COMM160/360 units

BEFORE YOU TROUBLESHOOT

STOP!! Look at the system before you proceed !!

- IS THE UNIT ON ??
- ARE ANY OF THE CORDS DAMAGED ??
- ARE ALL CORDS CONNECTED CORRECTLY??
- WHAT ARE THE INDICATOR LIGHTS ON THE POWER SUPPLY ??
- IS THE UNIT PRODUCING CHLORINE ??

Before working on the COMM160/360, we recommend that you pause, look at the overall pool equipment to ensure that flow is present, check that the flow meter is registering, is there pressure displayed on the Filter ? Is the Multi Port on "Filter"?

Is there water flowing smoothly through the electrolytic cell?

Perhaps a valve has been closed inadvertently?

What is the water temperature? When the water is too cold to swim (under 70° F) the "Winter Mode" switch should be activated.

Check for phosphates, if present above 200PPB (not PPM) treat, and reduce to 200PPB

Once you have ensured that the equipment is functioning correctly, GPM's & filter pressure are within specifications, then lets turn to the Power Supply

Look at the Power Supply, and note what is displayed. In order to move forward with the trouble shooting, it is important that the salt content in the water be approximately **4.5 PPM**, – anywhere from 4.0 to 5.0 is acceptable - and that the Chlorine production knob is at 100%.

Couple Road Hints

1. Buy a Digital Multi Meter
2. Buy a Digital Conductivity (salt) meter to test for salinity

3. When working with Circuit Boards always discharge your body's Static electricity – touch a grounded metal object just before you begin. Or buy an anti-static bracelet to wear when working with the internals of these units.
4. Read the Owners Manual, stress the maintenance section
5. When you change boards, put the old ones away in the new box and label it
6. A high voltage at the cell may indicate a dirty cell; always inspect the cell before replacing. If dirty, clean first, then replace and check voltages again.

HINT: - "When the problem has been corrected, dispose of the old part if not under warranty."

Trouble Shooting COMM160/360 units in the field.

Tools to have with you

Phillips Head screw driver

Multi meter AC and DC –recommend digital

Digital conductivity meter

Fuses: 3amp – COMM160 , 5amp – COMM360

Optional: Spare cell

Triac replacement kit

Field soldering Kit

1. Ensure that the unit has proper AC voltage to it (i.e. 220v-240v)
2. Is the salt –conductivity in the water registering over 4000 and below 5500ppm?
3. If the water temp is cold the "Winter Mode" switch should be on (Cold being around 70 Fahrenheit or below)
4. Turn the power on and the Control Knob up to 100%
5. Wait for the unit to begin to "ramp" up (approximately 1 – 2 minutes)
6. Once the Unit "ramps" up to its operational setting (i.e. 75%, 80% ,100%) the operation LED 1 and 2 should be green. If the unit is set to "Winter Mode" there will be red "dot" in the display between the second and third number on the top of the display box (there will be a line pointing to it with the words "Winter mode" on the face of the power supply)

