

# Specification House Addresses Germany (Data Format)

## Version 2.0

### 1. Specification data format

House addresses are offered in ASCII-Format to customers.

The character set is ISO Latin-1 (ISO 8859/1). In addition to the house addresses data file the key data file will always provide as a standard distribution.

#### 1.1 Structure of house addresses data file

1. Status dataset (NBA)	(character, 1-digit)
2. Nationwide clear identifier for every dataset <sup>1</sup> (key federal state 1- or 2-digit, followed by a 8-digit number) (DSN)	(integer, 9- or 10-digit)
3. Quality of house address (QUA)	(character, 1-digit)
4. Key federal state (LAN)	(string, only numeric, 2-digit)
5. Key administrative district (RBZ)	(string, only numeric, 1-digit)
6. Key county/city (KRS)	(string, only numeric, 2-digit)
7. Key commune (GMD)	(string, only numeric, 3-digit)
8. Key communal district (OTT)	(string, only numeric, 4-digit)
9. Administrative street code (SSS)	(string, alphanumeric, 5-digit)
10. House number (HNR)	(string, variable length, only numeric)
11. Addition to house number (ADZ)	(string, variable)
12. First coordinate value Easting / Gauß-Krüger-coordinates (YYYYYYYY,YYY)	(fix-point number, 7 digits before and 3 digits after decimal point)
or Easting / UTM-coordinates (EEEEEEEE,EEE)	(fix-point number, 8 digits before and 3 digits after decimal point)

<sup>1</sup> The clear identifier number will not be used twice after deletion of the house address / after abridgment of a house object.

or longitude ([L]L,LLLLLL)	(fix-point number, 1 or 2 digits before and 6 digits after decimal point)
13. Second coordinate value	
Northing / Gauß-Krüger-coordinates (XXXXXXXX,XXX)	(fix-point number, 7 digits before and 3 digits after decimal point)
or Northing / UTM-coordinates (NNNNNNN,NNN)	(fix-point number, 7 digits before and 3 digits after decimal point)
or latitude (BB,BBBBBB)	(fix-point number, 2 digits before and 6 digits after decimal point)
14. Official syntax street name (STN)	(string, variable length)
15. Zip code (PLZ)	(string, only numeric, 5-digit) <sup>2</sup>
16. City (ONM)	(string, variable length) <sup>2</sup>
17. Adjunct to the name of city (ZON)	(string, variable length) <sup>2</sup>
18. Postal district (POT)	(string, variable length) <sup>2</sup>
optional:	
19. Postal syntax street name (PSN)	(string, variable length) <sup>2</sup>
20. Date of origin (AND)	(date, dd.mm.yyyy)

**Notes:**

- Status of dataset differences between new (N), erased (L) und changed (A) datasets.
- The number of identifier in data element 2 is nationwide clear.
- All data elements are separated by semicolon in a dataset. Per dataset there are 19 semicolons.
- Data element 3 designates the quality of the house address and differences between:
  - A = position is sure inside the building area and represents an existing building;
  - B = position is inside the land parcel, on which the building is standing and it is an existing building.
  - R = position is inside the land parcel, on which the building is standing and it is not sure an existing building (unmapped or planned buildings).
- Data elements 4, 6, 7, 8 and 9 include if necessary leading zeros (0).

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<sup>2</sup> Not a component of the real estate cadastre in Germany.

- If some special data elements are empty because of federal state-specific originalities (for example empty keys for communal districts) or other circumstances (for example if communes do not belong to a city, so in this case data element 7 is empty), this data elements have to be filled up with zeros.

This belongs to this special data elements which contain keys for administrative units in the dataset:

data element Nr.	value for fill-up zeros
5. Key administrative district (KRS)	1 (0)
7. Key commune (GMD)	3 (000)
8. Key communal district (OTT)	4 (0000)
9. Administrative street code (SSS)	5 (00000)

For the rest all data elements have to be filled with contents.

Exceptions are:

- Data element 11 (no existing addition to a street number),
- Data element 17, 18 (no existing adjust to the city name is registered by the Deutsche Post AG - as the reference database),
- Data element 19, 20 (which are optional).

In this cases the data elements are empty – this means that two semicolons follows on each other.

