Specification of barcodes for automatic reading and distribution in the DHL Paket parcel centres of Deutsche Post DHL

Description of how to create

- Identcode and Leitcode
- License Plate and Routing Code

(Version 2.6)

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References:

- Leitdaten Anwenderhandbuch (Routing Data User Manual), current version on CD-ROM Datafactory Cargo or at www.Postdirekt.de or www.dhl-geschaeftskundenportal.de .
- Check digit calculator for License Plate in accordance with GS1 Standard at: http://www.gs1-germany.de//service/pruefziffernrechner/index_ger.html
- ISO/IEC standards can be obtained via: www.beuth.de

1 Introduction

Computerised technology is used in the parcel centres of Deutsche Post AG to ensure that shipments are sorted rapidly.

Adding Leitcodes (Deutsche Post destination area codes) or Routing Codes to the shipments means that the time-consuming reading and coding of addresses is no longer required. The codes are read by barcode scanners and the parcel takes its course through the conveying and distribution systems.

Barcoded identifiers attached to the shipments enable the data of the parcels to be stored in the networked information system so that the identifiers can be used to distribute parcels accurately according to their destinations as well as to retrieve information, such as the current location of a parcel (tracking & tracing).

Additional barcodes are used to enable automatic reading of product or additional information.

All one-dimensional barcodes used in the 33 parcel centres are specified below and the Leitcodes and Identcodes or Routing Codes and License Plates are described in particular in great detail.

2 Printing and quality testing of one-dimensional barcodes at Deutsche Post DHL

All barcodes described below are of the one-dimensional barcode type. To ensure automatic barcode reading, the specifications described here must be met.

2.1 Quality of the barcodes

The barcodes created must achieve **quality class 3 (B)** in compliance with the EN ISO/IEC 15416 standard, version June 2002. Before sending the first parcels, quality checks are carried out by Deutsche Post DHL in the parcel centres. Quality class 3 (B) must also be achieved when using transparent film.

2.2 Dimensions

The ISO/DIN standards specified in each case apply to the structure of the barcodes. **In addition to this, the following provisions also apply in the area of DHL Paket of Deutsche Post DHL:**
The narrow bars (narrow lines) (X-module, Z-module) may have a width of between 0.33 mm and 0.50 mm, however only one width dimension per code may be used. **X-modules narrower than 0.33 mm are not allowed.** (Note: the X-module of 0.5 to 1.016 mm which is possible according to GS1 is not required here.)

The height of the barcodes (bar height, line height) must be no less than **25 mm** (barcodes to which this rule does not apply are specified in Item 3), the light zones to the left and right of the barcode must be at least **5 mm**.

The distance between two barcodes located next to each other must be at least 7 mm; the distance between two barcodes located on top of each other must be at least 3 mm.

2.3 Printer, paper, colour and adhesive

The following is recommended in order to meet the quality requirements:
The paper on which the codes are printed should be a light colour, preferably white. A matt black printing ink should be used for the best print results. (Print contrast value of over 75% in the 630 nm to 680 nm waveband). The lines in the codes must be uniformly black and have excellent contour sharpness. Deutsche Post DHL therefore recommends the use of thermodirect, thermotransfer, laser or equivalent printers. For the sake of the environment, recyclable paper and water-soluble ink as well as water-soluble, non-toxic acrylic-based dispersion adhesive (temperature-resistant -30° to +70° C) should be used.

3 One-dimensional barcodes for distribution and sorting

3.1 Leitcode

Barcode quality: Quality class 3 (B) acc. to EN ISO/IEC 15416

Barcode acc. to standard: Code 2/5 I acc. to ISO/IEC 16390

X-module: 0.33 mm minimum, 0.50 mm maximum ±3%

Barcode height: 25 mm minimum

Check digit: Calculated with factors 4 and 9

Barcode content: 14 numeric characters:

Digits	
5 3 3 2 1 14	Postal code Street code/ISO country code House number/international product Product code Check digit Total

See also Item 4.3

3.2 Identcode

Barcode quality: Quality class 3 (B) acc. to EN ISO/IEC 15416

Barcode acc. to standard: Code 2/5 I acc. to ISO/IEC 16390

X-module: 0.33 mm minimum, 0.50 mm maximum ±3%

Barcode height: 25 mm minimum

Check digit: Calculated with factors 4 and 9

Barcode content: 12 numeric characters (see also Item4.2)

3.3 License plate GS1 (EAN) (NVE)

Barcode quality:	Quality class 3 (B) acc. to EN ISO/IEC 15416
Barcode acc. to standard:	GS1-128 acc. to ISO/IEC 15417
X-module:	0.33 mm minimum, 0.50 mm maximum ±3%
Barcode height:	25 mm minimum
Barcode content:	20 numeric characters acc. to ISO/IEC 15459 (NVE) starting with “00” as data identifier
Barcode illustration:	See Item 5.1

