OFFSIDE TECHNOLOGIES CORP. Model # **SM-001** Patented ELECTRONIC VERIFYING SWITCH (**E.V.S.**)
END-OF-LINE/ISOLATOR DCL SLC, IN-SUITE SOUNDER/HT HEAT/MONITORING MODULE/CONTROL UNITS / TRANSPONDERS/ANNUNCIATOR PN / 2000-1. Rev. 9
INSTALLATION & OPERATING INSTRUCTIONS

Thoroughly read and understand these Instructions, they provide detailed information on **various** applications. Copies are available from Offside Technologies Corp. These instructions are provided to ensure compliance with the Installation Requirements of NFPA-72 (National Fire Alarm Code), NFPA 70 (for US) and CSA C22.1, Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations, Section 32- (for Canada), CAN/ULC-S524 (Standard for Installation of Fire Alarm Systems). The Offside Technologies SM-001 is intended for permanent installation and can be used in lieu of any standard Fire Alarm System End-of-Line (EOL) device resistor plate. Or as an add on to: ISOLATOR DCL SLC / IN-SUITE SOUNDER / FIX TEMPERATURE HEAT (HT) / MONITORING MODULE / CONTROL UNIT (CU) / TRANSPONDER (T) / ANNUNCIATORS / SUPERVISED BY-PASS / for ease of their respective testing requirements, that would otherwise require you to remove said device or wires from their respective back box and/or terminal blocks for testing the **wiring connected** to said device. A copy of these instructions should be left with the Building Fire Alarm System Verification Report.

The Offside Technologies SM-001 is compatible with most UL/ULC Listed Fire Alarm Control Panels, that do not exceed the ratings listed below.
In actual field testing it usually takes around 5 seconds to complete each test, depending on the brand of Listed Fire Alarm System being used.
Terminals: **R- R+ G - +** are to be connected to Power-Limited circuits only.

IMPORTANT CAUTIONS

Canadian & USA Applications:

An electrical back box is required to be properly bonded to ground. Attach a ground wire to the designated ground terminal **"G"** and to the back box for proper operation, **where a ground condition is required.** Follow published manufacture instructions for installed equipment for any extra requirements they have and the testing and maintenance instructions stipulated in CAN/ULC-S536 or NFPA 72 for USA, to ensure the proper utilization of the Offside Technologies SM-001. The SM-001 is set for testing Positive Ground from the factory. If your codes require a N**egative Ground** as well as a Positive Ground for the same device **e.g.** CAN/ULC -S536-13, Section 6.2.2 "Control Unit or Transponder Tests" or if you want to achieve a Negative Ground only, you have three options.

(options 1) Use a test wire, not supplied: From the front side of the mounting plate via the voltage/resistor measuring points while at **"N"** normal position, touch one end of the wire to the voltage point – and the other end to either mounting screw. Ensure non-painted mounting plate screws connect to the metal electrical box. This will ensure a ground reading can be achieved.

(options 2) Reverse connecting wires from + to – for both voltage in and resistor out. This will put the – power through the switch first. Allowing you to use the switch for testing – Ground. The switch will provide same ratings in either + or – configuration.

(options 3) Install two Offside Technologies SM-001 and connect one as normal and the other as option 2, reversing all wires.

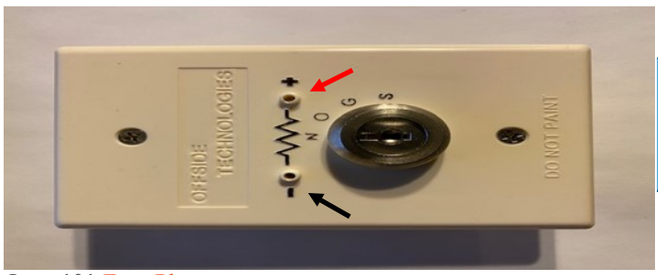
RESISTOR , VOLTAGE & LOOP RESISTANCE MEASUREMENT

For testing the **RESISTOR** connected to the Offside Technologies SM-001 turn the switch to "**O**" open condition and insert your multi-meter set on (ohms) into the voltage/resistor measuring points on the front of the face plate. Item 101. You can now verify the resistor installed.

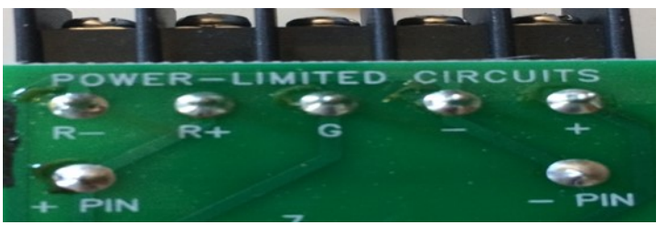
For testing the **VOLTAGE** connected to the Offside Technologies SM-001 turn the switch to "**N**" and insert your multi-meter set on (Volts DC) into the voltage/ resistor measuring points on the front of the face plate. You can now verify the voltage.

For testing the **Loop Resistance;** connect **one** SM-001 at the end of the wire loop, turn the switch to "**S**" and then use your multi-meter set on (ohms) at the beginning of the wire loop. Caution: You must remove power from the wire loop before you can verify the Loop Resistance. If you install a second SM-001 at the beginning, you can turn it to **"O"** and then insert probes into the measuring points and get your resistance reading. **Figure E & Item 101.** Otherwise you need to remove wires from the control unit/transponder.

The SM-001 needs to be mounted onto a common single gang electrical box or adapter plate that is in accordance with the applicable Installation Standard, National Electrical Code, Electrical Code (both USA and Canada) and in accordance with the local authority having jurisdiction. Suitable for indoor dry locations only.



Item 101 Face Plate



Item 104

Abbreviation meanings

"**N**" for "NORMAL OPERATION"
"**O**" for "OPEN CIRCUIT CONDITION"
"**G**" for "GROUND CONDITION"
"**S**" for "SHORT / ALARM CONDITION"

MANUFACTURERS INFO

Manufactured in Canada by:
Offside Technologies Corp.

