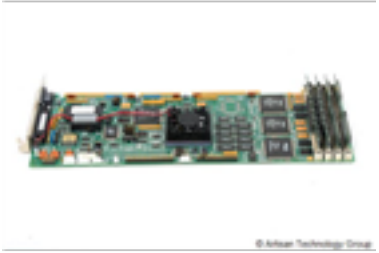
Allen-Bradley 92-005346-0X

# CPU Board



Limited Availability
Used and in Excellent Condition

Open Web Page

https://www.artisantg.com/99341-1

*(Continued)*

Section Seven

# Operator Interface

| Categories | Products | |
|---|---|---|
| **Message Displays** | **MessageView Operator Interface** | page 7-6 |
| | • Various vacuum flourescent displays | |
| | • NEMA Type 4x, 12, 13 | |
| | • Class I Division 2 | |
| | • UL/CSA | |
| | • CE Mark | |
| | **Standard Format Message Displays** | page 7-8 |
| | **Large Format Message Displays** | page 7-14 |
| | • Large red or tri-color (red, green, and amber) LED displays | |
| | • Visibility up to 73 meters (240 feet) | |
| | • NEMA Type 4 (indoor only), 12, and 13 | |
| | • UL listed | |
| | • CE Mark | |
| | **DTAM Plus Operator Interface** | page 7-17 |
| | • 4 × 20 LCD or vacuum fluorescent display | |
| | • NEMA Type 4x, 12, 13 | |
| | • Class I Division 2 | |
| | • CE Mark | |
| | **DTAM Micro Operator Interface** | page 7-19 |
| | • 2 × 20 LCD display | |
| | • NEMA Type 4, 12, 13 | |
| | • Class I Division 2 | |
| | • CE Mark | |
| | **MicroView Operator Interface** | page 7-21 |
| | • Specifically designed for use with MicroLogix processors | |
| | • 2 × 16 LCD Display | |
| | • NEMA Type 4, 12, 13 | |
| | • Class I Division 2 | |
| | • CE Mark | |
| | **DeviceView Configurator** | page 7-23 |
| | • Specifically designed for use with DeviceNet network | |
| | • 2 × 16 LCD Display | |
| | • CE Mark | |
| **Electronic Push Button Modules** | **RediPANEL Push Button Panels** | page 7-25 |
| | • Membrane or push-button devices | |
| | • Universal remote I/O connection | |
| | • NEMA Type 4x | |
| | **RediPANEL Keypad Panels** | page 7-32 |
| | • 1 × 16 vacuum fluorescent display | |
| | • Universal remote I/O connection | |
| | • NEMA Type 4x | |
| | **RediPANEL Plug & Go Panels** | page 7-33 |
| | • 800A push buttons | |
| | • Communicates with 1492 wiring system cables | |
| | • NEMA Type 12, 13 | |
| | **DeviceNet RediSTATION Operator Interface** | page 7-35 |
| | • Communicates on the DeviceNet network | |
| | • Pre-assembled option | |

# Operator Interface

| Categories | Products |
|---|---|
| **Graphic Terminals** | **PanelView 900 Operator Terminals** page 7-36<br>• Color 8.4-inch Active Matrix Thin Film Transistor (TFT)<br>- 640 × 480 VGA pixel resolution<br>• Monochrome 9.8-inch ac gas plasma display<br>- 640 × 400 pixel resolution<br>• NEMA Type 4x, 12, 13<br>• Microsoft Windows-based configuration software<br>• Touch-screen or membrane-key input<br>• 16 configurable function keys<br>**PanelView 550 Operator Terminals** page 7-37<br>• Monochrome 5.5-inch LCD display<br>• 256 × 128 pixel resolution<br>• NEMA Type 4x, 12, 13<br>• Microsoft Windows-based configuration software<br>• Touch-screen or combination touch and membrane-key input<br>• 10 configurable function keys<br>**PanelView 1400e Operator Terminals** page 7-40<br>• Color 14-inch CRT display<br>• 640 × 480 VGA pixel resolution<br>• NEMA Type 4x, 12, 13<br>• Microsoft Windows-based configuration software<br>• Touch-screen or membrane-key input<br>• 21 configurable function keys<br>**PanelView 1200e Operator Terminals** page 7-40<br>• Same features as 1400e terminals except 1200e terminals have a color 12-inch CRT display<br>**PanelView 1200 Operator Terminals** page 7-42 |
| **Industrial Computer Products** | **Industrial Computers with Flat TFT Displays** page 7-45<br>• 10.4-inch display<br>• Panelmount or 19-inch rackmount<br>**Industrial Computers with CRT Displays** page 7-46<br>• Resistant to shock, vibration, dirt, washdowns, and high temperatures<br>• 14- or 20-inch display<br>• ISA and/or PCI bus architecture<br>**Industrial Computers without Integral Display** page 7-48<br>• 19-inch rack or bench top or panelmount<br>**Industrial CRT Monitors** page 7-49<br>• 14-, 17-, 20-, or 21-inch display<br>• Long-term dependable performance in harsh factory environments<br>• Panelmount or 19-inch rackmount<br>**Industrial PC/AT Keyboards** page 7-57<br>• Sealed elastomer technology<br>• Sealed membrane technology<br>• 101-key U.S. configuration<br>• NEMA Type 4, 12, 13<br>• Resistant to spills and dust |

| Categories | Products |
|---|---|
| **Operator Interface Software** | **RS**View **Software** page 7-62<br>Provides monitoring, control, and data acquisition functions in the Microsoft Windows environment.<br>**WINtelligent VIEW Software** page 7-64<br>A visual graphics system that simultaneously modifies and animates data values through state changes, bargraphs, numeric, string, color changes, embedded trends, and slider bars to animate values.<br>**WINtelligent RECIPE Software** page 7-65<br>A Microsoft Windows-based application for managing industrial process control recipes used with programmable controllers.<br>**RS**Trend **Software** page 7-66<br>A powerful 32-bit application for collecting and monitoring real-time and historical PLC data for Microsoft Windows, Windows 95, and Windows NT operating systems.<br>**ControlView Software for DOS** page 7-67<br>DOS or Windows-based MMI supervisory software used for monitoring and controlling real-time data<br>**Process Configuration and Operation Software** page 7-69<br>A ControlView Software option that lets you develop your process more quickly and easily using familiar tools. PCO MMI faceplates allow online operation, control, and maintenance of the process loops.<br>**RS**Data **Software** page 7-72<br>Visual Basic-based custom-control software |

# MessageView Interactive Message Display Terminals

**(Cat. No. 2706 Series)**


The MessageView™ family of products includes flexible, low-cost, interactive display devices for both text and graphic characters. MessageView terminals provide a high-level operator interface to logic controllers and other peripherals, and are designed to meet a variety of machine control and monitoring applications. Versions available include display-only, display plus numeric input, and display with numeric input plus programmable function keys.

MessageView terminals can store 4,000 message entries including variable and time/stamp data with its Historical Event Stack Memory. The terminals can view and sort historical data by frequency and chronological order of occurrence, providing a highly diagnostic operator interface device. In addition, the Historical Event database can be imported into programs such as Microsoft Excel®, Microsoft Access®, Lotus®, and other Windows™ based applications.

All MessageView terminals offer an RS-232 communication port on the main logic board. This port can be used for uploading and downloading application programs, uploading the Historical Event Stack, communicating with ASCII Input devices, or with controllers using serial communication via ASCII Triggering. In addition, MessageView terminals can accept a communication DaughterBoard with an adapter port for a Universal Remote I/O link.

## Features

- *Text display* using the industry standard Code Page 850 alphanumeric character set and ISA graphic symbols on a blue-green 128 x 32 dot matrix Vacuum Fluorescent Display
- *Eight brightness settings* ranging from 12 to 100%
- *Special text formatting* effects, including centering, scrolling, blinking, and inverse text
- *Date and time data display* from the on-board battery-backed Real Time Clock
- *Insertion of ASCII and Numeric Entry, Display Variables*
- *Historical Event Stack* logging of up to 4,000 message entries including variables, time data, and message ACK with time duration
- *Communicate with PLC and SLC processors* across a Universal Remote I/O or RS-232-C link
- *Communicate with slave message displays* across an RS-232-C link
- *Operating system using 128K bytes of Flash EPROM* internal memory capable of storing 4096 messages including run-time variables and application program code for quick and easy on-site programming

## Compatibility

MessageView terminals can be used in networks hosting a wide range of devices. Some representative examples include:

- Multiple MessageView terminals
- PLC/SLC controllers
- ASCII Input Devices
- 1747-SN Remote I/O scanners
- Bulletin 2711 PanelView™ products
- Bulletin 2706 Dataliner™ message displays (DL10, DL40, DL50) as slave devices

## Specifications

| | | |
|---|---|---|
| **VFD Graphic Display** | | |
| Size (all terminals) | | 26.9 mm (H) x 108.5 mm (W)<br>1.06 in (H) x 4.27 in (W) |
| Characters | | 21 × 4; 10 × 2; 7 × 1 |
| Pixels | | 128 x 32 |
| LED Indicators | COMM<br>FAULT | Green<br>Red |
| **Terminal Memory** | | |
| Application Memory | | 4096 messages x 21 characters |
| Historical Event Stack Memory | | 4000 messages x 21 characters |
| **Communication** | | |
| Universal Remote I/O | | Supports PLC and SLC controllers |
| ASCII Triggering | | Supports PLC and SLC controllers |
| **Electrical** | | |
| Supply Voltage | | 18 to 30V dc (24V dc nominal) |
| Power Consumption | | 20 W maximum (833mA @ 24V dc) |
| **Environmental** | | |
| Temperature range: | | |
| | Operating | 0 to 55° C (32 to 131° F) |
| | Storage | -40 to 85° C (-40 to 185° F) |
| Humidity rating | | 5 to 95% (without condensation) |
| Ratings | | UI Listed, CSA Certified, CE Marked<br>NEMA Type 12, 13, 4X (indoor use only)<br>and Class I Division 2 |
| **Dimensions** | | |
| Chasis: | Terminals D and N | 91 mm (H) x 202 mm (W) x 65 mm (D)<br>3.6 in (H) x 8.0 in (W) x 4.0 (D) |
| | Terminal F | 138 mm (H) x 202 mm (W) x 65 mm (D)<br>5.5 in (H) x 8.0 in (W) x 4.0 in (D) |
| Front Bezel: | Terminals D and N | 130 mm (H) x 240 mm (W) x 16 mm (D)<br>5.1 in (H) x 9.5 in (W) x 0.6 (D) |
| | Terminal F | 177 mm (H) x 240 mm (W) x 16 mm (D)<br>7.0 in (H) x 9.5 in (W) x 0.6 in (D) |
| **Weight** | | |
| Terminals D and N | | 1.45 kg (3.2 lbs) |
| Terminal F | | 1.72 kg (3.8 lbs) |

For ordering information, see page 7-7.

## Ordering Information

### MessageView Interactive Message Display Terminals and Programming Software

| Description | Catalog Number |
|---|---|
| MessageView Display Terminal with 4-key interface, Universal Remote I/O communication, and communication with slave message displays | 2706-M1D1 |
| MessageView Display Terminal with 16-key interface, Universal Remote I/O communication, and communication with slave message displays | 2706-M1N1 |
| MessageView Display Terminal with 32-key interface, Universal Remote I/O communication, and communication with slave message displays | 2706-M1F1 |
| MessageView Display with 4-key interface and ASCII triggering functionality | 2706-M1D |
| MessageView Display with 16-key interface and ASCII triggering functionality | 2706-M1N |
| MessageView Display with 32-key interface and ASCII triggering functionality | 2706-M1F |
| MessageBuilder™ Off-line Programming Software package for Windows | 2706-MB1 |

### Accessories

| Description | Catalog Number |
|---|---|
| Upload/Download cable | 2706-NC13 |

# Dataliner Message Displays

**(Bulletin 2706 DL5, DL10, DL20, DL40, DL50)**





Dataliner™ Message Displays are available in six types:

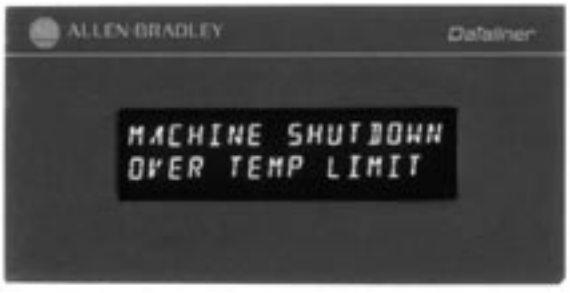
- *DL5 Series* one- or two-line, very compact, dc powered, stored message display with parallel interface, page 7-9
- *DL10 Series* four-line message display with no memory. Can be a slave to DL20 and DL40 displays, page 7-10
- *DL20 Series* one-, two-, or four-line stored message or slave displays with serial and parallel interfaces, page 7-11
- *DL40 Series* two- or four-line stored message display with serial, parallel, and Universal Remote I/O interfaces, page 7-12
- *DL50 Series* large displays designed for high visibility up to 73 m (240 ft). Characters are available in different heights: either 53.3 mm (2.1 in) or 122 mm (4.8 in). Characters are available in either red or tri-color (red, green, amber), page 7-14

For Dataliner accessories, see pages 7-15 and 7-16.

