

ISIMET -Utility Controller Ver 8.1 & 8.3 & 8.4 TROUBLE SHOOTING GUIDE

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ISIMET recommends that you view and become familiar with the Start-up & Trouble Shooting Slides prior to attempting to trouble shoot problems with the *ISIMET* Utility Controller. You should also have thoroughly read the Installation, Operations & Maintenance Manual for the unit on which you intend to perform service.

Have on hand a copy of the O & M along with a "PCB - Configuration Chart". Refer to this chart for locations of components described in this guide. Modules also have specific wiring configuration and connection charts. These should also be available for review during trouble shooting.

ISIMET does not recommend the practice of random replacement of components to rectify a problem with operation. This guide will step through the normal causes of failures so that specific cause can be determined. If after performing the trouble shooting procedures defined in this guide and the unit or module remains non-operational, then that component should be replaced.

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I Problem - No Power at All to the Utility Controller

1. The panel service switch should illuminate when ON.
2. Check the panel's 5 Amp fuse. Replace if necessary.
3. Check Junction Box Connections for proper wiring connections.
4. If the Utility Controller is connected to a circuit breaker, check to see if the breaker is engaged.

With power ON, 24-vac should be read @ pins 1 & 2 on CON 3 of the PCB.

II ems LED on PCB does not illuminate when Utility Controller is turned ON

NOTE: For the unit to operate, the "ems" LED should be illuminated.

1. If wiring is connected at the ems terminals on the panel, test for voltage at CON 4a, pins 3 & 4.
2. If voltage reads 5-VDC, then a jumper should be in place at JP-4a. If 24-vac/vdc, then remove jumper.
3. Check JP 2 for correct configuration.
4. Move the jumper to the opposing position to test if the "ems" now illuminates.
5. If yes, then re-test for operation of the unit.

With an ems input signal to the PCB, the jumper at JP 2 should be to the right.

III Problem – 24-vac to the PCB, but the unit will not operate

With ems LED ON, the unit should operate unless.

1. Is the *PANIC* or *ALARM* LED ON? If yes, then either a *PANIC* or *ALARM* signal is present. The unit will not operate with either signal present. Refer to **V Problems with PANIC & ALARM Signals** for further explanations and remedies if these LED's are illuminated.
2. Check LED 10, and if not on, check the PCB's 250 mA fuse (fuse 3) (or 500 mA fuse if more than three circuits). Replace if necessary.
3. Check the door panel plug (15-pin connector) to verify firm connection.
4. Check CON 10 to verify jumpers at pins 5 & 6; 7 & 8; 9 & 10.
5. Examine wiring at the door panel to assure that no wiring has become loose during either shipping or installation. Tighten loose screw connectors.
6. Re-test for operation of the unit.

With power ON, ems LED ON, ALARM & PANIC LED's OFF, Door switch ON and engagement of key switch, unit should operate.

IV Problem - Green Door LED's are on, but service is not activated

1. Check Terminal 2 of control panel for proper and firm wiring connections.
2. Test for circuit continuity from PCB CON 5 and corresponding posts at Terminal 2.
3. Check the 5 amp -24 vac output fuse on the PCB. FUSE 1. Replace if necessary.
4. Is the output LED on the PCB ON for the active circuit? (LED 4, LED 5 or LED 6)?
5. Test for output voltage at PCB on CON 5 between COM OUT and circuit output pin.
6. When activated, check terminal 2 connections for 24-vac.
7. Check to see if services have been turned on.
8. Check wiring connections at solenoids and electrical contactors.

With the Green LED, the pcb output LED illuminated, and 24-vac voltage at Terminal 2 output post and COM, the service should be ON.

V Problems with PANIC & ALARM Signals

NOTE: With either an *ALARM* or *PANIC* LED illuminated, the unit will not operate.

1. Verify that no input signal is present at ALARM INPUT (CON 4b, posts 1 & 2). If a signal is present, terminate the connection or signal for test purposes.
2. Verify that if a remote Panic Button or Shower Monitoring or any other device is attached to the Auxiliary Panic Input terminals (CON 1b, posts 3 & 4) on the pcb that the wiring from this unit to the Controller does not run within conduit that carries other wiring. The sensing of current from other sources across this wiring will cause the unit to be placed into PANIC and will eventually damage the PCB.
3. Verify that no input signal is present at ISOLATED PANIC INPUT (CON 1a, posts 1 & 2). If a signal is present, terminate the connection or signal for test purposes.

