

+/- 190Vdc Line Power Circuit Cable Pair Verification Procedure

Purpose:

The following details the procedure for the verification of existing installed cable pair service for +/- 190V Line Power circuits.

Each cable pair will be verified.

Cable pairs passing will be recorded for future reference with inactive pairs being marked for out of service.

Test Equipment:

The required test equipment will include the following:

- **Multi-meter**
- **CP3200 +/- 190V Line Power System**

Test Procedure:

Perform the following steps for each cable pair.

Record the results in the table provided at the end of this document.

Testing will be performed in two manners.

These include testing for the presence of AC voltage on the open ended conductor pairs and testing for presence of dc voltage on cable pairs.

Test Parameters:

- **Insure the outboard side of the cable pairs have not been terminated**
- **Insure that NO surge protection devices are in place during the verification testing.**
- **Insure NO cable pair bridge taps have been inserted.**

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Testing for The Presence of AC Voltage:

Using your multi-meter set for AC voltage, measure for the presence of AC voltage between the following:

- **Between Tip and Ring**
- **Between Tip and Ground**
- **Between Ring and Ground**

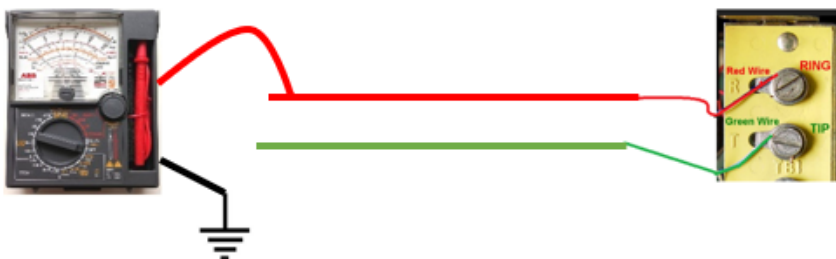
Note: If voltage is present on any of the preceding measurements for each cable pair, note that cable pair in the following table 1. That AC fault must be cleared to proceed in using that cable pair.

RING to TIP Testing



Adjust the meter to read AC voltage and carefully connect the multimeter leads to the RING and TIP terminals for each cable pair connection. If any AC voltage is measured, note the level on Table 1.

RING to GROUND Testing



Adjust the meter to read AC voltage and carefully connect the multimeter leads to the RING and GROUND terminals for each cable pair connection. If any AC voltage is measure, note the level on Table 1.

RING to GROUND Testing



Adjust the meter to read AC voltage and carefully connect the multimeter leads to the RING and TIP terminals for each cable pair connection. If any AC voltage is measure, note the level on Table 1.

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Testing for The Presence of DC Voltage:

Using your multi-meter set for DC voltage, measure for the presence of DC voltage between the following:

- **Between Tip and Ring**
- **Between Tip and Ground**
- **Between Ring and Ground**

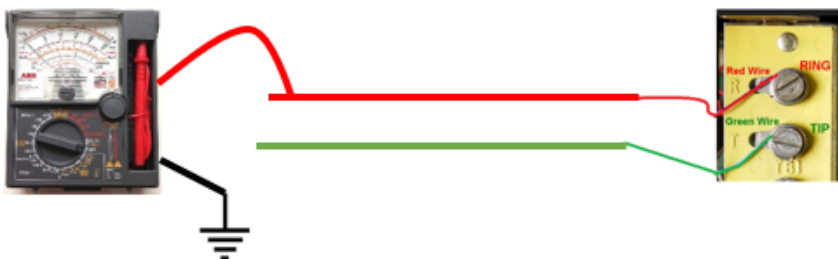
Note: If voltage is present on any of the preceding measurements for each cable pair, note that cable pair in the following table 1. That DC fault must be cleared to proceed in using that cable pair.

