



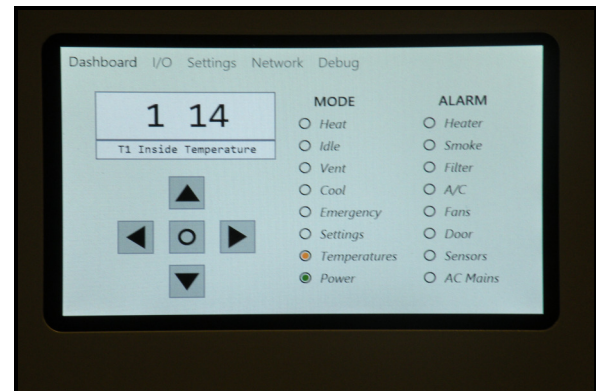
Green HVAC Systems



The primary purpose of the **Green HVAC** is to save energy while maintaining a well regulated environment inside the shelter. This is done by monitoring the inside and outside environment and intelligently choosing the least expensive mode of operation, while limiting the inside environment to a user settable temperature range.

Energy savings are accomplished by several means. The **Green HVAC** runs at -48VDC, just like the rest of the telecomm equipment in an equipment shelter. This means there is full backup, with redundancy, during AC mains outages (with practical reductions of power usage). Air conditioning (mechanical cooling) is variable, using only the energy necessary to maintain temperature and only when needed.

Conventional AC compressors have high inrush currents and poor power factor correction, but the **Green HVAC** has neither of these problems. Fans are run only at the speeds necessary to maintain the specified internal temperature. Dampers are dynamic, allowing the introduction of outside air when safe and appropriate.



A simple user interface is provided for observing temperatures, set points and modes of operation, while eye-catching LEDs alert the user of error conditions. Secure local and remote monitoring and control are duplicated using SNMP or any web browser via the internet or intranet.

The **Green HVAC** handles unusual conditions. In the case of smoke detection, dampers are closed and everything else is shutdown by the Emergency Vent system. This same Emergency Vent system overrides failure of the main circulation fan and provides independent thermostatic ventilation of the shelter until servicing can be performed. This Emergency Vent system even has its own power feed and circuit breaker, making it, truly, **electrically independent**.



The **Green HVAC** was designed to run with, or without mechanical cooling. That means it is possible to field install the mechanical cooling module for the purpose of upgrading a unit, or to provide a service replacement without any special HVAC training. Every breakable component in the Green HVAC is serviceable through secure access panels, whether it be a damper assembly, fan, wire assembly or circuit board, and all without special HVAC training. The exterior aluminum mesh filter (20"x14"x1") can be easily removed for cleaning or replacement, and the main ventilation filter is easily replaced with a line of pleated filters (20"x20"x4") (MERV8 thru MERV13) available thru most local hardware stores.

Controller Connectivity Features

The DCI Green HVAC Controller offers the following connectivity features:

- Existing HVAC equipment (up to two additional systems can be managed and operated with a single controller).
- AC Power monitoring
- Existing smoke and fire alarm systems
- Internet connectivity for offsite monitoring and management.
- Dry contact alarm outputs

Specifications

Green HVAC System DCI-GHVACS-48VDC-650CFM	
Free Cooling Capacity	2.4kW @ 25°C 10°C Delta
Mechanical Cooling Capacity	3.0kW @ 26°C 10°C Delta
Maximum Air Flow	650 cfm
Maximum Power	2.3kW
Heater Output	2.0kW
Max Sound Level	59 dB(A) @ 10'
Dimensions (in)	61 H x 22 W x 22 D
Weight	225lbs (w Mechanical Cooling)



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