FUN98 TRACKING TYPE RAMP FUNCTION FOR D/A OUTPUT RAMP2 -98.RAMP2-Execution EN -Om: -ACC

Ta:

Td:

Rt:

Rc:

WR:

-DEC

FUN98 RAMP2

Om: Maximum output; range from 0~65535

Ta: The acceleration time for the output from 0 up to maximum:

Range from 0~65000, unit is in mS

Td: The deceleration time for the output from maximum down to 0:

Range from 0~65000, unit is in mS

Rt : Register of target output; Range from 0~65535

Rc: Register of current output, it is used for analog output

WR: Starting address of working registers, it needs 4 registers

* This instruction can be supported in PLC OS firmware V4.60 or late

72	HR	OR	ROR	DR	K
Range	R0	R3904	R5000	D0	
Inge Operand					16bit
ਰ /	R3839	R3967	R8071	D3999	
Om	0	\circ	0	\circ	0~65535
Ta	0	0	0	\circ	0~65000
Td	0	\circ	0	\circ	0~65000
Rt	0	0	0	0	
Rc	0	0	0	0	
WR	0	0	\bigcirc^*	0	

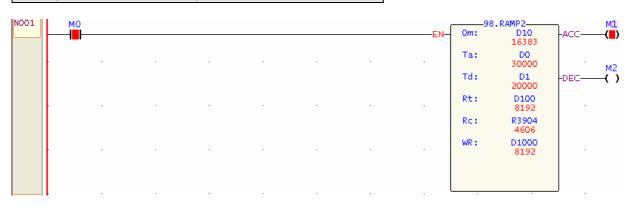
- When execution "EN" =0, current output value (Rc) will be 0 immediately; the output indicators ACC=0 and DEC=0.
- When execution "EN" = 1, this instruction being executed; it will output current value (Rc) first, and then compare the target output value (Rt) with current output value (Rc) every scan; if the target output value is greater than current output value, the current output will be increased according to the rate, which is decided by the settings of acceleration time (Ta) and maximum output (Om), till current output value is equal to the target output value (ACC=1 during this time); if the target output value is less than current output value, the current output will be decreased according to the rate, which is decided by the settings of deceleration time (Td) and maximum output (Om), till current output value is equal to the target output value (DEC=1 during this time).
- If the setting value of target output (Rt) is greater than maximum output(Om), the output value will be clamped by the maximum value.
- It can have smooth activity for acceleration and deceleration control via the execution of this instruction by using current output value (Rc) for analog output (R39044~R3967).
- The setting value of target output (Rt) needs to stay two scan times at least for proper operation.
- It needs 4 registers for working, they can not be repeated in use •
- This instruction is for positive value operation, but it also can have negative output by short and easy application program for help. Please see example 2.

FUN98 RAMP2

TRACKING TYPE RAMP FUNCTION FOR D/A OUTPUT

FUN98 RAMP2

Example 1: Positive output for ACC/DEC control



D10 : Setting of maximum output, it is 16383

 ${\tt D0} \quad : \ \, {\tt The \ acceleration \ time \ for \ the \ output \ from \ 0 \ up \ to \ maximum, \ it \ is \ 30000mS}$

D1 : The deceleration time for the output from maximum down to 0, it is 20000mS

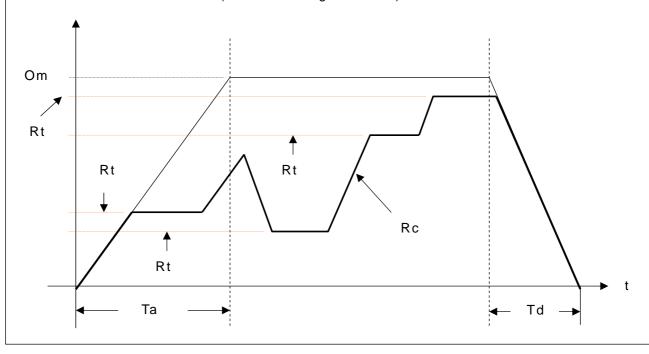
D100: Setting of target output value, it is 8192

R3904: Register of current output, it is used for analog output

D1000~D1003: Working registers

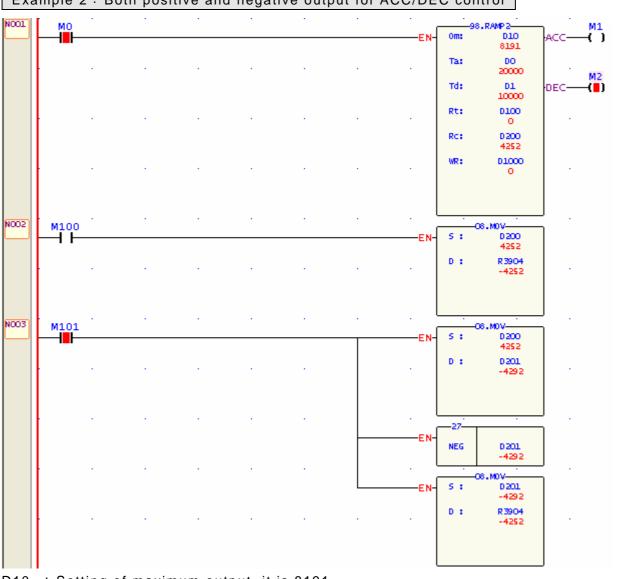
Description: When M0=0, current output value is 0 immediately (No ramp).

When M0=1, it will output the value of R3904 first; and then compare the target output value (D100) with current output value (R3904) every scan; if D100 > R3904, the current output value of R3904 will be increased according to the rate of 16383/30000 (Om=16383, Ta=30000), till R3904=D100 (ACC=1 during this time); if D100 < R3904, the current output value of R3904 will be decreased according to the rate of 16383/20000 (Om=16383, Td=20000), till R3904=D100 (DEC=1 during this time).



FUN98 TRACKING TYPE RAMP FUNCTION FOR D/A OUTPUT RAMP2 Example 2: Both positive and negative output for ACC/DEC control 1 N002 M100 N003 M1.01

FUN98 RAMP2



D10 : Setting of maximum output, it is 8191

: The acceleration time for the output from 0 up to maximum, it is 20000mS The deceleration time for the output from maximum down to 0, it is 10000mS

D100: Setting of target output value, it is 0

D200: Register of current output, it is used for analog output

D1000~D1003: Working registers

Description: When M0=0, current output value is 0 immediately (No ramp).

When M0=1, it will output the value of D200 first; and then compare the target output value (D100) with current output value (D200) every scan; if D100 > D200, the current output value of D200 will be increased according to the rate of 8191/20000 (Om=8191, Ta=20000), till D200=D100 (ACC=1 during this time); if D100 < D200, the current output value of D200 will be decreased according to the rate of 8191/10000 (Om=8191, Td=10000), till D200=D100 (DEC=1 during this time).

M100=1, positive output control; M101=1, negative output control. The target output (D100) is always positive value from 0~65535.

Mathematic instruction