*For more information, see the product data publications: Dataliner 120V ac Parallel Input Converters (2706-2.1), Dataliner DL10 and DL20 Enclosures (2706-2.2), Dataliner Keyboards (2706-2.4), Dataliner Lithium Battery Information (2706-2.7), Dataliner DL40 Series Pass-Through Option (2706-2.10), Dataliner Cable Diagrams (2706-2.15).*

# Dataliner Message Displays

**(Bulletin 2706 DL5)**




Bulletin 2706 DL5 Dataliner Message Displays are available in one- and two-line versions. These displays are designed for panel mounting on equipment in industrial environments. They are powered by 12-24V dc.

These units store preprogrammed messages that are displayed when the DL5 receives a command from a controlling device, such as a programmable controller. Programmed messages can display status, display variable data, help diagnose problems, or prompt an operator.

## Features

- One- or two-line displays — 16 characters per line
- 5 mm (0.2 in) Vacuum Fluorescent Characters visible up to 3 m (10 ft)
- 12-24V dc
- Pilot light replacement operating modes
- Up to 387 message storage (8K bytes)
- EEPROM memory
- Numeric, binary, BCD, priority, round-robin operating modes
- Cyrillic character option
- Simple programming with a dumb terminal and the on-board editor or off-line programming package that runs on most IBM PC or PC compatible computers (minimum 640K bytes RAM required)
- Compact size

## Ordering Information

1. Select the required version
2. Select the amount of memory
3. Order the required programming cable for your terminal or computer

| Description | 8K bytes (387 Message Blocks) | 2K bytes (94 Message Blocks) |
|---|---|---|
| | Catalog Number | Catalog Number |
| One-line display by 16 characters | — | 2706-D11J2 |
| Two-line display by 16 characters per line | 2706-D21J8 | 2706-D21J2 |

## Specifications

Class I Div 2 Hazardous

| | |
|---|---|
| **Display characteristics** | |
| Character height | • One-line: 5.31 mm (0.209 in)<br>• Two-line: 5.94 mm (0.234 in) |
| Character set | Alphanumeric: uppercase only |
| Characters per line | 16 |
| Approximate viewing distance | 3m (10 ft) |
| Character type | Vacuum fluorescent; 14 segment characters |
| **Electrical** | |
| Input voltage | 12-24V dc |
| Input power | • Current: 250 mA maximum steady-state at 12V input<br>• Power: 3 Watts maximum<br>• Ripple: 5% of input voltage peak-to-peak maximum<br>• Noise: 5% of input voltage p-p maximum |
| Operating and inrush current | • 12V dc: 250 mA operating (300 mA inrush)<br>• 24V dc: 125 mA operating (300 mA inrush) |
| Parallel port | 16 data input lines and one parallel port select input |
| Parallel port data input voltage | 5 to 24V dc |
| Memory | • 2K bytes EEPROM: 94 message blocks<br>• 8K bytes EEPROM: 387 message blocks |
| **Environmental** | |
| Temperature range | • Operating: 0 to 50° C (32 to 122° F)<br>• Storage: -40 to 85° C (-40 to 185° F)<br>• Humidity: 5%-95% (without condensation) |
| NEMA rating | UL Listed for Type 12 and 13. Designed but not listed for Type 4.<br>UL File #E10314<br>UL Listed and CSA Certified for Class I Division 2 Groups A, B, C, D Hazardous Locations |
| Surge withstand | Passes IEEE Std. 472-1974 surge withstand capability tests |
| **Dimensions** | |
| One- and two-line | • Height 79.3 mm (3.12 in)<br>• Width 159 mm (6.25 in)<br>• Depth 109 mm (4.31 in) |
| **Shipping weight** | |
| Approximate shipping weight | 1.35 kg (3 lbs) |

For accessories, see page 7-15.

# Dataliner Message Displays

**(Bulletin 2706 DL10)**


The DL10 Series includes four-line by 20-character message displays without memory. The DL10 Displays can function in either user-selectable “slave” or “terminal” mode.

*In the “slave” mode,* a DL10 display receives data from a DL20 or DL40 display acting as a “master.”

*In the “terminal” mode,* a display receives serial data from a computer or computer-like device.

## Features

- 12.7 mm (1/2 in) characters. Readable from approximately 7.6m (25 ft)
- 20 characters per line
- Programming flexibility
- Serially addressable for multiple devices on the same communication line
- Versatile screw terminal connections

## Ordering Information

| Description | Catalog Number |
|---|---|
| Four-line by 20 characters per line | 2706-A41J |

### DL10 Series Factory Options

| Description | Catalog Number |
|---|---|
| Stainless Steel Bezel Option — Installed at factory. (Replace “J” in cat. no. with “C”.) Example: 2706-A41C | — |
| 220/240V ac DL10 Display | 2706-A42J |

See page 7-15 for accessories.

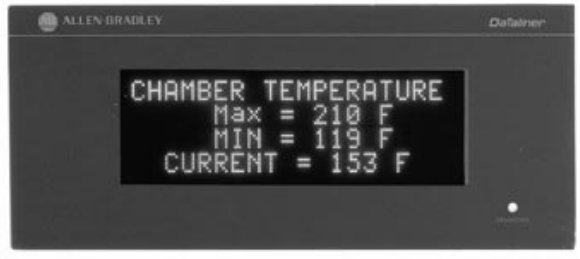
## Specifications

Class I Div 2 Hazardous

| | |
|---|---|
| **Display characteristics** | |
| Character height | Four-line: 12.7 mm (0.50 in) |
| Character set | Uppercase and lowercase symbols |
| Characters per line | 20 |
| Approximate viewing distance | Four-line: 7.6 m (25 ft) |
| Character type | Vacuum fluorescent, 5 x 7 dot matrix |
| **Electrical** | |
| Input voltage | 110/120V ac ±10%, 50/60 Hz<br>220/240V ac (optional) |
| Input power | Four-line — 55VA maximum |
| Serial input | RS-232 and RS-422 |
| Communication rate (selectable) | 300, 1200, or 9600 |
| Parity (selectable) | Odd, even, none |
| Data length | 7 data bits, + parity, 1 stop bit |
| **Environmental** | |
| Temperature range | • Operating: 0 to 60° C (32 to 140° F)<br>• Storage: -40 to 85° C (-40 to 185° F) |
| Humidity | 5%-95% (without condensation) |
| NEMA rating | • Standard: UL Listed for Type 12 and 13.<br>• Designed but not listed for Type 4.<br>• UL File #E10314<br>• IP65<br>• Stainless steel faceplate available<br>• Steel: UL Listed for Type 12, 13 and 4X (indoor only)<br>• UL Listed & CSA Certified for Class I Division 2 Groups A, B, C, D Hazardous Locations |
| **Dimensions** | |
| Four-line | • Height 157 mm (6.2 in)<br>• Width 365 mm (14.4 in)<br>• Depth 129 mm (5.1 in) |
| **Shipping weight** | |
| Four-line | 5.3 kg (11.68 lb) |

# Dataliner Message Displays

**(Bulletin 2706 DL20)**




The DL20 Series includes one-, two-, and four-line by 20 character message displays with memory. The DL20 Display can receive message triggers from most programmable controllers or computers.

## Features

- Up to 31K bytes battery-backed RAM for message
- One-, two-, and four-line displays
- Can program DL20 series displays via a menu-driven offline programming package that runs on most IBM PC or PC-compatible computers (minimum 640K-byte RAM required).
- Also programmable with keyboards (cat. nos. 2706-NK1 or -NK2) or a dumb terminal.
- 12.7 mm (½ in) High characters. Readable from approximately 7.6 m (25 ft)
- 20 characters per line

## Ordering Information

1. Select the required version: one-, two-, or four-line
2. Select the amount of message memory: 8K, 16K, or 31K bytes

**Important:** DL20 displays (Series G or later) have a lifetime battery that does not require replacement.

| Description | 8K-byte Message Memory | 16K-byte Message Memory | 31K-byte Message Memory |
|---|---|---|---|
| | Catalog Number | Catalog Number | Catalog Number |
| One-line display | 2706-B13J8 | 2706-B13J16 | 2706-B13J31 |
| Two-line display | 2706-B23J8 | 2706-B23J16 | 2706-B23J31 |
| Four-line display | — | 2706-B43J16 | 2706-B43J31 |

### DL20 Series Factory Options

| Description | Catalog Number |
|---|---|
| Stainless Steel Bezel Option — Installed at factory. (Replace "J" in cat. no. with "C.") Example: 2706-B23C16 | — |

See page 7-15 for accessories.

## Specifications

(See spec table below)

| | |
|---|---|
| **Display characteristics** | |
| Character height | One-line: 14.2 mm (0.56 in)<br>Two-line: 11.3 mm (0.44 in)<br>Four-line: 12.7 mm (0.50 in) |
| Character set | Uppercase and lowercase symbols |
| Characters per line | 20 |
| Approximate viewing distance | One-line: 9.1 m (30 ft)<br>Two-line: 7.6 m (25 ft)<br>Four-line: 7.6 m (25 ft) |
| Character type | Vacuum fluorescent, dot matrix |
| **Electrical** | |
| Input voltage | 85-264V ac, 47/63 Hz |
| Input power | 45VA maximum at 85V ac |
| Fuse type | USA: 1.25A, 250V, Type MDL<br>European: 1.5A, 250V, Type GMC |
| Serial input/output | RS-232 and RS-422<br>Communication rate: 300, 1200, or 9600 (selectable)<br>Parity (send only): Odd, even, none (selectable)<br>Data length: 7 data bits (+ parity)<br>+12V dc out: 3 mA maximum |
| Parallel port terminals | 10 data input lines. 2 strobe inputs.<br>5 to 30V dc<br>(110/120V ac with 2706-NG1/ 2706-NG2 input converter)<br>+5V dc out: 15 mA maximum |
| Memory | 8K, 16K, 31K bytes of battery-backed RAM |
| **Environmental** | |
| Temperature range | • Operating: 0 to 60° C (32 to 140 ° F)<br>• Storage: -40 to 85° C (-40 to 185° F) |
| Humidity | 5-95% (without condensation) |
| NEMA rating | Standard: UL Listed for Type 12 and 13. Designed but not listed for Type 4. UL File #E56639<br>Stainless steel: UL Listed for Type 12, 13 and 4X (indoor only) |
| **Dimensions** | |
| One- and two-line | • Height 112 mm (4.4 in)<br>• Width 366 mm (14.4 in)<br>• Depth 188 mm (7.4 in) |
| Four-line | • Height 157 mm (6.2 in)<br>• Width 366 mm (14.4 in)<br>• Depth 188 mm (7.4 in) |
| **Shipping weight** | |
| One-line | 4.3 kg (9.5 lbs) |
| Two-line | 4.3 kg (9.5 lbs) |
| Four-line | 5.4 kg (12 lbs) |

# Dataliner Message Displays

**(Bulletin 2706 DL40)**


The DL40 Series includes two- and four-line by 20-character message displays that have serial and parallel interfaces and an option to connect to Allen-Bradley PLC controllers via the Universal Remote I/O link.

## Features

- *Diagnostic and Alarm Handling Functions* provide information to the operator during fault conditions
- *Optional Universal Remote I/O Communication* to Allen-Bradley SLC and PLC controllers via the Universal Remote I/O link
- *Remote I/O PassThrough*™ allows uploading and downloading to messages via DH+ or Ethernet and remote I/O communication with a PLC-5 controller
- *Front-Panel Push Buttons* are able to acknowledge the receipt of messages, as well as select modes of operation and set up parameters
- *ASCII Input to PLC via IBM or Compatible Keyboard* let the operator send information, such as part numbers or recipe input, to the PLC controller via the DL40
- *Simplified Programming* through the use of a menu-driven, off-line programming package that runs on most IBM PC or PC compatible computers
- *Extended ASCII Characters* provide characters, such as é, ñ and ö, that allow display of messages in a number of languages including German, French, and Spanish. Cyrillic character set is optional
- *Connects to DL10 or DL50* slaves for multiple display systems

*Multiple Run Modes* provide the flexibility for the DL40 to meet various applications:

- *Message/Variable Run Mode* provides capability to embed process variables into a message
- *Message/Variable Slave Run Mode* lets you designate DL10 or DL50 slaves at runtime
- *Bit Trigger Run Mode* lets you trigger messages with single bits (Universal Remote I/O only)
- *Message List Run Mode* lets you to repeatedly display multiple messages
- *EEPROM Memory Modules* are available for uploading, downloading, and storing messages

