



Save time and resources with UL Certification to UL 2755

Code authorities use the National Electrical Code when assessing modular data centers.

NFPA 70, more commonly known as the National Electrical Code (NEC), contains Article 646 on modular data centers (MDCs). This article contains specific requirements and identifies other areas in the NEC that apply to MDCs. One of Article 646's key provisions is Section 646.4, which states that UL Certified (Listed) MDCs are used in lieu of evaluating the MDC to all of Article 646's provisions. When a UL Certified MDC is installed, only a limited number of additional provisions from Article 646 apply. Certifying an MDC to UL 2755, the Outline of Investigation for Modular Data Centers, also provides assurance that the equipment complies with the applicable requirements prior to its leaving the manufacturing facility. This is important since MDCs are often prefabricated with the installed wiring concealed and not easily accessible for code authority inspection at the final installation site.

Section 646.4 references UL 2755 as a method of determining applicable certification requirements. UL developed these requirements to meet the needs of MDC manufacturers and data center industry stakeholders, such as IT equipment manufacturers, electrical inspectors, fire marshals, data center insurers and others. UL 2755 allows for investigation of both the underlying subsystems and the overall MDC system, and for the MDC to function as a single product for certification purposes. Consequently, UL Certified MDCs primarily only need evaluating for proper installation in the field, saving time and resources in the field to deploy MDCs across the U.S. Without the UL 2755 Certification, it's likely that the local code authority would need to further evaluate each jurisdiction where the same or similar MDC is introduced. Manufacturers and asset owners can get a head start by working with UL to acquire UL 2755 certification for their MDC designs.

In addition, the recent updated 2020 Edition of NFPA 75, the standard for Fire Protection of Information Technology Equipment, notes that MDCs shall comply with NEC Article 646. Certification to UL 2755 can help meet this requirement.



Highlights

- NEC Section 646.4 references UL 2755.
- NFPA 75 now also references NEC Article 646 for MDCs, meaning that UL Certified MDCs help meet NFPA 75 requirements.
- UL 2755 focuses on the electrical requirements in NEC Article 646, including its references to other articles in the NEC.
- UL 2755 covers service person safety, equipment safety, structural integrity and transportation considerations.
- Work is underway following the American National Standards Institute (ANSI) process to move the publication of UL 2755 toward a full ANSI-accredited consensus national standard.

Difference between UL 2755 and UL 62368-1

UL 62368-1, the Standard for Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements, investigates and lists the IT equipment installed in MDCs. Since 2020, it has replaced UL 60950-1, the Standard for Information Technology Equipment - Safety - Part 1: General Requirements, and covers areas such as electric shock, fire, mechanical and other hazards.

UL 2755 not only covers IT equipment safety when installed in an MDC (requiring the IT equipment to comply with UL 62368-1) but also addresses power distribution safety, cooling systems, structural integrity, life safety (including service persons who may enter the MDC workspace for maintenance and servicing), transportation considerations, etc.

Advantages of UL 2755

	UL 2755	UL 62368-1
Integrity of the UL Mark	✓	✓
Increases stakeholder confidence — consumers, manufacturers, code authorities, insurers	✓	✓
Helps reduce liability and risks to stakeholders	✓	✓
Considers life safety, such as lighting, workspace, emergency egress, fire and smoke alarms	✓	
Considers structural integrity	✓	
Allows for the original factory to ship modules unassembled	✓	
Transportation considerations	✓	
Data center insurance considerations	✓	



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