```
\ Forth Code to control the AC Relay Module

HEX

\ Relays are active low (i.e. writing a 0 to the relay turns it on).
0     CONSTANT    RELAY_ON
1     CONSTANT    RELAY_OFF

: Control_AC_Relay ( byte1\byte2\byte3 -- )
\ Sets the relay number to the appropriate state (on or off).
\ byte1 = Module Number.  Valid module numbers are 0-7.
\ byte2 = Relay Number.  Valid relay numbers are 0-3.
\ byte3 = Relay State.  Valid relay states are RELAY_ON or RELAY_OFF
locals{ &state &relay_num &module }

  &state
  IF                          \ turn relay off
    &state &relay_num SCALE
    RELAY_CONTROL_REGISTER &module SET.BITS
  ELSE                        \ turn relay on
    1 &relay_num SCALE
    RELAY_CONTROL_REGISTER &module CLEAR.BITS
  ENDIF
;

: Read_AC_Relay_Status ( byte -- | byte = module_number )
\ Reads the current state of the AC Relays.  Valid module numbers are
0-7.
\ Returns a character whose least significant nibble represents the
four
\ relays.  For example, if 1 is returned (0001 in binary), then Relay 0
is
\ off and the other relays are on.  If 12 is returned (1100 in binary),
\ then relays 2 and 3 are off and 0 and 1 are on.  The four most
significant
\ bits do not matter.

  RELAY_CONTROL_REGISTER SWAP C@
;
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