Manufacturing Location	Distributer
717 Wilson Road South Unit 5 Oshawa, Ontario, L1H 6E9 Email: mark@offsidetechnologies.com Tel: 905-409-2751 Web: www.offsidetechnologies.com	717 Wilson Road South Unit 5 Oshawa, Ontario , L1H 6E9 Email: stephen@offsidetechnologies.com Tel: 905-903-5688 Web: www.offsidetechnologies.com

ELECTRICAL SPECIFICATIONS

Voltage: 0 - 40 Vdc Operation
Rated Current: 0.1mA – 350mA
Temperature: 0°C to 49°C (32°F to 120°F)
Maximum Humidity: 93%. Noncondensing
Wire Gauge: 14 – 22 AWG
Max. Shorting Ckt. Current: 350mA Max inrush current 1.8A limited to 100ms

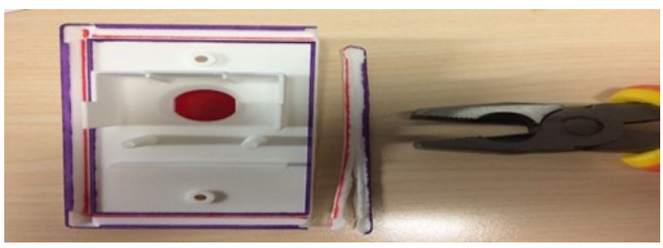
AGENCY LISTINGS

SIGNALING UL LISTED

ULC LISTED

Breakaway tabs

.All four sides will breakaway if standard back boxes have been installed side by side. Simply use standard linemen's pliers, place pliers up to the grove and bend back and forth along the whole line until it breaks off.



COMMON END-OF-LINE APPLICATION (EOL)

INSTALLATION: Reference Figure "A".

1. Connect the EOL resistor across "Resistor" (**R-** and **R+**) terminals of the SM-001 (Can be in either polarity in this application).
2. Connect field wiring from the control panel (or last device in the circuit) to terminals marked "**-**" and "**+**".
3. Connect a ground wire (not supplied) to the "**G**" terminal.
4. Install SM-001 with compatible hardware or hardware provided. Panel should indicate "normal" state when finished. If "off normal", or "trouble" is indicated at the panel, check field wiring connections for zone in trouble.

NOTE 1: Key-switch is in the **"N"** (normal circuit operation) position with the test key removed.

NOTE 2: Use only **resistor** provided or specified by the fire control panel manufacturer. It is recommended to mount the SM-001 less than 1800 mm above the floor (measured to the centre of the testing means) in order to facilitate easy access to the key-switch.

RECOMMENDED TESTING PROCEDURE FOR EOL Figure "A"

NOTE 3: WARNING: DO NOT sound the audible/strobe devices from any location while testing the audible/strobe EOL zones, while the SM-001 is in the "S" position. This will damage the key-switch. As the panel does not remove power from the audible/strobe zones when in alarm state.

1. Insert test key that came with the SM-001.
2. Turn the key-switch from "**N**" position to "**O**". This will display an "open circuit condition" at the control panel for that zone independent of "G" & "S".
3. Turn the key-switch to position "**G**". This will cause the control panel to display "ground condition", independent of the "open circuit condition".
4. Turn the key-switch to position "**S**". This will impose a "short condition" on the zone. It will activate the "alarm condition" for initiating circuits and a "short fault condition" if connected to an output (NAC) circuit, independent of "O" & "G".
5. Return test key to "N" and remove key.
6. You can now measure voltage across the resistor by inserting a multi-meter, test probes into the **-** & + probe holes provided on the face plate.
7. For negative ground applications, for same device. **See (options 2 or 3)** above **or** insert test probe or ground wire into the " – " hole provided and ground the other end of the probe/ground wire against one of the unpainted exposed screws used to secure the device to the electrical box. The control panels will indicate "Ground Condition" or "Trouble Condition" depending on brand of control panel.
8. When in position "O" you can measure your **resistor** value (ohms) across the test probe points. It is recommended to record all your readings.

COMMON FIX TEMPERATURE NON-RESTORABLE HEAT APPLICATION (HT)

INSTALLATION: Reference Figure "G".

NOTE 4: It is recommended to mount the Offside Technologies SM-001 less than 1800 mm above the floor (measured to the centre of the testing means) in order to facilitate easy access to the key-switch. **Also SEE NOTE 14 below for T-Taping**

1. Connect one positive (JUMPER WIRE not supplied) from the detector on the power OUT, side of the detector. Connect the other end to the + on the SM-001.
2. Connect one negative (JUMPER WIRE not supplied) from the detector on the power OUT, side of the detector. Connect the other end to the – on the SM-001.
3. The "**G**" "**R +**" and "**R –**" terminals **are not used** for this test, but a ground wire still needs to be used from the detector back box to the SM-001 back box.
4. In this configuration you have created a permanent jumper wire within proximity of the HT Heat. Turning the key to "S" position completes the jumper wire when needed.
Note 5: This configuration is not "T Tapping" as there are no additional devices connected to the **R** + and **R** –. The SM-001 in this configuration acts as a jumper wire only.
Note 6: You shall label the detector and the SM-001 so technicians know what the SM-001 is testing. If no label then the SM-001 must be traced out to verify what it is testing and then relabel both devices. See example of label. Figure "**G**".

If the HT is the last device before the end-of-line, then you can also use the same SM-001 to test the HT heat as well as the end-of-line. Label the SM-001 for HT and End-of-line testing.

TESTING PROCEDURE FOR FIX TEMPERATURE NON-RESTORABLE HEAT (HT): Figure "G"

1. Insert the test key that came with the SM-001.
2. Turn the test key straight to the "S" position to introduce a Short/Alarm condition.
3. Return test key to "N" and remove test key. Test complete.

COMMON IN-SUITE SOUNDER ISOLATOR APPLICATION

WARNING: **Must use correct polarity when connecting wiring.**

NOTE 1: Key-switch is in the **"N"** (normal circuit operation) position with the test key removed.