3.4 License Plate ASC MH 10

Barcode quality:	Quality class 3 (B) acc. to EN ISO/IEC 15416
Barcode acc. to standard:	Code 128 acc. to ISO/IEC 15417
X-module:	0.33 mm minimum, 0.50 mm maximum ±3%
Barcode height:	25 mm minimum
Barcode content:	Alphanumeric characters acc. to ISO/IEC 15459 (ASC MH 10) only digits and UPPER CASE LETTERS no special characters or blanks starting with “J, 1J, 2J, 3J, 4J, 5J or 6J” as data identifier (DI) DI “J, 1J, 2J, 3J or 4J”: followed by 6 to 35 characters DI “5J or 6J”: followed by 6 to 20 characters
Barcode illustration:	See Item 5.1

3.5 Routing Code GS1 (EAN)

Barcode quality:	Quality class 3 (B) acc. to EN ISO/IEC 15416	
Barcode acc. to standard:	GS1-128 acc. to ISO/IEC 15417	
X-module:	0.33 mm minimum, 0.50 mm maximum ±3%	
Barcode height:	25 mm minimum	
Barcode content:	403	Data identifier
	Country code	3-digit numeric value
	Postal code	0 to 9 digits/uppercase letters no special characters no spaces no hyphens
	+	Plus character as separator
	Basic product	2-digit basic product
	Day	2-digit (optional)
	Time	1-digit (optional)
	Feature	3-digit (optional)
	+	Separator (essential if the 8 digits are not fully used additional information follows)
	Additional	6 numbers or 2 letters (optional) e.g. for Germany (see Item 5.2) Street code 3-digit street code House number 3-digit house number
Barcode illustration:	See example under Item 5.2	

3.6 Routing Code ASC MH 10

Barcode quality:	Quality class 3 (B) acc. to EN ISO/IEC 15416
Barcode acc. to standard:	Code 128 acc. to ISO/IEC 15417
X-module:	0.33 mm minimum, 0.50 mm maximum ±3%
Barcode height:	25 mm minimum

Barcode content:

2L	Data identifier
Country code	2-digit uppercase letters
Postal code	0 to 9 digits/uppercase letters no special characters no spaces no hyphens
+	Plus character as separator
Basic product	2-digit basic product
Day	2-digit (optional)
Time	1-digit (optional)
Feature	3-digit (optional)
+	Separator (essential if the 8 digits are not fully used additional information follows)
Additional	6 numbers or 2 letters (optional) e.g. for Germany (see Item 5.2) Street code 3-digit street code House number 3-digit house number

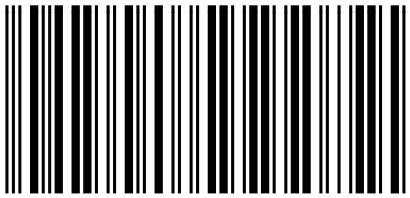
Barcode illustration: See example under Item 5.2

4 Identcode and Leitcode (2/5 Interleaved barcode type)

4.1 General information on Identcode and Leitcode

Identcode and Leitcode were introduced in 1994 for parcel distribution and are described in detail below. The other barcode types were introduced at a later stage to supplement the distribution system.

The barcodes used are of the type “Code 2 of 5 Interleaved (2/5 I)”. The rules for the barcode structure are described in the **ISO/IEC 16390** standard (first edition 1999-10-15). The deviations of the factors for the check digit calculation from the example in Annex A of the ISO/IEC 16390 standard (see Sections 4.2.3 and 4.3.5) should be noted.



