의합니다.

4. *output*

출력 기능을 정의합니다.

5. *led*

LED 기능을 정의합니다.

6. *audio*

Buzzer 기능을 정의합니다.

7. *textOutput*

문자 출력 기능을 정의합니다.

8. *reader*

지원되는 장치 수를 나타내며, count 정보만 의미를 갖습니다.

9. *recvBufferSize*

PD가 수신할 수 있는 단문 메시지 크기를 나타냅니다.

10. *largeMsgSize*

PD가 처리할 수 있는 장문 메시지의 최대 크기입니다.

11. *osdpVersion*

OSDP 버전입니다.

12. *cardFormat*

카드 데이터 포맷 기능을 정의하며, 01, 02, 03 중 하나의 값을 갖습니다. OSDP 문서의 카드 데이터 포맷 관련 compliance level을 참고바랍니다.

13. *timeKeeping*

PD의 날짜 및 시간 정보 유형과 이를 유지하는 것에 대해 나타냅니다. OSDP 2.2에서 이 기능은 사용되지 않습니다.

14. canCommSecure

보안통신 지원 여부를 나타냅니다.

15. crcSupport

체크섬 지원 여부를 나타냅니다.

16. smartCardSupport

스마트 카드 지원 여부를 나타냅니다.

17. biometricSupport

생체정보 처리가 가능한지를 나타냅니다.

18. securePinEntrySupport

SPE(Secure PIN Entry) 지원 여부를 나타냅니다.

19. reserved

예약된 공간입니다.

BS2OsdpStandardDeviceResult

```
typedef struct {
    BS2_DEVICE_ID    deviceID;
    BS2_OSDP_RESULT  result;
} BS2OsdpStandardDeviceResult;
```

1. deviceID

장치 식별자입니다.

2. result

OSDP 장치 명령 결과 값을 가집니다.

값	설명
0	Success
1	Fail
2	Not available

BS2OsdpStandardDeviceSecurityKey

```
typedef struct {
    uint8_t    key[BS2_OSDP_STANDARD_KEY_SIZE];
    uint8_t    reserved[32];
} BS2OsdpStandardDeviceSecurityKey;
```

1. key

OSDP 장치에서 사용할 16byte 크기의 보안키 입니다.

2. reserved

예약된 공간입니다.

From:

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

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