

7 External Signal Interrupt

High Speed Position Capture Using External Interrupt

This program describes high speed position capture using external interrupt signal (*EXTx, referred to as probe).

The program will first run axis 1 in velocity mode. Second, one of the two external interrupts (*EXT2) is enabled. This is done after this signal's corresponding interrupt register is cleared. Upon the receipt of probe interrupt, the captured positions for axes 1 through 4 are saved. To indicate the termination of capture, and only as a test, we preset the position of axis 4 to this value. Make sure axis 4 is not connected to an amplifier or amplifier is disabled.

```
#define captured_pos1 var3
#define captured_pos2 var4
#define captured_pos3 var5
#define captured_pos4 var6

plc_program:
    run_m_program (capture_position)
end

capture_position:

    velmode(0x1, 1)
    int_reg_clr(0x0008, 0x2)      ; clear probe_int register
    en_probe(2, 2)                ; enable probe 2, and echo to DPR
    wait_until(probe_reg & 0x0002) ; wait for probe 2

    captured_pos1 = probe_pos1    ; position of axis 1 at time of probe int
    captured_pos2 = probe_pos2    ; position of axis 2 at time of probe int
    captured_pos3 = probe_pos3    ; position of axis 3 at time of probe int
    captured_pos4 = probe_pos4    ; position of axis 4 at time of probe int
    pos_preset(0x8, captured_pos4) ; preset position of axis 4 to
                                    ; indicate capture

end
```

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