4.1.1 Dimensions

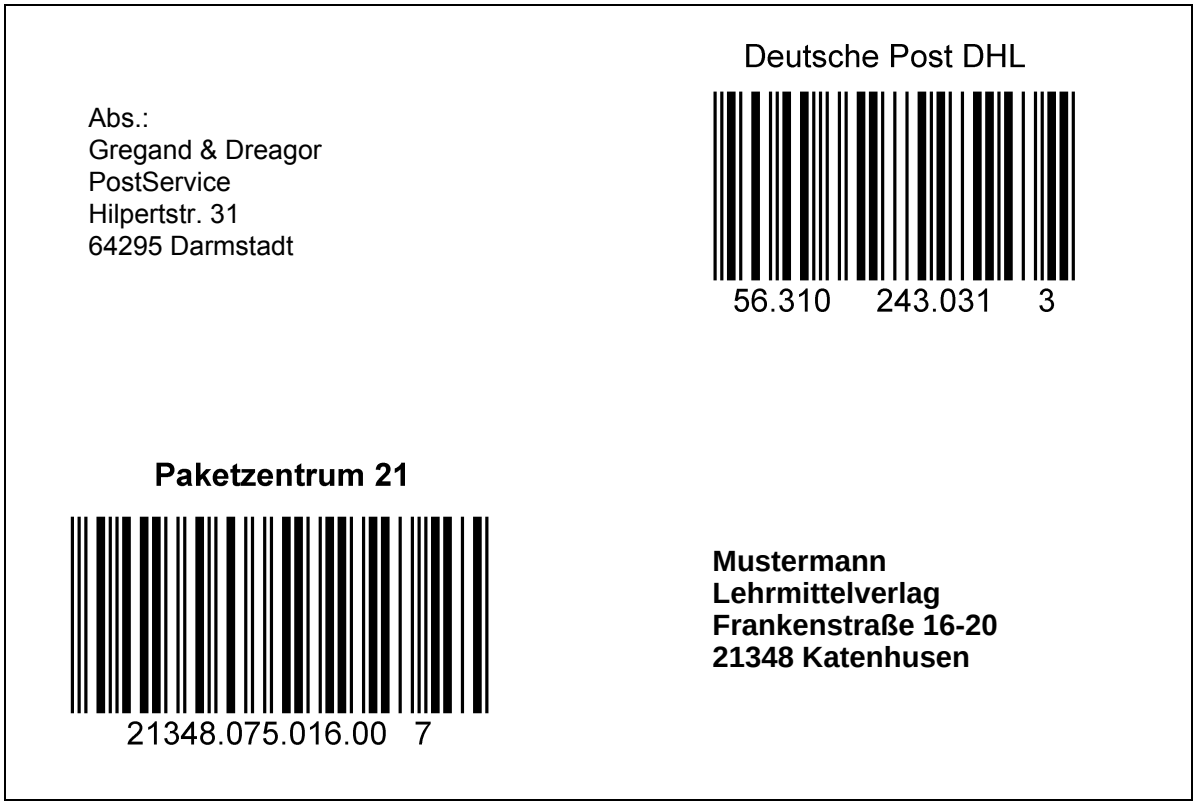
The printing and quality requirements described in Item 2 apply.

The ratio of narrow to wide modules should be 1:2; a ratio of up to 1:3 is also permitted but the ratio used should always be the same.

Based on the requirements, the length of the Leitcode, including the light zones, is between 44.98 mm and 77.50 mm and the length of the Identcode is between 40.36 and 68.50 mm.

Placing the Identcode and Leitcode (barcodes)

Where labels are used, the Leitcode is placed on the left hand side next to the address, the Identcode is located on the right hand side above the address.

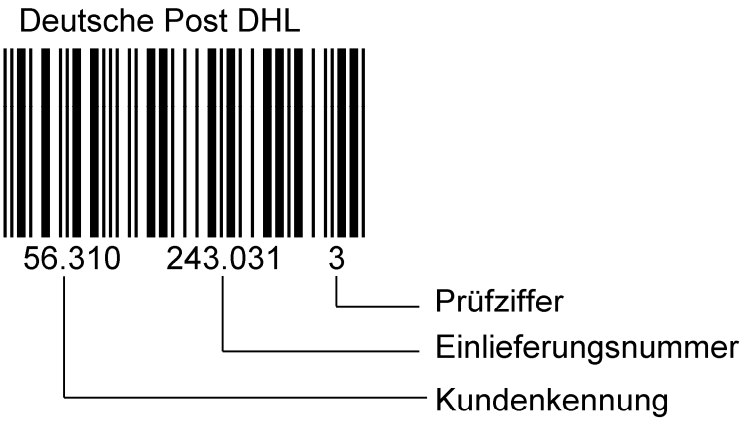


In exceptional cases, the codes, including plain text, may also be printed in a rotated way (90° anti-clockwise rotation). If the codes are placed on top of each other, the Identcode must be above the Leitcode with a distance of 3 mm between the codes. Barcode reading is possible even if the item is roll-shaped provided that the barcodes are attached side by side in longitudinal direction. The light zone between the codes must be no less than 7 mm. If placed side by side, the Identcode must be positioned to the left of the Leitcode.

The barcode labels must be affixed smoothly and so that they are bonded over the whole surface to ensure that they will not come off or become misaligned or illegible during transport. Transparent films covering the barcodes make automatic reading of the codes more difficult and should therefore not be used. A successful reading of the codes would only be possible if the film formed a completely flat and smooth surface over the codes. Cords or strings must not cover the barcode. An area of approx. 80 x 50 mm should be kept clear for affixing the labels.

4.2 Identcode

The 12-digit Identcode is used to uniquely identify a parcel. Other identifiers have been permitted since January 2004. These barcodes are described in the overview under Item 3.



