Data format description Official House Coordinates of Germany (HK-DE)

For the data distribution from the data stock of the Central Office for House Coordinates and Building Polygons (ZSHH)

Version 5.1   **State: 06 June 2024**

valid from the provision of the HK-DE 2024

1. Description of the data format

The House Coordinates (HK) are made available as text file in CSV format with latin characters in UNICODE. The data is separated by semicolons. The first line includes the column names. In an optional recoding file comment lines are allowed and defined by # as the first character of a line. As the character encoding, UTF-8 is used.

2. Data Content

To derive the House Coordinates (HK) from ALKIS (Authoritative Real Estate Cadastre Information System) all recorded location descriptions are used. In addition to the House Coordinates data file, the data distribution includes in some cases a recoding file, which lists changes in the "Unique number of the dataset (oid)" of an object compared to the previous delivery.

2.1 Structure of the House Coordinates data file

The **first** data set includes the column names of the file. This is followed by the data records with the following structure:

1. Identification character of the dataset (nba)   (letter, 1-character)
2. Unique number[1] of the data set (oid)   (string, alphanumeric, 16-character)
3. Quality of the spatially referenced building address   (letter, 1-character)
   (qua)
4. Land key (landschl)   (string, only numeric, 2-character)
5. Land (land)   (string, variable length)
6. Administrative region key (regbezschl)   (string, only numeric, 1-character)
7. Administrative region (regbez)   (string, variable length)
8. Rural/urban district key (kreisschl)   (string, only numeric, 2-character)
9. Rural/urban district (kreis)   (string, variable length)

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[1] The unique number is not used again once addresses have been deleted / once a building object is destroyed.

10. Municipality key (gmdschl)	(string, only numeric, 3-character)
11. Municipality (gmd)	(string, variable length)
12. Local district key (ottschl)	(string, only numeric, 4-character)
13. Local district (ott)	(string, variable length)
14. Administrative street code (strschl)	(string, alphanumeric, 5-character)
15. (Uncoded) street name (str)	(string, variable length)
16. House number (hnr)	(string, only numeric, variable length)
17. Addition to house number (adz)	(string, alphanumeric, variable length)
18.UTM zone (zone)	(string, only numeric, 2-character)
19. First coordinate value UTM/ETRS89 without zone identifier Easting of UTM coordinates (ostwert)	(fixed-point number, 6 digits before and 3 after decimal point, EEEEEE.EEE)
20. Second coordinate value UTM/ETRS89 Northing of UTM coordinates (nordwert)	(fixed-point number, 7 digits before and 3 after decimal point, NNNNNNN.NNN)
21. Postal code (postplz)	(string, only numeric, 5-character)
22. Town/city name (postonm)	(string, variable length)
23. Addition to town/city name (postonmzus)	(string, variable length)
24. Postal district (postott)	(string, variable length)

Notes on the data elements (DaE):

The individual data elements within the datasets are separated by a semicolon. Per dataset the separator occurs n times (n = total number of data elements minus 1; currently n = 23). For this reason, semicolons are not used in the string of a data element.

- DaE 1:

  In the half-yearly data update, the identification character of the dataset differentiates between difference data according to new data (N), data to be erased (L) and altered data (A). In Case of a delivery as a complete update this value is generally marked with a blanket "N".

- DaE 2:

  The object identifier (oid) in data element 2 is unique across Germany once ALKIS has been introduced nationwide. The oid comes into existence and ceases to exist with the lifespan of a house coordinate object. If ALKIS has not yet been introduced throughout Germany, recoding files are provided.

- DaE 3:

  Data element 3 indicates the quality of the building coordinate as follows:

  - ➢ A = Official house number whose coordinate is certainly within the recorded building geometry.

> B = Official house number whose coordinate is certainly within the area of the land parcel; a building is not certain to exist on the site.

> C = House number internal to the real estate cadastre whose coordinate is certainly within the recorded building geometry.