INSTALLATION Reference Figure "F".

In-suite Choice 1 installation: Canada

1. The Offside Technologies SM-001 should be mounted either adjacent to or below the in-suite signal isolator it will be testing or beside the in-suite signal. One SM-001 will be required, for each suite, the signalling isolator is monitoring. It is best to mount the SM-001 less than 1800mm above the floor for new installations, beside existing Isolator or beside the signal in retrofitting applications for ease of access to the key-switch.
2. Connect **one** of the in-suite signal outputs from the isolator or the in-suite signal to the ("+" and " **-** ") terminals of the SM-001. (Output 2)
3. Connect a ground wire to SM-001 **if required.**
4. Install SM-001 with compatible hardware or hardware provided. Panel should indicate "normal" state when finished. If "off normal", or "trouble" is indicated at the panel, check field wiring connections for zone in trouble.

Note 14: For T-Taping you may T-Tap into the closest existing device electrical box for the device you want to test *only if T-Taping is allowed by the Installation Instructions of the device and by the local AHJ (Authority Having Jurisdiction), then extend wiring to where you will install the SM-001. Or if the device is too far away and you have access to the wire-run the device is on, then you will need to cut the wire-run and install a new separate electrical box as per CAN/ULC-S524, your electrical codes and final acceptance by the local AHJ.*

INSTALLATION Reference Figure "F".

In-suite Choice 2 installation: USA

1. The Offside Technologies SM-001 should be mounted either adjacent to or below the in-suite signal isolator it will be testing. One SM-001 will be required, for each suite, the signalling isolator is monitoring. It is best to mount the SM-001 less than 1800mm above the floor for new installations or beside existing Isolator in retrofitting applications for ease of access to the key-switch.
2. Connect one of the in-suite signal outputs from the isolator to the ("+" and " **-** ") terminals of the SM-001. **(Output 1) (Must use correct polarity)**
3. Connect the in-suite sounder Positive "IN" & Negative "IN" to the (**R** + and **R** –) of the SM-001 terminals. **(Must use correct polarity)**
4. Connect the return wires from the suite sounder to the applicable "return" terminals on the isolator. **(Must use correct polarity)**
5. Connect the ground wire to 1st SM-001.
6. Install SM-001 with compatible hardware or hardware provided. Panel should indicate "normal" state when finished. If "off normal", or "trouble" is indicated at the panel, check field wiring connections for zone in trouble.

TESTING PROCEDURE FOR IN-SUITE ISOLATOR DEVICE: Figure "F".

WARNING
WHEN USING Offside Technologies Model SM-001 WITH: IN-SUITE SOUNDER, BELL CIRCUIT, SPEAKER, or STROBE CIRCUITS.

YOU ARE ONLY SHORTING THE ISOLATED SIDE.

In-suite Choice 1: Short only test Canada

1. Insert the test key that came with the SM-001 into Suite **B** SM-001.
2. Turn the key to **"S"** position; this will cause a "short circuit condition" or "NAC Fault" at the control panel.
3. Now INITIATE an Alarm Test with the switch on "S" position, The sounders associated with the suite to which the activated Offside Technologies SM-001 is connected should no longer function. All other in-suite sounders in the other suites on the floor area should continue to operate.
4. Return test key to the "N" position. Sounders associated with the suite to which the device is connected should now commence sounding.
5. Turn "off" the "Alarm Test" The control panel should return & read "normal operation".
6. Retest the in-suite sounder with the key removed, by activating manual "AlarmTest". All in-suite sounders should operate as normal.

In-suite Choice 2: Open, Ground & Short test USA

1. Insert the test key that came with the SM-001 into the SM-001 Suite **A**.
2. Turn the key to **"O"** position; this will cause an "open circuit condition" at the control panel. Now activate a drill test and confirm the in-suite sounder still operates. (As power is feed from both directions.)
3. Turn the key to **"G"** position. This will cause a Ground Fault condition.
4. **Push System reset while the key is on "G" position**.
5. Once the "open condition" clears you can proceed to the next test.
6. Turn the key to **"S"** position. This will cause a "short" on the circuit which will be indicated as "short fault condition" or "NAC Fault" at the control panel.
7. Now INITIATE an Alarm Test with the switch on "S" position, on the SM-001. The sounders associated with the suite to which the activated Offside Technologies SM-001 is connected should no longer function. All other in-suite sounders in the other suites on the floor area should continue to operate.
8. Return test key to the "N" position. Sounders associated with the suite to which the device is connected should now commence sounding.
9. Turn "off" the "Alarm Test" The control panel should return & read "normal operation".
10. Retest the in-suite sounder with the key removed, by activating manual "Alarm Test". All in-suite sounders should operate as normal.

Control Units/Transponders/Printers/Annunciators/Alarm Monitoring: TYPICAL (DCL) (SLC) & Conventual OPEN LOOP & Short APPLICATION

WARNING: **Must use correct polarity when connecting wiring**.
INSTALLATION Reference Figure "B"

1. The Offside Technologies SM-001 should be mounted either adjacent to or below the device it will be testing.
2. Break the connection coming from the device you need to test. Insert the SM-001 then connect the + & - of the device to be tested to the + & **-** of the SM-001.
3. Connect the G to ground if your code requires a ground test.
4. Reconnect the device wiring by using the **R**+ & **R -** to complete your connection.
5. Install SM-001 with compatible hardware or hardware provided. The device should indicate a "normal condition" at the control panel. If "off normal", or "trouble condition" is indicated for the circuit, check field wiring connection against instruction Figure "B".

TESTING PROCEDURE FOR Control Units/Transponders/Printers/ Annunciators/Alarm Monitoring: Open Loop & Short Figure "B"

1. Insert the test key that came with the SM-001.
2. Turn the key to position "**O**". This will cause the device's control panel or loop controller to display an "Open Loop Fault" or trouble .
3. If you need Ground Fault testing on the device, turn the key to "**G**" to confirm Ground Fault at the control unit or transponder.
4. If you need Short Fault testing on the device, turn the key to "**S**" to confirm Short Fault at the control unit or transponder.
5. Once test is confirmed return key to "N" and remove key. Reset panel if required.