4.2.1 Identcode structure

The first digits of the code contain a customer ID provided by Deutsche Post DHL. It is a three to eight-digit customer ID number, depending on how many parcels are sent per year. The posting number is a consecutive number for individual parcel identification. Depending on the length of the customer ID, the posting number that follows is three to eight digits long. It restarts at 0 once the end of the posting number range has been reached. The 12th digit is the check digit.

The numbering can be illustrated as follows:

Customer ID provided by DHL		Customer individual numbers	Check digit
3-digit customer ID	123	xxx xxx xx	P
4-digit customer ID	1234	xxx xxx x	P
5-digit customer ID	12345	xxx xxx	P
6-digit customer ID	123456	xxx xx	P
7-digit customer ID	1234567	xxx x	P
8-digit customer ID	12345678	xxx	P

4.2.2 Check digit

The check digits are calculated based on the standards, but using different factors. This is to prevent the customer's own barcodes on parcels, which also use the "2/5 I" barcode, from being misinterpreted in the parcel centre (see also Item 4.2.3)

Calculating the check digit

Step 1: Start with the digit on the extreme right (excluding the check digit) and add up every second value from right to left.

Step 2: Multiply the total from step 1 by 4.

Step 3: Add the values of the remaining digits.

Step 4: Multiply the total from step 3 by 9.

Step 5: Add the results from step 2 and step 4.

Step 6: The check digit is the smallest value resulting in a multiple of 10 when the result of step 5 is added to it.

Example of a check digit calculation

Identcode: 4 2 8 0 0 1 3 6 9 7 1

Step 1	1 + 9 + 3 + 0 + 8 + 4	=	25
Step 2	x 4	=	100
Step 3	7 + 6 + 1 + 0 + 2	=	16
Step 4	x 9	=	144
Step 5	100 + 144	=	244
Step 6	Next multiple of 10 is 250		
	250 – 244	=	6
	Check digit	=	6

4.2.3 Customer's own barcodes

We highly recommend that customers avoid using any "2/5 I" barcodes on shipments for company-internal purposes if possible. Where this is not feasible, customers must use their own barcodes of type "2/5 I" framed horizontally with a 0.4 mm wide line directly above and below the barcode lines. However, it is still not possible to guarantee then that the barcode is not read and misinterpreted in the distribution systems.

4.2.4 Formatting rules

"Deutsche Post DHL" is centred and printed above the Identcode. Below the code, the series of digits is printed in plain text. The following should be noted:

- A font size should be used that allows the letters and numbers to be read clearly
- After the customer ID, a pronounced gap should be left to separate the posting number that follows; alternatively, a hyphen can be used
- A period should be set as a separator between the parcel centre number and the customer ID
- The posting number is divided into groups of three digits using periods between starting on the right
- The check digit may be smaller than the other digits and should be set off by a space; alternatively, a hyphen can be used

The Identcode is shown in plain text in the posting list.

4.3 Leitcode

The 14-digit Leitcode contains information on the route of a parcel and identifies the product. A requirement for determining the Leitcode is that the postal address details are correct.

Since January 2004 a Routing Code may also be used for routing and product encoding (see Item 5.2).

4.3.1 Leitcode structure

The Leitcode contains 14 encoded digits. The first 11 digits contain information on the route of the parcel, followed by two digits for identifying the product (product code), e.g. “cash on delivery” or “carriage forward (postage not paid)”.

The Leitcode also has the check digit as its last digit. The text “Paketzentrum” (Parcel Centre) and the number of the inbound parcel centre are printed in the centre above the