With these input signals removed or terminated for test purposes, the unit should operate.

CAUTION: We DO NOT recommend that the unit be placed back into service without connections made to remote devices or systems that are intended to provide specific control signals for the unit. The problem if apparent originating from that remote system or device should be diagnosed and remedied prior to operating this unit.

VI Problem - a PCB output circuit resets to OFF with no apparent cause.

1. Verify that amp loads at each output circuit does not exceed load limits (1.5 amp per circuit). Solenoids and remote operators that are directly connected to output circuits of the unit, requiring amperage in excess of this limit, will cause the circuit to reset and may cause damage to the unit.
2. With power OFF, test ohms at output terminal 2 on control panel at output post 2 and COM and 3 and COM. Between 3 & 9 ohms should register. If not, there is the possibility that a solenoid coil is failing, causing a gradual overload to the output circuit. You should test the coil again at the solenoid with the wiring from the controller removed. Replace damaged coils.
3. Verify that 24-vac output and 120-vac line wiring does not route within common conduit. If it does, there will be a continual interference between the circuits causing this problem. The only solution is for the wiring to be isolated per ISIMET recommendations.

REFER to Supplemental Wiring Instructions for complete directions for all wiring circuits for the ISIMET Utility Controller.

VII Problem - PCB output fuse continues to fail.

1. With power OFF, test ohms at output terminal 2 on control panel at output post and COM. If a direct short is registered, you should test the coil or remote operator again at the location of the device with the wiring from the controller removed. Replace damaged coil or other remote operator or device.
2. Verify that a direct short is not present on any of the wiring at terminal 2 and the remotely located operator. Correct the deficiency.
3. Verify that total amp loads does not exceed specified load limits for the unit.

Pcb Fuse 1 (5 amp) is intended to protect the PCB from damage caused by circuit overload. When replacing this fuse, do not exceed this rating.

VIII Problem - Auxiliary Fan circuit does not operate or function properly

Without the ems LED ON, the FAN circuit will not operate with switch ON.

1. Verify that the FAN module plug is firmly connected to CON 7 on the PCB.
2. Verify that none of the wiring at the plug has become dislodged.

With the FAN switch ON, with at least one keying, the circuit should function and the LED should illuminate.

3. Verify that JP 7 is configured with jumper to left.

In the PANIC mode (PANIC LED ON), the circuit should function and the LED should illuminate.

In the ALARM mode (ALARM LED ON), the circuit should not function and the LED should not illuminate.

In the PANIC mode with ems LED OFF, the circuit should function and the LED should illuminate only if the jumper on the FAN module is in place.

4. With the module's LED on, test continuity across output terminals of the PCB module.
5. Test for 24-vac output at posts 4 & COM at the panel's Terminal 2.
6. Test the remotely located relay for the Fan circuit to verify 24-vac voltage is present with FAN ON.
7. Test the COM and N/O terminals against L2 or neutral to verify line voltage is ON.
8. Verify the switch on the RIB relay is set to the "auto" position.

24-vac output is provided to operate a remotely located relay that in turn controls the line voltage to operate the fan.

IX Problem - Auxiliary AIR circuit does not operate or function properly

Without the ems LED ON the circuit will not operate. Typical connection at CON 7. (Similar at CON 9)

1. Verify that the AIR module plug is firmly connected to CON 7 on the PCB.
2. Verify that none of the wiring at the plug has become dislodged.
3. Verify that JP 7 is configured with jumper to right.
4. With the module's LED on, test continuity across output terminals of the PCB module.
5. Test for 24-vac output at posts 4 & COM at the panel's Terminal 2.
6. Test the remotely located solenoid for the Air circuit to verify 24-vac voltage is present with Air ON.

In the PANIC mode (PANIC LED ON), the circuit will not function and the LED will not illuminate.

With the AIR switch ON and keying, the circuit should function and the LED should illuminate.

