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TECHNICAL ADVISORY BULLETIN

Recommended Grounding for SE41 Remote Power Node Enclosure

Date: 4/21/2020

Model #: SE41 Remote Power Node Enclosure

Issue

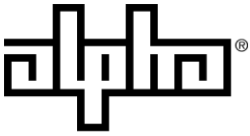
- As there are three different configurations of the SE41 RPN enclosure, additional information on grounding is required beyond what is provided in the installation manual.

Corrective Action

- Provide grounding instructions with diagrams for the three different configurations of the SE41 RPN enclosure.
- The grounding specifications and diagrams depicted in this TAB are based on recommended industry best practices. However, site grounding design and construction shall always adhere to local electrical codes and the internal standards of the company that is responsible for ownership and operation of equipment.

Warning

- *Only qualified personal should install and connect the power components within the Alpha system.*
 - *An enclosure that is not properly grounded presents an electrical hazard and will likely result in premature equipment failure.*
 - *A proper grounding system (i.e. ground electrode system) that meets or exceeds the specifications of the equipment must be designed and installed prior to or in conjunction with the installation. The ground system must be bonded to the enclosure to ensure a "common" or "single-point" ground.*
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Configuration 1: Recommended grounding of SE41 RPN with combination meter and load center

1. Install a #2AWG tinned solid copper site ground wire (grounding electrode conductor) originating at the closest driven ground electrode and connect it to the Load Center AC Equipment Ground (ACEG) bus (refer to Figure 1).

Note: It is recommended that all buried grounding connectors are 12" below finished grade line or below the frost line. For below grade connections, crimp or mechanical connectors may be used instead of an exothermic weld provided they are listed for direct burial applications.

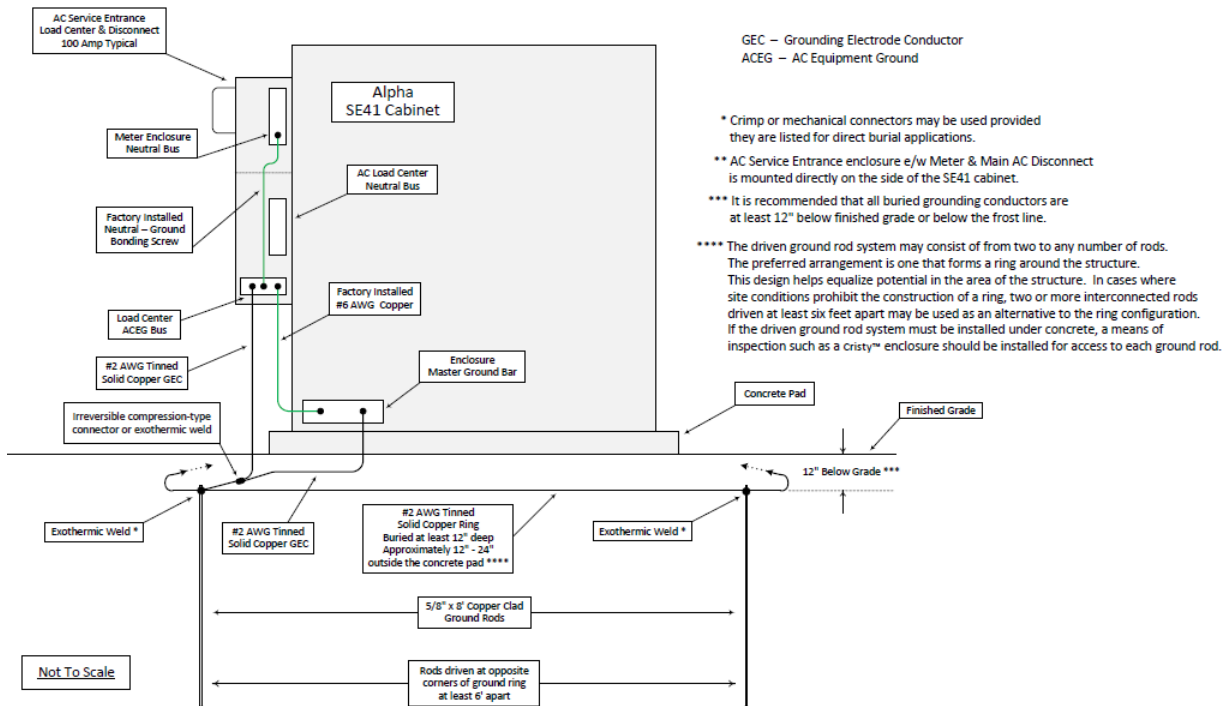


Figure 1 – SE41 RPN combo meter & load center grounding diagram

2. Route a length of #2AWG tinned solid copper conductor from a junction point on the grounding electrode conductor (GEC) and connect to the Enclosure Master Ground Bar (MGB) using an appropriate compression two-hole lug (Refer to Figure 1).