TYPICAL (DCL) (SLC) CONTROL/TRANSPONDER TO CONTROL/TRANSPONDER ISOLATOR SHORT TEST APPLICATION Figure "C"

INSTALLATION Reference Figure "C"

1. Figure "C" installation of the SM-001 should be mounted either adjacent to or below the (DCL) (SLC) isolator it will be testing. It is best to mount the SM-001 less than 1800mm above the floor for new installations or beside existing isolator in retrofitting applications for ease of access to the key-switch.
2. Connect by "T Tap" into the ("+" and "–") after the first isolator or before the second isolator coming from the control unit/ transponder to the ("+" and "–") terminals of the SM-001 (observe polarity).
3. Connect the **G** to ground if your are required to test for ground fault condition .
4. Install SM-001 with compatible hardware or hardware provided. The loop controller should indicate a "normal condition". If "off normal", or "trouble condition" is indicated for the circuit, check field wiring connection against instruction Figure "C".

Note 14: For T-Taping you may T-Tap into the closest existing device electrical box for the device you want to test *only if T-Taping is allowed by the Installation Instructions of the device and by the local AHJ (Authority Having Jurisdiction), then extend wiring to where you will install the SM-001. Or if the device is too far away and you have access to the wire-run the device is on, then you will need to cut the wire-run and install a new separate electrical box as per CAN/ULC-S524, your electrical codes and final acceptance by the local AHJ.*

TESTING PROCEDURE FOR (DCL) (SLC) CONTROL/TRANSPONDER TO CONTROL/TRANSPONDER ISOLATOR: **Figure "C"**

1. Turn the key to **"S"** position; this will cause a "short circuit condition" or "NAC Fault" at the control panel.
2. If you need Ground Fault testing between the isolators turn the key to "**G**" on SM-001 confirm Ground Fault at the control unit or transponder.
3. Return test key to "N" and remove the test key. Test complete.

DATA COMMUNICATION LINK OR SIGNALLING LINE CIRCUIT ISOLATOR APPLICATION (DCL) (SLC) Figure "D"

Note: You may need to do a system reset on some panels between each key switch position. As your panel may be "locked" on that feature till you do a reset. If this is the case leave the key in the next position you want to test and then do the reset. Each position is independent of each other.

INSTALLATION Reference Figure "D"

1. Figure "D" installation of the SM-001 should be mounted either adjacent to or below the (DCL) (SLC) isolator or by any Active field addressable device it will be testing. It is best to mount the SM-001 less than 1800mm above the floor for new installations or beside existing isolator/Field Device in retrofitting applications for ease of access to the key-switch.
2. Connect by "T Tap" into the ("+" and "–") after the first isolator on the isolated side or before the second isolator for that area. Then connect them to the ("+" and "–") terminals of the SM-001 (observe polarity).
3. Connect the **G** to ground if your are required to test for ground fault condition .
4. Install SM-001 with compatible hardware or hardware provided. The loop controller should indicate a "normal condition". If "off normal", or "trouble condition" is indicated for the circuit, check field wiring connection against instruction Figure "D".

Note 14: For T-Taping you may T-Tap into the closest existing device electrical box for the device you want to test *only if T-Taping is allowed by the Installation Instructions of the device and by the local AHJ (Authority Having Jurisdiction), then extend wiring to where you will install the SM-001. Or if the device is too far away and you have access to the wire-run the device is on, then you will need to cut the wire-run and install a new separate electrical box as per CAN/ULC-S524, your electrical codes and final acceptance by the local AHJ.*

TESTING PROCEDURE FOR DCL (SLC) ISOLATOR: **Figure "D"**

1. Turn the key to **"S"** position; this will cause a "short circuit condition" or "NAC Fault" at the control panel.
2. If you need Ground Fault testing between the isolators turn the key to "**G**" on SM-001 confirm Ground Fault at the control unit or transponder.
3. Return test key to "N" and remove the test key. Test complete.

Note 7: You may need to do a system reset on some panels between each key switch position. As your panel may be "locked" on that feature till you do a reset. If this is the case leave the key in the next position you want to test and then do the reset. Each position is independent of each other.

DATA COMMUNICATION LINK OR SIGNALLING LINE CIRCUIT ISOLATOR APPLICATION (DCL) (SLC) Figure "H"

WARNING: **Must use correct polarity when connecting wiring.**

NOTE 1: Key-switch is in the **"N"** (normal circuit operation) position with the test key removed.

INSTALLATION Reference Figure "H"

1. Figure "H" installation of the SM-001 should be mounted either adjacent to or below the (DCL) (SLC) isolator it will be testing. For systems utilizing smoke detectors with isolator bases, locate SM-001 on an adjacent wall. It is best to mount the SM-001 less than 1800mm above the floor for new installations or beside existing isolator in retrofitting applications for ease of access to the key-switch.
2. Connect the **SM-001 #2** to the **Isolated side (out)** from the isolator (normally connected to the floor area devices) to the ("+" and "–") terminals of the SM-001 #2 (observe polarity).
4. Connect the wiring for the field devices for the floor area to the (RESISTOR **R** + and **R** –) terminals of the SM-001 #2 (observe polarity).
5. Connect the ground to the SM-001 #2 (may be used for both USA and Canada).
6. Install SM-001 #2 with compatible hardware or hardware provided. The loop controller should indicate a "normal condition". If "off normal", or "trouble condition" is indicated for the circuit, check field wiring connection against instruction Figure "H".

