

**Table of Contents**

<b>DC10ChGear</b> .....	3
<b><i>IMPLEMENTATION</i></b> .....	3
Error .....	3



## DC10ChGear

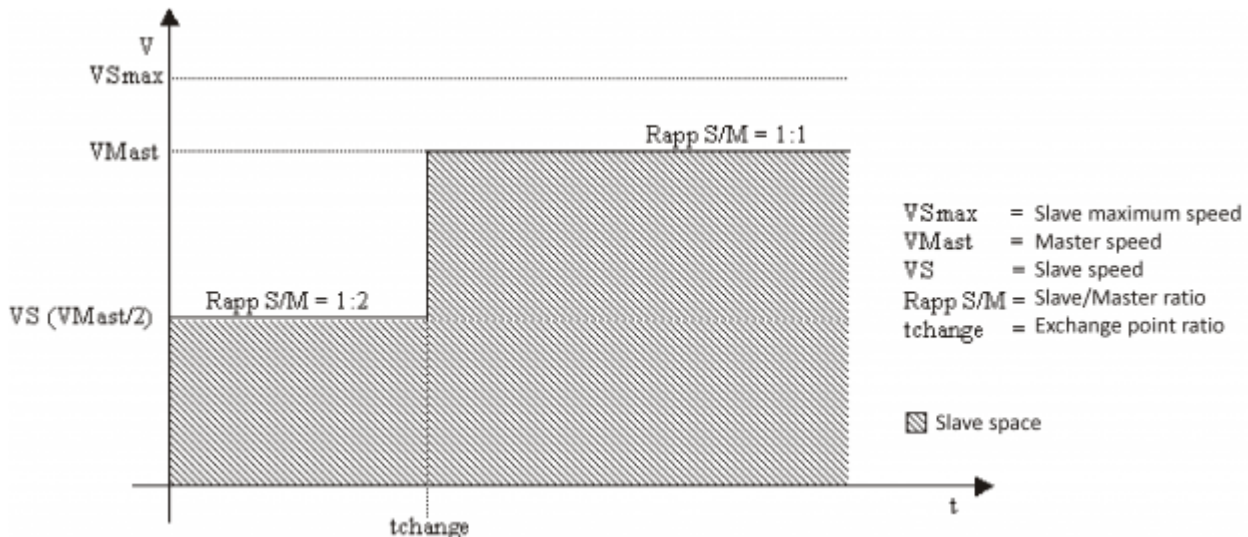
**D** = Device(CAMMING2, CAMMING3)

**C** = Calculation functions

The DC10ChGear function allows you to change “on the fly” the synchronism of a gearing ratio Master-Slave, an electronic cam built in computation of the **DC10EIGear** function.

The gearing is a system that links a Slave axis an Master axis by a ratio of timing adjustable.

Below is a chart showing the progress of the Slave with respect to Master. The point described as “tchange” in the graph, represents the time when you change the sync relationship. Slave/Master sync ratio on the graph changes from 1:2 (aslParam[1] = 500) to 1:1 (aslParam[1] = 1000)



## IMPLEMENTATION

### DC10ChGear (cmSlave, aslParam, ChangeExe, ErrChRapp)

Parameters:

IN/OUT	VARIABLE TYPE	EXAMPLE NAME	DIM	
IN	CAMMING2 / CAMMING3	cmSlave	-	Device type to which you can apply the function
IN	ARRSYS	aslParam [1]	L	Synchronous Slave/Master relationship (1000=1:1) (possibility of minimum variation of 1%)
IN	ARRSYS	aslParam [2]	L	Maximum Slave speed (UM/sec) [1÷999999]
IN	ARRSYS	aslParam [3]	L	Master speed reference (UM/sec) [1÷999999]
OUT	GLOBAL	ChExecut	F	Flag (to toggle) to change the cam
OUT	SYSTEM	Errore	B	Error var intervened

### Error

Once the error variable function assumes certain values, the meaning of these values is summarized below:

- 0: calculation executed without errors
- 1: Sync ratio equal to 0
- 2: Master speed less than or equal to 0
- 3: Slave max speed less than or equal to 0
- 4: “Measure” parameter less than or equal to 0
- 5: Calculated Slave speed greater than the maximum Slave speed

### Example

```

MAIN:
  IF gfChGear
    gfChGear = 0
    aslParam[1] = 1000 ;Slave/Master ratio (1:1)
    aslParam[2] = 4000 ;Maximum Slave speed
    aslParam[3] = 1500 ;Master reference speed
    DC10ChGear (cmSlave, aslParam, ChangeExe, ErrChRapp)
  ENDIF

```

**Operation notes**

- The sync relationship (aslParam[1]) can also be set to negative, in that case the Slave follows the relationship of timing set but going in the back direction
- The change takes place without any ramp as shown in the chart above
- The number of sectors used is 8
- The function contains instructions to wait that block the task that hosts, It is recommended that you create a separate task that contains the function or put the function in a task that can be stopped.

Documento generato automaticamente da **Qem Wiki** - <https://wiki.qem.it/>

Il contenuto wiki è costantemente aggiornato dal team di sviluppo, è quindi possibile che la versione online contenga informazioni più recenti di questo documento.