Data transfer format

Protocol

Communication between the PV Forecast and the PV system is via the HTTP or HTTPS protocol. The PV Forecast service includes an HTTP that receives the POST request with measured data, information about installed PV systems, and sends back irradiance and/or production forecasts. Data is exchanged in JSON format. In the URL, the installation identifiers and the signature of the sent message can be given as parameters.

The content of the message is encoded with ASCII characters without diacritics.

Signing

To sign the message, both parties must know the secret key, which is different for each installation. The key is exchanged when the new installation is created (when using HTTP (instead of HTTPS), there is a risk of a third person being able to intercept the key).

The signature that is passed to the URL as a parameter is created using the key as follows:
signature = hmac_sha256(jsondata, key)
jsondata is a text presentation of JSON data - exactly what will be sent
key is the key mentioned above, it is also a text format

When using HTTP (not HTTPS), the server response should also be signed.

Data transfer - Sky images

URL

http://www.pvforecast.cz/api/aers/v1/upload.php?type=pic&signature=xxx

POST data

```
{
        "status": "ok",
        "id": 123, /* unique id */
        "time": "2018-03-31T09:30:00+02:00", /* capture time */
        "coding": "Base64", /* encoding */
        "data": "noangoffraegsrth4aerghaeg...gferawgearghea" /* data (picture in Base64 encoding) */
}
```

Response

```
{
  "status" : "ok" /* data transfer ok */
}
----------------------------
{
  "status" : "error", /* some error */
  "message" : "xxx" /* text information about error */
}
```