

# VANGUARD® VFC-3000 CONTROLLER

## OVERVIEW

Daktronics offers the most powerful and easy-to-use variable message sign (VMS) controllers in the ITS industry. One of Daktronics strengths has always been developing feature-rich, high-performance sign controllers at a reasonable price. Our controllers set the standard for quality, features and maintainability.

The VFC-3000 is a state-of-the-art VMS controller that simplifies system installation, operation and maintenance. It includes integrated peripherals, like communication devices, control panel, battery backup, status indicators, and much more. The internal modem and Ethernet ports eliminate the need for expensive external communication devices. The front panel interface eliminates the need for expensive and cumbersome laptop computers in most cases.

The LCD and keypad on the controller provide an interactive and easy-to-use menu system. The menu screens can be used to view the current status of the VMS systems, activate messages, blank the VMS, perform diagnostic tests and more. The high-contrast LCD panel is backlit and can be easily used in both full sunlight and dark conditions.

The controller also includes switches for power, local/remote mode selection and resetting the controller. Indicators are provided for power, heartbeat, communication status and local/remote mode. A laptop computer can be easily connected to the controller's NTCIP-compatible RS232 port for advanced diagnostics or control.

The VFC-3000 is also compatible with the optional auxiliary control panel that includes a secondary LCD and keypad. The auxiliary control panel provides a duplicate of the VFC-3000 control panel at a second location at the sign site. This allows maintenance control of the VMS from inside the sign or on the ground. See SL-07971 for more details.

Our VFC-3000 controller powers all Vanguard® VF-series VMS models, regardless of model, size or color capability. That interchangeability reduces spare parts and simplifies maintenance.



## HIGHLIGHTS

### GENERAL

- Works with all Vanguard VF-series VMS
- NTCIP-compliant and tested
- NEMA TS 4-compliant and tested
- Interactive front panel menu system
- Mounts in standard 19-inch rack

### RELIABLE

- Wide operating temperature range
- Fiber-optic controller-to-sign cable eliminates electromagnetic interference
- Integrated surge protection for communication signals and power

### MAINTENANCE FRIENDLY

- Graphical LCD screen and keypad
- Backlit high-contrast LCD visible in all conditions
- Keypad and switches operable while wearing gloves
- Real-time sign monitor
- Monitor and diagnose all electronic subsystems
- Power, communication, heartbeat and local/remote mode indicators
- Switches for power, local/remote control mode and controller reset

### INTEGRATED COMMUNICATIONS

- 10/100Base-T Ethernet port
- Built-in dial-up modem
- 3 integrated serial ports

# VANGUARD® VFC-3000 CONTROLLER (CONTINUED)

## FEATURES

### GENERAL

- Supports all Vanguard VF-series DMS
- Controls amber and full-color DMS
- Controls full, line and character matrix DMS
- Compatible with Daktronics auxiliary control panel
- Durable, scratch-resistant powder coated finish

### DIAGNOSTICS AND MAINTENANCE

- Monitor and diagnose all systems from front panel menu
- Real-time diagnostics for pixels, power systems, fans and other systems
- Monitor temperature, light, door and in-sign sensors
- Integrated watch-dog circuit
- Remote controller reset using telephone DTMF codes
- Reserve power allows controller and internal modem to operate during brief power outages
- Real-time message monitor in WYSIWYG format
- Data key for easy configuration and firmware transfer

### FRONT CONTROL PANEL AND INDICATORS

- LCD Panel
  - Full-matrix (64x240) with graphic capability
  - High-contrast LCD with backlight
  - Text capacity of 8 lines of 40 characters
- 16 button membrane keypad
- Easy to use interactive menu system on LCD/keypad
- Local/remote control selector switch with LED indicator
- Power and reset switches
- Power, heartbeat and communication LED indicators

### MESSAGING

- Capable of any combination of text and graphics
- Stores up to 500 changeable messages
- Stores up to 20 changeable fonts
- Create, preview and activate messages from menu
- Supports moving and flashing text
- Supports left, center and right text justification
- Schedule messages up to one year in advance

### COMMUNICATION INTERFACE

- NTCIP-compliant communication ports
- Supports dial-up modem, cellular modem, direct serial, fiber optic, radio and other communication networks
- Integrated 10/100Base-T Ethernet port (RJ-45)
- Integrated Hayes-compatible dial-up modem (RJ-11)
- 3 integrated RS232 serial ports (DB-9)
- Integrated RS422 serial port (RJ-45)
- Configure multiple ports for simultaneous or backup operation
- All ports protected from electromagnetic transients

### CONTROLLER-TO-SIGN INTERFACE

- Fiber-optic signal cable
- 62.5/125 µm fiber with LC connectors
- 820 nm wavelength
- Maximum distance: 2500' (762 m)
- Optional copper signal cable
- CAT-5 cable with RJ-45 connectors
- Maximum distance: 1000' (305 m)

## PHYSICAL CHARACTERISTICS

### DIMENSIONS (HxWxD) AND WEIGHT

- 3.5" x 14.25" x 9" (89 mm x 362 mm x 229 mm)
- Weight: 8.0 lbs. (3.6 kg)
- Mounts in standard 19-inch rack (2U)

### ENVIRONMENT AND POWER

- NEMA TS 4-compliant and tested
- Operating Temperature Range:
  - 34° F to +165° F (-37° C to +74° C)
- Power Source: 120 or 240 VAC @ 50 or 60 Hz
  - Auto-ranging power supply
- Max. Power Consumption: 20 W
- Power lines protected from electromagnetic transients

### NTCIP STANDARDS

- NTCIP 1101: Simple Trans. Mgmt. Framework (STMF)
- NTCIP 1102: Octet Encoding Rules
- NTCIP 1103: Transportation Mgmt. Protocols
- NTCIP 1201: Global Object Definitions
- NTCIP 1203: DMS Object Definitions
- NTCIP 2001: Class B Profile
- NTCIP 2101: PMPP/RS232 Subnetwork Profile
- NTCIP 2103: PPP/RS232 Subnetwork Profile
- NTCIP 2104: Ethernet Subnetwork Profile
- NTCIP 2201: Null Transportation Profile
- NTCIP 2202: TCP/IP & UDP/IP Transport Profile
- NTCIP 2301: Simple Trans. Mgmt. Framework (STMF)
- NTCIP 8004: Structures of Mgmt. Information (SMI)