- The coordinate's values are standardized distributed by using the reference system Gauß-Krüger on the Bessel-Ellipsoid, datum Rauenberg, in the original meridian counted in meter, divided by a comma with 3 digits after the decimal point. On demand it is also possible all GK-coordinates values transform in one meridian and also choose otherwise UTM-coordinates (ETRS89) or geographical coordinates (datum Rauenberg or ETRS89) as the reference system for distribution.
- The syntax of street names is a string with special characters (for example „-“) and with or without abbreviations (for example “Str.” or “Straße”). The syntax in capitals is possible.
- The postal syntax of the street name (PSN) is not always equal to the official street name (STN) because of difference reasons. In case of equality the dataset can be empty. The distribution of this dataset is optional and on demand.
  - The Date of origin (AND) represents the date on which the data base was created. This date means i.g. the point of time when the databases of cadastre are read out and the house addresses are derived or changed.

The following example shows the structure of a dataset:

*Example (in common):*

NBA;DSN;QUA;LAN;RBZ;KRS;GMD;OTT;SSS;HNR;ADZ;YYYYYYY,YYY;XXXXXXXX,XXX;STN;PLZ;O  
NM;ZON;POT;[PSN];[AND]

Data elements 19, 20 are optional.

*example (concrete):*

N;502005478;A;05;3;15;000;0000;05705;43;;2575613,900;5643011,800;Wikingerstr.;51107;Köln;;Rath/  
Heumar;[Wikingerstr.];[01.06.2007]

N;501885656;A;05;3;15;000;0000;00748;18;a;2577589,300;5643600,500;Donarstr.;51107;Köln;;;Rath/  
Heumar;[Donarstr.];[01.06.2007]

....

Data elements 19, 20 are optional.

## 1.2 Structure of key data file

For the encryption of the key numbers in the data elements 4 to 7 – also called as communal indicator (LAN/RBZ/KRS/GMD) – and in the data element 8 (optional filled up communal districts (OTT)) there are key data files for every federal state in Germany. The datasets of the key data files are described by characters (for example L for „Land“) and defined by the numeric and described meaning of the keys (for example L;05;Nordrhein-Westfalen).

The structure of the key data file is as followed whereas the sequence of the datasets is optional:

1 federal state dataset	L;05;Nordrhein-Westfalen
n1 administrative district datasets	R;05;1;Düsseldorf
	(per administrative district there is 1 dataset)
	R;05;3;Köln
	R;05;5;Münster
	R;05;7;Detmold
	R;05;9;Arnsberg

n2 county datasets	K;05;1;66;Viersen (per county/city there is 1 dataset)
n3 commune datasets	G;05;1;66;016;Nettetal (per commune there is 1 dataset)
if existing:	
n4 communal district datasets	O;05;1;11;000;0001;Düsseldorf-Teil (per communal district 1 dataset)

- All data elements in a dataset are separated by semicolon.

## 2. Update

For Update the house addresses are delivered as a complete or a difference update-dataset (indicated by the clear identifier or alternative by the building object indicator (LAN/RBZ/KRS/GMD/OTT/SSS/HNR/ADZ)<sup>3</sup>. Fixed date for update is the first annual quarter. The datasets are equal to the specification in chapter 1.1. The key data file fits to the respective difference update-dataset.

## 3. Possible distributions

The house addresses are standardized spatial selected and distributed by the following criteria:

- administrative units (smallest unit: commune),
- zip code area (for example all house addresses in zip code area with leading numerics 50),
- geometrical area (bounding box, polygon).

The distribution of house addresses is as followed specified:

- by choosing a coordinate reference system (date: Rauenberg / ETRS89, projection: GK, UTM, geographic)
- by choosing coordinates in the original meridians / UTM-Zones or transformed in one meridian / UTM-Zone
- by choosing the distribution as a complete dataset or as a difference update-dataset<sup>4</sup>

<sup>3</sup> Contains data elements 4 to 11 in exceptional case when no history data can be ensured.

<sup>4</sup> Up to now this is not for all federal state datasets possible.

For further information please contact the Land Surveying and Mapping Agency of North Rhine Westphalia (LVerma NRW).

#### **4. glossary of data and key file**

The syntax for the data files is as followed in lower case letters standardized:

Examples:            ***adressen.txt***  
                          ***schluessel.txt***