1. The **1st SM-001 #1** is for testing the Loop conditions and should be mounted either at the start of the Loop or before the 1st isolator on the SOURCE SIDE adjacent to or below the (DCL) (SLC) Control panel/Transponder or isolator it will be testing. For systems utilizing smoke detectors with isolator bases, locate SM-001 on an adjacent wall. It is best to mount the SM-001 less than 1800mm above the floor for new installations or beside existing isolator in retrofitting applications for ease of access to the key-switch.
2. The SM-001 #1 is connected on the **source side (IN)** of the isolator. **Label it as Loop Test**. Connect the OUT from the control unit/ transponder to the ("+" and "–") terminals of SM-001 #1 (observe polarity). Then connect the (**R +** and **R –**) terminals of the SM-001 #1 (observe polarity) to the isolator + and – IN on the source side IN.
3. Connect the **G** to ground if you are required to test for ground fault condition.
4. Connect the **second** SM-001 #2 to the **Isolated side (out)** from the isolator (normally connected to the floor area devices) to the ("+" and "–") terminals of SM-001 #2 (observe polarity). **Label as such.**
5. Connect the R+ and R– of the SM-001 #2 to the next device.
6. The 2nd SM-001 #2 is for testing the floor area between isolators of that area. Where you want to test for Open, Ground, Short. If you only want to test for short and or ground see Figure "C".
7. The 3rd SM-001 #3 is for testing the Return Loop conditions and should be mounted either at the start of the Return Loop or after the LAST isolator on the Return SOURCE SIDE adjacent to or below the (DCL) (SLC) Control panel/ Transponder or isolator it will be testing.
8. Connect the **third** SM-001 #3 to the **Isolated side (out) or (in)** of the last isolator returning to the Control unit/Transponder (follow instructions of your Control panel for how they want the last isolator connected. Some panels reverse the last isolator wiring) Connect the ("+" and "–") terminals of SM-001 #3 to the last isolator and connect the R+ and R– to the wires returning to the control panel/ Transponder, so you can do your Loop test from the opposite direction. (observe polarity). **Label as such.**

TESTING PROCEDURE FOR DCL (SLC) ISOLATOR: **Figure "H"**

NOTE 1: Key-switch is in the **"N"** (normal circuit operation) position with the test key removed.

1. Insert the test key that came with the SM-001 #1 (OUT Side).
2. Turn the key to position "**O**". (on the **source side)** This will cause the control panel's loop controller to display an "Open Loop Fault" Once confirmed return key to "N" remove key.
3. Insert the test key that came with the SM-001 #3 (Return Side).
4. Turn the key to position "**O**". (on the **source side)** This will cause the control panel's loop controller to display an "Open Loop Fault" Once confirmed return key to "N" remove key.
5. Insert test key on the SM-001 #2 **isolated side** and turn the key-switch to position "**O**". This will cause the control panel's loop controller to display an "Open Loop Fault" or trouble .
6. Then turn the key to position "G" for Ground Fault testing on the **isolated side.** This will cause the control panel to display a "+ Ground Fault" or trouble . To achieve a Negative ground fault follow **option 1; 2 or 3 above in "IMPORTANT CAUTIONS"**. Then a "negative ground fault" condition should be indicated at the common control.
7. Next turn the key to **"S"** position; this will cause a "short circuit condition" or "NAC Fault" at the control panel for the isolated side. Verify both isolators LED'S illuminate if LED'S are provided.
8. With the key maintained in "S" position, initiate the required testing for devices connected to the same loop controller on both the isolated and source sides, confirm activation of a device before the source side of the floor area served by the isolator and confirm no activation of a device on the isolated side after the isolator.

9. Return test key to the "N" position and remove the test key. All indications for the designated loop controller at the control panel should return to "normal" (A system Reset may be required for some control panels)

Note 7: You may need to do a system reset on some panels between each key switch position. As your panel may be "locked" on that feature till you do a reset. If this is the case leave the key in the next position you want to test and then do the reset. Each position is independent of each other.

FIGURES

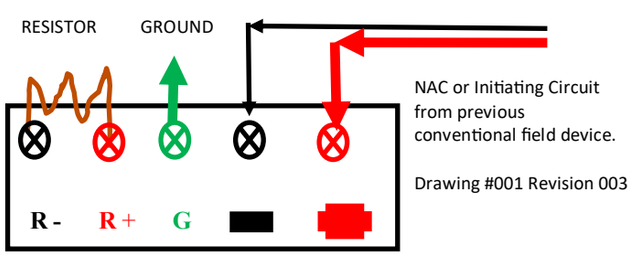
Figure A

CONVENTIONAL
END-OF-LINE RESISTOR CONNECTION DIAGRAM

Note 8: Install Offside Technologies SM-001 in accordance with the instructions. Mount the SM-001 less than 1800mm above grade (to the centre of the plate). For retro fit installations confirm with AHJ that you can mount the SM-001 at higher locations.

CAUTION: Maximum switching current is 350mA. Max inrush current 1.8A limited to 100ms
Please ensure the load calculation for the number of active (or supporting) field devices connected to each Offside Technologies SM-001 does not exceed 350mA. For installations where current (including short circuit current) exceeds 350mA, you may not be able to utilize the Offside Technologies SM-001 testing solution.

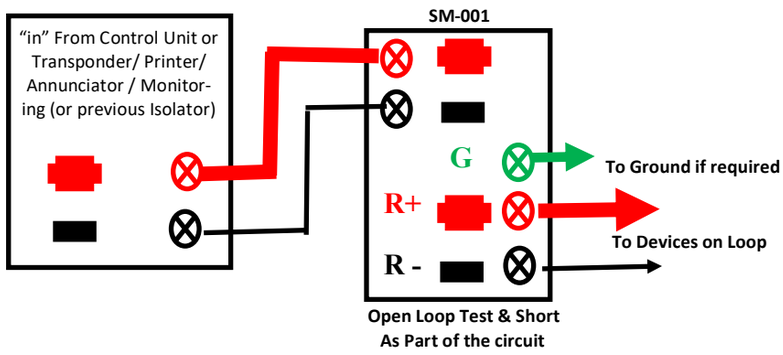
Use only resistor provided or specified by the Fire Control Panel Manufacturer



