

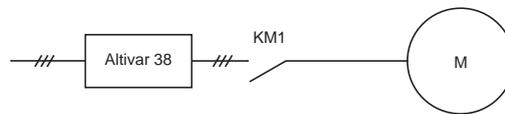
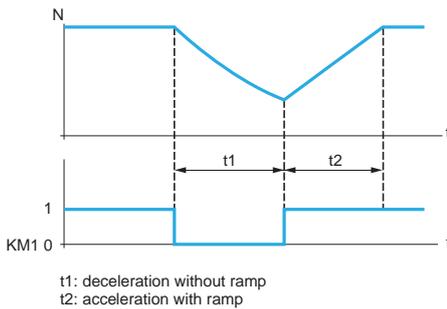
Special uses

Switching the motor at the drive output

The drive can be switched when locked or unlocked. If the drive is switched on-the-fly (drive locked), the motor is controlled and accelerates until it reaches the reference speed smoothly following the acceleration ramp. The "flying restart" must be configured for this type of use and the "loss of motor phase" protection function must be disabled.

Example: breaking of downstream contactor

Typical applications: breaking safety circuit at drive outputs, "bypass" function, switching of motors connected in parallel



Operation with intermittent cycle and high switching frequency

If the operating conditions are intermittent and the maximum cumulative running time is 36 s per 60 s cycle (load factor 60%), it is possible to operate at a high switching frequency without derating the power.

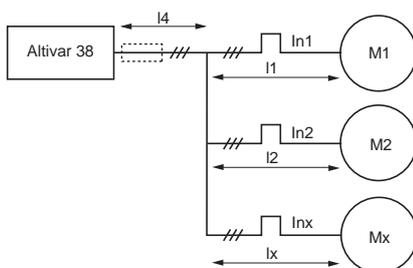
Switching frequencies (in kHz)

b 8-12-16 for ATV 38HU18N4 to HD23N4 drives

b 8-12 for ATV 38HD25N4p to HD46N4p drives

b 4 for ATV 38HD54N4p to HC33N4X drives

Connecting motors in parallel



Calculating the drive rating:
 $I_n \text{ drive} > I_{n1} + I_{n2} + \dots + I_{nx}$

The nominal current of the drive must be greater than or equal to the sum of the currents of the motors to be controlled. In this case, provide external thermal protection for each motor using thermal probes or relays. If the number of motors connected in parallel is ≥ 3 , it is advisable to install an output filter between the drive and the motors or to reduce the switching frequency.

If several motors are used in parallel, there are 2 possible scenarios:

- the motors have equal power ratings, in which case the torque characteristics will remain optimised after the drive has been configured
- the motors have different power ratings, in which case the drive configuration will be incompatible for the motors with the lowest power ratings and the overtorque at low speed will be considerably reduced.

Ensure that the cables are the correct length.

As the leakage currents are proportional to the total length of the cable between the drive and the motors, ensure $L \leq 100 \text{ m}$ by $L = I_1 + I_2 + I_x + I_4$.

For longer lengths, please consult your Regional Sales Office.