

Operator Interface consists of

4 (4 digit 7 segment displays) on I2c. Each with their own address
Address 0=Velocity, Address 1=Power, Address 2=Rep Cnt, Address 3=Weight Value

1 Start/Stop Toggle switch

1 Encoder with chnA, chnB and pressing it inwards provides an “enter” input

20 segment led array

3 Modes

1-Set Up

A Default to set up at boot up

B set up allows user to spin an encoder and enter the weight value which displays range is 0 to 999lbs and increments by 5's.

**Nothing else happens in this mode, excepting the changing of 1 variable.

2-Work Out

A This mode starts by turning the selector switch ON

B show led arrays (already working)

C Count Repetitions and post for user after the rep is complete.

D Calculate Peak Velocity and post 1 time for each rep after the rep is complete

E Calculate Peak Power and post 1 time for each rep after the rep is complete

**Turning the encoder in this mode still allows the weight val to change

3-Review

A This mode starts by turning the selector switch OFF

B do not show led arrays (already working)

C user spins the knob and reviews his data from rep 1 to rep N

D pressing enter bounces it back to set up

'Check to make sure the current beam does not equal the last beam

If (bHiBeam <> bLastBeam) Then

'If the beam check is on and the current beam neighbors the last beam, or the beam check is off

If ((BEAM_CHK = 1) And ((bHiBeam <= bLastBeam + 2) Or (bHiBeam >= bLastBeam - 2))) Or (BEAM_CHK = 0)
Then

sTravel = ((bHiBeam - bLastBeam) * BEAM_DIST) / 12.0 'Calculate travel (in feet)

'Calculate velocity and acceleration

If (sTimeElp > 0.0) Then

sCurrVel = sTravel / sTimeElp

sCurrAcc = (sCurrVel - sLastVel) / sTimeElp

Else

sCurrVel = 0.0

sCurrAcc = 0.0

End If

'If there is positive velocity, calculate power

If (sCurrVel > 0.0) Then

sCurrPwr = (sWeightG3 * (sCurrVel * 60.0)) / 33000.0

Else

sCurrPwr = 0.0

End If

'If moving from positive velocity to negative velocity, record a rep

If (sLastVel > 0.0) And (sCurrVel < 0.0) Then

intRepCnt = intRepCnt + 1 'increase rep count

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sTimeElp = 0.0

sLastVel = sCurrVel

bLastBeam = bHiBeam 'Save the current beam to the high beam