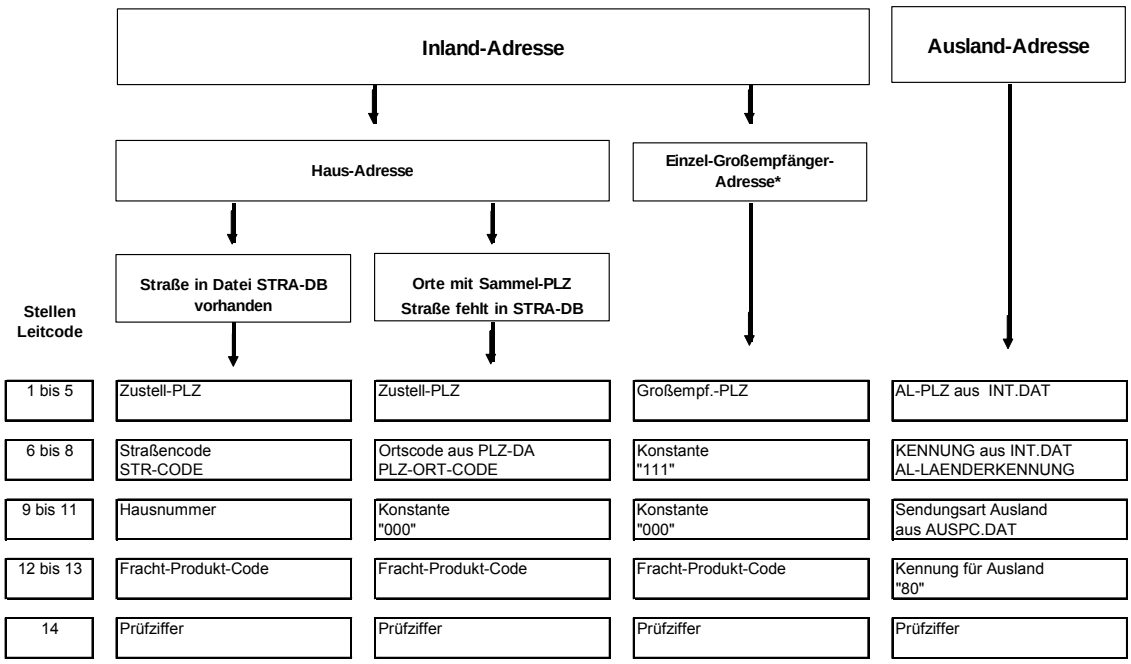
Leitcode. Plain text is printed here too below the barcodes and subdivided by periods after the 5th, 8th and 11th digits. The check digit is set off by a space or alternatively a hyphen is used as separator.

The scanners are set to read the exact number of digits. This is why any redundant digits of the Leitcode must be filled with leading zeros.

4.3.2 Overview of address details that can be coded in the Leitcode

The exact determination of the Leitcode from the address data at Deutsche Post DHL is described in the “Postleitdaten-Anwenderhandbuch” (Postal Routing Data User Manual). This manual is stored on the “Datafactory Cargo” CD together with the current address data. The CD is delivered to contract customers on a quarterly basis. This CD can be obtained from Deutschepost Direkt GmbH, including online at

Internet: www.postdirekt.de
E-mail: postdirekt@deutschepost.de or
Internet: www.dhl-geschaeftskundenportal.de



* Group bulk recipients are coded using house addresses.

4.3.3 Leitcode structure for domestic dispatch

4.3.3.1 Postal code

Digits 1 to 5

(Range of values 01001 to 99999)

The five-digit delivery postal code or the individual bulk recipient postal code specified in the address of the corresponding shipment is shown here. P.O. box postal codes will be

rejected. For group bulk recipients the house address must be extracted from the GROSS-DA file and used for the encoding.

4.3.3.2 Street code, city code, individual bulk recipient constant

Digits 6 to 8

(Range of values 000 to 990)

Street code

The nationwide street file STRA-DB information is required for the conversion of street names into barcode. This file contains the delivery postal codes (digits 1 to 5 of the Leitcode) for each valid street section as well as the street code (STR-CODE field). The street sections are divided in such a way that only house numbers with the same thousands digit are grouped together in a street section.

The small number of streets in Germany where house numbers are higher than 999, 1999, 2999, etc. are assigned special street codes for each existing set of house numbers covering a range of a thousand numbers.

Special instructions regarding the determination of street codes

If a street in the STRA-DB is not unique, i.e. STR-ALORT, STR-NAMEN-SCHL, STR-NAEM, STR-PLZ are identical and only the neighbourhood key and street code are different, the neighbourhood name (OT08 from the OTL-DB) must also be used in order to determine the correct street code.

If the neighbourhood name cannot be determined from the address, the address must be verified prior to delivery, if necessary using address verification cards.

Street code determination can cause problems for operational reasons and reasons related to data technology. The following suggestions should be considered:

- If a valid record and an archived record exist for a street, the valid record should always be used first.

- Spelling errors in addresses/similarities in street names (except prefixes and suffixes) are usually causes for an incorrect street code – extract the address and check the details, using the address verification card if necessary.

In rural areas, several small localities are often assigned one delivery postal code (consolidated postal code). The PLZ-ORT-CODE field is filled in this case. Where this is the case, it may be that several streets with the same name have the same postal code. If this is so, it is essential to ensure that the name of the locality (PLZ-DA file) is used when determining the street code.

City code

If in one of these localities with a consolidated postal code a street to be encoded cannot be identified in STRA-DB, the city code “PLZ-ORT-CODE” from the PLZ-DA file must be entered in digits 6 through 8 of the Leitcode.

Individual bulk recipient

The constant “111” is used as the code for individual bulk recipients.

Exception
In order to correctly determine the street code, the programming guidelines in Section 4 should be consulted. If a street code cannot be determined in spite of adhering to the rules described above, 000 should be entered as digits 6 to 8 of the Leitcode.

