

EVM10

Universal Douglas Module Application Note:

5-year warranty LED module requirements for Cold Storage and Freezer Applications

The purpose of this application note is to provide a reference for the installation of ULT linear LED modules in cold storage and freezer applications.

ULT recommends the use of the High-Performance module lines including the HP Series and EXT Series modules ending in U and UX, that employ the LED technology best suited for cold storage and freezer applications. Standard ULT modules ending in part numbers A, S, W, HD, L, V, VK, SF and K are not intended for use in freezers and cold storage applications.

The high-performance module's hottest and coldest temperatures shall not measure a delta of more than 30 degrees Celsius while operating in cold storage and freezer applications. The delta measurement should be taken at the LED junction (Tj). The module shall not be subjected to direct frost. The module must be separated from moisture and frost using a physical barrier.

High-Performance modules operating in cold storage applications with temperatures ranging from -40C to 0 degrees are required to follow one of the cold temperature rules below.

- The high-performance LED module can be left on 365 days a year.
- If the high-performance module is installed in conjunction with a timer, energy or building management system, the module can be cycled up to 8 times a day within a 24-hour period. Once the module is turned on it must remain on for a minimum of one hour. The on and off cycle of the module must be separated by a one-hour period.
- Occupancy or vacancy sensors must be used that have a dimming feature allowing the high-performance module to dim down over time with the option to turn off. The occupancy or vacancy sensor must be set to no less than an 8-minute time out. Once motion is detected the module should be turned on instantly and stay at 100% of max current for a minimum of 1 minute. When no motion is detected, and the sensor starts to time out, the modules should be dimmed down to 40% of the max current. When the area is vacant and the sensor's timer expires, the module will turn off while at rest. One complete cycle of the module being turn on, dimming down and turning off will take approximately 10 minutes.

If a unique or custom application is required, please visit the custom module website.

[Customized Modules - Universal Douglas](#)

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