1. Application description

This application note describes how to create a loop, using a label and a "GOTO" TML instruction. For example purpose, this loop contains two motion profiles, conditioned by two time events.
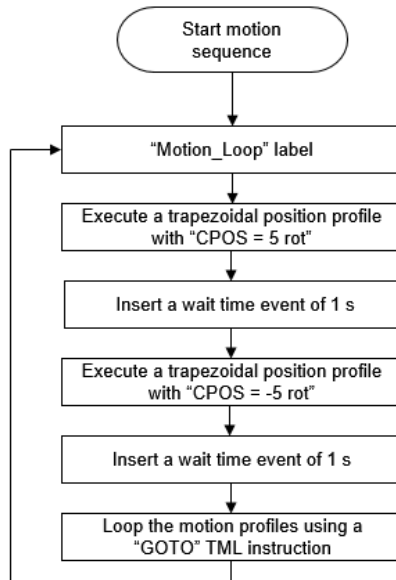
2. Application flowchart

Figure 1. *Main application structure*

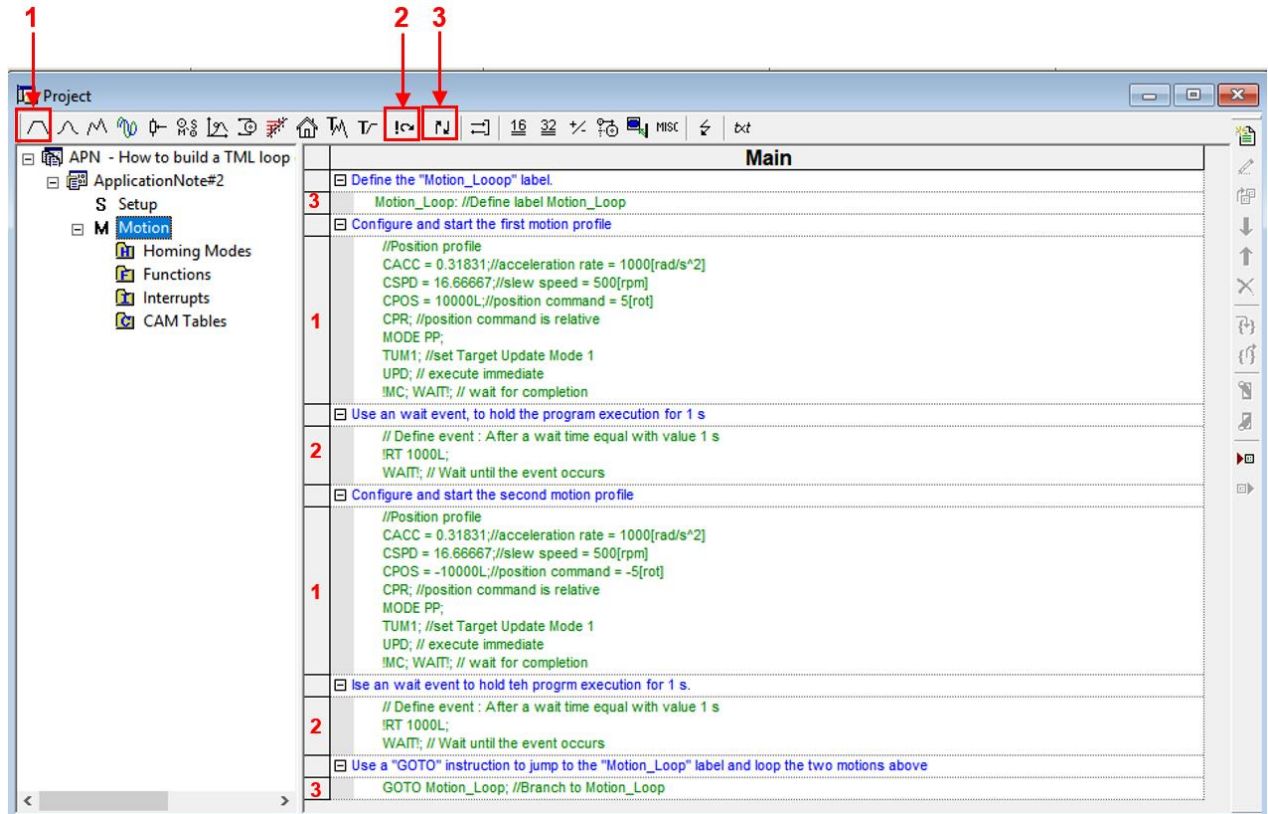## 3. Easy Motion Studio implementation

Figure 2. *Main application section*

4. Detailed description of the EasyMotion Studio implementation

This application program contains an infinite loop that performs 5 rotations in the positive direction and 5 rot in the negative direction. Between the two movements, there is a wait time of 1 s.

The code sequences from the "Motion" section were generated using the buttons marked with 1 to 3 in Figure 2. Clicking on those buttons the following programming dialogs will open.

