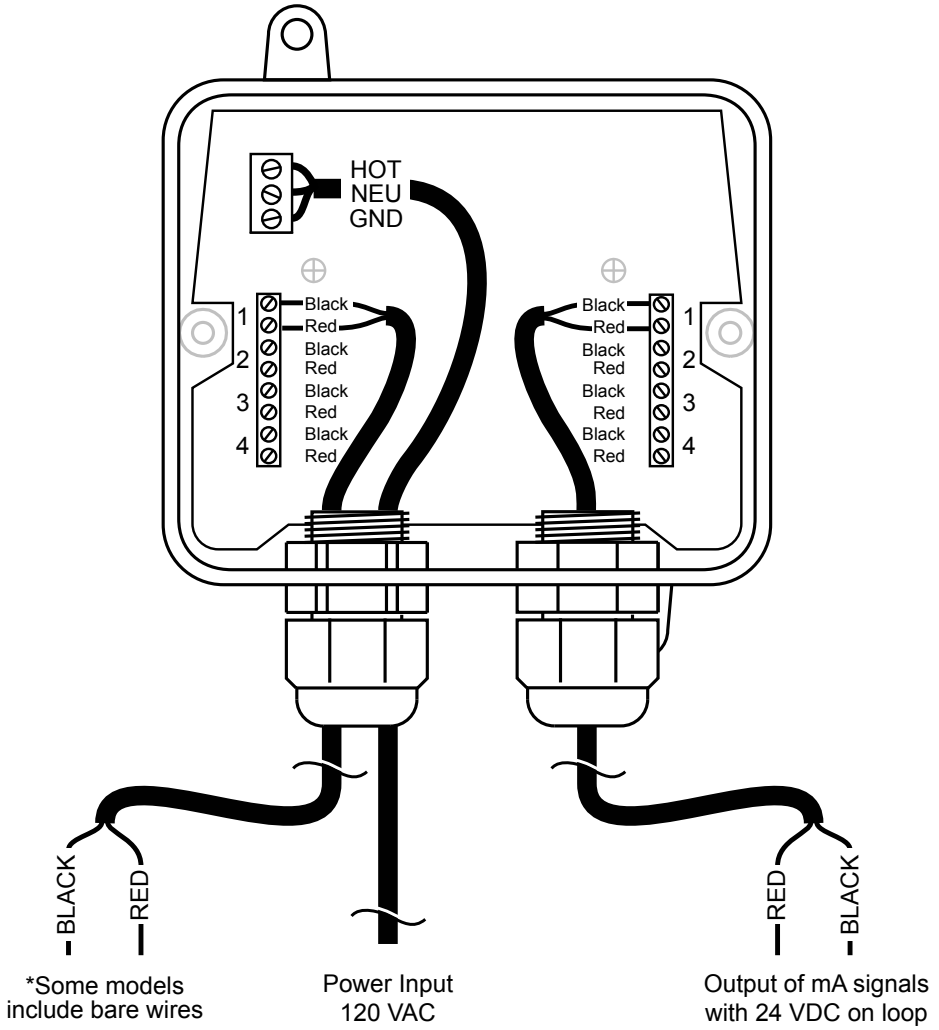
Echopod Set-Up with a MegaTron

Step 1:
The Echopod needs to be connected to a 24 VDC to power the sensor and the 4-20mA output to the Megatron's mA input. An Advantage Controls PSDC-24-Q can supply the power for 1-4 model DL10's. The PSDC-24-Q is sold separately.

PSDC-24-Q Sensor

90-264 VAC to 24 VDC power supply



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Step 2:
Program the 4-20mA input by first getting the units of measure and number range set.

