EUDAMED

Format of the EUDAMED DI identification number

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1 Introduction

In order to keep a consistency in the formatting structure of the EUDAMED DI and the Basic UDI-DI structures used by Issuing Entities, EUDAMED proposes a structure similar to the Global Model Number (GMN).

Key characteristics of the format structure:

• 25 characters maximum length of the identifier (including the prefix and check digits).

• Allows the use of characters inside the code - permits the use of a subset of characters already implemented in other formatting structures by other entities.

• Implements a two key check-digit.

• Prefix (B-) implemented in order to create an easily recognisable format for EUDAMED DI.

NOTE
Because the format for generating EUDAMED DI codes does not necessarily include the unique identification number of the manufacturer provided by EUDAMED (i.e. the manufacturer's SRN), there is a risk that the same code is assigned by two different manufacturers for different Devices.

TIP
As best practice, the unique identifier assigned by the manufacturer should include its SRN (see Section Format for EUDAMED DI code [2]) for the generation of EUDAMED DI.

In order to prevent registration of duplicates, EUDAMED DI together with the Issuing Entity (EUDAMED DI and EUDAMED ID will have by default the issuing entity *EUDAMED*) are checked for uniqueness. In the case where a manufacturer has already registered a Legacy Device with a EUDAMED DI code, any other Legacy Device to which the same EUDAMED DI code would have been assigned will be refused for registration.

2 Format of the EUDAMED DI code

The table below presents the format of the EUDAMED DI code.

Prefix	Manufacturer`s unique reference	Check Characters
B -	C1…..Cn (n<=21)	Cn+1 Cn+2
B-' - Prefix defined for EUDAMED DI (required by default) - not taken into account into the Check-digit calculation		
C - characters used in the Code generation		
C1-Cn - Unique identifier assigned by the Manufacturer for the Device. Cannot go above 21. Optionally can include in the beginning the SRN of the Manufacturer (without the '-' characters) : C1...C13		
Cn+1 and Cn+2 - Check Digit characters		

Calculation steps

Follow the steps listed below to calculate the EUDAMED DI code.

1. Assigning a reference value
   For each character inside the Code, except the first 2 characters composing the prefix ('B-'), identify the assigned value in Reference values for the characters used in the Code [4].

2. Assigning a prime number weight for each element
   Assign a prime number weight – starting with the right most non-check digit character and continuing until the first character in the Code.

   > **NOTE**
   > The first 21 prime numbers: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73.

3. Determine the total value
   Multiply the Reference value assigned in Step 1 and the weight assigned in Step 2 for each character and calculate the total of the values obtained.

4. Apply Modulo 1021 to the total value obtained
   Perform MOD (1021) operation on the sum obtained in Step 4. The value obtained will be used for further calculations of the Check-digit number – Ck.
   Ck= Mod (1021) Total Value (value of Step 3).

5. Determine the value of the first Check-digit
   The Assigned value for the first Check-Digit is obtained by obtaining the integer value of the Check-digit number (value Step 4) split by 32: Assigned value= Int(Ck / 32).
   The Assigned value obtained will be used in Table 2 in order to obtain the corresponding Character set for Check-Digit C(n+1).

6. Determine the value of the second Check-digit
   The Assigned value for the second Check-Digit is obtained by applying Modulo 32 to the Check-digit number (value Step 4): Assigned value = Mod(32)Ck.
   The Assigned value obtained will be used in Table 2 in order to obtain the corresponding Character set for Check-Digit C(n+2).

3 Reference values for the characters used in the Code

Character set	Assigned Value	Character set	Assigned Value	Character set	Assigned Value
!	0	B	30	e	60
"	1	C	31	f	61
%	2	D	32	g	62
&	3	E	33	h	63
'	4	F	34	i	64
(	5	G	35	j	65
)	6	H	36	k	66
*	7	I	37	l	67
+	8	J	38	m	68
,	9	K	39	n	69
-	10	L	40	o	70
.	11	M	41	p	71
/	12	N	42	q	72
0	13	O	43	r	73
1	14	P	44	s	74
2	15	Q	45	t	75
3	16	R	46	u	76
4	17	S	47	v	77
5	18	T	48	w	78
6	19	U	49	x	79
7	20	V	50	y	80
8	21	W	51	z	81
9	22	X	52		
:	23	Y	53		
;	24	Z	54		
<	25	_	55		
=	26	a	56		
>	27	b	57		
?	28	c	58		
A	29	d	59		

4 Reference value for Check-digit calculations

Character set	Assigned Value	Character set	Assigned Value	Character set	Assigned Value
2	0	D	11	Q	22
3	1	E	12	R	23
4	2	F	13	S	24
5	3	G	14	T	25
6	4	H	15	U	26
7	5	J	16	V	27
8	6	K	17	W	28
9	7	L	18	X	29
A	8	M	19	Y	30
B	9	N	20	Z	31
C	10	P	21		

NOTE
In order to avoid possible confusions generated by the use of similar characters, the following elements have been omitted from the list of character sets: 0 and O, 1 and I.

5 Calculation examples

Example 1

Manufacturer SRN: **BE-MF-000000106**

NOTE

Providing the SRN is optional, but is recommended. If providing the SRN the separation '-' characters shall not be included (in order to optimise the number of characters available for the manufacturer to assign a Device identifier).

Manufacturer Code provided for the product: **CR023335**

EUDAMED DI: **B-BEMF000000106CR023335WE**

EUDAMED ID: **D-BEMF000000106CR023335WE**

	Prefix		Unique ID provided by the Manufacturer																						Check-Digit	
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25
EUDAMED DI obtained value	B	-	B	E	M	F	0	0	0	0	0	0	1	0	6	C	R	0	2	3	3	3	5	W	E
Assigned reference value			30	33	41	34	13	13	13	13	13	13	14	13	19	31	46	13	15	16	16	16	18		
Assigned weight			73	71	67	61	59	53	47	43	41	37	31	29	23	19	17	13	11	7	5	3	2		
Total			2190	2343	2747	2074	767	689	611	559	533	481	434	377	437	589	782	169	165	112	80	48	36		

Total value	16223	
CK (Mod (Total value); (1021))	908	
Assigned value C24 = Integer value of (CK / 32)	28	**Corresponding Character = W**
Assigned value (C25) = Mod(CK ;32)	12	**Corresponding Character = E**

Example 2

Manufacturer Code provided for the product: **CR0233**

EUDAMED DI: **B-CR023368**

EUDAMED ID: **D-CR023368**

	Prefix		Unique ID provided by the Manufacturer						Check-Digit	
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
EUDAMED DI obtained value	B	-	C	R	0	2	3	3	6	8
Assigned reference value			31	46	13	15	16	16		
Assigned weight			13	11	7	5	3	2		
Total			403	506	91	75	48	32		
Total value	1155									
CK (Mod (Total value);(1021))	134									
Assigned value C9 = Integer value of (CK / 32)	4		Corresponding Character = 6							
Assigned value (C10) = Mod(CK ;32)	6		Corresponding Character = 8							