Velocity/Time calculations (valid with AMC20, SMC35, SMI30)

ACP: Pulses used for acceleration
ACT: Time in sec. used for acceleration
AC: Slope in rpm/sec.
VM: Top velocity in rpm.
VS: Start velocity in rpm.
t: Time in sec.
s: Distance moved in pulses
PR: Pulses per revolution (encoder)

Velocity (rpm.)

VM

VS

AC

ACT

t   Time (sec.)
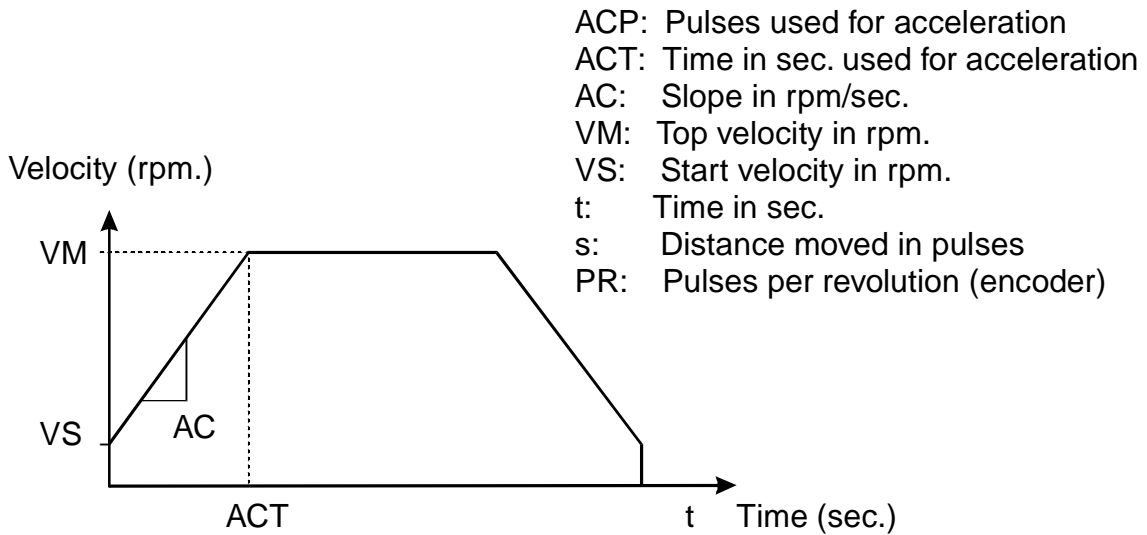
$$ACP = \frac{(VM + VS) * ACT * PR}{120} \quad [Pulses]$$

$$ACP = \frac{(VM^2 - VS^2) * PR}{120 * AC} \quad [Pulses]$$

$$AC = \frac{VM - VS}{ACT} \quad [RPM/sec.]$$

$$s = \frac{AC * t^2 * PR}{120} \quad [Pulses]$$

(Valid if VS=0)

$$s = \frac{VM * t * PR}{60} \quad [Pulses]$$

(Valid if velocity is constant)

TT0151GB