

## GreenMAX DRC UL 2043 Plenum Rated Devices

**Product:** GreenMAX DRC Line Voltage Room Controller and Smart Packs **Article ID:** 011020-cds-01

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**Summary:** The purpose of this article is to define the use of GreenMAX DRC UL 2043 Plenum Rated Line Voltage Room Controllers and Smart Packs in Chicago Plenum applications.

**Information:** **What is Chicago Plenum?**

Chicago requires any electrical equipment and wiring installed in a plenum to have special gasketing to completely enclose the device and all cables to be run in conduit. A plenum is defined as a space above the ceiling that is used to move return air without the use of an air duct. Air-handling spaces and air ducts in an HVAC system have the potential to quickly spread smoke, toxic gases and flames to other areas of a building and endanger its occupants. The intent of the Chicago Plenum requirement is to prevent such an occurrence.

**CCEA / Chicago Plenum Requirements**

- All electrical equipment must be enclosed in airtight material.
- All wiring must be Type MI Cable, Type MC Cable, or flexible metallic conduit limited to four feet.
- Electrical equipment with a nonmetallic enclosure and associated wiring materials can be installed if they are listed for use in these areas. They must have adequate fire-resistance be low-smoke producing.

For more information, see the [City of Chicago Environmental Air \(CCEA\) Electrical Code Section 18-27-300.22](#).

**What is UL 2043 Plenum Rating?**

The GreenMAX DRC Line Voltage Room Controller (DRC07-ED0 / DRC00-E30) and Smart Pack (DRD07-ED0 / DRD07-E30) are UL 2043 plenum-rated. The polycarbonate housing is UL 94HB rated, evaluated to the 5" flammability requirement, with Teflon-coated low-voltage leads. This plenum rating provides options to install these devices in the plenum.

The plenum rating ensures that the materials have passed rigorous burn testing standards and are suitable for installation in plenum spaces used to transport environmental air. The plenum space above a suspended ceiling or below a raised floor is typically used as the air return for a building's HVAC system.

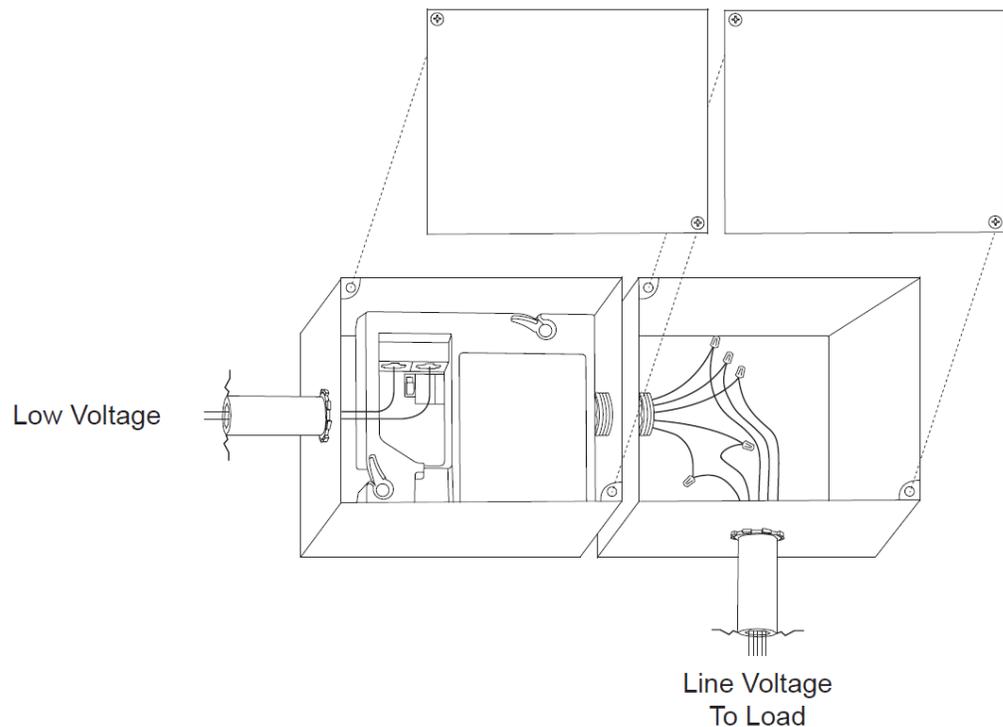
A fire in a plenum may go undetected and produce toxic fumes that can be dispersed throughout the entire building by the HVAC system. As a result, fumes anywhere in the building could endanger occupants. Installing products with plenum-rated materials that burn at a much higher temperature and emit fewer fumes can minimize this risk.

**Information (Continued):** **Is UL 2043 & Chicago Plenum the same thing?**

No. The requirements for Chicago Plenum and the requirements for UL 2043 are not the same. Even though the terms used are similar, they mean different things.

Requirements for Smart Pack use in Chicago Plenum can be met using two methods:

- The first method is useful when the Smart Pack is installed sandwiched between a 4S electrical box, 4" extension ring and metal cover. In this method, you can use a metal table bearing a UL-94V rating to wrap the outside of the enclosure to seal it and make it suitable for Chicago Plenum.
- The preferred method is to install the entire Smart Pack into a metal box, using existing nipple and nipple extender into adjacent box. This method costs slightly more but is easier to maintain. As such, it is the recommended method for installation.



**Contact:** If you have any questions or concerns, please call L&C technical support at (800) 959-6004.