## Specifications

(See spec table below)

| | |
|---|---|
| **Display Characteristics** | |
| Character height | • Two-line: 11.3 mm (0.44 in)<br>• Four-line: 11.3 mm (0.44 in) |
| Character set | Upper and lower case, extended ASCII |
| Characters per line | 20 |
| Approximate viewing distance | 7.62 m (25 ft) |
| Character type | Vacuum fluorescent, 5 x 7 dot matrix characters |
| Development software | Runs on most IBM PC or PC compatible computers including Allen-Bradley computers<br>• Pull-down menu-driven<br>• 3-1/2 inch floppy diskette |
| **Electrical** | |
| Input voltage | 85-264V ac, 47/63 Hz |
| Input power | 45VA maximum at 85V ac |
| Fuse type | USA: 1.25A, 250V, Type MDL<br>European: 1.5A, 250V, Type GMC |
| Serial input/output | RS-232 and RS-485 |
| Communication rate | 300, 1200, 2400, 4800, 9600 or 19,200 (selectable) |
| Parity | Odd, even, none (selectable) |
| Data length | 7 or 8 bits |
| Parallel port terminals | 16 data input lines, 4 strobe inputs,<br>5 to 30V dc (110/120V ac with 2706-NG2 input converter),<br>(two converters may be required)<br>+12V dc out: 300 mA maximum |
| Annunciation relay | 3A @ 240Vdc (ac); 3A @ 30V dc (dc) |
| **Universal Remote I/O Communication** | |
| Communication rate | 57.6, 115.2, or 230.4k bit/s |
| Maximum I/O cable distance | 2800 m (10,000 ft) for 57.6k bit/s<br>1400 m (5,000 ft) for 115.2k bit/s<br>700 m (2,500 ft) for 230.4k bit/s |
| Rack sizes | $^1/_4$, $^1/_2$, $^3/_4$, or 1<br>Supports single transfers and block transfers |
| Block transfer | Allows up to 12 words of data to be transferred with $^1/_4$ rack of I/O image table. |
| **Environmental** | |
| Temperature range<br><br>Humidity | Operating: 0 to 60° C (32 to 140° F)<br>Storage: -40 to 85° C (-40 to 184° F)<br>Humidity: 5-95% (without condensation) |
| NEMA rating | Standard: UL Listed for Type 12 and 13. Designed but not listed for Type 4. UL File #E56639<br>Stainless steel: UL Listed for Type 12, 13 and 4X (indoor only) |
| **Dimensions** | |
| Two-line | • Height 112 mm (4.4 in)<br>• Width 366 mm (14.4 in)<br>• Depth 124 mm (4.9 in) |
| Four-line | • Height 157 mm (6.2 in)<br>• Width 366 mm (14.4 in)<br>• Depth 124 mm (4.9 in) |
| **Shipping weight** | |
| Two-line | 3.4 kg (7.5 lbs) |
| Four-line | 4.2 kg (9.2 lbs) |

For communication options and ordering info, see page 7-13.

## Communication Options

| | |
|---|---|
| A-B Universal Remote I/O | Appears as $^1/_4$, $^1/_2$, $^3/_4$, or full I/O rack. Supports single-transfer and block-transfer of I/O data (optional). |
| Parallel port | 16 data-input lines, 4 strobe lines, 12V dc internal power supply |
| RS-232 serial port | • Allows upload/download from development system to a single DL40.<br>• Allows upload/download from tape recorder.<br>• Allows serial printing during run-time |
| RS-485 serial port | • Allows message triggering<br>• Allows upload/download from development system to a single DL40.<br>• Allows for communication to slave (DL10 and DL50) message displays. |
| IBM keyboard port | Allows input from an IBM compatible keyboard or bar-code device, such as a bulletin 2755-EZ to 2755-EZ3, 2755-G3-W, -G6-W, -LD1-D, -LD2-D. Data is returned either through the remote I/O link or the RS-485 serial port. |

## Ordering Information

1. Select the number of lines: two-line or four-line
2. Select the message memory size:

   16K bytes — two-line only
   32K bytes — two- and four-line
   64K bytes — four-line only
   128K bytes — four-line only

3. Select the required version: (All units contain RS-232, RS-485, and IBM PC keyboard ports)
   - Universal Remote I/O
   - parallel port

| Description | Message memory size | Catalog Number |
|---|---|---|
| Two-line display | 16K bytes | 2706-E23J16 |
| Two-line display | 32K bytes | 2706-E23J32 |
| Four-line display | 32K bytes | 2706-E43J32 |
| Four-line display | 64K bytes | 2706-E43J64 |
| Four-line display | 128K bytes | 2706-E43J128 |
| Two-line display with Universal Remote I/O | 16K bytes | 2706-E23J16B1 |
| Two-line display with Universal Remote I/O | 32K bytes | 2706-E23J32B1 |
| Four-line display with Universal Remote I/O | 32K bytes | 2706-E43J32B1 |
| Four-line display with Universal Remote I/O | 64K bytes | 2706-E43J64B1 |
| Four-line display with Universal Remote I/O | 128K bytes | 2706-E43J128B1 |

### DL40 Series Factory Options

| Description | Catalog Number |
|---|---|
| Stainless Steel Bezel Option — Installed at factory. (Replace “J” in cat. no. with “C”.) Example: 2706-E23C32 | — |
| Cyrillic character option four-line display with Universal Remote I/O, 32K-byte memory | 2706-NX3 |

For accessories, see page 7-15.

# Dataliner Message Displays

**(Bulletin 2706 DL50)**


The DL50 features either red or a tri-color LED display for enhanced message visibility. Large red, green or amber character displays allow messages to be seen and responded to quickly, reducing downtime and response time. Selectable character sizes of 53 mm (2.1 in) or 122 mm (4.8 in) can be viewed from a distance of up to 73 m (240 ft).

These displays can be used as a slave to either a DL20 or DL40 message display. The DL50 can also receive messages from any PLC®, SLC™, computer or ASCII device supporting RS-232 or RS-485 communication.

## Features

- *Multicolor LEDs* support red, green or amber colors for entire messages or individual characters. Color coded displays provide for easy message recognition. For example: Red=Fault, Amber=Warning, Green=Status
- *Selectable character size,* display two lines of 5.3 mm (2.1 in) characters or one line of 122 mm (4.8 in) characters
- *Scrolling displays* allow long messages to scroll across the display
- *Anti-glare, 7° Downward Tilted Window* provides increased visibility form ground level
- *Alarm Relay* can provide audible or visual indication of all or selected messages, using a connected horn or lamp
- *Flashing displays* increase operator awareness of important messages
- *23 Display Modes* offer a wide range of special visual effects when using duplex protocol, such as wipe down or starburst
- *Switch Configuration* makes setup easy
- *Fault Isolation LEDs* show the DL50 operating status at a glance. Overtemperature LED indicates power reduction mode, protecting internal circuitry from excessive heat

## Specifications

(See spec table below)

| | | |
|---|---|---|
| **Display Characteristics** | | |
| Character height | | 53.3 mm (2.1 in) or 122 mm (4.8 in), selectable |
| Character set | | Standard and Extended ASCII |
| Characters per line | | 2.1 in characters: 20 or 40<br>4.8 in characters: 10 or 20 |
| Approximate viewing distance | | 2.1 in characters: 30.5 m (100 ft)<br>4.8 in characters: 73 m (240 ft) |
| Display types | | Tri-color or red monochrome LED matrix |
| Display color | | Red, green or amber characters |
| **Electrical** | | |
| Input voltage: | | 100 to 240V ac, 50 to 60 Hz |
| Input power: | 2706-F11J<br>2706-F11JC<br>2706-F21J<br>2706-F21JC | 140VA<br>150VA<br>250VA<br>280VA |
| Fuse type: | USA<br>European | 2.5A, Type AGC<br>2.5A, Type GMA |
| Annunciation relay: | AC<br>DC | 3A at 240V ac<br>3A at 30V dc |
| **Communication** | | |
| Protocols: | Simplex<br>Duplex | Serial ASCII protocol<br>Serial ASCII protocol with ACK/NAK response and optional checksum |
| Serial input | | RS-232 point-to-point, and RS-485 multi-drop |
| Communication rate | | 300, 1200, 9600 or 19,200 bit/s |
| Data length | | 8 data bits — no parity, 1 stop bit |
| **Environmental** | | |
| Temperature range | | • Operating: 0 to 60° C (32 to 140° F)<br>• Storage: -40 to 85° C (-40 to 185° F) |
| Humidity | | • 5 to 95% (without condensation) |
| Shock | | • Operating: 15 g<br>• Non-operating: 30 g (pulses) |
| Vibration | | • Operating: 1.0 g<br>• Non-operating: 2.5 g (sinusoidal) |
| NEMA rating | | UL Listed for Type 12 and 13. Designed but not listed for Type 4 ( indoor use only). |
| **Dimensions** | | |
| cat. no. 2706-F11J, -F11JC (tri-color) | | • Height 224 mm (8.8 in)<br>• Width 1,026 mm (40.4 in)<br>• Depth 113 mm (4.5 in) |
| cat. no. 2706-F21J, -F21JC (tri-color) | | • Height 224 mm (8.8 in)<br>• Width 1,930 mm (76 in)<br>• Depth 113 mm (4.5 in) |
| **Shipping Weight** | | |
| cat. no. 2706-F11J, -F11JC | | 18 kg (40 lbs) |
| cat. no. 2706-F21J, -F21JC | | 34 kg (75 lbs) |

## Ordering Information

| Description | Catalog Number |
|---|---|
| Red DL50 display, two lines of (20) 53.3 mm (2.1 in) characters or one line of (10) 122 mm (4.8 in) characters | 2706-F11J |
| Red DL50 display, two lines of (40) 53.3 mm (2.1 in) characters or one line of (20) 122 mm (4.8 in) characters | 2706-F21J |
| Tri-color DL50 display, two lines of twenty 53 mm (2.1 in) characters or one line of ten 122 mm (4.8 in) characters | 2706-F11JC |
| Tri-color DL50 display, two lines of forty 53 mm (2.1 in) characters or one line of twenty 122 mm (4.8 in) characters | 2706-F21JC |
| Mounting bracket for back to back or wall mounting. Bracket angle is adjustable. | 2706-NJ3 |

For accessories, see page 7-15.

## Dataliner Accessories

| Series | | | | | Description | Catalog Number |
|---|---|---|---|---|---|---|
| DL5 | DL10 | DL20 | DL40 | DL50 | | |
| **Cables** | | | | | | |
| ● | | | ● | | **Programming Cables**<br>DL5, DL40 cable for IBM or compatible computers ① (25-pin female), or DEC VT52, VT100, and VT101 terminals (DL5 only) | 2706-NC12 |
| ● | | | ● | | DL5, DL40 cable for Allen-Bradley 6121, IBM or compatible computers ① (9-pin female) | 2706-NC13 |
| ● | | | ● | | DL5, DL40 cable for Allen-Bradley 6120 computers (9-pin female) | 2706-NC14 |
| ● | | | ● | | DL5, DL40 cable for Allen-Bradley industrial terminals T1 through T4 (25-pin male) | 2706-NC15 |
| | | ● | | | DL20 cable for Allen-Bradley industrial terminals T1 through T4 or most DTE-type dumb terminals (male 25-pin D-shell) | 2706-NC1 |
| | | ● | | | DL20 cable for IBM or compatibles ① or DEC VT52, VT100 or VT101 terminals (female 25-pin D-shell). (Use 25 to 9-pin "AT Adapter" cable with 2706-NC2 for 1784-T50 or -T60 industrial terminals or IBM AT computers). | 2706-NC2 |
| | | ●<br>● | | | **Tape Loader Cables**<br>DL20 Data Recorder Interface cable for EPI STR-LINK II or III data recorders.<br>DL20 Data Recorder Interface cable for Allen-Bradley 1770-SB or 1770-SA data recorders. | 2706-NC3 ②<br>2706-NC4 |
| | | ● | | | **A-B terminals to EPI STR-LINK II or III recorder cable**<br>This cable must be ordered if an A-B industrial terminal and an EPI STR-LINK II or III data recorder are to be used. It is not needed if either of the programming keyboards (cat. nos. 2706-NK1 or -NK2) are being used. | 2706-NC5 |
| **Development Software** | | | | | | |
| ● | | | | | **DL5 Development Software**<br>DL5 Off-line Programming Software for IBM or compatible with 5-1/4-inch or 3-1/2-inch disk drive ① | 2706-NP5 |
| | | ● | | | **DL20 Development Software**<br>DL20 Off-line Programming Software for IBM or compatible with 5-1/4-inch or 3-1/2-inch disk drive ① | 2706-NP3 |
| | | | ● | | **DL40 Development Software**<br>DL40 Off-line Programming Software for IBM or compatible with 5-1/4-inch or 3-1/23-1/-inch disk drive ① | 2706-ND1 |
| **EEPROMs** | | | | | | |
| | | | ●<br>●<br>● | | **DL40 Memory Module**<br>16K-byte Memory Module<br>32K-byte Memory Module<br>64K-byte Memory Module | <br>2706-NMM16<br>2706-NMM32<br>2706-NMM64 |
| **Keyboards** | | | | | | |
| | | ●<br>● | | | **DL20**<br>Standard Keyboard<br>Membrane Keyboard | <br>2706-NK1<br>2706-NK2 |

① Including Allen-Bradley industrial terminals.
② Terminal to recorder cable (cat. no. 2706-NC5) is also required when using the EPI STR-LINK II or III data recorders and an Allen-Bradley industrial terminal. The cable (cat. no. 2706-NC5) is not needed if either of the programming keyboards (cat. nos. 2706-NK1 or -NK2) are being used.