SM-001

Figure B
Control Units/Transponders/Printers/Annunciators/Alarm Monitoring: TYPICAL (DCL) (SLC) & Conventual OPEN LOOP & SHORT CONNECTION DIAGRAM

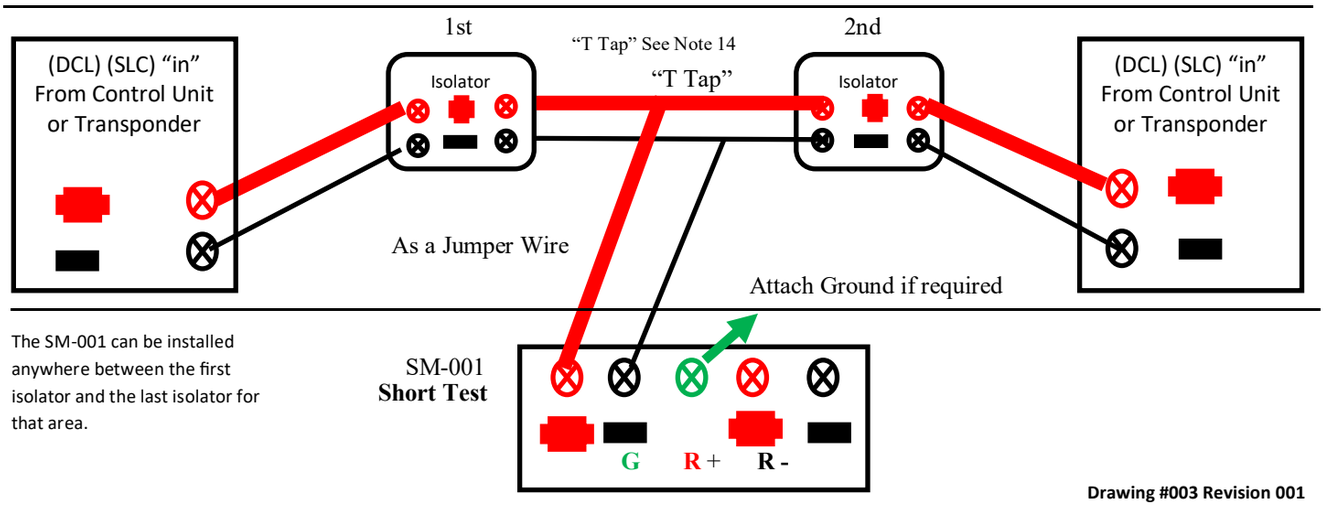
Note 9: Install the SM-001 in close proximity to the (DCL) (SLC) isolator it serves and on a wall (where practical), less than 1800mm above grade (measured to the centre of the device). Follow the instructions.



Drawing #002 Revision 001

CAUTION: Maximum switching current is 350mA. Max inrush current 1.8A limited to 100ms Please ensure the load calculation for the number of active (or supporting) field devices connected to each Offside Technologies SM-001 does not exceed 1800mA. For installations where current (including short circuit current) exceeds 350mA, you may not be able to utilize the Offside Technologies SM-001 testing solution.

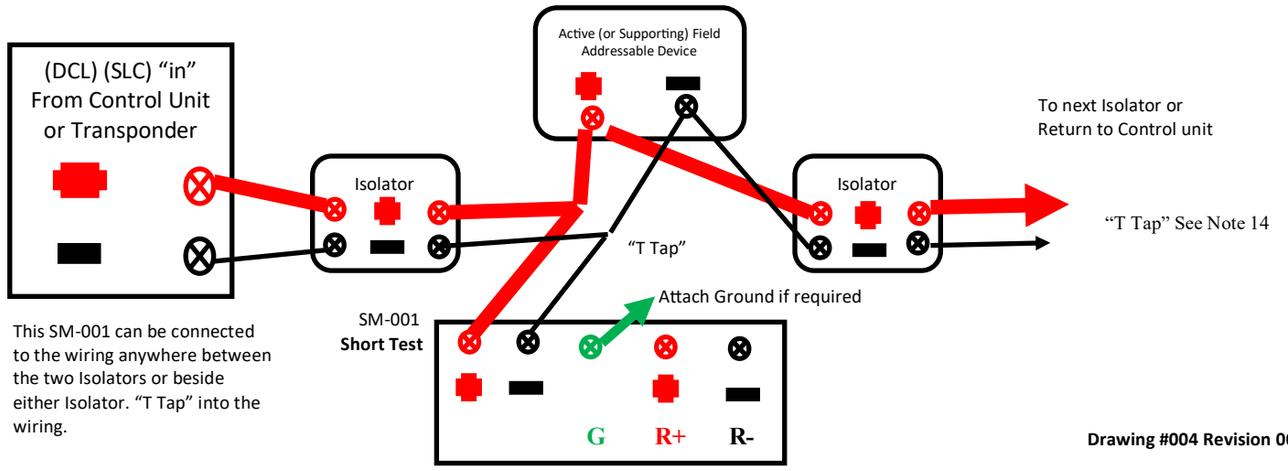
Figure C
TYPICAL (DCL) (SLC) CONTROL/TRANSPONDER TO CONTROL/TRANSPONDER ISOLATOR SHORT TEST CONNECTION DIAGRAM



The SM-001 can be installed anywhere between the first isolator and the last isolator for that area.