RING to TIP Testing



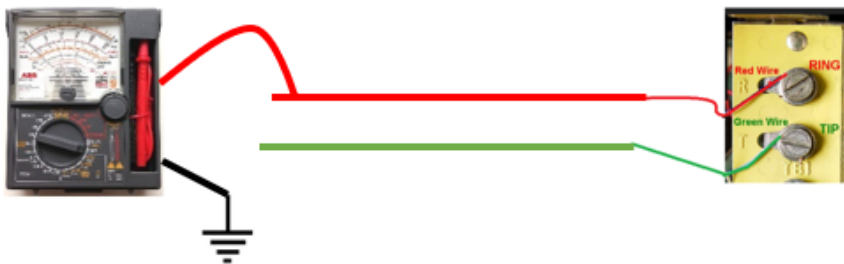
Adjust the meter to read DC voltage and carefully connect the multimeter leads to the RING and TIP terminals for each cable pair connection. If any DC voltage is measured, record the data in Table 1.

RING to GROUND Testing



Adjust the meter to read DC voltage and carefully connect the multimeter leads to the RING and GROUND terminals for each cable pair connection. If any DC voltage is measured, record the data in Table 1.

RING to GROUND Testing



Adjust the meter to read DC voltage and carefully connect the multimeter leads to the TIP and GROUND terminals for each cable pair connection. If any DC voltage is measured, record the data in Table 1

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	AC Presence Pass - Fail	Tip to Ring Resistance	Ring to Ground Resistance	Tip to Ground Resistance	CABLE Pair Pass/Fail
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Table 1 Recorded Data

Testing for Loop Pair Insulation Resistance

The purpose of verifying the loop pair insulation resistance test is to establish the insulation has not broken down to the point of a short circuit condition.

Test Parameters:

- **Insure the outboard side of the cable pairs have each been shorted.**
- **Insure that NO surge protection devices are in place during the verification testing.**
- **Insure NO cable pair bridge taps have been inserted.**
- **Insure that NO power has been applied to the cable pairs during this test.**

Procedure

Using your multi-meter set for ohms (resistance) measurement. IF any pair reads less than 100K ohm, discard that pair. For each cable pair, measure the value of insulation resistance between the following terminals.

- **Between Tip and Ring**
- **Between Tip and Ground**
- **Between Ring and Ground**

Note: If the insulation resistance reads less than 100K ohms on any pair, do not use for Line Power.

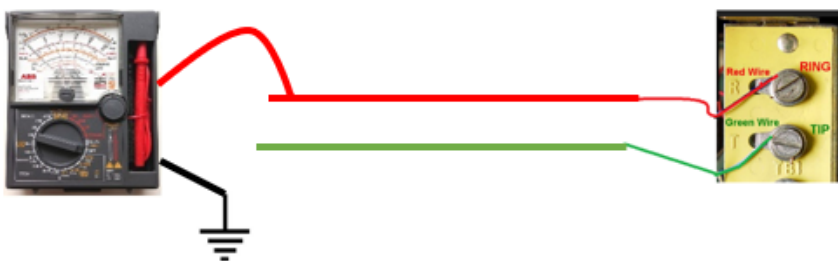
Loop Pair Insulation Resistance Testing

RING to TIP Testing



Adjust the meter to the ohms range and carefully connect the multimeter leads to the RING and TIP terminals for each cable pair connection. If any resistance is measured > 100K ohms, do not use for Line Power.

RING to GROUND Testing



Adjust the meter to the ohms range and carefully connect the multimeter leads to the RING and GROUND terminals for each cable pair connection. If any resistance is measured > 100K ohms, do not use for Line Power.

RING to GROUND Testing



Adjust the meter to the ohms range and carefully connect the multimeter leads to the TIP and GROUND terminals for each cable pair connection. If any resistance is measured > 100K ohms, discard that pair

Full System Test

Using a CP3200 to turn up the individual cable pairs, sequentially add line cards. After the insertion of each line card, confirm the “Green Lights” are illuminated as each circuit card is added. If any light show as “RED” move the card to a different circuit pair and tag that cable pair. Do not sign off on the site until all the circuits show “GREEN” for a full day.

Notes:

Notes:



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