# Dataliner Message Displays

**(Bulletin 2706)**

## Dataliner Accessories (continued)

| Series | | | | | Description | Catalog Number |
|---|---|---|---|---|---|---|
| DL5 | DL10 | DL20 | DL40 | DL50 | | |
| | | | | | **Addressing Bar**<br>The addressing bar allows switch selection of an address for a DL20 display when multiple displays are placed on an RS-422 line. One addressing bar is used per DL20 display. If not used, the DL20 address can be selected when programming the display. | |
| | | ● | | | DL20 series Addressing Bar | 2706-NF1 |
| | | | | | **120V Parallel Input Converter**<br>These 120V ac Parallel Input Converters are used with the DL20 and DL40 series displays. The converters connect to the parallel input port and allow the use of 120V ac input voltages to trigger messages. | |
| | | ● | | | Display-Mounted 120V ac Parallel Input Converter | 2706-NG1 |
| | | ● | ● | | Panel-Mounted 120V ac Parallel Input Converter (2 required for DL40) | 2706-NG2 |
| | | | | | **DL10, DL20 and DL40 Enclosures**<br>A NEMA Type 12/13 enclosure complete with mounting holes and cut-out for one DL10, DL20 or DL40 series display. Access door is gasketed | |
| | ● | ● | ● | | Enclosure for one- or two-line DL20 or DL40 display | 2706-NE2 |
| | ● | ● | ● | | Enclosure for four-line DL10, DL20 or DL40 display | 2706-NE1 |
| | | | | | Note: The add-on parallel input converter (cat. no. 2706-NG1) will not fit on a DL20 display when it is mounted in this enclosure. Panel-mounted input converter (cat. no. 2706-NG2) must be used and mounted in a separate enclosure. | |
| | | | | | **Flush Mounting Kits**<br>By ordering a flush mounting kit, you can eliminate the standard bezel supplied with the display, allowing it to be mounted using the face of your enclosure as a "flush bezel." | |
| | ● | ● | | | Flush Mounting Kit for a one- or two-line DL20 display | 2706-NJ1 |
| | ● | ● | | | Flush Mounting Kit for a four-line DL10 or DL20 display | 2706-NJ2 |
| | | | | | **Keyboard Front Panel Access Kit**<br>Kit contains:<br>8 pin DIN connector panel mount to 8 pin DIN connector on the back of the DL40 keyboard cable extension | |
| | | | ● | | Panel access cover to deny access to the connectors and maintain NEMA Type 4 | 2706-NPAK1 |
| | | | | | **RS-232 Front Panel Access Kit**<br>Kit contains:<br>9-pin D connector panel mount to 9-pin D connector on the back of the DL40<br>RS-232 cable extension<br>Panel access cover to deny access to the connectors and maintain NEMA Type 4 rating | |
| | | | ● | | | 2706-NPAK2 |
| | | | | | **Mounting Bracket** | |
| | | | | ● | For back to back mounting of DL50 displays | 2706-NJ3 |

*For more information, see the product data publications: Dataliner 120V ac Parallel Input Converters (2706-2.1); Dataliner DL10 and DL20 Enclosures (2706-2.2); Dataliner Keyboards (2706-2.4), Dataliner Lithium Battery Information (2706-2.7); Dataliner DL40 Series Pass-Through Option (2706-2.10); Dataliner Cable Diagrams (2706-2.15).*

# DTAM Plus Operator Interface

**(Cat. No. 2707 Series)**

The DTAM Plus operator inteface provides an operator interface to PLC-5 and SLC 500 family of processors and to a DeviceNet scanner. This operator interface features a 4-line x 20-character display window for viewing data table information and operator prompts. Use an offline Development Software Package to create display screens. Screens can depict register information, prompt for operator data entry, or facilitate recipe downloading, which let you modify multiple registers with a single keystroke. Alarm screens monitor critical data table registers, prompting the operator for action when out-of-range conditions exist.

## Features

- *4-line x 20-character* VFD or backlit LCD display
- *User-Developed Screens* provide menu-type operations, prompting an operator to perform specifications, such as data entry or recipe download based on displayed data table information
- *Configurable Communication Port* supports DH-485 and RS-422/RS-232. Use the DH-485 port to communicate with the SLC processor over the DH-485 network or use the RS-422/RS-232 port to communicate with a 1746-BAS SLC 500 BASIC Module in an RS-422/RS-232 point-to-point link. Use the RS-232/422 port to communicate point-to-point DF1 to any of the enhanced PLC-5 processors through channel 0 or to upload/download programs
- *The Universal Remote I/O version* connects to the SLC remote I/O scanner module or to the PLC-5 processor through its Universal Remote I/O port
- *The DeviceNet version* communicates to the DeviceNet scanner modules
- *Standard Printer Port* on 40K-byte memory models for local printing of forms, data, or alarm conditions
- *Flash Firmware* provides easy downloading of product enhancements and upgrades
- *Bar Code Input* capability lets you input ASCII bar code data using the RS-232 printer port
- *SLC or PLC Controlled Screen Changes* provide additional flexibility in screen navigation
- Available Class I Div 1 rated LCD display, 11 to 13V dc powered unit

## Specifications

**Class I Division 1**
**Class I Division 2**

| | |
|---|---|
| Approximate Dimensions | • Height 193.0 mm (7.6 in)<br>• Width 139.7 mm (5.5 in)<br>• Depth 45.7 mm (1.8 in) |
| Front Panel Size | • Height 215.9 mm (8.5 in)<br>• Width 165.1 mm (6.5 in) |
| Communication | • Supports Allen-Bradley DH-485 point-to-point or network operations to SLC 500 processors<br>• Supports Allen-Bradley DF1 point-to-point communication with enhanced PLC-5 processors<br>• Supports Universal Remote I/O communication to a PLC-5 processor and to a SLC 500 processor via a 1747-SN remote I/O scanner<br>• Supports DeviceNet communication to a DeviceNet scanner |
| Memory | • 8K-byte option supports approximately 50 application screens.<br>• 40K-byte option supports approximately 244 application screens. |
| **Display Types** | |
| 4-line by 20-characters | • VFD (Vacuum Fluorescent Display)<br>• LCD (Liquid Crystal Display) |
| **Operating Voltages** | |
| 3 Power Supply Ranges | • P1 Designation<br>15-23V ac, 47-440 Hz<br>20-30V dc<br>800 mA max., 1A Fuse<br>• P2 Designation<br>85-265V ac, 47-440 Hz<br>110-340V dc<br>300 mA max., ½A Fuse<br>• P4 Designation<br>11-13V dc<br>250mA max. ½A Fuse |

*For more information, see DTAM Plus Product Data, pub. 2707-2.0.*

For ordering information, see page 7-18.

# DTAM Plus Operator Interface

**(Cat. No. 2707 Series)**

## Ordering Information

| Description | Catalog Number |
|---|---|
| LCD Display, 8K-byte Memory, P1 Power Supply | 2707-L8P1 |
| LCD Display, 8K-byte Memory, P2 Power Supply | 2707-L8P2 |
| LCD Display, 40K-byte Memory, Printer Port, Real-Time Clock, P1 Power Supply | 2707-L40P1 |
| LCD Display, 40K-byte Memory, Printer Port, Real-Time Clock, P2 Power Supply | 2707-L40P2 |
| VFD Display, 40K-byte Memory, Printer Port, Real-Time Clock, P1 Power Supply | 2707-V40P1 |
| VFD Display, 40K-byte Memory, Printer Port, Real-Time Clock, P2 Power Supply | 2707-V40P2 |
| VFD Display, 40K-byte Memory, Printer Port, Real-Time Clock, NEMA Type 4X Rating, P2 Power Supply | 2707-V40P2N |
| Universal Remote I/O, LCD Display, 8K-byte memory, P1 power supply | 2707-L8P1R |
| Universal Remote I/O, LCD Display, 8K-byte memory, P2 power supply | 2707-L8P2R |
| Universal Remote I/O, LCD Display, 40K-byte memory, printer port, real time clock, P1 power supply | 2707-L40P1R |
| Universal Remote I/O, LCD Display, 40K-byte memory, printer port, real time clock, P2 power supply | 2707-L40P2R |
| Universal Remote I/O, VFD Display, 40K-byte memory, printer port, real time clock, P1 power supply | 2707-V40P1R |
| Universal Remote I/O, VFD Display, 40K-byte memory, printer port, real time clock, P2 power supply | 2707-V40P2R |
| Universal Remote I/O, VFD Display, 40K-byte memory, printer port, real time clock, NEMA Type 4X Rating, P2 power supply | 2707-V40P2NR |
| LCD Display, 40K-byte Memory, Real-time Clock, P4 Power Supply, rated Class I Division 1 | 2707-L40P4 |
| DeviceNet, LCD Display, 8K-byte memory, P1 power supply | 2707-L8P1D |
| DeviceNet, LCD Display, 8K-byte memory, P2 power supply | 2707-L8P2D |
| DeviceNet, LCD Display, 40K-byte memory, printer port, real time clock, P1 power supply | 2707-L40P1D |
| DeviceNet, LCD Display, 40K-byte memory, printer port, real time clock, P2 power supply | 2707-L40P2D |
| DeviceNet, VFD Display, 40K-byte memory, printer port, real time clock, P1 power supply | 2707-V40P1D |
| DeviceNet, VFD Display, 40K-byte memory, printer port, real time clock, P2 power supply | 2707-V40P2D |
| DeviceNet, VFD Display, 40K-byte memory, printer port, real time clock, NEMA Type 4X Rating, P2 power supply | 2707-V40P2ND |
| DH-485 Network Interface Cable interfaces to the Allen-Bradley DH-485 network. | 2707-NC1 |
| RS-232 Program Upload/Download Cable connects a personal computer to the DTAM Plus to allow program upload/download. | 2707-NC2 |
| DF1 RS-232 Interface Cable interfaces to channel 0 of the PLC-5 processor via RS-232 DF1. | 2707-NC3 |
| DF1 RS-422 Interface Cable interfaces to channel 0 of the PLC-5 processor via RS-422 DF1. | 2707-NC4 |
| RS-232 Interface Cable for ASCII input | 2707-NC6 |
| Off-line Software Development Package (MicroView, DTAM Plus, DTAM Micro) | 2707-NP |
| Off-line Software Development Kit (MicroView) | 2707-NP2 |
| Off-line Software Development Package (MicroView, DTAM Plus, DTAM Micro, Siemens AS511 Protocol, Modbus Protocol) | 2707-NP3 |

# DTAM Micro Operator Interface

**(Cat. Nos. 2707-M485P3, -M232P3, -M232P3D, -NP, -NP3)**

The DTAM Micro™ operator interface extends the Bulletin 2707 product line of high-performance operator interfaces to the PLC-5 and SLC 500 family of controllers and to DeviceNet scanners. Smaller in size than the DTAM Plus operator interface, the DTAM Micro operator interface is a low-cost interface for plant-floor control and data monitoring.

There are three versions of DTAM Micro operator interface:

- *DTAM Micro with RS-232 Port* allows point-to-point connections with PLC-5 or SLC 5/03 processors
- *DTAM Micro with DH-485 Port* provides for DH-485 point-to-point or network communication with the SLC 500 family of controllers
- *DTAM Micro with DeviceNet Port* provides for DeviceNet communication with DeviceNet scanners

DTAM Micro applications are created with the same software package as other DTAM Plus products, providing compatibility and a convenient transfer of knowledge within the same product line.

## Features

- *Two-line x 20-Character Display* uses LCD technology with fixed LED backlighting
- *Memory Capability* provides storage for up to 244 data display, data entry, recipe and alarm screens, and configuration data
- *Recipe Operations* let operators quickly modify blocks of data. Each recipe screen can download data to 10 non-sequential addresses. Linking screens lets operators download a recipe to additional addresses
- *Membrane Keypad* has 26 color-coded keys for easy identification of key functions
- *Eight Function Keys* provide operators a convenient way to trigger screen displays and control screen navigation. Operators can also use the function keys to set or clear data table bits
- *Point-Access/Display Feature* lets operators monitor or modify data files in SLC or PLC processors, regardless of the programmed screen
- *File Access Options* for SLC controllers include I/O, status, binary, timer, counter, floating point, and integer files. Additional options for the PLC-5 include ASCII, BCD, message and ASCII string files
- *SLC and PLC Controlled Screen Changes* provide additional flexibility in screen navigation by using an Advisor feature

## Ordering Information

| Description | Catalog Number |
|---|---|
| DTAM Micro with DH-485 communication port | 2707-M485P3 |
| DTAM Micro with RS-232 communication port | 2707-M232P3 |
| DTAM Micro with DeviceNet communication port | 2707-M232P3D |
| DTAM Programming Software (DTAM Plus, DTAM Micro, MicroView) | 2707-NP |
| DTAM Programming Software (DTAM Plus, DTAM Micro, MicroView, Siemens AS511 Protocol, Modbus Protocol) | 2707-NP3 |

### Accessories and Replacement Parts

| Description | Catalog Number |
|---|---|
| RS-232 to Current Loop Interface Cable - Connects DTAM Micro to Siemens AS511 port | 2707-NC12 |
| DeviceNet Interface Cable - Connects DTAM Micro to DeviceNet network with bare wires (for taps and open-style connectors) | 2707-NC20 |
| DeviceNet Interface Cable - Connects DTAM Micro to DeviceNet network with female sealed micro connector | 2707-NC21 |
| DeviceNet Interface Cable - Connects DTAM Micro to DeviceNet network with male sealed micro connector | 2707-NC19 |
| DH-485 Network Interface Cable - Connects DTAM Micro to SLC network | 2707-NC1 |
| RS-232 Upload/Download Cable - Connects RS-232 DTAM Micro to RS-232 port of personal computer | 2707-NC2 |
| DF1/RS-232 Interface Cable - Connects RS-232 DTAM Micro to channel 0 port of PLC-5 processor | 2707-NC3 |
| DF1/RS-422 Interface Cable - Connects DH-485 DTAM Micro to channel 0 port (configured for RS-422) of PLC-5 processor | 2707-NC4 |
| DH-485 Upload/Download Cable - Connects DH-485 DTAM Micro to RS-232 port of personal computer | 2707-NC5 |
| RS-232 Programmer Cable - Connects RS-232 DTAM Micro to channel 0 port of a SLC 5/03 or 5/04 processor | 1747-CP3 |
| 120V ac Power Supply - Provides 18 to 30V dc output | 1747-NP1 |
| 85/285V ac Power Supply - Provides 18 to 30V dc output | 1747-NP2 |

For specifications, see page 7-20.