- DaE 4, 8, 10, 12, 14:

  Data elements 4, 8, 10, 12 and 14 contain leading zeros (0) if necessary.

- DaE 6, 8, 10, 12, 14:

  If certain data elements are empty because of Land-specific peculiarities (e.g. no local district key available) or other circumstances (e.g. if an urban district does not contain any municipalities), the fields are padded with zeros.

  This refers in particular to the keys for administrative units:

Data element no.	Number of zeros to be padded
6. Administrative region key	1 (0)
8. Rural/urban district key	2 (00)
10. Municipality key	3 (000)
12. Local district key	4 (0000)
14. Administrative street code	5 (00000)

- DaE 7, 9:
  If, due to laender-specific features, there is no administrative region or district the field remains empty - i.e. the separators (semicolon) for the preceding and following fields follow one another immediately.

- DaE 13:
  If the municipality is not subdivided with a local district or the data stock in a land is not filled, the field remains empty - i.e. the separators (semicolon) for the preceding and following fields follow one another immediately.

- DaE 15:

  The official street name (stn) is specified as a string. The spelling corresponds to the spelling of the uncoded street name in the real estate cadastre.

- DaE 16:

  If there is no house number (e.g. in the case of hermitage, etc.), the field is filled with '0'. Before and after the separation takes place with the separator (semicolon).

- DaE 17:

  If no addition to the house number exists, the field remains empty – i.e. the separator (semicolon) to the previous field is directly followed by the separator to the next field.

- DaE 18:

  The zone-number 32 or 33 is always filled. There are no distinct zones within a file.

- DaE 19 and 20:

  The coordinates are specified by default in the spatial reference system ETRS89/UTM without zone identifier in metres with a point and three decimal places. This complies to EPSG Code 25832 respectively 25833 (depends from DaE 18)

- DaE 21 until 24:

  Data and spellings come from Deutsche Post AG

- DaE 23 and 24:

  If for this address Deutsche Post AG has no addition to the postal town/city name or postal district, the field remains empty – i.e. the separator (semicolon) to the previous field is directly followed by the separator to the next field.

The following examples illustrate the structure of the dataset:

1. line = header

nba;oid;qua;landschl;land;regbezschl;regbez;kreisschl;kreis;gmdschl;gmd;ottschl;ott;strschl;str;hnr; adz;zone;ostwert;nordwert;postplz;postonm;postonmzus;postott

2. line and following = datasets

N;DEBYvAAAAACA6kBh;A;09;Bayern;1;Oberbayern;62;München;000;München;0001;München;0 0000;Alexandrastraße;4;;32;692691.510;5335288.870;80538;München;;Altstadt-Lehel

2.2   Structure of recoding file

A recoding file is included in an update distribution <u>if</u> the "unique number of the dataset (oid)" has changed compared to the previous year's stock (e.g. introduction of the ALKIS object ID as oid).

aoid = previous oid, noid = new oid

The structure of the recoding file is exemplary as follows:

aoid;noid

DEBYv00037022984;DEBYvAAAAACA0000

3.   Update

The Official House Coordinate data stock is updated twice a year. The Laender provide the data to the ZSHH **by 1 April and by 1 October of the current year**.

From this the Official House Coordinates of Germany is generated and a complete data set or a difference data set (difference data from the last released HK-DE data set) are created.

The current central data set is generally available for delivery from 1 July of the current year (delivery on 1 April) and from 1 February and of the following year (delivery on 1 October)

4. File names

The data is devided into Laender packages. The distinction is made according to the Laender abbreviations <nn> according to the GeoInfoDok (currently main concept as of: 01 Dez 2022, chapter 3.3.9)

The file names are structured as follows:

Complete data set:

> ***adressen-<nn>.txt***

Difference data set:

> ***adressen-<nn>-N.txt***
>
> ***adressen-<nn>-L.txt***
>
> ***adressen-<nn>-A.txt***

Recoding file (if exist)

> ***umschluessel-<nn>.txt***

For more details on this information, please do not hesitate to contact ZSHH.

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