1 HOW TO CALCULATE THE CONTROL CHARACTER FOR VERIFYING THE AUTHENTICITY OF FINNISH BUSINESS IDS AND PERSONAL IDS

Version history

Date	Version	Description
1. Jan 2023	2.0	Starting 2023, the following new characters can be present in personal identity codes: B, C, D, E, F, X, Y, W, V and U
14 May 2002	1.0	First version

1.1 THE FINNISH BUSINESS IDENTITY CODE = THE BUSINESS ID

Business IDs are comprised of an individualised string of numbers and a control character, in this order. The individualised string consists of seven numbers that run in sequence.

The format of the ID is NNNNNNN-T where "NNNNNNN" is the number running in sequence, and "T" – the control character. The following calculation formula applies:

1. Multiply, starting from the right, each one of the digits in "NNNNNNN":

Multiply the first	number	by	
2,			
then multiply the second	"	" 4	
Multiply the third	"	"	8
Multiply the fourth	"	"	5
Multiply the fifth	"	"	10
Multiply the sixth	"	"	9
and the seventh	"	"	7

2. Add all the products of the above multiplication together.

3. Divide the sum by 11.

4. The control character must be set as:

0	if after the division, the remainder = 0
11- remainder,	if the division's remainder > 1

If division results in a remainder of "1", the ID is invalid, i.e. not used.

If you have a sub-accounting unit ID, you can use it only to verify the control character of the company's main Business ID (the 8th character from left).

1.2   PERSONAL IDENTITY CODES

Finnish personal identity codes are issued by the Population Register Centre (DVV). They consist of a string of numbers that indicates the individual's date of birth, an individualized string, and a control character.

Examples: 150600A905P

- 150600 = Date of birth
- A = the character in the middle
- 905 = the individualised string
- P = Control character

Date of birth

The format of the date is six digits: days are indicated by the first two, months by the third and second; and the year is indicated by the fifth and sixth digits.

The character in the middle

- New mid-characters introduced as of the beginning of 2023 are B, C, D, E, F, X, Y, W, V and U.

The convention for the mid-character is:

- Year of birth in 1800's → + (the plus sign),
- Year of birth in 1900's → - (minus sign) and Y, X, W, V, U (capital letters)
- Year of birth in 2000's → A, B, C, D, E, F (capital letters).

The individualised string

The string's purpose is to differentiate between people born on the same day. Individualised strings are numbers consisting of three digits: it is an odd number for men, and an even number for women.

The control character

The control character is either a number or a letter. The calculation formula is to divide the value of the nine-digit string made up by the date of birth and the individualised string by 31. Then the the value of the division's remainder

determines the control character:

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

You must compare the control character you get with the control character of the personal ID you need to check. When filling in an itemisation, do not leave out the hyphens and other middle characters of Business IDs and personal identity codes.