# DTAM Micro Operator Interface

**(Cat. Nos. 2707-M485P3, -M232P3, -M232P3D, -NP, -NP3)**

## Specifications

Class I Div 2 Hazardous

| | |
|---|---|
| **Display** | |
| Type | LCD (Liquid Crystal Display) with LED backlighting |
| Column and character | 2 lines x 20 characters |
| Character size | 4.75 x 2.95 mm (0.19 x 0.12 in) |
| Character format | 5 x 8 mm dot matrix |
| Contrast | Fixed |
| Display viewing area | 25 x 76 mm (1.0 x 3.0 in) |
| Viewing angle | Horizontal ± 30°, Vertical -20° to +30° |
| **Keypad** | |
| Type | Tactile-embossed, domed keys, sealed membrane |
| Operation force: | 453 grams (16 oz) |
| Operational life | 1 million operations |
| **Electrical** | |
| Communication port | • RS-232<br>• DH-485<br>• DeviceNet |
| Input voltage range | • 2707-M232P3, -M485P3: 18-30V dc<br>• 2707-M232P3D: 11-25V dc |
| Input current | • 2707-M232P3, -M485P3: 200 mA maximum<br>• 2707-M232P3D: 215 mA maximum |
| **Mechanical** | |
| Front panel size | |
| Height | 137.2 mm (5.4 in) |
| Width | 175.3 mm (6.9 in) |
| Back Dimensions | |
| Height | 99.1 mm (3.9 in) |
| Width | 137.2 mm (5.4 in) |
| Depth | 45.7 mm (1.8 in) |
| Weight | 0.45 kg (1.0 lb) maximum |
| LED indicator | RUN (green) |
| **Environmental** | |
| Operating temperature | 0 to 55° C (32 to 131° F) |
| Storage temperature | -20 to 70° C (-4 to 158° F) |
| Relative humidity | 5 to 95%, (without condensation) |
| Shock | 30 g (operating) |
| Vibration | 50 g (non-operating) |
| Certifications | NEMA Type 4, 12, 13 (indoor)<br>Class I Division 2 |

*For more information, see DTAM Micro Operator Interface Product Data, publication 2707-2.3.*

# MicroView Operator Interface

**(Cat. Nos. 2707-MVH232, -MVH232D, -MVP232, -MVP232D, -NP2, -NP)**

MicroView™ Operator Interface is designed to communicate to the Allen-Bradley MicroLogix™ family of processors using the RS-232 DF1 protocol and to a DeviceNet scanner using the DeviceNet protocol. Smaller in size than the DTAM Micro™ operator interface, the MicroView operator interface is designed for the OEM that wants a low-cost operator interface for plant-floor control and data monitoring.

The programming software simplifies the creation of linked screens including data display, data entry, and recipe screens. Recipe screens let operators download blocks of data. MicroView programming software is available specifically for the MicroView operator interface or as a subset of the DTAM family programming software.

## Features

- *MicroView* operator interface supports RS-232 DF1 (point-to-point) communication with the Allen-Bradley family of MicroLogix controllers and supports DeviceNet communication with a DeviceNet scanner
- *Compact size* lets you use the MicroView operator interface in areas of limited space
- *Panel Mount Adapter with connector* allows the hand-held version of the MicroView operator interface to be easily removed for programming or replacement. All wiring is to the adapter, simply plug the MicroView operator interface into the adapter
- *Point-Access/Display Feature* lets operators modify data files in MicroLogix controllers, independently of programmed screens
- *Standard File Access Options* for MicroLogix controllers include I/O, status, binary, timer, counter, control and integer files
- *Memory Capability* allows storage for up to 50 application screens and configuration data
- *2 Function Keys* provide a quick and convenient way to automatically trigger screen displays and control screen navigation. Also, the function keys can be used to set or clear data table bits

## Specifications

Class I Div 2 Hazardous

| | |
|---|---|
| **Display** | |
| Type | LCD (Liquid Crystal Display) with yellow/green LED backlighting |
| Column and character | Two-line by 16 characters |
| Character size | 5.6 x 3 mm (0.22 x 0.12 in) |
| Character format | 5 x 7 mm dot matrix |
| Contrast | Fixed |
| Display viewing area | 15 x 60 mm (0.6 x 2.4 in) |
| Viewing angle | Horizontal ± 30°, Vertical -20° to +30° |
| **Keypad** | |
| Type | Tactile-embossed, domed keys, sealed membrane |
| Operation force: | 453 grams (16 oz) |
| Operational life | 1 million operations |
| **Electrical** | |
| Communication port | • RS-232<br>• DeviceNet |
| Input voltage range | 11 to 25V dc |
| Input current | 1.5 W maximum (RS-232),<br>1.8 W maximum (DeviceNet) |
| **Mechanical** | |
| MicroView hand-held operator interface | |
| Height | 129.5 mm (5.1 in) |
| Width | 90.2 mm (3.6 in) |
| Depth | 25.4 mm (1.0 in) |
| MicroView panel-mount operator interface | |
| Height | 149.9 mm (5.9 in) |
| Width | 119.4 mm (4.7 in) |
| Depth | 25.4 mm (1.0 in) |
| Panel-mount adapter | |
| Height | 193.6 mm (7.6 in) |
| Width | 119.4 mm (4.7 in) |
| Depth | 38.1 mm (1.5 in) |
| **Environmental** | |
| Operating temperature | 0 to 55° C (32 to 131° F) |
| Storage temperature | -20 to 70° C (-4 to 158° F) |
| Relative humidity | 5 to 95%, (without condensation) |
| Shock | 30 g (operating)<br>50 g (non-operating) |

# MicroView Operator Interface

**(Cat. Nos. 2707-MVH232, -MVH232D, -MVP232, -MVP232D, -NP2, -NP)**

## Ordering Information

### MicroView Operator Interface and Software

| Description | Catalog Number |
|---|---|
| MicroView Operator Interface, Hand-held | 2707-MVH232 |
| MicroView Operator Interface, Panel Mount | 2707-MVP232 |
| MicroView Operator Interface, Hand-held, DeviceNet | 2707-MVH232D |
| MicroView Operator Interface, Panel-Mount, DeviceNet | 2707-MVP232D |
| MicroView Programming Software | 2707-NP2 |
| DTAM Programming Software (MicroView, DTAM Plus, DTAM Micro) | 2707-NP |

### Accessories and Replacement Parts

| Description | Catalog Number |
|---|---|
| Panel Mount Adapter | 2707-MVMNT |
| RS-232 Upload/Download Cable – connects MicroView to RS-232 Port of a personal computer | 2707-NC8 |
| Communication Cable (15 meter) – connects MicroView to MicroLogix Controller | 2707-NC9 |
| Communication Cable (2 meter) - connects DTAM Micro to MicroLogix Controller | 2707-NC10 |
| Communication Cable (2 Meter) – connects MicroView to MicroLogix controller | 2707-NC11 |
| Communication Cable with bare wires (1 meter) - connects MicroView to DeviceNet network | 2707-NC13 |
| Communication Cable with female microconnector (1 meter) - connects MicroView to DeviceNet network | 2707-NC14 |
| Communication Cable with male microconnector (1 meter) - connects MicroView to DeviceNet network | 2707-NC15 |
| 120V ac Power Supply – provides dc output for application transfers [1] | 2707-PS120 |
| 220V ac Power Supply – provides dc output for application transfers [1] | 2707-PS220 |

[1] Power supply is not required for standard operation. MicroLogix controller provides 24V dc to the MicroView operator interface via communication cable.

# DeviceView Configurator

**(Cat. Nos. 2707-DNC, -DP1)**

The DeviceView Configurator configures and troubleshoots DeviceNet products ranging from photoeyes to drives. The DeviceView Configurator can be powered from 120V ac, 220V ac, or from the network.

The DeviceView Configurator has multiple modes that can leverage the use of EDS files, can streamline initial node commissioning, and can even configure devices that have no EDS file or other documentation.

## Features

- **Node Commissioning Mode** lets the user assign a communication rate and node address to a device to get it running in a few seconds.
- **Enhanced Mode** leverages the use of a vendor-supplied EDS file. Each parameter is labeled, so that even the novice user can edit device attributes.
- **Basic Mode** enables the user to access the network and device attributes without a vendor-supplied EDS file.
- **Autobaud** automatically sets the DeviceView Configurator communication rate to match the rate of the DeviceNet network when the configurator is connected to it.
- **Flexible Power Supplies** lets the DeviceView Configurator function with input power of 120 or 220V ac, or 24V dc supplied by the DeviceNet network.
- **Menu-Driven Functions** help the user operate the DeviceView Configurator efficiently and quickly.
- **Display** presents information that guides the user through the menu system. Symbols in the display indicate whether the DeviceView Configurator is Online or Offline or if there is a problem with the connection.
- **Downloader Software** lets the user download EDS files into the configurator's flash memory.
- **Flash Memory** holds up to 31 EDS files, depending on file sizes. When flash memory is full, the user can delete selected files to make room for new ones.

## Specifications

**Class I Div 2 Hazardous**

| | |
|---|---|
| Display type | LCD with Yellow-Green LED Backlighting |
| Column and character | 2 lines x 16 characters |
| Character size | 5.56 x 2.96 mm<br>(0.22 x 0.12 in) |
| Viewing area | 15mm x 60 mm (0.58 x 2.35 in) |
| Viewing angle | Horizontal 30°<br>Vertical –20 to + 30° |
| Keypad | Tactile embossed, domed keys, sealed membrane<br>Operation Force:<br>• 453 gm (16 oz)<br>• Operational Life: 1 million operations1 |
| Communication | • RS-232 communication port<br>• RS-232 communication distance: 15m (50 ft) maximum<br>• DeviceNet (selectable 125k, 250k, 500k bit/s) |
| Electrical | Input voltage range: 11-25V dc<br>Input power, typical: 1.8 W<br>Input current:<br>• 164mA @ 11V<br>• 72mA @ 25V |
| Environmental | Operating temperature: 0° to 55° C<br>(32° to 131° F)<br>Storage temperature: –20° to 70° C<br>(-4° to 158° F)<br>Humidity: 5 to 95% (without condensation)<br>Shock:<br>• Operating 30g<br>• Non-operating 50g |
| Dimensions | Height 129.5 mm (5.1 in)<br>Width: 90.2 mm (3.55 in)<br>Depth: 24.8 mm (0.975 in) |
| Weight | 0.2 kg (0.44 lb) |
| Communication connection | 8-pin female C DIN connector |

## Ordering Information

| Description | Catalog Number |
|---|---|
| DeviceView Configurator | 2707-DNC |
| DeviceView Downloader Software | 2707-DP1 |
| 1 meter Network cable with bare leads | 2707-NC13 |
| 1 meter Network cable with Micro-connector (female) | 2707-NC14 |
| 1 meter Network cable with Micro-connector (male) | 2707-NC15 |
| Upload/download cable | 2707-NC8 |
| 120V ac power supply, ac to dc adapter | 2707-PS120 |
| 220V ac power supply, ac to dc adapter | 2707-PS220 |

# RediPANEL Operator Modules

**(Cat. No. 2705 Series)**

RediPANEL Operator Modules eliminate the time and expense of installing and wiring individual push buttons. They combine an assortment of push buttons, keypads, displays, wiring combinations, I/O modules, power supplies, and/or network interfaces, all into one single, pre-packaged ready-to-use unit.

They are a quick, economical way to simplify panel fabrication from design through testing.

## Features

Many RediPANEL products are available for different applications. They can be grouped into the following general categories:

**Push-Button I/O Panels** — Use a Universal Remote I/O link to connect Membrane, 800A, 800EM, or 800EP push buttons to PLC or SLC systems.

**Keypad Panels** — Use a Universal Remote I/O link to connect alphanumeric display, data entry keypad, function key inputs, and LED indicators to PLC or SLC systems.

**Plug & Go Panels** — Use parallel cables to connect 800A push buttons to PLC or SLC I/O modules.

## Specifications

The following information is listed for each product:

- NEMA (and IEC) listing
- Temperature range
- Humidity range
- Voltage and frequency range
- Communication type

All products are UL listed for Hazardous locations Class I, Division 2, Groups A, B, C, and D.

## Types

RediPANEL products are available as described below:

- Standard units
- Standard units with options
- Custom units

Standard units and standard units with options are covered in this catalog.

