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**ELECTRONICS DIVISION**

**EZ Control II Installation Instructions**

**Field Connections-**

Power - 115 VAC - Line - 115 VAC Hot	24VDC - +DC IN
Neutral - 115 VAC Neutral	-DC IN
GND - Ground	(Specify voltage when ordering)

Power Terminals are located on upper right hand terminals as marked

**Sensor Connections - Millivolt Transducer**

Transducer Terminal	Millivolt input (1 or 2)
Red 1-----	+10vdc
Grn 2-----	Sig (+)
Wht 3-----	Sig (-)
Blk 4-----	Gnd

**Sensor Connections - 4-20ma Transmitter**

**GRND** on Transmitter - Should be connected to GND/Shield on left hand terminal strip located above Analog input terminals. ( Both sensors should be tied to same terminal).

**(-)** on Transmitter - Should be connected to Analog 1 (-) for Input 1 and Analog 2 (-) for Input 2.

**(+)** on Transmitter - Should be connected to Analog 1 (+) for Input 1 and Analog 2 (+) for Input 2.

Note that if a 4-20ma transmitter is used, the gnd & sig(-) on the respective millivolt input must be tied together. Also, the proper scaling resistor must be in place on the back side of the input board. For millivolt, the resistor will be 1 meg ohm (brn,blk,blk,ylw). For 4-20ma there will be 2) 10 ohm resistors (usually red) tied in parallel for a total resistance of 5 ohms. The above is normally done at the factory. This note is included should changes in the field be necessary.

**Relays -**

(2) SPDT relays rated at 10 amps.

Terminals located on lower right hand terminal block as marked.

Relays may both be assigned to a single input or one to either input.

Calibration of EZ Control II - After power up the screens will appear as follows:

INPUT 1  
NN' NN" N/8  
SIM HOLD

On 2 input units, the screen will alternate between Input 1 & Input 2. (If a turbine meter is used the display will step through 3 screens). To set or check parameters for a specific input, wait until the appropriate input is displayed, then press the button under "HOLD". "HOLD" will change to "SCAN". In order to go to the next input or to restore screen display to the normal screen press "SCAN". Note: Unit may be preset at factory to display in various parameters such as level or pressure.

INPUT 1  
NN' NN" N/8  
SIM SCAN  
Press ENTER  
MAKE SELECTION  
FOR INPUT 1  
CALIBRATION  
CAL TEXT MORE  
Press CAL  
CALIBRATION  
INPUT 1  
ZERO SPAN  
Press ZERO  
APPLY MINIMUM  
PRESS. TO INPUT 1  
NN' NN" N/8  
(ENTER TO SET)

The nn' nn" n/8 line will be blinking. Use the UP or DOWN buttons to set to the required pressure (the unit will be set to 0'00"0/8 unless specified otherwise). After the unit is at the proper indication press ENTER.

CALIBRATION  
INPUT 1  
ZERO SPAN  
Press SPAN  
APPLY MAXIMUM  
PRESS. TO INPUT 1  
NN' NN" N/8  
(ENTER TO SET)

The nn'nn"n/8 line will be blinking. Use the UP or DOWN buttons to set to the required

pressure. If specified, the unit will be preset to the required pressure, otherwise it must be set in the field. Should the setting be correct, press EXIT to return to the previous screen without affecting the setting. Otherwise set to the desired measurement and press ENTER.

CALIBRATION  
INPUT 1  
ZERO SPAN  
Press EXIT  
This will return to  
MAKE SELECTION  
FOR INPUT 1  
CALIBRATION  
CAL TEXT MORE  
Press TEXT

If the text [Input 1] is satisfactory, this step may be skipped, otherwise press TEXT and make desired changes to the text.

INPUT 1 TEXT  
INPUT 1  
UP/DOWN FOR CHAR  
CURS SPACE +10

Use CURS to step to the character that needs to be changed - the character may be changed by using the UP or DOWN buttons.

Use SPACE to place a space, such as between words.

Use +10 to jump 10 characters ahead i.e. if the cursor is blinking on an "A", pressing +10 will advance the character to a "K". (Note: both upper & lower case letters are available).