CUSTOMIZE MENU

Step 3:
Push the **SET UP RUN** button to get this screen. From here push **CUSTOMIZE** (Button 4) to go to the next screen.

```
>HOME SETUP<

SETPOINTS                DATE/TIME
CALIBRATION              CONFIGURE
TIMERS                     HISTORY
CUSTOMIZE               TOTALIZERS
ALARMS                      RELAYS
```

Step 4:
This is the Customize Screen. From here push **mA IN** (Button 9) on a MegaTron SS or select the appropriate **SYSTEM** number on a multi-system MegaTron.

```
>CUSTOMIZE<

UNIT NAME              FLOW METERS
RELAY NAMES                NOTEPAD
SYS NAME
INPUT NAMES                  mA IN
                         RUN SCREEN
```

Step 5:
This is the Customize mA Screen. From here push **INPUT 1** (Button 1) to go to the next screen.

```
>CUSTOMIZE mA INPUTS<

INPUT 1
```

Step 6:
This is the Customize mA Input 1 Screen. From here you can set a **NAME** (Button 1), **UNITS** (Button 2) and **NUMBER** range (Button 3). Press desired button to go to the next screen.

```
>CUSTOMIZE mA INPUT 1<

NAME      mAIN1
UNITS        %
NUMBER    xxxxx
```

Step 7:
Set the value of **mA INPUT 1 NAME** by using the arrow keys. Then press **ENTER** to confirm and go to the previous screen.

```
mA INPUT 1 NAME

          [mAIN1      ]

USE UP/DOWN KEYS TO CHANGE
PRESS ENTER TO ACCEPT
```

Step 8:
Set the value of **TYPE OF UNITS** by using the arrow keys. Then press **ENTER** to confirm and go to the previous screen.

```
TYPE OF UNITS

             -->  %

USE UP/DOWN KEYS TO CHANGE
PRESS ENTER TO ACCEPT
```

Step 9:
Set the value of **NUMBER FORMAT** by using the arrow keys. Then press **ENTER** to confirm and go to the previous screen.

```
NUMBER FORMAT

           -->  xxxxx

USE UP/DOWN KEYS TO CHANGE
PRESS ENTER TO ACCEPT
```

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Step 10:
With the Echopod powered and connected to the MegaTron's 4-20mA input card suspend the Echopod so that it will be sensing an empty tank. After giving it a full minute to average to this empty level leave it sensing your empty drum.

Step 11:
Follow this by going to the Calibration menu and setting the MAX to your full drum amount (example: 30 gallons) and the MIN to 0 gallons.

Go into the MegaTron's mA Input Calibration menu with the Echopod sensing an empty drum. Select the appropriate input and note the A/D value beside the 4mA calibration key. Go into the 4mA calibration pop-up screen and see what the A/D is now showing. It should be within 15% of the original calibrated A/D value. If it is press Enter to recalibrate the input to the signal the Echopod is sending for an empty tank.

CALIBRATION MENU

Step 12:
Push the **SET UP RUN** button to get this screen. From here push **CALIBRATION** (Button 2) to go to the next screen.

```
          >HOME SETUP<

SETPOINTS              DATE/TIME
CALIBRATION            CONFIGURE
TIMERS                   HISTORY
CUSTOMIZE            TOTALIZERS
ALARMS                    RELAYS
```

Step 13:
Select the mA Inputs (Button 7) to go to mA Input calibration. Then select the mA input to calibrate.

```
    >CURRENT LOOP CALIBRATION<

INPUT 1
INPUT 2
INPUT 3
```

Step 14:
This will be the **mA INPUT CALIBRATION** screen. From here select **MAX** (Button 3) to set what the controller needs to display when it is receiving a 20mA signal. Use number keys to select and **ENTER** to set value.

```
     >mA INPUT 1 CALIBRATION<

20mA          14500
4mA            2900
MAX            200 PPM
MIN              0 PPM
OFFSET                  DISABLED
```

Step 15:
From the **mA INPUT CALIBRATION** screen select **MIN** (Button 4) to set what the controller needs to display when receiving a 4mA signal. Use number keys to select and **ENTER** to set value.

```
     >mA INPUT 1 CALIBRATION<

20mA          14500
4mA            2900
MAX            200 PPM
MIN              0 PPM
OFFSET                  DISABLED
```

WARNING:
The 20mA and 4mA calibration selections (Buttons 1 & 2) should only be selected if a 4-20mA signal generator is connected to the input.

```
     >mA INPUT 1 CALIBRATION<

20mA          14500
4mA            2900
MAX            200 PPM
MIN              0 PPM
OFFSET                  DISABLED
```

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If these are improperly set by entering an A/D value for the settings while the input is not seeing the correct signal a signal generator will be required to reset the calibration.