Custom units allow the specific type of push-button device in the panel to be specified. Depending on the type of RediPANEL base unit, illuminated or non-illuminated push buttons, selector switches and pilot lights can be specified. Custom panel ordering and pricing is explained in publication 2705-3.3.

The Bulletin 2705 Push-Button RediPANEL modules are equipped with either Membrane, 800A, 800EM, or 800EP push button devices used in conjunction with various combinations of interface circuitry, power supplies, and network circuitry. Almost every conceivable push button operator interface application can be met with the large variety of sizes, types of operators, and environmental ratings available.

## Membrane

The Membrane RediPANEL modules can be used for many applications. The panel features 16 membrane switches in a single unit, protecting against airborne materials. Membrane panels also have 16 red LED indicators. The panels are approved for NEMA Type 4X (IP66) indoor applications. Legend inserts for membrane switches are available in red, green, amber, blue, and white.

### Specifications

| Item | Description |
|---|---|
| Standard push buttons | Membrane |
| NEMA (IEC) rating | Type 4/4X indoor only (IP66) |
| Temperature range<br>Operating<br>Storage | <br>0 to 60° C (+32 to +140° F)<br>-40 to 85° C (-40 to +184° F) |
| Humidity | 5 to 95% (without condensation) |
| Power Supply | 120/240V ac, 50/60 Hz (range 85 to 264V ac)<br>Option: 24V dc (range 18 to 30V dc) |
| Communication | Universal Remote I/O (selectable 57.6k, 115.2k, 230.4k bit/s) |

### Membrane RediPANEL Standard Units

| Item | Description | Catalog No. |
|---|---|---|
|  | 16 Membrane Buttons with 16 Red LEDs | 2705-P21C1 |

### Selection Configurator

**2705 – P21 C1**
***a*** ***b***

***a***

| Type of Unit | |
|---|---|
| Code | Description |
| P21 | 16 Button Membrane |

***b***

| Power Supply | |
|---|---|
| Code | Description |
| C1 | 120/240V ac (Standard) |
| C2 | 24V dc |

# 800A

These compact push-button RediPANEL modules use 16 mm 800A Backlit push buttons in 8-, 16-, or 32-button units. They are ideal for light industrial or instrument grade applications.

## Specifications

| Item | Description |
|---|---|
| Standard push buttons | 800A Backlit Push Buttons<br>8-button unit — 800A-C2D□12<br>16-button unit — 800A-C2D □12<br>32-button unit — 800A-C2C □12 |
| NEMA (IEC) rating | Type 12/13 (IP65) |
| Temperature range<br>Operating<br>Storage | <br>0 to 45° C (32 to 113° F)<br>-40 to 85° C (-40 to 184° F) |
| Humidity | 5 to 95% (without condensation) |
| Power Supply | 120/240V ac, 50/60 Hz (range 85 to 264V ac)<br>Option: 24V dc (range 18 to 30V dc) |
| Communication | Universal Remote I/O (selectable 57.6k, 115.2k, 230.4k bit/s) |

## 800A RediPANEL Standard Units

| Item | Description | Catalog No. |
|---|---|---|
|  | 8 Buttons<br>Standard button configuration:<br>4 Green<br>4 Red | 2705-P31J1 |
|  | 16 Buttons<br>Standard button configuration:<br>6 Green<br>6 Red<br>4 Amber | 2705-P21J1 |

# 800A (continued)

## 800A RediPANEL Standard Units (continued)

| Item | Description | Catalog No. |
|---|---|---|
|  | 32 Buttons<br>Standard button configuration:<br>8 Green<br>8 Red<br>8 Amber<br>8 White | 2705-P11J1 |

## Selection Configurator

**2705 – P31J 1 ____**
***a b c***

***a***

| Type of Unit | |
|---|---|
| Code | Description |
| P31J | 8-Button Unit |
| P21J | 16-Button Unit |
| P11J | 32-Button Unit |
| P32J | 8-Button Class-I Division-2 Unit |
| P22J | 16-Button Class-I Division-2 Unit |
| P12J | 32-Button Class-I Division-2 Unit |

***b***

| Power Supply | |
|---|---|
| Code | Description |
| 1 | 120/240V ac (Standard) |
| 2 | 24V dc |

***c***

| Lamps | |
|---|---|
| Code | Description |
| Blank | Incandescent (Standard) |
| L | 8 Button LED (Type, 4 Green, 4 Red) |
| | 16Button LED (6 Green, 6 Red, 2-Green - 2 Red) |
| | 32 Button LED (16 Green, 8 Red, 8 Amber) |

# 800EM

These RediPANEL modules use rugged 22.5 mm 800EM push buttons and are ideal for many industrial applications.

## Specifications

| Item | Description |
|---|---|
| Standard push buttons | 800EM Illuminated Push Buttons, 800EM-LF-4DL3X10V |
| NEMA (IEC) rating | Type 12/13 (IP65) |
| Temperature range<br>Operating<br>Storage | <br>0 to 40 ° C (+32 to 104° F)<br>-40 to 85° C (-40 to 184° F) |
| Humidity | 5 to 95% (without condensation) |
| Power Supply | 120/240V ac, 50/60 Hz (range 85 to 264V ac)<br>Option: 24V dc (range 18 to 30V dc) |
| Communication | Universal Remote I/O (selectable 57.6k, 115.2k, 230.4k bit/s) |

## 800EM RediPANEL Standard Units

| Item | Description | Catalog No. |
|---|---|---|
|  | 16 Buttons<br>Standard<br>Button Configuration:<br>6 Green<br>6 Red<br>4 Amber | 2705-EM21J1 |
|  | 32 Buttons<br>Standard<br>Button Configuration:<br>16 Green<br>8 Red<br>8 Amber | 2705-EM11J1 |

# 800EM (continued)

## Selection Configurator

**2705 – EM2 1 J 1 ___**
***a b c d e***

***a***

| Type of Unit | |
|---|---|
| Code | Description |
| EM2 | 16-Button Unit |
| EM1 | 32-Button Unit |

***b***

| Push Buttons | |
|---|---|
| Code | Description |
| 1 | 800EM Illuminated Push Buttons (std.)[1] |

[1] Custom configuration is available. Contact your local sales office.

***c***

| Mounting | |
|---|---|
| Code | Description |
| J | Units mounted on front plate (standard) |
| JE | Units mounted in NEMA Type 12/13 enclosure —16 button |
| | Units mounted in NEMA Type 12/13 enclosure — 32 button |

***d***

| Power Supply | |
|---|---|
| Code | Description |
| 1 | 120/240V ac (Standard) |
| 2 | 24V dc |

***e***

| Lamps (800E Type) | |
|---|---|
| Code | Description |
| Blank | Incandescent (Standard) |
| L | 16 Button LED (6 Green, 6 Red, 2 Green - 2 Red) |
| | 32 Button LED (16 Green, 8 Red, 8 Amber) |

# 800EP

These RediPANEL operator modules use quality 800EP push buttons in 16- or 32-button units. RediPanels are ideal for industrial applications with harsh environments, such as caustic washdown and salt spray.

## Specifications

| Item | Description |
|---|---|
| Standard push buttons | 800EP Backlit Push Buttons |
| NEMA (IEC) rating | Type 4/4X (IP66) |
| Temperature range<br>Operating<br>Storage | <br>0 to 40° C (32 to 104° F)<br>-40 to 85° C (-40 to 184° F) |
| Humidity | 5 to 95% (without condensation) |
| Power Supply | 120/240V ac, 50/60 Hz (range 85 to 264V ac)<br>Option: 24V dc (range 18 to 30V dc) |
| Communication | Universal Remote I/O (selectable 57.6k, 115.2k, 230.4k bit/s) |

## 800EP RediPANEL Standard Units

| Item | Description | Catalog No. |
|---|---|---|
|  | 16 Buttons<br>Standard<br>Button Configuration:<br>6 Green<br>6 Red<br>4 Amber<br>Fiberglass enclosure | 2705-EP21SE1 |
|  | 32 Buttons<br>Standard<br>Button Configuration:<br>16 Green<br>8 Red<br>8 Amber<br>Stainless steel faceplate | 2705-EP11S1 |

# 800EP (continued)

## Selection Configurator

**2705 – EP2 1 S 1 ___**

***a*** ***b*** ***c*** ***d*** ***e***

***a***

| Type of Unit | |
|---|---|
| Code | Description |
| EP2 | 16-Button Unit |
| EP1 | 32-Button Unit |

***b***

| Push Buttons | |
|---|---|
| Code | Description |
| 1 | 800EP Backlit Push Buttons (std.)[1] |

[1] Custom configuration is available. Contact your local sales office.

***c***

| Mounting | |
|---|---|
| Code | Description |
| S | Units mounted on front plate (standard) stainless steel |
| SE | Units mounted in NEMA Type 4/4X reinforced polycarbonate enclosure — 16 button |
| | Units mounted in NEMA Type 4/4X reinforced polycarbonate enclosure — 32 button |

***d***

| Power Supply | |
|---|---|
| Code | Description |
| 1 | 120/240V ac (Standard) |
| 2 | 24V dc |

***e***

| Lamps (800E Type) | |
|---|---|
| Code | Description |
| Blank | Incandescent (Standard) |
| L | 16 Button LED (6 Green, 6 Red, 2 Green - 2 Red) |
| | 32 Button LED (16 Green, 8 Red, 8 Amber) |

# RediPANEL Operator Modules

## Keypad Products

Bulletin 2705 Keypad RediPANEL modules combine an assortment of push-button inputs, LED indicators, numeric keypads, and alphanumeric displays in conjunction with a power supply and network interface.

These combinations of operator inputs and display outputs combine discrete push buttons and operators with an economical and easily understood operator interface for applications that require some numeric value input and/or display outputs.

Keypad modules are rated as NEMA Type 4X. Other significant features include:

- Selectable data types: binary, integer, BCD, or ASCII
- Message storage and editing
- Self-test diagnostics
- Variable or fixed decimal point

An optional Off-line Keypad Programming Software Package, for message development, off-line storage, and transfer with an IBM compatible personal computer, is offered.

The Keypad panel, designed to interface with a PLC program for data monitoring or control change functions, consists of a one-line 16-character 14-segment alphanumeric vacuum fluorescent display with a membrane keypad. The keypad includes a numeric keypad, 6 Function keys with red LED indicators, one Enter key, and one Delete key.

### Specifications

| Item | Description |
|---|---|
| NEMA (IEC) rating | Type 4/4X (IP66) |
| Temperature range<br>Operating<br>Storage | <br>0 to 60° C (+32 to 140° F)<br>-40 to 85° C (-40 to 184° F) |
| Humidity | 5 to 95% (without condensation) |
| Power Supply | 120/240V ac, 50/60 Hz (range 85 to 264V ac)<br>Option: 24V dc (range 18 to 30V dc) |
| Communication | Universal Remote I/O (selectable 57.6k, 115.2k, 230.4k bit/s) |

### Keypad RediPANEL Standard Equipment

| Item | Description | Catalog No. |
|---|---|---|
|  | Keypad Panel | 2705-K11C1 |
|  | Keypad Programming Software [interface included (RS-232 to keyboard)] | 2705-ND1 |

### Selection Configurator

**2705 – K11 C1**

***a*** ***b***

***a***

| Type of Unit | |
|---|---|
| Code | Description |
| K11 | NEMA 4/4X (Indoor) Unit |
| K12 | Class I Division 2 Unit |

***b***

| Power Supply | |
|---|---|
| Code | Description |
| C1 | 120/240V ac (Standard) |
| C2 | 24V dc |

The Bulletin 2705 Plug & Go RediPANEL modules combine LED illuminated Bulletin 800A push buttons in a pre-assembled operator interface unit. When used with Bulletin 1492 Wiring System cables and high-density PLC or SLC I/O Modules, Plug & Go RediPANEL products are a simple and cost-effective solution for operator interface needs.

## Specifications

| Item | Description |
|---|---|
| Standard push buttons | 800A Backlit push buttons<br>16 button unit — 800A-C2D□4L<br>32 button unit — 800A-C2C□4L |
| NEMA (IEC) rating | Type 12/13 (IP 65) |
| Temperature range<br>Operating<br>Storage | <br>-20 to 45° C (-4 to +113° F)<br>-40 to 85°C (-40 to +184° F ) |
| Humidity | 5 to 95% (without condensation) |
| Power Supply | 24V dc ±10% |
| Communication | 1492 Wiring System cables to PLC or SLC I/O modules[1] |

[1] See Plug & Go Accessories (page 7-34) for cable catalog numbers.

## Plug & Go RediPANEL Standard Units

| Item | Description | Catalog No. |
|---|---|---|
|  | 16 Buttons<br>Standard<br>Button Configuration:<br>6 Green<br>6 Red<br>2 Red - 2 Green | 2705-APG16 |
|  | 32 Buttons<br>Standard<br>Button Configuration:<br>8 Green<br>8 Amber<br>8 Red<br>8 Green | 2705-APG32 |

## Selection Configurator

**2705 – APG16**

***a***

***a***

| Type of Unit | |
|---|---|
| Code | Description |
| APG16 | 16 Button Unit |
| APG32 | 32 Button Unit |

## Plug & Go Accessories

Bulletin 1492 Wiring System cables are used to connect the Plug & Go RediPANEL products to either the PLC or SLC I/O Modules.