7. If the unit is in normal mode there should be no indicator for "winter mode"

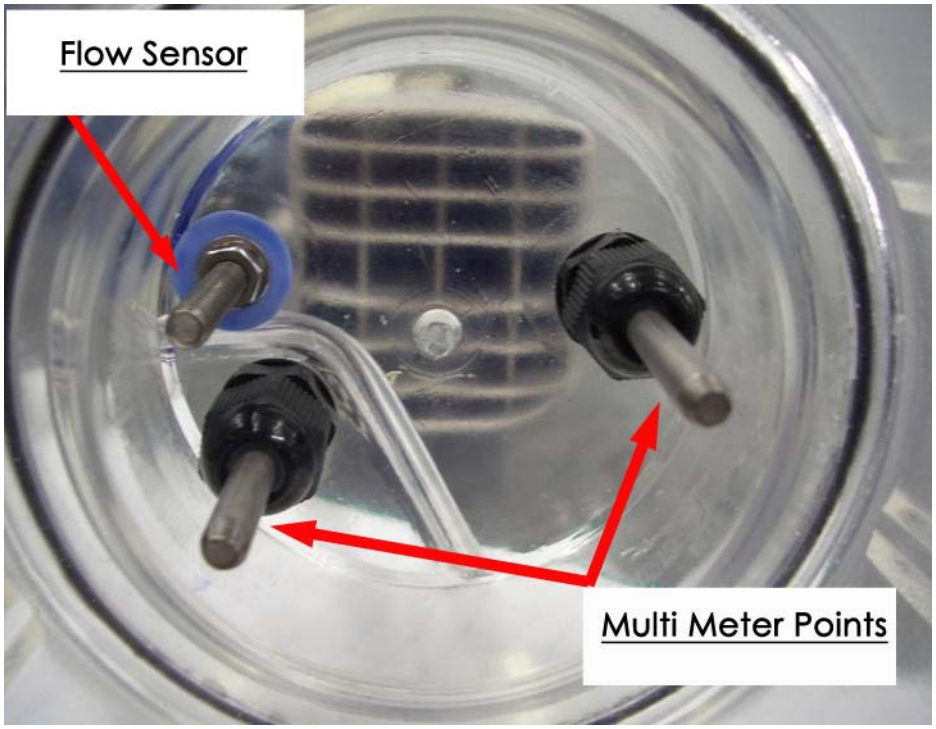
8. If the unit is set to anything under 100% there will be times where you will see LED 1 and 2 green but no production percentage is showing, the unit is most likely in "Standby" which is evident by the dot in the upper left hand corner of the display.

Testing the Cell

Step one: ENSURE THAT THE CELL IS CLEAN.

A quick way to see if the cell is expiring is to take a cup a salt and drop it in the skimmer, watch the red indicator light(s) on the power supply, if, as the salt passes through the cell the light(s) turn green for a short period of time and then back to red it is a good indicator that the cell is near the end of it's life cycle.

To Verify: place the unit at 100% and your multi meter on DC; measure between the two connectors on the cell – not the blue flow sensor connector – your reading should be between **18 and 20 vDC** under normal conditions. **If you get between 21-23 vDC you should check or temp and salt as this could cause a slight increase in voltage.**



NOTE: **a voltage higher than 23vDC** indicates that the cell is either about to be, or is, at the end of its life cycle. The **cell should be replaced**.

Check the DC cord

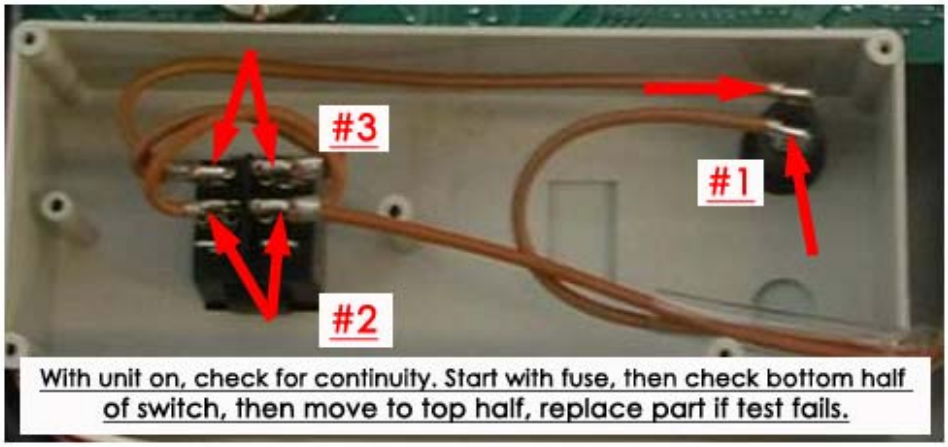
- To Avoid burnt DC cord check that the DC cord is connected firmly – may need to crimp DC cord connectors to get a firm hold onto cell studs

The lights are off on the Power Supply

1. Check for incoming voltage to the Power Supply by opening the power supply and testing at the terminal block at the bottom left side of the power supply. If power is not present, check that the breaker has not popped or a fuse not blown. If unit is on a "Booster" check that the boost transformer has not failed.

