

# How to ground the DC battery cabinet





## Overview

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Does a DC system need to be grounded?

This article is about DC System Grounding Installation, Checklist & Requirements of Grounding Earthing System as per International Codes and standards for Commercial Buildings, Plants and Refinery Projects. A 2-wire, dc system supplying premises wiring and operating at greater than 50 volts but not greater than 300 volts shall be grounded.

Do you need a grounding DC power supply?

The answer is not a straightforward yes or no. This article explores the benefits and drawbacks of grounding DC power supplies. DC power supplies are a common, perhaps almost guaranteed, component of any control system, especially one containing a digital controller.

How much grounding is required for a 2-wire DC system?

The answer comes from the NEC section 250.162, referring to the grounding of two-wire DC systems, which includes the 5V and 24V outputs, depending on your case. The regulation sets a strict limit on the required grounding if the voltage is in excess of 60V.

Does a 24V DC power supply need to be grounded?

So, the short answer for some 24V DC systems is no, the output is not required to be connected to ground. From the UL 508A specification, there are further answers that also dictate grounding depending on the input voltage of the power supply. Figure 1. Grounding power supplies inside a control cabinet can be a difficult decision.



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Code Requirements For Grounding DC Power Supplies  
Benefits of Grounding A DC Power Supply  
To Connect A DC Power Supply to Ground Or Not?  
The first essential question that must always be asked: is a connection required, and what conditions regulate that connection? The answer comes from the NEC section 250.162, referring to the grounding of two-wire DC systems, which includes the 5V and 24V outputs, depending on your case. The regulation sets a strict limit on the required grounding See more on control esamtac-training [PDF]



## **DC System Grounds: Can You Afford to Live with Them?**

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