The compatible cables are listed below.

| Catalog Number | PLC/SLC | Connects To | Catalog Number |
|---|---|---|---|
| 2705-APG16 (16 Button) | PLC | Input Module | 1492-CABLE①F |
| | | Output Module | 1492-CABLE①F |
| 2705-APG32 (32 Button) | PLC | Input Module | 1492-CABLE①J |
| | | Output Module | 1492-CABLE①L |
| 2705-APG16 (16 Button) | SLC | Input Module | 1492-CABLE①B |
| | | Output Module | 1492-CABLE①E |
| 2705-APG32 (32 Button) | SLC | Input Module | 1492-CABLE①H |
| | | Output Module | 1492-CABLE①H |

① Cables are available in 1.0m, 2.5m, and 5.0m lengths. To order cable, insert the following length code into the the catalog number: 10=1.0, 25=2.5, and 50=5.0m. For example, 1492-CABLE25H is a 2.5m cable for I/O module 1746-OB32 or 1746-IB32.

## Membrane Accessories

| Description | Type | Catalog No. |
|---|---|---|
| **Membrane Push Button Module Legend Kit —** Includes 5 sheets of inserts | one insert sheet each of green, red, blue, yellow, and white | 2705-N3 |
| | five blue insert sheets | 2705-N3B |
| | five red insert sheets | 2705-N3R |
| | five green insert sheets | 2705-N3G |
| | five yellow insert sheets | 2705-N3Y |
| | five white insert sheets | 2705-N3W |
| **Mounting Straps (for series E or earlier)** | two replacement mounting straps | 46703-398-51 |

## 800A Accessories

| Description | Type | Catalog No. |
|---|---|---|
| **Modification/Replacement Kit —** This kit is used to replace Bulletin 800A devices in the Bulletin 2705 RediPANEL push button panels to meet specific customer requirements. | Includes three alignment fixtures and a Bulletin 800A locking wrench. Each fixture will align the pins on 8, 16, or 32 Bulletin 800A devices with the PC board sockets. RediPANEL push button panels may be modified with any combination of illuminated push buttons or 2 position selector switch 800A devices. | 2705-N1 |
| **Lamp Tool —** Packaged with each panel | Lamp installation and removal tool | 800M-N5 |
| **Replacement Lamps —** Incandescent | 12V ANSI #73 incandescent lamps | 800M-N16 |
| **Replacement Lamps —** 12V dc LED [1] | Red, replacement lamps | 800T-N61R |
| | Green, replacement lamps | 800T-N61G |
| | Amber, replacement lamps | 800T-N61A |
| **Incandescent to LED Conversion Kits —** Changes the printed circuit board with sockets to allow conversion from Incandescent to LED lamps. | 8-button panel conversion kit | 2705-NLU3 |
| | 16-button panel conversion kit | 2705-NLU2 |
| | 32-button panel conversion kit | 2705-NLU1 |
| **Mounting Straps (for series D or earlier)** | two replacement mounting straps | 46703-398-51 |

[1] LED replacement bulbs should only be used with LED panels.

## 800EM/EP Accessories

| Description | Type | Catalog No. |
|---|---|---|
| **Lamp Tool —** Packaged with each panel | Lamp installation and removal tool | 800E-ALR1 |
| **Replacement Lamps —** Incandescent | 24V ANSI #757 incandescent lamps | 800E-N157 |
| **Replacement Lamps —** 24V dc LED [1] | Red, replacement lamps | 800E-N157R |
| | Green, replacement lamps | 800E-N157G |
| | Amber, replacement lamps | 800E-N157A |

[1] Sold in multiples of 5.

# DeviceNet RediSTATION Operator Interface

**(Cat. Nos. 2705-T3DN1A42A, -T3DN1B42A)**

The DeviceNet RediSTATION operator interface is a push-button, pilot-light, and selector-switch unit that can communicate on the DeviceNet network.

## Features

**Class I Div 2 Hazardous**

DeviceNet features are:

- Quick error-proof connection with mini quick disconnect
- Indication of network operation, panel operation, and burned out or missing bulb
- Switch configuration of node address, communication rate, flashing-pilot-light frequency
- Input status on state of outputs normal or flash from network

DeviceNet RediSTATION operator interface features are:

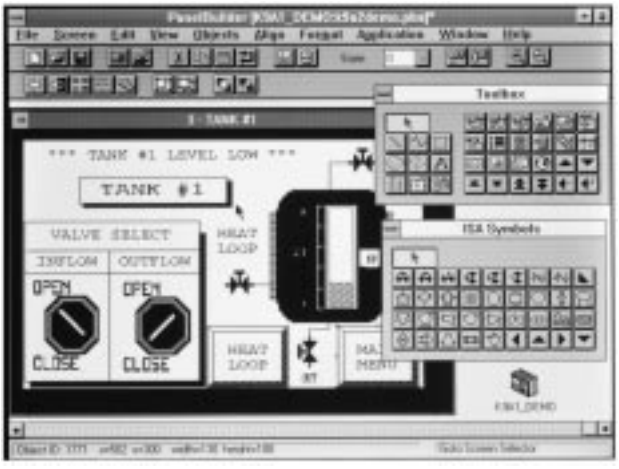
- Three 800T devices in a pre-assembled three-hole station or “build your own”
- Open-style that accommodates most standard push buttons, selector switches, or pilot lights that may be used in any position
- Flash option on pilot-light output

## Ordering Information

| Description | Catalog Number |
|---|---|
| Standard configuration (stop push button, start push button, pilot light) with mini DeviceNet connector | 2705-T3DN1A42A |
| Standard configuration (stop push button, start push button, pilot light) with open-style DeviceNet terminal connector | 2705-T3DN1B42A |
| Three-hole custom configuration with mini DeviceNet connector | 2705-T3DN1A42X |
| Three-hole custom configuration with open-style DeviceNet terminal connector | 2705-T3DN1B42X |
| DeviceNet interface communication board [with I/O connector cables and DeviceNet PCB terminal block connector, (4) 24V dc input, (2) 24V dc output] with open-style DeviceNet terminal connector | 2705-DN42 |

# PanelView 900 and PanelView 550 Operator Terminals and Software

**(Cat. No. 2711 Series)**



The PanelView 900™ Operator Terminals provide operator interface capabilities in space-saving, flat-panel designs. Offering optimum viewing angles, these electronic operator interfaces feature pixel graphics and high-performance functionality in both color and monochrome displays.

Performance functionality including enhanced alarms, floating-point support and on-line printing maximizes performance strengths within the small form factor.

PanelBuilder 900 Configuration Software (cat. no. 2711-ND3) supports the full range of PanelView flat-panel products, allowing easy conversion and reuse of previously created applications. To simplify application design and reduce development costs, the PanelBuilder 900 software uses the graphical interface of the Microsoft® Windows™ operating system.

Screen configuration is easy using such tools as symbols, objects, graphics, and imported bitmap images. Cut, copy, paste and tag import/export capabilities in and between various PanelView 900 applications offer additional time saving advantages.

Available in three versions, PanelView 900 terminals are ideal for both PLC and SLC controller applications.

- *Remote I/O Terminal* – connects to a PLC or SLC [1] controller on the Universal Remote I/O link, supporting both discrete and block transfer of data. Remote I/O terminal supports remote I/O pass-through.
- *DH-485 Terminal* – connects to a single SLC 500™ processor or multiple SLC 500 processors on the Allen-Bradley DH-485 network. Direct access to all SLC 500 data files minimizes ladder logic. The DH-485 terminal supports DH-485 point-to-point or network transfers, and it supports the MicroLogix 1000 controllers.
- *RS-232 Terminal* – connects directly to the Channel 0 Port of an SLC 5/03 or 5/04 controller using DH-485 protocol. The RS-232 terminal provides a dedicated DH-485 connection for high-priority data. The RS-232 terminal supports Pass-through from the DH+ network to the PanelView 900 through Port 0 of an SLC 5/04 controller, and it supports the MicroLogix 1000 controller.

[1] Requires 1747-SN scanner, series A or B.

## Features

- *Keypad or Touch Screen* terminals offer convenient and flexible choices for operator input. Operators enter input using 16 configurable function keys and a numeric keypad or by simply selecting graphic symbols on a touch screen.
- *Pixel Graphic Display* enhances operator screens. Available in both color and monochrome displays, the 900 terminals are designed with display technologies offering minimal depth with maximum view angles.

  The 8.4 inch color VGA display features active matrix thin film transistor (TFT) technology and the monochrome version offers a 9.8 inch AC gas plasma display with 640 x 400 resolution.
- *Full Complement of Operator Devices* to create screens including push buttons, selectors, numeric entry devices, diagnostic indicators, message displays, embedded numeric and ASCII variable displays, custom graphics and more.
- *Extensive Alarm Capabilities* include an Alarm History to record and display important data on triggered alarms, with additional options for printing or clearing the History.

  Alarm Banner notifies the operator when an alarm occurs by displaying a message and buttons for responding to the alarm. Depending on how the application is designed, the operator can acknowledge all alarms, a single alarm, print an alarm, or clear an alarm.
- *Optional RS-232 Printer Port* lets the operator print alarms, the alarm history, triggered messages, and triggered states of a multistate indicator.
- *Replaceable Backlight* makes field replacements easy and extends the life of the PanelView 900 color terminals. The monochrome PanelView 900 terminal has an emissive display and does not require a backlight source.

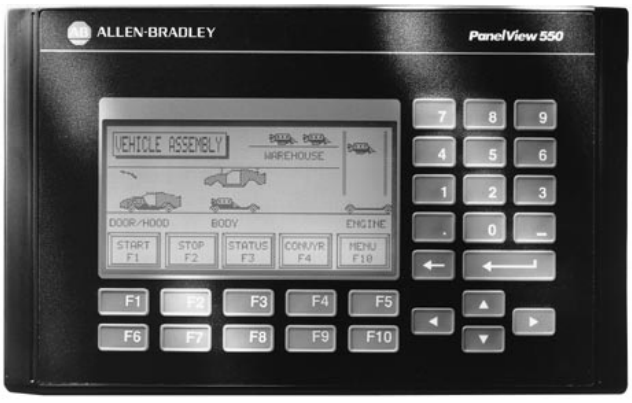
For specifications, see page 7-38.

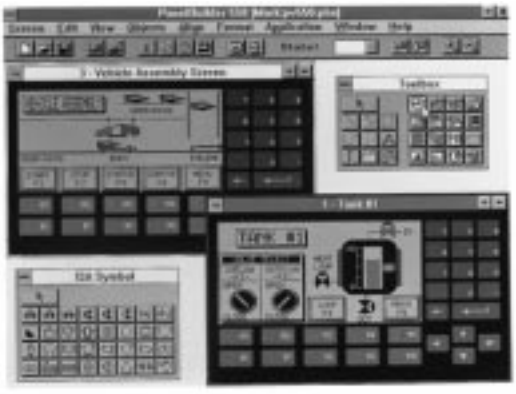
For ordering information, see page 7-39.

For PanelView 550 information, see page 7-37.

# PanelView 900 and PanelView 550 Operator Terminals and Software

**(Cat. Nos. 2711 Series)**



The PanelView 550™ Operator Terminal provides a high-performance operator interface in a small, flat-panel design. Using the latest operator interface technology, the PanelView 550 terminal is optimized for value and ease-of-use.

Performance functionality including enhanced alarms, floating-point support, and online printing maximizes performance strengths within the small form factor.

PanelBuilder™ 550 Configuration Software (cat. no. 2711-ND2) takes advantage of the Microsoft Windows graphical interface, simplifying application design and reducing development costs.

Screen configuration is easy using preconfigured symbols, dynamic objects, graphics and imported bitmaps. Other convenient features include the ability to copy screens and objects between DH-485 and Universal Remote I/O applications and the compatibility of PanelBuilder 550 software with other Microsoft Windows applications.

An upgrade utility is available to upgrade PanelBuilder 550 to PanelBuilder 900 software allowing you to create applications for both the PanelView 550 and 900 terminals with complete compatibility between both (cat. no. 2711-ND2ND3).

Like the PanelView 900 terminal, the PanelView 550 terminal is available in three versions, supporting communication with PLC or SLC applications.

- *Remote I/O Terminal* connects to a PLC or SLC [1] controller on the Universal Remote I/O link, supporting both discrete and block transfer of data. The remote I/O terminal supports remote I/O pass-through.
- *DH-485 Terminal* connects to a single SLC 500 processor or multiple SLC 500 processors on the Allen-Bradley DH-485 network. Direct access to all SLC 500 data files minimizes ladder logic. The DH-485 terminal supports DH-485 point-to-point or network transfers, and it supports the MicroLogix 1000™ controller.
- *RS-232 Terminal* connects directly to the Channel 0 port of an SLC 5/03 or 5/04 controller using DH-485 protocol. The RS-232 terminal provides a dedicated DH-485 connection for high-priority data. The RS-232 terminal supports pass-through from the DH+ network to the PanelView 550 through Port 0 of an SLC 5/04 controller, and it supports the MicroLogix 1000™ controller.

[1] Requires 1747-SN scanner, series A or B.