Note: Avoid tight radius bends and route the conductor such that it intersects with the GEC at a downward orientation as illustrated in Figure 1.

3. Connect the other end of the conductor to the GEC via an irreversible compression connector or exothermic weld.



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Configuration 2: Recommended Grounding of SE41 RPN with Remote AC Service Disconnect located within four feet of the SE41 cabinet

Objective:

Install a **continuous** length of #2AWG tinned solid copper conductor originating at the ACEG bus in the remote service disconnect enclosure and have it terminated at the Enclosure Master Ground Bar (MGB).

Steps:

1. Connect the #2AWG tinned solid copper conductor to the ACEG bus in the remote service disconnect enclosure and then to the ground rod nearest to the Enclosure MGB.
2. Terminate this Grounding Electrode Conductor (GEC) to the Enclosure MGB using an appropriate two-hole compression lug (refer to Figure 2).

Note: Avoid tight radius bends. It is recommended that all buried grounding connectors are 12" below finished grade line or below the frost line. For below grade connections, crimp or mechanical connectors may be used instead of an exothermic weld provided they are listed for direct burial applications.

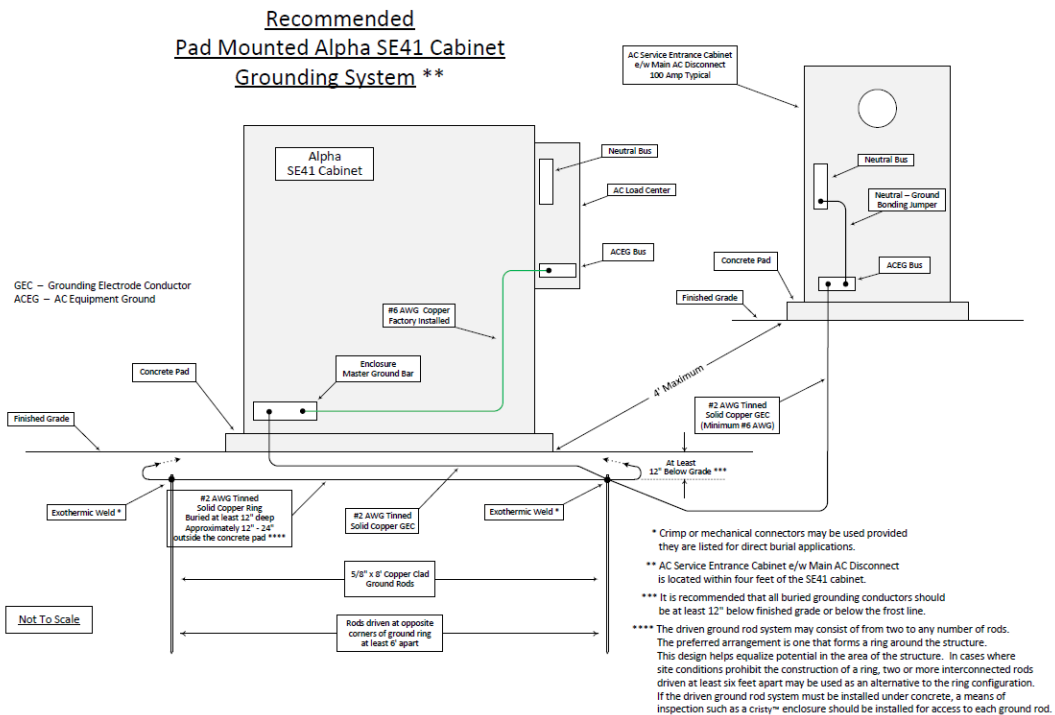
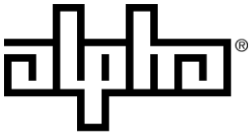


Figure 2 – SE41 RPN with remote disconnect (<4') grounding diagram



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Configuration 3: Recommended Grounding of SE41 RPN with Remote AC Service Disconnect located greater than four feet away from the SE41 cabinet

Objective:

Install a **continuous** length of #2AWG tinned solid copper conductor originating at the ACEG bus in the remote service disconnect enclosure and have it terminated at the Enclosure Master Ground Bar (MGB).