4.3.3.3 House number

Digits 9 to 11 (Range of values 000 to 999)

The house number is entered in the code in three digits, for house numbers higher than 999 only the last three digits of the house number are used.

Because each house number range between 1000 and 1999, 2000 and 2999, etc. is assigned its own street code, the thousands digit is not needed in the barcode. It is stored in the STRA-DB file in the STR-HNR-1000 field.

The street file does not contain house numbers for streets that are not subdivided (streets in one postal code range and in one neighbourhood). Only the STR-HNR-1000 field needs to be used.

In the case of individual bulk recipient postal codes 000 must be entered as the digits here.

4.3.3.4 Product code

Digits 12 to 13 (Range of values 00 to 90)

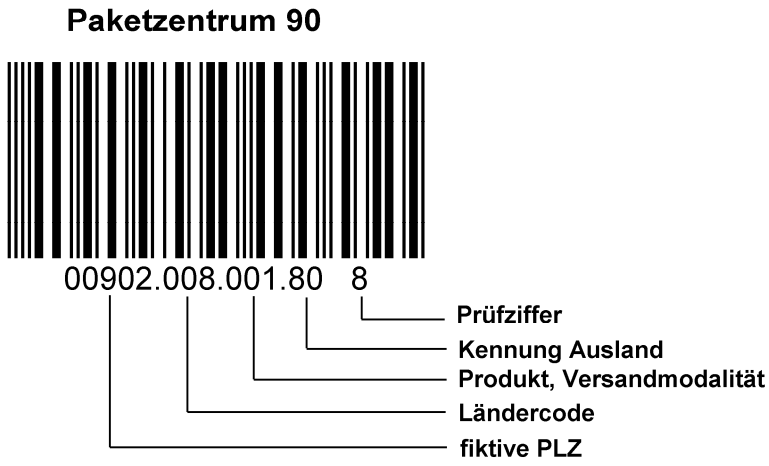
These digits are needed to encode shipping modalities or product identifications. The General Terms and Conditions contain the binding product determination. The corresponding product codes can be found in the product code file (FPC.DAT) stored on the Datafactory Cargo CD-ROM.

Product codes for DHL Infopost

Various discounts on charges are granted for the delivery of DHL Infopost items in conurbations and densely populated areas. The conurbations and densely populated areas are determined by the postal code sequences. These are mapped in the PLZ-DB file in the PLZ-RABATT-INFO-SCHWER field (= mapping of the corresponding product code to the relevant postal code). The following product codes apply to DHL Infopost:

Product code	Description	In PLZ-DA PLZ-RABATT-INFO-SCHWER file
6 0	Delivery outside conurbations and densely populated areas	0
6 5	Delivery in conurbations	1
6 6	Delivery in densely populated area I	2
6 7	Delivery in densely populated area II	3
6 8	Delivery in densely populated area III	4

4.3.4 Leitcode structure for international dispatch



4.3.4.1 Fictitious postal code

Digits 1 to 5

(Range of values 00001 to 00999)

Depending on the shipment type (See-Paket; Economy-Paket, Premium-Paket, Economy-Päckchen, Premium-Päckchen, DHL Europaket), digits 1 to 5 of the Leitcode for international addresses contain a fictitious postal code, taken from fields AL06 to AL11 of the INT.DAT file. In contrast to real German postal codes, the fictitious postal codes begin with “00”.

4.3.4.2 Country code

Digits 6 to 8

(Range of values 000 to 990)

These digits represent the ISO 3166 country code, taken from field AL02 (AL-LAENDERKENNUNG) in the INT.DAT file.

4.3.4.3 International products

Digits 9 to 11

(Range of values 000 to 999)

These digits are needed to encode shipping modalities or product identifications. The relevant product codes are in the product code file for international parcel shipments (AUSPC.DAT).

4.3.4.4 International code

Digits 12 and 13

(Range of values 80)

The number “80” is entered here as the code for international shipments.

4.3.4.5 Special features of the Leitcode for international dispatch

The words “Paketpostzentrum” (Parcel Centre) and the number of the inbound parcel centre are printed above the Leitcode. The number is made up of positions 3 and 4 of the fictitious postal code. This number usually corresponds to the international inbound parcel centre, but in some cases it may be a fictitious parcel centre number.

The last line of the address is used to indicate the destination country in upper-case plain text, in German or French.

4.3.5 Check digit

Digit 14

(Range of values 0 to 9)

The check digits are calculated based on the standards, but using different factors. This is to prevent the customer’s own barcodes on parcels, which also use the “2/5 I” barcode, from being misinterpreted in the parcel centre (see also Item 4.3.6)

Calculating the check digit

Step 1. Start with the digit on the extreme right (excluding the check digit) and add up every second value from right to left.