These selections are for calibrating the raw analog to digital (A/D) reading when a 4mA and/ or 20mA signal is being sent into the input from an external device to match the controller's A/D reading to the signal value.

Units supplied with 4-20mA inputs from the factory come with the 4 and 20mA positions calibrated in the A/D with the A/D value seen at the time of the calibration displayed to the right of the position in the Input Calibration menu.

```
     >mA INPUT 1 CALIBRATION<

20mA          14500
4mA            2900
MAX          200 PPM
MIN            0 PPM
OFFSET                    DISABLED
```

These A/D values will be around 14500 on an SS and 3600 on an MG unit for the 20mA signal and 2900 on an SS and 800 on an MG unit for the 4mA signal. **If these are improperly set by entering an A/D value for the settings while the input is not seeing the correct signal a signal generator will be required to reset the calibration.**

Step 16:
Set your desired low alarm for the mA input in the Set Points menu of the MegaTron.

SET POINTS MENU

Step 17:
Push the **HOME** button to leave Calibration and go back to the HOME menu screen. From here push **SETPOINTS** (Button 1) to go to the next screen.

```
          >HOME SETUP<

SETPOINTS                 DATE/TIME
CALIBRATION               CONFIGURE
TIMERS                      HISTORY
CUSTOMIZE                TOTALIZERS
ALARMS                       RELAYS
```

Step 18:
This is the Setpoints Setup Screen. From here push **mA IN** (Button 7) to go to the next screen

```
        >SETPOINTS SETUP<
SENSORS
                              mA IN
```

Step 19:
This is the mA Inputs Screen. From here push **INPUT 1** (Button 1) to go to the next screen.

```
            >mA INPUTS<
INPUT 1
```

Step 20:
This is the mA Input 1 Setpoint Review Screen. From here push **SETPOINTS** (Button 5) to go to the next screen.

```
       >mA INPUT 1 SETPOINT<
            mAIN1
      SET POINT:   500%
                   RISING CONTROL
    DIFFERENTIAL:  20
   HIGH ALARM AT:  1000(OFF  )
    LOW ALARM AT:  0(OFF  )
      LIMIT TIME:  00:01 HH:MM
SETPOINTS
```

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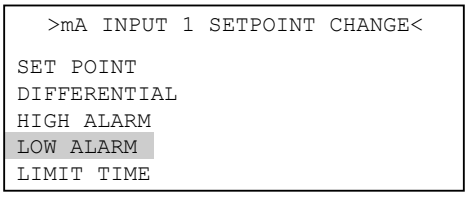
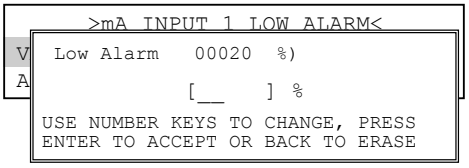
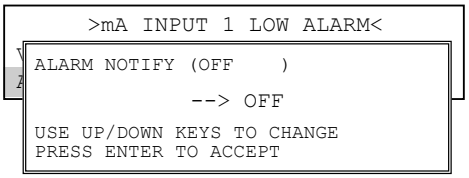
Step 21:
This is the mA Input 1 Setpoint Change Screen. From here you can set **LOW ALARM** (Button 4) and other settings. Press the desired button to go to the next screen



Step 22:
Set the **LOW ALARM** settings for **VALUE** (the reading that will give a Low Alarm) and **NOTIFICATION**. Press **ENTER** to confirm and go to the previous page.



Step 23:
Set the value of the **ALARM NOTIFY** by using the arrow keys. Then press **ENTER** to confirm and go to the previous screen.
Note: Display - will appear on controller display only, Remote - appears through email if controller is online, or both Dis/Remote



Press **BACK** to return the mA Input 1 Set Point.