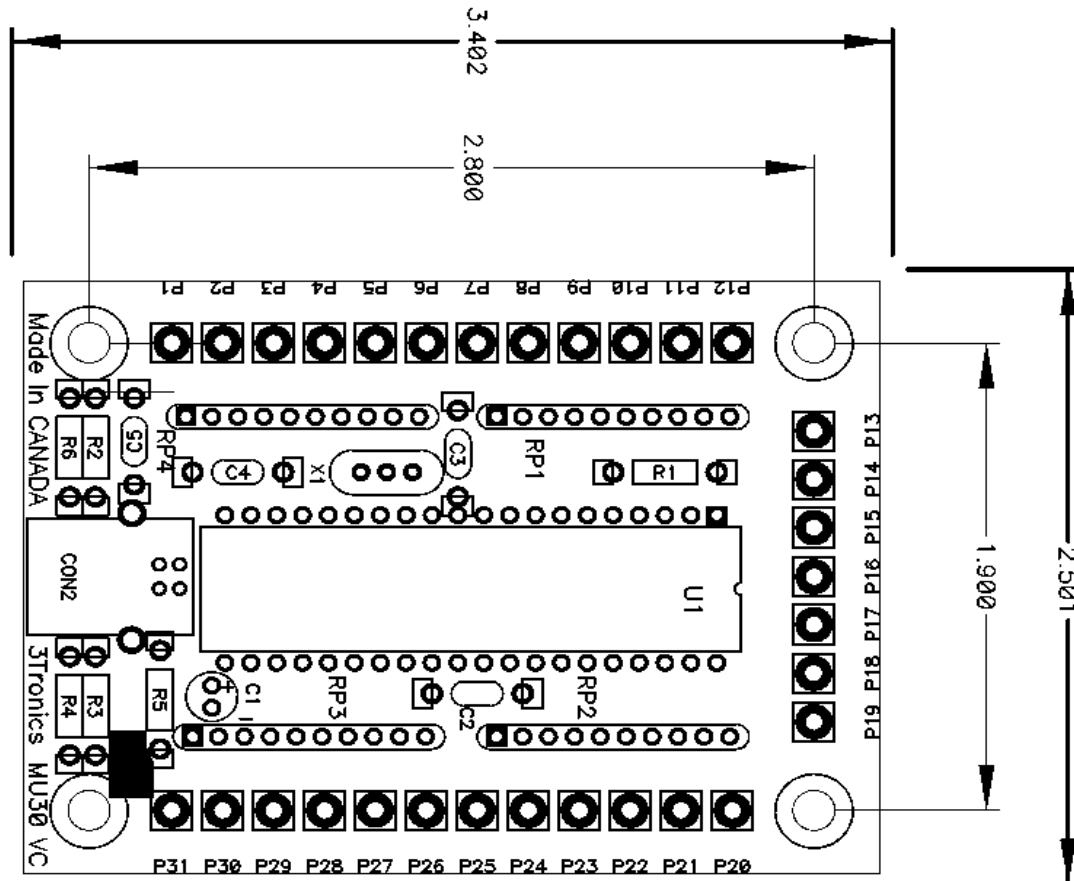


3Tronics X30P Instruction Manual



X30P is a 30 pin IO board in which each of the 30 IO pins can be programmed and used as either an input or an output.

All outputs are max +5V High , 0V Low
Inputs are pulled up to +5V with a 10K resistor.
P1 tp P30 are Programmable I/O , P31 is Ground

Operating Instructions

The control file SETIO .exe is used to program the X30P via a USB port which runs under windows command line (cmd.exe) . It can be downloaded from www.3tronics.com/SETIO

Configure IO to Outputs to Inputs - PROGRAM_DIG

PROGRAM_DIG supports 2 methods of specifying the outputs.

Method 1

SETIO PROGRAM_DIG <BYTE4> <BYTE3> <BYTE2> <BYTE1>

where BYTE1 is outputs P1 to P8
 BYTE2 is outputs P9 to P16
 BYTE3 is outputs P17 to P24
 BYTE4 is outputs P24 to P30

BYTE1							
Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
P8	P7	P6	P5	P4	P3	P2	P1

BYTE2							
Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
P16	P15	P14	P13	P12	P11	P10	P9

BYTE3							
Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
P24	P23	P22	P21	P20	P19	P18	P17

BYTE4							
Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
-	-	P30	P29	P28	P27	P26	P25

0 = Input
 1 = Output

Example:

Set P1,P2,P29,P30 to outputs.

SETIO PROGRAM_DIG 30 00 00 03

Set all P1 to P30 as inputs.

SETIO PROGRAM_DIG 00 00 00 00

Method 2

SETIO <command> <Px> <Py>

where Px,Py = P1 to P30

Example:

Set all P4 P16 P9 as outputs.

```
SETIO PROGRAM_DIG P4 P16 P9
```

To set all P1 to P30 as inputs use PROGRAM_DIG with no arguments.

```
SETIO PROGRAM_DIG
```

Note: PROGRAM_DIG saves the system configurations to permanent memory. To save the state of an output so it returns to the same state after the power is removed, run it again after setting the output.

Example:

```
SETIO PROGRAM_DIG P4  
SETIO SET P4  
SETIO PROGRAM_DIG P4
```

P4 will go HIGH on powerup by default.

Set Output High - SET

Example: Set P1,P2,P29,P30 outputs HIGH.

Method 1

```
SETIO SET 30 00 00 03
```

Method 2

```
SETIO SET P1 P2 P29 P30
```

Set Output Low - CLEAR

Example: Set P1,P2,P29,P30 outputs LOW.

Method 1

```
SETIO CLEAR 30 00 00 03
```

Method 2

```
SETIO CLEAR P1 P2 P29 P30
```

Toggle Output - TOGGLE

Example: Set P1,P2,P29,P30 outputs LOW.

Method 1

```
SETIO TOGGLE 30 00 00 03
```

Method 2

SETIO TOGGLE P1 P2 P29 P30

Read Input - GET

SETIO GET BYTE

Returns <BYTE4> <BYTE3> <BYTE2> <BYTE1>

where BYTE1 is outputs P1 to P8
BYTE2 is outputs P9 to P16
BYTE3 is outputs P17 to P24
BYTE4 is outputs P24 to P30

Example:

SETIO GET BYTE

Returns 3f ff ff fe -> P1 is low

SAVE STATE

Note: PROGRAM_DIG saves the system configurations to permanent memory. To save the state of an output so it returns to the same state after the power is removed, run it again after setting the output.

SETIO PROGRAM_DIG

<end>