24-vac output is provided to operate a remote 24-vac solenoid to turn ON the Air service.

X Problem – LA Module Remote circuit does not operate or function properly

A LA Series Controller companioned to the unit should be enabled during normal operation of the unit and disabled during ems OFF and ALARM or PANIC ON.

1. Verify that the LA module plug is firmly connected to CON 7 on the PCB.
2. Verify that none of the wiring at the plug has become dislodged.
3. Verify that wiring to and from the LA Controller conforms to the specified details for that unit.
4. The LA module's LED should illuminate during all operation ON times of the Control unit.
5. The LA module's LED should lose illumination when the unit's PANIC Button is pressed..

24-vac is transmitted to disable the LA unit during any of the disabled modes of this unit.

XI Problem – Remote Fan Module circuit does not operate or function properly

A remote Fan module should be enabled during ALARM or PANIC ON, but disabled during normal operation of the unit and disabled during ems OFF. Normally switching ON-OFF is performed elsewhere. Note that this module will function at either CON 8 or 9.

1. Verify that the module plug is firmly connected to either CON 8 or 9 on the PCB.
2. Verify that none of the wiring at the plug has become dislodged.
3. Verify that wiring to the remotely located switch for the fan is correct and in tack..
4. The module's LED should illuminate during PANIC but lose illumination during normal operation.

24-vac is transmitted to enable the Purge Fan during the PANIC mode of this unit.

XII Problem – LA Module Remote circuit does not operate or function properly

The LA module should be disabled during ALARM or PANIC ON, but enabled during normal operation of the unit and disabled during ems OFF. Normally switching ON-OFF is performed by remote circuitry.

1. Verify that the module plug is firmly connected to CON9 on the PCB.
2. Verify that none of the wiring at the plug has become dislodged.
3. Verify that the wiring configuration of the module conforms to those specified for that unit.
4. Verify that wiring to the remotely located switch for the circuit is correct and in tack.
5. The module's LED should illuminate during enabled and normal operating periods of the unit.

24-vac is transmitted to the LA Controller during PANIC, ALARM or ems OFF modes.

XIII Problem – Output Notification Signals do not operate or function properly

24-vac & dry-contact outputs are available on the control panel that derives from CON 4a & CON 4b on the PCB. Configuration of the ems-monitoring signal is accomplished at JP 11 on the PCB. 5-vdc output signals for PANIC and ALARM originate from CON 1a on the PCB.

1. Verify that JP 11 is configured as desired.
2. Verify that DPDT relay U 10 closes upon PANIC.
3. Verify that the wiring from CON's 4b & 4 are intact.
4. Verify that wiring to the remotely located monitoring device or system is in tack.

24-vac is transmitted to the remote switching circuitry during normal operation of the unit.

XIV Problem – The RF module does not function

The module plugs into CON 10 on the PCB. (The three jumpers are removed) The antenna is mounted through the unit's base. Coax is connected from the antenna to the module.

1. Verify that the module's plug is firmly connected to CON 10 and wiring has not become dislodged.
2. Verify that the coax cable is in tack.
3. Verify that the encrypted code printed on the module corresponds to that on the keyfob.
4. Test the battery in the keyfob. Replace as needed.
5. Test each of the functions of operation of the keyfob to determine which operation fails.

If wiring is correct, then the normal manual function of the unit' door should operate.

XV Problem – Utility Controller energizes upon first power “On” or the system immediately resets itself when the Panic Button is released

1. Press the Blue reset button on the PC Board at the upper left above where the door plugs into the PCB.
2. Examine the button to see if it appears depressed.
3. Depress the panic button and check that the system advances to panic.
4. If it does not, remove the jumper on J1 (located above aux. Output #2)
5. Test system to verify that unit momentarily advances to panic when panic button is pressed, but reset To “Off”. (Reset to “On” will occur only when the key switch is engaged.)
6. If the system operates in this mode, the reset button on the PCB is locked in its closed or down position.
7. To attempt repair, try pressing the reset button again to see if it will unlock or open.
8. Upon successful completion of this test replace jumper on J1.

If repair is unsuccessful, please contact *ISIMET* for instructions.