

Application Note 1035: Low Ambient Cooling on M-Series Inverters

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Table of Contents

Low Ambient Cooling.....	3
Critical Server Rooms	3

Low Ambient Cooling

M-Series units operating in ambient temperatures below 64°F may not function as installed in Full Load environments. A true Low Ambient system generally modulates certain system components in order to maintain a specific liquid line temperature or pressure. However, this could damage the compressor when operating in such low temperatures.

M-Series units do not maintain specific liquid line pressures as other low ambient units will. Logic built into the M-Series adjusts the condenser fan speed based on compressor frequency. This function allows the M-Series to better protect and extend the compressor lifespan in these conditions. M-Series units are still capable of cooling down to 14°F, but with a derated capacity. In residential installations this works as designed in order to save energy.

Critical Server Rooms

However, when indoor load is at its maximum, for example in a server room, the M-Series most likely will be unable to maintain cooling capacity requirements. For this reason it is **strongly recommended** to install P-Series units for such low ambient cooling loads when cooling requirements are critical. The P-Series is intended to handle such harsh environments and perform as designed for these computer room applications.