Step 2. Multiply the total from step 1 by 4.

Step 3. Add the values of the remaining digits.

Step 4. Multiply the total from step 3 by 9.

Step 5. Add the results from step 2 and step 4.

Step 6. The check digit is the smallest value resulting in a multiple of 10 when the result of step 5 is added to it.

Example of a check digit calculation

Leitcode:	3 5 4 2 8 0 0 1 3 6 9 7 1		
Step 1	1 + 9 + 3 + 0 + 8 + 4 + 3	=	28
Step 2	x 4	=	112
Step 3	7 + 6 + 1 + 0 + 2 + 5	=	21
Step 4	x 9	=	189
Step 5	112 + 189	=	301
Step 6	Next multiple of 10 is 310		
	310 – 301	=	9
	Check digit	=	9

4.3.6 Customer's own barcodes

We highly recommend that customers avoid using any "2/5 I" barcodes on shipments for company-internal purposes if possible. Where this is not feasible, customers must use their own barcodes of type "2/5 I" framed horizontally with a 0.4 mm wide line directly above and below the barcode lines. However, it is still not possible to guarantee then that the barcode is not read and misinterpreted in the distribution systems.

5 Creating License Plate and Routing Code

5.1 Identifier as License Plate (LP)

The Identcode as identifier was introduced in 1994 for parcel distribution as a proprietary system of Deutsche Post and is described in detail in Item 4.

A License Plate as identifier is a supplement to the existing system. A License Plate is an international unique identifier of a package. The identifications, the number ranges, etc. are assigned by independent organisations (GS1= Global Standard 1 or ASC= Accredited Standards Committee). Participation in the system requires membership in one of the relevant organisations.

Example of a License Plate in the GS1 standard:

* GLN = Global location number according to DHL, variable length

** Variable length (depending on length of the GLN)

*** Check digit GS1 according to the check digit calculator for NVE (SSCC)-18 at
http://www.gs1-germany.de//service/pruefziffernrechner/index_ger.html

The numbering can therefore be illustrated as follows:

	DB	Reserve digit	GLN provided by DHL	Customer individual numbers	Check digit
7-digit basic number	00	3	123 456 7	xxx xxx xxx	P
8-digit basic number	00	3	123 456 78	xxx xxx xx	P
9-digit basic number	00	3	123 456 789	xxx xxx x	P
10-digit basic number	00	3	123 456 789 1	xxx xxx	P
11-digit basic number	00	3	123 456 789 12	xxx xx	P
12-digit basic number	00	3	123 456 789 123	xxx x	P
13-digit basic number	00	3	123 456 789 123 4	xxx	P

Example of a License Plate in the ASC MH 10 standard:

5.2 Routing Codes (RC)

The Routing Code is a supplement to the 14-digit Leitcode previously used. All the information contained in the previous Leitcode can also be encoded in the Routing Code.

For coding the information in the Routing Code, there are two options which are described under Items 3.5 and 3.6.

How to create a Routing Code for shipments in Germany and for international shipments from the information contained in the Leitcode is described below. The Routing Code structure can be seen from the examples shown.

5.2.1 Routing Code for Germany

Data identifier: 403 for code GS1 128
2L for code 128

ISO 3166 country code:
276 for code GS1 128
DE for code 128

Postal code: Postal code from the routing data (as previously)

Separator: +

Product: The product is encoded in the RC in 8 digits and not – as previously in the Leitcode – in 2 digits. For national products in Germany the 2-digit product codes continue to apply. They can be found as before in the “FPC.DAT” file on the “Datafactory Cargo” CD-ROM. These are now represented in the 8-digit product code as follows:

Digits 1and 2: “Product code basis”:	99
Digit 3 and 4 “Product code day”	00
Digit 5 “Product code time”	0
Digit 6 “Product code feature”	9
Digits 7 and 8 “Product code feature”	xy

whereby xy is the previous 2-digit product code from FPC.DAT.

Street code: Street code from the Datafactory Cargo routing data CD (as previously)

House number: As previously in the Leitcode

A second “+” separator is not needed because the 8 digits are fully used for the product.

