OVERVIEW

HVAC systems. A DDC system utilizes digital processing that provides accurate, reliable and repeatable control of the terminal unit and HVAC system. Computer-based controls reduce maintenance time and expenses while increasing energy efficiency.

A DDC system provides many benefits, including lower energy costs, finer temperature control, flexibility, lower maintenance costs and graphical displays of the system.

DDC controls have the ability to measure very small increments of airflow and airflow changes, allowing the system to automatically adjust room temperatures. Facility managers and building engineers can easily set and adjust HVAC conditions throughout a building from a central location using a building management system (BMS).

There are several protocols for DDC controls. Some DDC controls are proprietary, meaning that they can only communicate with other components supplied by the same manufacturer. Some controls have an open protocol. Typically controls with an open protocol can communicate with components from other manufacturers using a gateway, or translator software.

Two interoperable control standards, BACnet and LonMark, are increasing in popularity. BACnet is Building Automation Control Network. It is a communication protocol with agreed upon set of rules for creating interoperable building networks. These rules describe mechanisms for devices (HVAC-R, lighting, fire/smoke, etc.) to share information in a common manner. BACnet is supported by BACnet International which encourages the successful use of BACnet in building automation through testing and has established (BTL) BACnet Testing Laboratory which independently verifies that a product conforms to a listed profile. The standard was developed by ASHRAE, starting in 1987, with the first standard being published in 1995. Standing ASHRAE committee 135 maintains and develop the standard. BACnet is considered an "Open Standard" which allows facility professionals to future-proof their installations allowing multiple product providers. By design, the standard adapts to emerging initiatives.

LonWorks is a networking platrom for control-networking systems. Its interoperable system brings products and solutions together and integrates many system components into one complete solution. Devices in a LonWorks network communicate through a control network specific protocol originally created by Echelon. The protocol was ratified as an official standard by a number of national and international standards setting bodies. LonMark International (LMI) is an international organization which promotes mulit-vendor control systems utilizing the LonWorks standards. The organization inception was in 1994 and it also establishes the interoperable guidelines, provides tools, resources, and support to it's member and their market.

There is not one clear solution for interoperability. It is important to note that selecting all BACnet or all LonMark components supplied by different manufacturers does not guaranty easy interoperability. It is important to consider the projects' specific requirements and make an educated decision about the DDC controller that is best suited for the building and owner's needs.

Titus offers several options for DDC controls to suit the variety of communication protocols on the market to be installed on Titus terminal units.