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1. Description

This application note will show the user some tips to program a jogging operation with a Trio Uniplay HMI. As you will see on the project attached, all the objects (controls) on the Trio HMI Designer are linked to VRs, this means that the trioBASIC programs used in this project would be reusable for third party HMIs using an alternative communication protocol rather than Uniplay (i.e. Modbus).

The program consists on an HMI screen able to do a jogging operation on two axis, and display to the user some parameters like the current position. It will also allow the user to change the Jogspeed as well as store points into a TABLE data and perform an absolute move to a certain position.





2. BASIC Project description

2.1. STARTUP

This program will just set some common axis parameters for the two axis used in the jogging and also some more specific parameters related to the jogging operation like "FW_JOG" and "REV_JOG" (virtual inputs used for jogging) or the jog speed "JOGSPEED".

This program will be run once by the MAIN (called "JOGGING") program of the application.

```
INVERT IN(16, ON)
INVERT IN (17, ON)
INVERT IN (24, ON)
INVERT IN(25,ON)
BASE(0)
UNITS=1000
SERVO=1
FWD JOG=16
REV JOG=17
JOGSPEED=50
SPEED=200
ACCEL=SPEED*1000
DECEL=ACCEL
BASE(1)
UNITS=1000
SERVO=1
FWD JOG=24
REV JOG=25
JOGSPEED=50
SPEED=200
ACCEL=SPEED*1000
DECEL=ACCEL
```

2.2. SAVE_POINT

This program will be run once the "SAVE" button will be clicked on the HMI, so that the current position of both axis will be stored on a TABLE data.



2.3. MOVE_TO_POINT

This program will be run once the "GO" button will be clicked on the HMI, so that the axis will move (interpolated move) to the absolute position specified on the textboxes of the corresponding axis.





BASE(0,1)

MOVEABS (VR(10), VR(11))

2.4. JOGGING

This is the MAIN program of the application and it will manage the jogging operation and will handle all the inputs coming from the HMI user. This program has to be run manually on Motion Perfect although it could be set to run on start-up. This program will continuously run on a loop unless is stopped manually from Motion Perfect.

```
RUN "STARTUP",10
WA(10)
WAIT UNTIL PROC STATUS PROC (10) = 0
jog=0
jog speed=1
BASE(0,1)
DEFPOS(0, 0)
WHILE TRUE
    IF VR(jog)=1 THEN
        OP(17, ON)
    ELSEIF VR(jog) = 2 THEN
        OP(16, ON)
    ELSEIF VR(jog)=3 THEN
        OP(25, ON)
    ELSEIF VR(jog)=4 THEN
        OP(24, ON)
    ELSEIF VR(jog)=0 THEN
        OP(16,17,OFF)
        OP(24,25,OFF)
    ENDIF
    IF VR(jog speed) = 1 THEN
        JOGSPEED AXIS(0) = JOGSPEED AXIS(0)/1.1
        JOGSPEED AXIS(1) = JOGSPEED AXIS(1)/1.1
        WA(500)
    ELSEIF VR(jog speed)=2 THEN
        JOGSPEED AXIS(0) = JOGSPEED AXIS(0)*1.1
        JOGSPEED AXIS(1) = JOGSPEED AXIS(1)*1.1
        WA(500)
ENDIF
```

WEND