2. Test the fuse (*#1) in the Power Supply (3 Amp or 5 Amp) with your Multi meter set to "continuity". If blown replace.

3. With the power to the unit on, test the power switch with your Multimeter (set to "continuity"), if you do not get a reading (from the points indicated #2 & #3) you need to replace the switch.



if on external control via AC pigtail, ensure controller has not shut the unit down

Flow indicator is illuminated - shows no Flow situation

1. Ensure that circulation pump is running and water is flowing.

2. Check that the water flows smoothly through cell with no excessive cavitation.

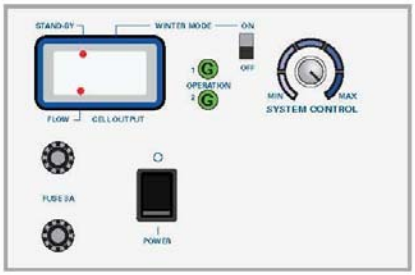
3. Is the Blue Flow Sensor cord connected to the cell head?

All indicators are normal but there is no chlorine in the pool

1. Test for phosphates and if greater than 200PPB treat to reduce
2. Dilute and retest to ensure that Chlorine level is not so high that it is bleaching out test process

Lights are not green on Power Supply

Alarm Indicator Displays



When there is a problem with water flow or gas or air is detected in the cell housing:

1. The Flow indicator is on.
2. The Stand-by indicator is on.
3. Both Operation LEDs are green.

When this occurs, the pump and pipes should be inspected. Please contact your dealer.

When Operation LED #2 is Red, this indicates that:

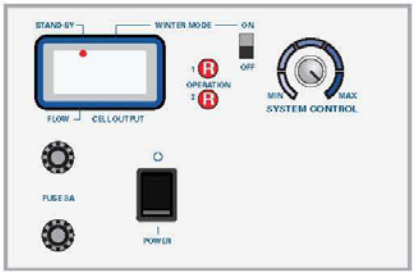
1. The Salt Level is low,
2. The System has a fault,
3. The Water Temperature is cold, or
4. The Cell is dirty or has scale build-up.

When this occurs, please contact your dealer. This condition will cause wear on the cell. If this alert is ignored, the system will go into a protective "Cut-Out" mode.

When display varies and both Operation LEDs are Red, this indicates that:

1. The Unit is about to Cut-Out,
2. The Cell is dirty,
3. The Salt Level is too low, or
4. The Cell is failing.

When this occurs, please contact your dealer.



This indicates that the Unit has Cut-Out:

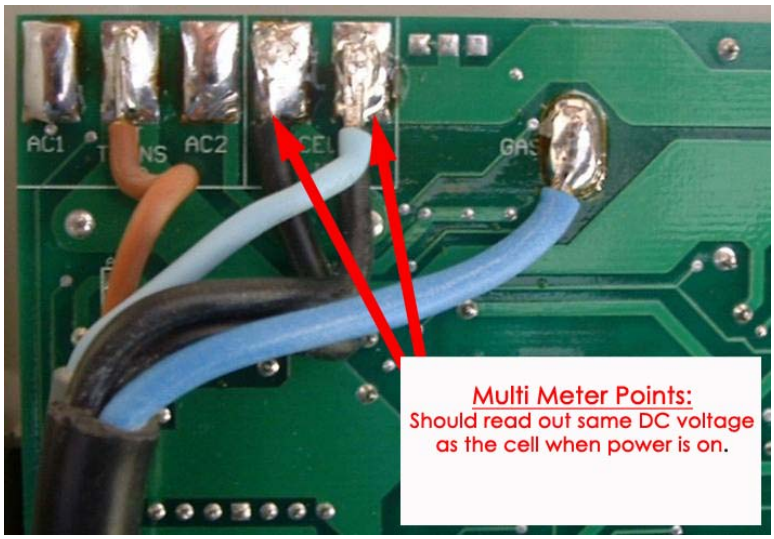
1. The Stand-By indicator is On.
2. Both Operation LEDs are red.