Steps:

1. Connect the #2AWG tinned solid copper conductor to the ACEG bus in the remote service disconnect enclosure and then to the ground rod nearest to the AC service disconnect enclosure and continue this GEC to the driven ground rod of the SE41 system.
2. Connect the GEC to the SE41 driven ground rod nearest to the Enclosure MGB and have it terminated to the Enclosure MGB using an appropriate two-hole compression lug. (refer to Figure 3).

Note: Avoid tight radius bends. It is recommended that all buried grounding connectors are 12" below finished grade line or below the frost line. For below grade connections, crimp or mechanical connectors may be used instead of an exothermic weld provided they are listed for direct burial applications.

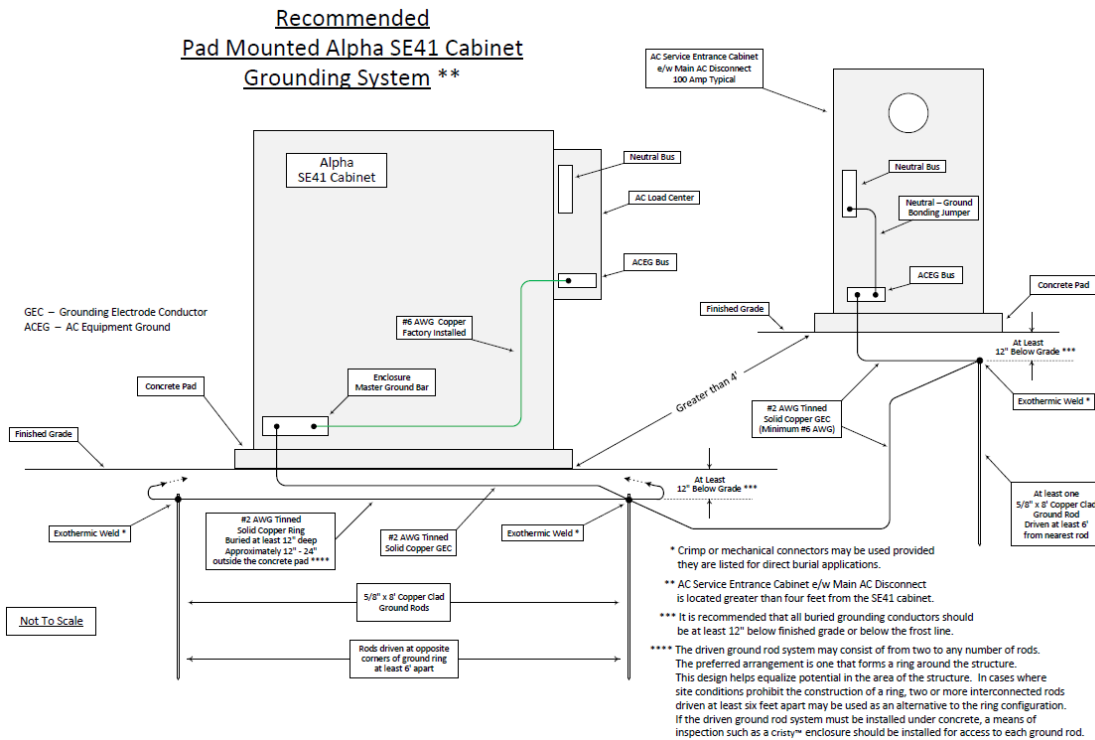
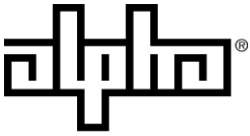


Figure 3 – SE41 RPN with remote disconnect (>4') grounding diagram



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Internal Wiring configurations of Enclosure Master Ground Bar

Configuration 1: Typical internal wiring of the SE41 RPN Enclosure Master Ground Bar