Drawing #003 Revision 001

Figure D
TYPICAL (DCL) (SLC) ISOLATOR SHORT TEST CONNECTION DIAGRAM



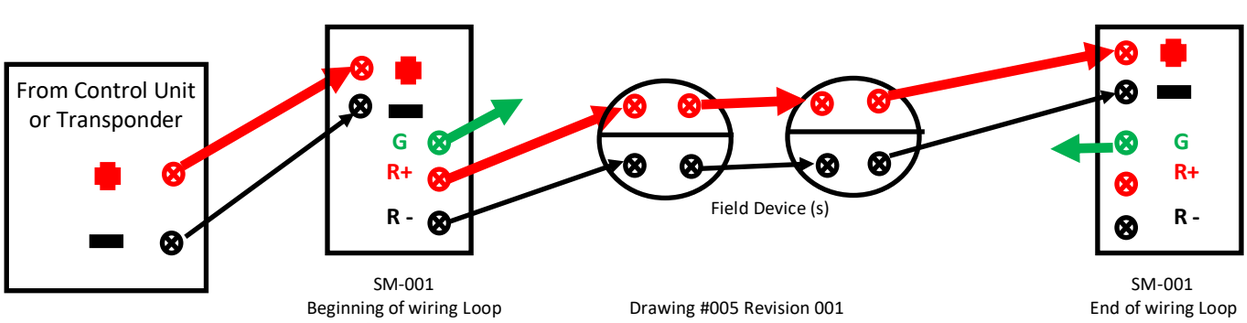
This SM-001 can be connected to the wiring anywhere between the two Isolators or beside either Isolator. "T Tap" into the wiring.

Drawing #004 Revision 001

Figure E
LOOP RESISTANCE CONNECTION DIAGRAM

Note 10: Install Offside Technologies SM-001 in accordance with the instructions. Mount units less than 1800mm above grade (to the centre of the plate).

CAUTION: Maximum switching current is 350mA. Max inrush current 1.8A limited to 100ms
Please ensure the load calculation for the number of active (or supporting) field devices connected to each Offside Technologies SM-001 does not exceed 350mA. For installations where current (including short circuit current) exceeds 350mA, you may not be able to utilize the Offside Technologies SM-001 testing solution.



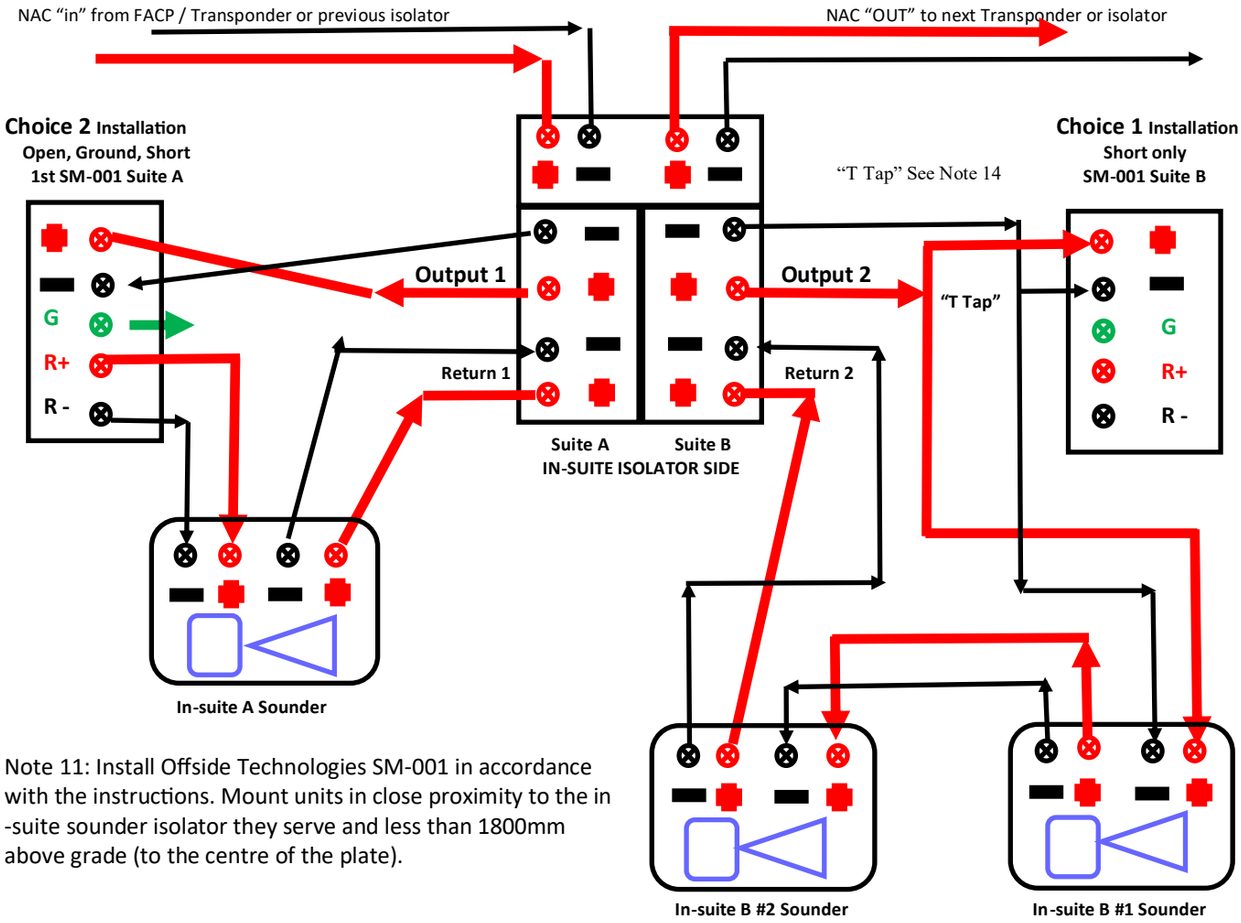
SM-001
Beginning of wiring Loop
Turn to "O" Measure (ohms)

Drawing #005 Revision 001

SM-001
End of wiring Loop
Turn to "S"

Figure F
TYPICAL IN-SUITE SOUNDER ISOLATOR CONNECTION DIAGRAM

.**CAUTION:** Maximum switching current is 350mA. Max inrush current 1.8A limited to 100ms Please ensure the load calculation for the number of active (or supporting) field devices connected to each Offside Technologies SM-001 does not exceed 350mA. For installations where current (including short circuit current) exceeds 350mA, you may not be able to utilize the Offside Technologies SM-001 testing solution.



Note 11: Install Offside Technologies SM-001 in accordance with the instructions. Mount units in close proximity to the in-suite sounder isolator they serve and less than 1800mm above grade (to the centre of the plate).