Example of a national Routing Code in 128 code in the GS1 (EAN) standard, preferred version:

Example of a national Routing Code in 128 code in the ASC MH10 standard:

5.2.2 International Routing Code

Data identifier: 403 for code GS1 128
2L for code 128

ISO 3166 country code:
3 digits for code GS1 128
2 letters for code 128

Postal code 0 to 9 digits, postal code of the country, uppercase letters, none Spaces, no hyphens, no special characters

Separator: +

Product: 8 digits, see Items 5.2.2.1 and 5.2.2.2

5.2.2.1 International DHL products

International DHL parcels for the “Day Definite” product group are distributed in the parcel centres. These are the following products with the product code specified below:

DHL Europaket,
Product code basis: 03
Product code day: 00
Product code time: 0
Product code feature: see “Product Features” table

5.2.2.2 International postal products

International postal products are distributed in the parcel centres. These are the following products with the product code specified below:

Weltpaket See,
Product code basis: 65
Product code day: 00
Product code time: 0
Product code feature: see “Product Features” table

Weltpaket Economy,
Product code basis: 66
Product code day: 00
Product code time: 0
Product code feature: see “Product Features” table

Weltpaket Premium,
Product code basis: 67
Product code day: 00
Product code time: 0
Product code feature: see “Product Features” table

PÄCKCHEN Economy,
Product code basis: 68
Product code day: 00
Product code time: 0
Product code feature: see “Product Features” table

PÄCKCHEN Premium / Luftpost (airmail),
Product code basis: 69

Product code day: 00
Product code time: 0
Product code feature: see “Product Features” table

“Product Features” table

		Product code basis ►	65	66	67	68	69	03
Product code feature ▼	ROUTING CODE DESCRIPTION	ROUTING CODE LABEL	Weltpaket See	Weltpaket Economy	Weltpaket Premium	PÄCKCHEN Economy	PÄCKCHEN Premium	DHL Europaket
000	NO FEATURE		x	x	x	x	x	x
001	CUSTOMS CLEARANCE	C						x
002	CASH ON DELIVERY	C.O.D.		x	x			
004	EX-WORKS							
016	RUECKSCHEIN (Advice of delivery)	RUCKS		x	x			
032	SPERRGUT (Bulky goods)	NMF		x	x			
064	AUSFUHRANMELDUNG (Export declaration) (Legal Export Handling)	SX	x	x	x			

Combinations of different “product code features” are created by adding the individual “product code features”, e.g.
Cash on delivery 002 plus
Rückschein (Advice of delivery) 016
Feature result 018

Example of an international Routing Code in 128 code, in the ASC MH10 standard, preferred version

Example of an international Routing Code in 128 code in the 128 GS1 (EAN) standard:

6 Barcodes as a means of managing the distribution system

6.1 Product code on label (readout by PALS)

In order to allow the Parcel Address Reading System (PALS) to identify the product, it is encoded as a six-digit series of numbers within the barcode (data pulse). The data identifier is “96”. To make for a compact presentation in the code 128 GS1, the 8 numbers are shown as number pairs. This can be achieved by selecting the start character “C”.

Barcode quality:	Quality class 3 (B) acc. to EN ISO/IEC 15416
Barcode acc. to standard:	GS1-128 acc. to ISO/IEC 15417
X-module:	0.33 mm minimum, 0.5 mm maximum ±3%
Barcode height:	10 mm minimum
Check digit:	In accordance with ISO/IEC 15417
Barcode content:	8 numeric characters:
Barcode illustration:	


FNC1-Zeichen
Prüfziffer Code 128
Startzeichen C
Stoppzeichen
(96) 999997
Zahlenpaare
Datenbezeichner

6.2 Control code on delivery labels

Barcode quality:	Quality class 3 (B) acc. to EN ISO/IEC 15416
Barcode acc. to standard:	Code 128 B acc. to ISO/IEC 15417 Start character “B”
X-module:	0.33 mm minimum, 0.5 mm maximum ±3%
Barcode height:	25 mm minimum
Barcode content:	5 alphanumeric characters: DPAGZ (adhesive label “Zur Leitcodierung” (For Routing Code)) DPAGR (adhesive label “Rücksendung” (Return)) DPAGN (adhesive label “Nachsendung” (cash on delivery))

6.3 Postnumber code for Packstation

Barcode quality:	Quality class 3 (B) acc. to EN ISO/IEC 15416
Barcode acc. to standard:	Code 2/5 I acc. to ISO/IEC 16390
X-module:	0.33 mm minimum, 0.5 mm maximum ±3%
Barcode height:	25 mm minimum
Check digit:	Calculated with factors 4 and 9
Barcode content:	10 numeric characters:

6.4 Barcode PDF 417 for redirections

The two-dimensional barcode described here is used internally to redirect items. This involves sticking a redirection label with the address to be redirected to (encrypted in the 2D code) on the item.

The 2D code is automatically read by PALS in the distribution system or is recorded by hand-held scanners at the coding stations for shipments that are not suitable for machine processing (nmf stations). The distribution information is extracted from the 2D code and used for distribution.

Barcode quality:	Quality class 3 (B) acc. to DIN EN ISO/IEC 15415
Barcode acc. to standard:	ISO/IEC 15438
X-module width:	0.33 mm minimum ±3%
X-module height:	3 times the X-module width
Error correction level:	5
Barcode content:	IFTMIN D99B: This content is described in a separate document.