After the text has been changed as desired, press EXIT.

This will return to

MAKE SELECTION  
FOR INPUT 1  
CALIBRATION  
CAL TEXT MORE  
Press more  
SET RELAYS  
SET OUTPUTS  
RELAYS OUTPUTS  
Press relay

The following will set the relays on/off points

RELAY 1 INPUT 1  
ON NN' NN" N/8  
OFF NN' NN" N/8

The 1 in relay 1 will be blinking. if you wish to set relay 1, press the FIELD button. Input 1 (or whatever the changed text is) will be blinking. If the unit was ordered with *only one input*, press FIELD. The ON NN' NN" N/8 line will be blinking. Use the UP or DOWN buttons to set the desired ON point for the relay. After setting, press the FIELD button. Now set the OFF setting in the same manner. If only relay 1 setting is desired press EXIT, or to set relay 2 press the FIELD button to go to the relay 1 field with the 1 blinking. Use the UP button to change the 1 to 2. Follow the previous steps to set relay 2. After all is set press EXIT. Note:one input can control both relays if required.

This will return to:  
SET RELAYS  
SET OUTPUTS  
RELAYS OUTPUTS

If the unit was ordered with analog outputs, press the button under outputs (explained later), otherwise press EXIT

This will return to:  
MAKE SELECTION  
FOR INPUT 1  
CALIBRATION  
CAL TEXT MORE  
Press EXIT  
INPUT 1  
NN' NN" N/8  
SIM HOLD

If it is desired to simulate an input press SIM

INPUT 1  
NN' NN" N/8  
<<SIMULATE>>

Use the UP or DOWN button to set the simulated input. This is used to check relay operation. Once you exit the simulate screen it has no further effect. To restore to the normal display screen press EXIT.

Procedure for setting turbine meter:

The normally displayed turbine meter screen.

TURBINE METER  
RATE NNN BPD  
TOTAL BBLs  
RESET HOLD  
Press ENTER

TURBINE METER  
FACTOR NNNN  
UNITS BBLs

NNNN will be blinking. Factor is used to set the meter factor for a given meter. Enter the factor. Note: only the numbers to the left of the decimal can be set, so round to the nearest whole number.

**Press Field**

BBLs will be blinking. There are 3 choices; BBLs, MCF, GALS. Use the UP/DOWN buttons to select the appropriate unit.

Press EXIT

The display will return to the normal screen.

TURBINE METER  
RATE NNN BPD  
TOTALS NNN BBLs  
RESET SCAN

Press SCAN to return to the normally sequencing screens.

RESET is used to reset the TOTAL field if desired. If RESET is pressed the following screen is displayed:

TURBINE METER  
RESET  
ARE YOU SURE?  
NO YES

Pressing NO will return to the previous screen with no changes. Pressing YES will clear the TOTAL field and then return to the previous screen.

**Procedure for setting outputs:**

The 4-20ma outputs are usually set at the factory according to the user's requirements as specified on the order. The below is furnished for general information or for any changes in the field that may require recalibration.

Press HOLD on the appropriate input screen (i.e. input 1 or input 2). Then press ENTER, then MORE, then OUTPUTS.

SET ANALOG 1  
OUTPUT  
ZERO SPAN  
Press ZERO  
SET ANALOG 1  
OUTPUT  
<< 4MA >>  
OFFSET = +0

OFFSET is used to adjust the 4-20ma output to the desired ma reading at a given input. In order to set the 4-20ma output, the corresponding physical parameter must be present at the specific input. i.e. if 4ma @ 3ft. is needed, then the input must be representative of 3ft., whether by using a simulator or by using the actual input. The same holds true for the 20ma setting. Note: the "SIM" function on the normally displayed screen has no effect on the analog output function. An offset of 10 is approximately equal to 0.1ma.

Press SPAN  
SET ANALOG 1  
OUTPUT  
<< 20MA >>  
OFFSET = +0

Note: Analog 1 out functions with Millivolt 1 or Analog 1 input.

Analog 2 out functions with Millivolt 2 or Analog 2 input.

After setting the 20ma, press EXIT until the normally displayed screen is returned. This completes the field calibration.