• The "Jumps and Function Calls" dialogue (3) allows controlling the TML program flow through unconditional or conditional jumps and unconditional, conditional or cancelable calls of TML function.
In this application example, it was used to create the infinite loop, using a label and a "GOTO" TML instruction.
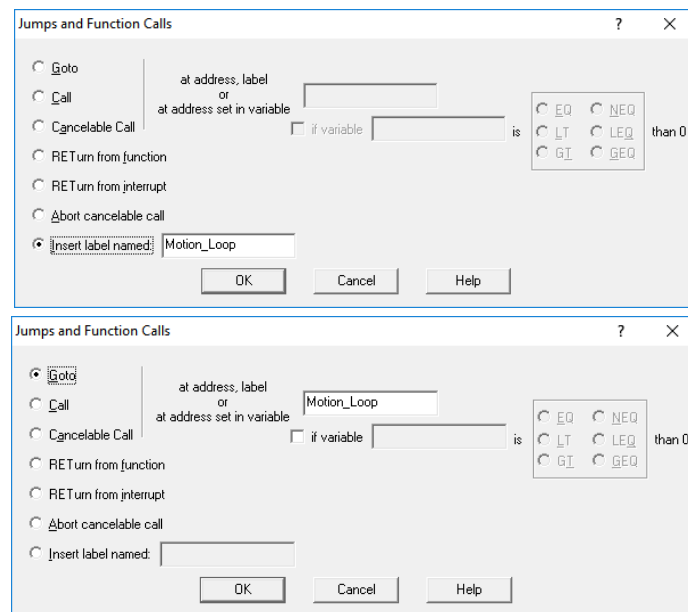
Figure 3. *How to create a loop*

• The "Motion – Trapezoidal Profiles" dialogue (1) allows to program a position or speed profile with a trapezoidal shape of the speed, due to a limited acceleration.
This example, uses the "Motion – Trapezoidal Profiles" dialogue, to impose the two movements.
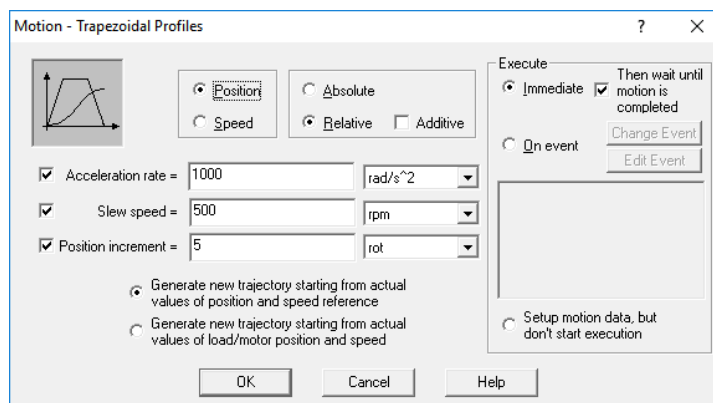

Figure 4. *How to insert a trapezoidal position profile*

In the position profile, the load/motor is controlled in position. Specify either a position to reach in absolute mode or a position increment in relative mode, plus the slew speed and the acceleration rate. In relative mode, the position to reach can be computed in 2 ways: standard or additive.

• The "Events" dialogue (2) allows to define events. An event is a programmable condition, which once set, is monitored for occurrence.

The following actions can be connected to an event:
- stop the motion when the event occurs
- wait for the programmed event to occur
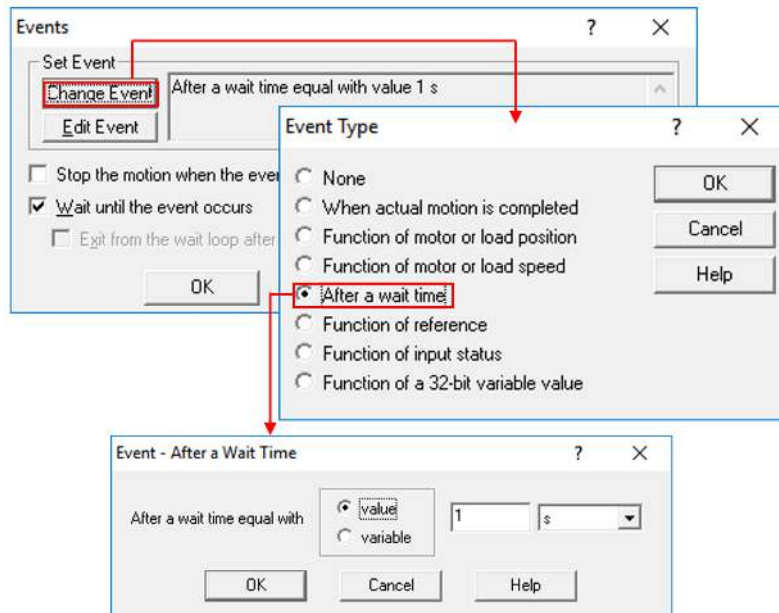
Figure 5. *How to insert a time event*

The "Events" dialog was used to insert a delay of 1 s between the two motion profiles.