When this occurs, please contact your dealer.

I have checked everything on the Power Supply "Face" but still have problems with Production

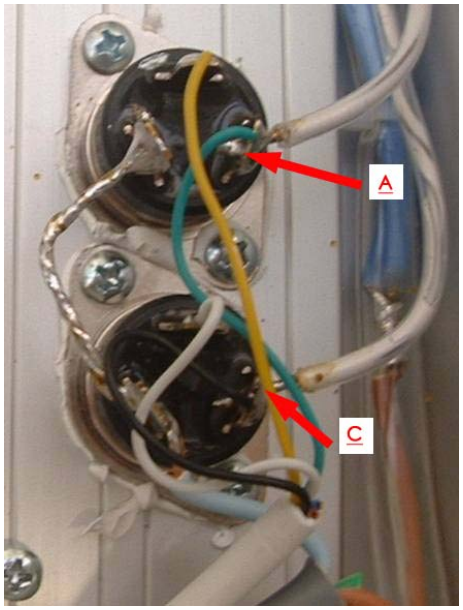
-Place Multi-Meter Lead (1 lead per wire) on the black wire(s) where they are soldered to the PCB board. Check that voltage is the same as voltage reading at the cell.

-If cell voltage reading is different than PCB voltage reading (with a difference greater than 1-2vDC) cord should be replaced



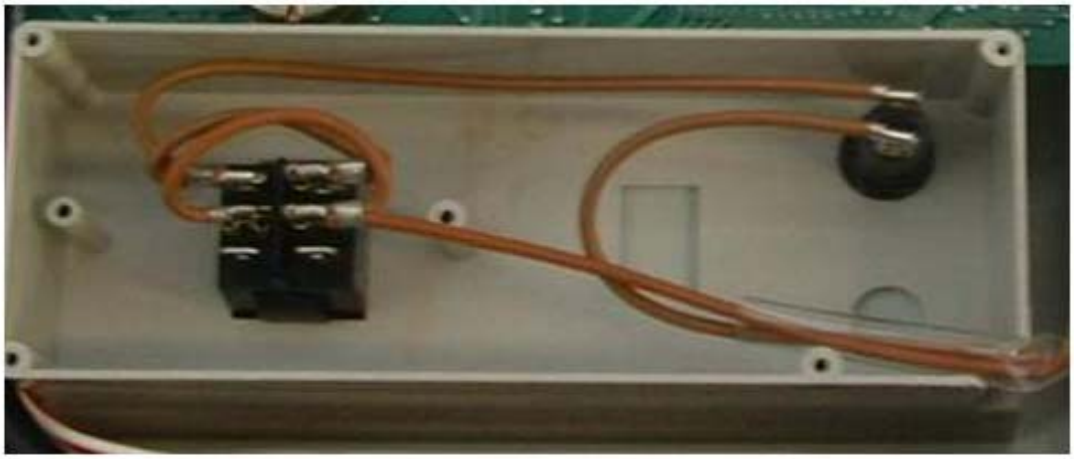
-Place your multi-meter on AC and test voltage between the two large white wires (known as A & C), you should get a reading of 64-72v(AC volts) A-C, the read out should be double that of A-B or B-C (B is the point where the brown wire is soldered to the PCB)

-If you do not get 64-72vAC between A and C test A - B and C - B, if either test comes up outside 32 -36vAC that triac is bad and needs to be replaced.



Power Supply continues to blow fuses

1. Cell must be clean and DC cord connected firmly – may need to crimp DC cord connectors to get a firm hold onto cell studs
2. Check that DC cord has firm solder to the pcb board
3. Check the Fuse Holders for any damage
4. check that wires are seated tightly behind the fuse holder(s)



Water leaks from the Cell Head

1. Check that the large O ring is correctly seated, and in good condition
2. Check that the "glands" are tightened on the cell connector rods

I have tested the O ring and Glands and it still Leaks

1. You May need to replace the glands and or silicone tubes.

DO NOT CONTINUE TO TIGHTEN CELL HEAD TO TRY TO STOP LEAK!!!