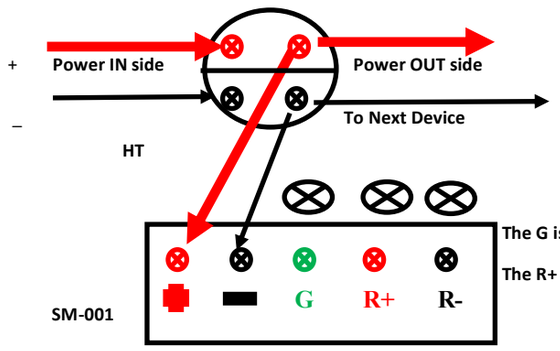
Note 12: On some Control panels after the "Open test" you may need to turn to "G" and then do a system reset before going to the "S" position. The panel may be stuck in open trouble state.

Drawing #006 Revision 001

Figure G

FIX TEMPERATURE NON-RESTORABLE HEAT DETECTOR (HT) INSTALLATION AND WIRING TEST (AS A JUMPER WIRE)

This test only tests the wiring at the (HT) heat detector. And does not test the actual heat detector itself. If the heat detector can be tested with a heat source without permanently damaging the detector, a heat source should be used to test the detector.



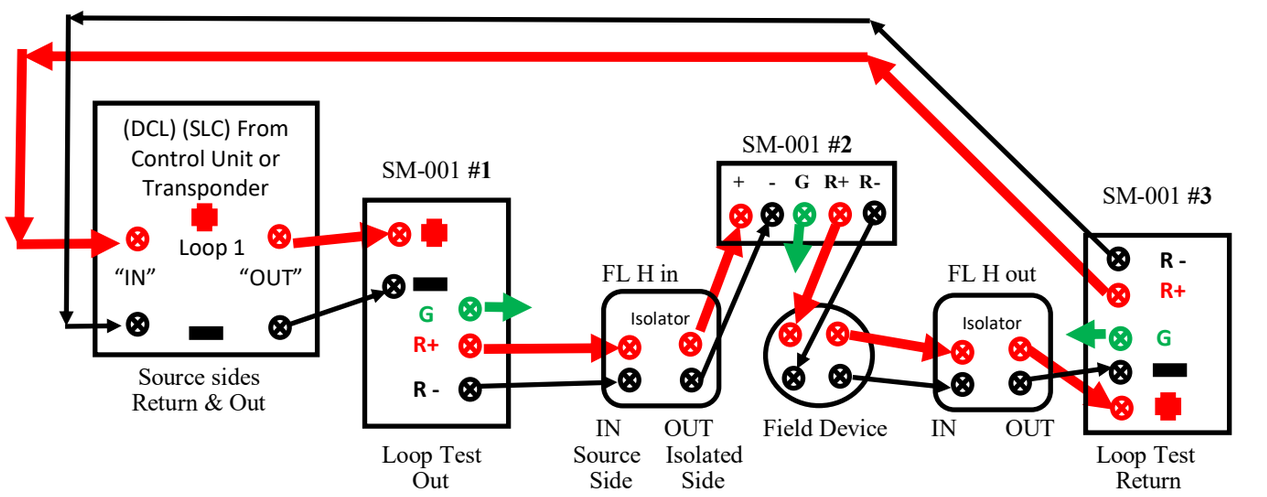
Label the HT & SM-001 the same. **example**: HT Boiler #3 Address 555 Short Test
Label SM-001 HT Boiler #3 Address 555 Short Test.
If testing EOL as well
Label SM-001 HT Boiler #3 Address 555 Short Test & EOL Test.

The G is not used in this application unless you need a Ground test.

The R+ & R - are not used. If you use them, you will be "T" "Tapping" the circuit.

Drawing #007 Revision 001

Figure H
TYPICAL (DCL) (SLC) ISOLATOR OPEN GROUND SHORT TEST CONNECTION DIAGRAM



Drawing #008 Revision 001

Drawings are TYPICAL they do not include every application. Prior to installing the SM-001, consult local codes as codes may vary from Province to Province or State to State.

If beginning construction/repairs/maintenance where water/dust producing activities could cause damage to the SM-001 key-switch and or voltage measuring points, Offside Technologies Corp. recommends placing a protective covering (sole separately) over the SM-001 or removal before work is done. Temporary protective caps are available through Offside Technologies Corp. The caps can be an effective way to limit the entry of water & dust into the key-switch & voltage/resistor measuring points. However, they may not completely prevent water or dust particles from entering the key-switch & voltage measuring points and have not been tested with UL for this application.

Five-Year Limited Warranty
Offside Technologies Corp. warrants the enclosed Electronic Verifying Switch model SM-001 to be free from defects in materials and workmanship under normal service and use for a period of five years from date of manufacture. Offside Technologies Corp. makes no other express warranty for this Electronic Verifying Switch model SM-001. No employee, dealer, or agent representative, of the Company has the authority to alter the obligations or limitations of this Warranty. Offside Technologies Corp's obligation for this Warranty shall be limited to the replacement of any part of the Electronic Verifying Switch model SM-001 which is found to be defective in materials or workmanship under normal use and service during the five-year period commencing with the date of manufacture. Please phone Offside Technologies Corp. 1-905-903-5688 for a Return Authorization Number. Then send the defective unit (s) postage prepaid to: Offside Technologies Corp., C/O Repairs, 717 Wilson Road South Unit 5 Oshawa, Ontario, Canada L1H 6E9. (Include Return Authorization Number_ _ _ _) along with: A note describing the malfunction and location of building it was installed in. A copy of the installation and Verification Report for when the device was installed. The Company shall not be obligated to replace units which are found to be defective because of damage, unreasonable use, modifications, or alterations occurring after the date of manufacture. In no case shall Offside Technologies Corp. be liable for any consequential or incidental damages for breach of this or any other Warranty, expressed or implied whatsoever, even if the loss or damage is caused by Offside Technologies Corp. negligence or fault. This Warranty gives you specific legal rights, and you may also have other rights under common law.