

PowerView® API

To connect a PowerView® system to a home automation system a PowerView® Hub is required.

There are two API's available:

1. HTTP REST API. (data transferred in JSON format)
2. API using a serial connection.

Currently the API is limited to commands for *getting* a list of scenes and commands to *activate* scenes. These scenes need to be created in the PowerView® app first. When receiving a list of scenes from the hub the scene names are base64 encoded. For proper identification they need to be programmatically converted to unicode utf-8 readable text. Go [here](#) for an online converter. Go [here](#) for some code examples.

PowerView® http API

IMPORTANT

Make sure your hub gets a reserved/fixed ip address from the dhcp server.

The preferred method of setting a fixed IP address is `IP address reservation` based on MAC address in the home router (which should be the router with the dhcp server running)

The hub ip and MAC address can be found using the PowerView app:

- Open the side menu.
- Select `<Hub>`
- Select the currently connected hub
- Select `<hub info>`
- A list should appear with both ip and MAC address displayed.

Get a list of all available scenes

request:

```
method: GET
api/scenes/
```

response example:

```
{
  "sceneIds": [7214, 64073, 15890, 42747],
  "sceneData": [
    {
      "id": 7214,
      "name": "QWxsIGRvd24=", //base64 encoded.
      "roomId": 64902,
      "order": 0,
      "colorId": 2,
      "iconId": 0
    },
    {
      "id": 64073,
      "name": "UGxpc3NlIDE=", //base64 encoded.
      "roomId": 64902,
      "order": 1,
      "colorId": 5,
      "iconId": 0
    },
    {
      "id": 15890,
      "name": "QWxsIHVw", //base64 encoded.
      "roomId": 64902,
      "order": 2,
      "colorId": 0,
      "iconId": 0
    },
    {
      "id": 42747,
      "name": "UGxpc3NlIDI=", //base64 encoded.
      "roomId": 64902,
      "order": 3,
      "colorId": 7,
      "iconId": 0
    }
  ]
}
```

Activate a scene

request:

```
method: GET
/api/scenes?sceneId=<sceneid> //replace <sceneid> with actual scene id.
```

response example:

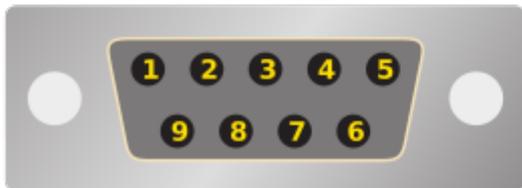
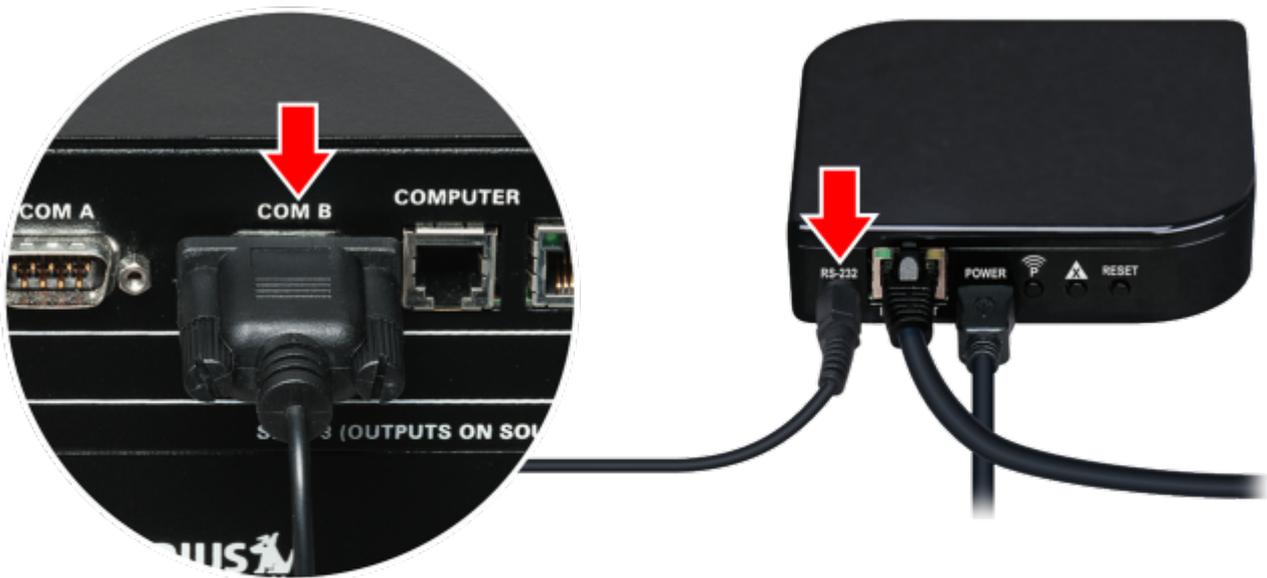
```
{
  "scene": {"shadeIds": [35523]}
}
```

PowerView® Serial API

⚡ IMPORTANT

The serial API is for hub gen1 only. hub gen2 onwards will only support the above described http API

You will need a separate Serial connection cable for a serial connection to the Hub (sold separately).



| Pin | Signal | Direction | Description |
|-----|--------|---------------|---------------|
| 2 | RDX | to computer | Receive data |
| 3 | TDX | from computer | Transmit data |
| 5 | GND | . | Ground |

- COM port settings: speed: 9600, stop bit: 1, Parity: None.
- Each request to the Hub begins with a `?` followed by a two-character ASCII command. Each successful response from the Hub begins with a `!` followed by the same two ASCII characters.
- All messages are terminated with a carriage return `x0D`. In this document a carriage return is designated as `<cr>`

- Scene and Room identifiers are transmitted as an ASCII string representing an integer value ranging from zero (0) to 65535.
- Names of Scenes and Rooms are always located as the last parameter of a response and may include spaces.

Request scene count

To retrieve the list of Scenes that have been configured and stored in the PowerView® Hub, a request is first sent to the Hub requesting the total number of Scenes stored

serial command

```
?SC <cr>
```

Hub response

```
!SC <count> //the number of scenes programmed in the hub.
```

Request a Scene Object

Specific information about each individual Scene may be retrieved by sending a series of requests to the Hub. Each request includes an index within a range from one (1) to the total scene count.

serial command

```
?S0 <index> <cr>
```

Hub response

```
!S0 <index> <scene ID> <room ID> <name>
```

Request list of scene objects

Specific information about all Scenes may be retrieved by sending a single request to the Hub.

serial command

```
?SL <cr>
```

Hub response

```
!SL
<scene1 ID> <roomX ID> <name1>
<scene2 ID> <roomY ID> <name2>
<scene3 ID> <roomZ ID> <name3>
...
```

Execute one or more scenes

A list from one (1) to 28 Scenes may be executed using a single command.

serial command

```
?SE <scene ID 1> <scene ID 2> ...<scene ID 28> <cr>
```

Hub response

```
!SE
```

Base64 encoding

Python

```
import base64

def decode_base64(str):
    """Convert base64 to unicode text"""
    return base64.b64decode(str).decode('utf-8')
```

javascript

```
function decode_base64(str){
    // Converts incoming base64 to unicode text.
    return new Buffer(str, 'base64').toString('binary');
}
```