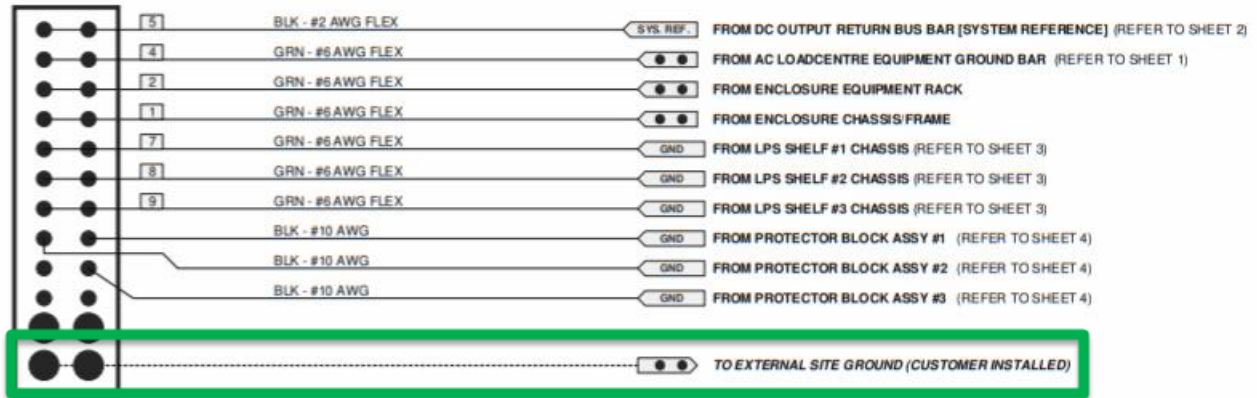


Figure 4 – Newer versions of the SE41 RPN Enclosure Master Ground Bar Typical Wiring

Configuration 2: Typical internal wiring of previous versions of the SE41 Enclosure Master Ground Bar

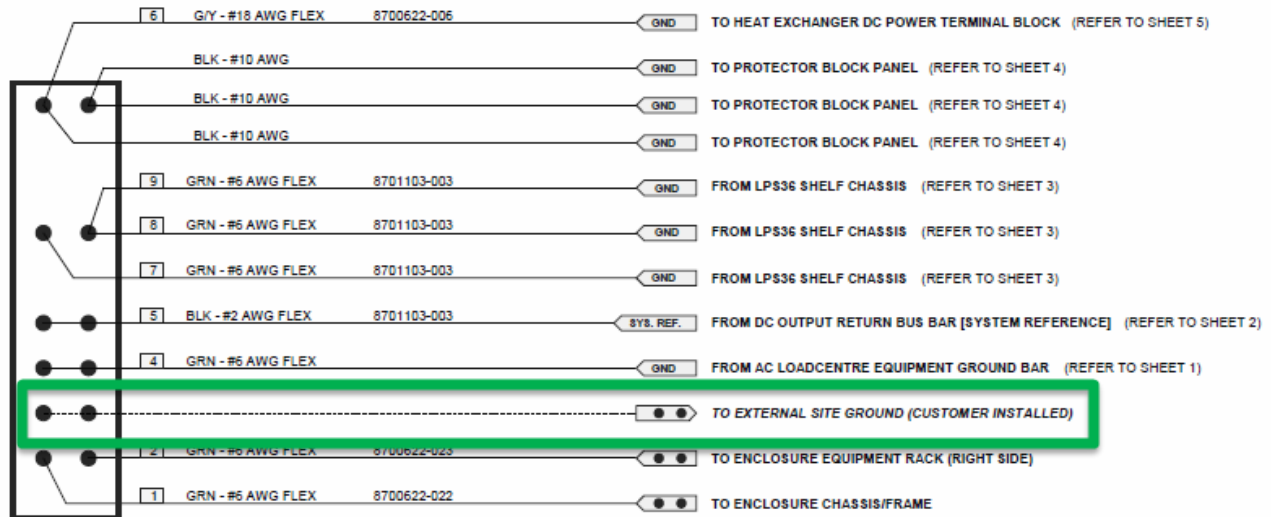


Figure 5 – Previous versions of the SE41 RPN Enclosure Master Ground Bar Wiring



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For additional assistance or if you have any questions regarding this notification, please contact Alpha Technical Support at 1-888-462-7487 or www.alpha.ca/report-a-problem.

Sincerely,

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