## Features

- *Keypad or Combination Touch Screen and Keypad* terminals offer convenient and flexible choices for operator input. Operators enter input using 10 configurable function keys and a numeric keypad or by simply touching graphic symbols on a touch screen.
- *Pixel Graphic Display* enhances operator screens. The flat-panel, LCD display has 256 x 128 pixel resolution.
- *Full Complement of Operator Devices* to create screens including push buttons, selectors, numeric entry devices, diagnostic indicators, message displays, embedded numeric and ASCII variable displays, custom graphics and more.
- *Extensive Alarm Capabilities* include an Alarm History to record and display important data on triggered alarms, with additional options for printing or clearing the History.

  Alarm Banner notifies the operator when an alarm occurs by displaying a message and buttons for responding to the alarm. Depending on how the application is designed, the operator can acknowledge all alarms, a single alarm, print an alarm, or clear an alarm.
- *Optional RS-232 Printer Port* provides the operator with the ability to print alarms, the alarm history, triggered messages and triggered states of a multistate indicator.
- *Field Replaceable Backlight* extends lifetime of terminal and maximizes system up time.
- *Transfer Applications* between your computer and a PanelView 550 terminal using a serial connection, DH-485 network connection, pass-through from a computer on the Allen-Bradley DH+ network, or a PC memory card. The memory card facilitates transfers on the plant floor without a computer.

For specifications, see page 7-38.

For ordering information, see page 7-39.

# PanelView 900 and PanelView 550 Operator Terminals and Software

**(Cat. No. 2711 Series)**

## Specifications

Class I Div 2 Hazardous

| | PanelView 900 Color Display | PanelView 900 Monochrome Display | PanelView 550 Monochrome Display |
|---|---|---|---|
| **Display** | | | |
| Type | Active Matrix Thin Film Transistor (TFT) | AC Gas Plasma | Liquid Crystal Display (LCD) |
| Size | VGA 640 x 480 pixels<br>171 mm (w) x 130 mm (h)<br>6.73 in. (w) x 5.12 in. (h) | 640 x 400 pixels<br>210 mm (w) x 131 mm (h)<br>8.27 in. (w) x 5.17 in. (h) | 256 x 128 pixels<br>122 mm (w) x 66 mm (h)<br>4.8 in. (w) x 2.6 in. (h) |
| Replaceable Backlight | Field-replaceable backlight | Not required – emissive display | Field-replaceable backlight |
| Touch Cells (touch screens) | 384 | 384 | 128 |
| Application Memory | 240K-byte Flash (application screens)<br>768K-byte Flash (text and bitmaps) | 240K-byte Flash (application screens) | 114K-byte Flash (application screens) |
| **Keypad Front Panel Design** | | | |
| Keypad | Stainless steel domed membrane | Stainless steel domed membrane | Stainless steel domed membrane |
| Function Keys | 16 (F1 – F16) | 16 (F1 – F16) | 10 (F1 – F10) |
| Operational Life | 1 million cycles minimum | 1 million cycles minimum | 1 million cycles minimum |
| **Electrical** | | | |
| Communication Port | Remote I/O, DH-485, RS-232 (DH-485) | Remote I/O, DH-485, or RS-232 (DH-485) | Remote I/O, DH-485, or RS-232 (DH-485) |
| RS-232 Printer Port | 1200, 2400, 9600, 19200 baud rate | 1200, 2400, 9600, 19200 baud rate | 1200, 2400, 9600, 19200 baud rate |
| AC Power Requirements | 85 to 264V ac absolute, 47 to 63 Hz | 85 to 264V ac absolute, 47 to 63 Hz | 85 to 264V ac absolute, 47 to 63 Hz |
| AC Power Consumption | 110 VA maximum | 110 VA maximum | 45 VA maximum |
| DC Power Requirements | N/A | N/A | 18 to 30V dc (24V dc nominal) |
| DC Power Consumption | N/A | N/A | 12 Watts max. (0.5A @ 24V dc) |
| **Environmental** | | | |
| Operating Temperature | 0 to 55° C (32 to 131° F) | 0 to 50° C (32 to 122° F) | 0 to 55° C (32 to 131° F) |
| Storage Temperature | –25 to 70° C (–13 to 158° F) | –25 to 70° C (–13 to 158° F) | –20 to 70° C (–4 to 158° F) |
| Humidity Rating | 5 to 95% (without condensation) @<br>0 to 55° C (32 to 131° F) | 5 to 85% (without condensation) @<br>0 to 30° C (32 to 86° F) | 5 to 95% (without condensation) @<br>0 to 30° C (32 to 86° F) |
| Ratings | NEMA TYPE 12, 13, 4X (indoor only),<br>IP54, IP65 | NEMA TYPE 12, 13, 4X (indoor only),<br>IP54, IP65 | NEMA TYPE 12, 13, 4X (indoor only),<br>IP54, IP65 |
| Certifications | CSA Certified<br>CSA Class I, Div 2, Groups A, B, C, D<br>UL Listed<br>CE marked for all applicable directives | CSA Certified<br>CSA Class I, Div 2, Groups A, B, C, D<br>UL Listed<br>CE marked for all applicable directives | CSA Certified<br>CSA Class I, Div 2, Groups A, B, C, D<br>UL Listed<br>CE marked for all applicable directives |
| **Weight** | | | |
| Keypad | 3.18 kg (7.0 lbs.) | 3.14 kg (6.9 lbs.) | 1.2 kg (2.7 lbs.) |
| Touch Screen | 2.95 kg (6.5 lbs.) | 2.91 kg (6.4 lbs.) | 1.2 kg (2.7 lbs.) |
| **Dimensions** | | | |
| Keypad | 249 mm (h) x 406 mm (w) x 112 mm (d)<br>9.80 in. x 15.97 in. x 4.40 in. | 249 mm (h) x 406 mm (w) x 112 mm (d)<br>9.80 in. x 15.97 in. x 4.40 in. | 167 mm (h) x 266 mm (w) x 106 mm (d)<br>6.57 in. x 10.47 in. x 4.17 in. |
| Touch Screen | 249 mm (h) x 336 mm (w) x 112 mm (d)<br>9.80 in. x 13.24 in. x 4.40 in. | 249 mm (h) x 336 mm (w) x 112 mm (d)<br>9.80 in. x 13.24 in. x 4.40 in. | 167 mm (h) x 266 mm (w) x 106 mm (d)<br>6.57 in. x 10.47 in. x 4.17 in. |

## Functionality

**Push Buttons and Selector Switches**
- Momentary NO, NC
- Maintained
- Latched
- Multistate
- Control List Selector

**Screen Selectors**
- Go to Screen Button
- Previous Screen Button
- Screen Selector
- Go To Config Screen Button

**Data Entry**
- Numeric Keypad
- Numeric Entry Cursor Point
- Keypad Enable

**Information Displays**
- Bar Graph
- Message Display
- Multistate Indicator
- Numeric Data Display
- List Indicator
- Time and Date Displays
- ASCII Display
- Print Only Messages

**Alarm Diagnostics**
- Alarm Banner
- Alarm History
- Clear History Button
- Print History Button
- Acknowledge Alarm Button
- Clear Alarm Button
- Print Alarm Button
- Acknowledge All Alarms Button

**Graphics**
- Line/Connected Line
- Rectangle
- Circle/Ellipse
- Freeform Drawings
- ISA Symbols
- Custom Graphics
- Text

## Ordering Information

| PanelView 900 Color Terminals | Catalog Number Keypad Terminal | Catalog Number Touch Terminal |
|---|---|---|
| PanelView 900 Color, DH-485 Communication and RS-232 Printer Port ① | 2711-K9C3 | 2711-T9C3 |
| PanelView 900 Color, RS-232 (DH-485) Communication and RS-232 Printer Port | 2711-K9C9 | 2711-T9C9 |
| PanelView 900 Color, Universal Remote I/O Communication and RS-232 Printer Port | 2711-K9C1 | 2711-T9C1 |

| PanelView 900 Monochrome Terminals | Catalog Number Keypad Terminal | Catalog Number Touch Terminal |
|---|---|---|
| PanelView 900 Monochrome, DH-485 Communication Ports ① | 2711-K9A2 | 2711-T9A2 |
| PanelView 900 Monochrome, DH-485 Communication and RS-232 Printer Port ① | 2711-K9A3 | 2711-T9A3 |
| PanelView 900 Monochrome, RS-232 (DH-485) Communication Port | 2711-K9A5 | 2711-T9A5 |
| PanelView 900 Monochrome, RS-232 (DH-485) Communication and RS-232 Printer Port | 2711-K9A9 | 2711-T9A9 |
| PanelView 900 Monochrome, Universal Remote I/O Communication and RS-232 Printer Port | 2711-K9A1 | 2711-T9A1 |

| PanelView 550 Terminals | Catalog Number ② Keypad Terminal | Catalog Number ② Touch Terminal |
|---|---|---|
| PanelView 550, DH-485 Communication Ports ① | 2711-K5A2 | 2711-B5A2 |
| PanelView 550, DH-485 Communication & RS-232 Printer Port ① | 2711-K5A3 | 2711-B5A3 |
| PanelView 550, RS-232 (DH-485) Communication Port | 2711-K5A5 | 2711-B5A5 |
| PanelView 550, RS-232 (DH-485) Communication & RS-232 Printer Port | 2711-K5A9 | 2711-B5A9 |
| PanelView 550, Universal Remote I/O Communication & RS-232 Printer Port | 2711-K5A1 | 2711-B5A1 |

① Requires Interface Converter (cat. no. 1747-PIC) and cable (cat. no. 1747-C10 or -C20) for application transfers using the Configuration Software or the File Transfer Utility. Also see Power Supply (cat. no. 1747-NP1) below.
② Add L1 to the catalog number to order the PanelView 550 terminal with dc power instead of ac power.

| Software | Catalog Number |
|---|---|
| PanelBuilder 550 Configuration Software for PanelView 550 Terminals | 2711-ND2 |
| PanelBuilder 900 Configuration Software for PanelView 550 and 900 Terminals | 2711-ND3 |
| PanelBuilder 550 to 900 Software Upgrade Utility | 2711-ND2ND3 |

| Accessories and Replacement Parts | Catalog Number |
|---|---|
| 256K-byte PC Flash Memory Card | 2711-NM11 |
| 1M-byte PC Flash Memory Card | 2711-NM12 |
| Replacement Function Key Legend Strips for the PanelView 550 Terminals | 2711-NF1 |
| Replacement Function Key Legend Strip for the PanelView 900 Monochrome Terminals | 2711-NF2A |
| Replacement Function Key Legend Strip for the PanelView 900 Color Terminals | 2711-NF2C |
| Replacement Mounting Clips for the PanelView 900 Terminals | 2711-NP2 |
| Replacement Backlight Lamp for the PanelView 550 Terminals | 2711-NL1 |
| Replacement Backlight for the PanelView 900 Color Terminals | 2711-NL2 |
| Antiglare Overlay for the PanelView 550 Terminals (Quantity 3) | 2711-NV4 |
| Wallmount power supply provides power to 1747-PIC Converter when SLC processor or network is not connected. 105 to 132V ac input. Separate operating and programming cable is required. | 1747-NP1 |
| Personal Computer Interface Converter converts RS-232 signals to/from DH-485 signals. | 1747-PIC |
| 1.83 m (6 ft) DH-485 Operating and Programming Cable (for 2711-xxA2, -xxA3, -xxC3) | 1747-C10 |
| 6.1 m (20 ft) DH-485 Operating and Programming Cable (for 2711-xxA2, -xxA3, -xxC3) | 1747-C20 |
| 5 m (16.4 ft) RS-232 Operating and Programming Cable (for 2711-xxA5, -xxA9, -xxC9)③ | 2711-NC13 |
| 10 m (32.7 ft) RS-232 Operating and Programming Cable (for 2711-xxA5, -xxA9, -xxC9)③ | 2711-NC14 |
| 3 m (10 ft) RS-232 Operating and Programming Cable (for 2711-xxA5, -xxA9, -xxC9)③ | 2706-NC13 |

③ Cable is also used for RS-232 printer port on 2711-xxA1, -xxA3, -xxA9, -xxC1, -xxC3, -xxC9 terminals.

*For more information, see PanelView Flat-Panel Terminals Product Overview, publication 2711-1.11.*

# PanelView 1200e and 1400e Operator Terminals and Software

**(Cat. Nos. 2711E-K12C6, -K12C6L2, -T12C4, -T12C6, -K14C6, -T14C6, -T14C7, -K14C7)**

PanelView 1200e™ and PanelView 1400e™ high-end CRT graphic terminals are an addition to the PanelView 1200 Line, offering VGA color pixel graphics. In addition, a single port offers Data Highway Plus or enhanced Universal Remote I/O communication to Allen-Bradley PLC and SLC controllers. ControlNet communication is also available. The terminals are available in touch screen or keypad, offering convenient and flexible choices for operator input. PanelView 1200e keypad terminals are available in a stainless steel version. PanelView 1200e terminals and 1400e keypad terminals have the same mounting dimensions as PanelView 1200 terminals.

PanelBuilder™ 1400e Configuration Software is designed for use with PanelView 1200e and 1400e terminals. PanelBuilder 1400e software takes advantage of the Microsoft® Windows™ graphical interface, simplifying application design and reducing development cost. Screen configuration is quick and easy using preconfigured symbols and dynamic objects. Other time-saving features include tag editor, cut/copy/paste, selection from tool bars, and the ability to work with multiple screens. Existing PanelView 1200 application files can be imported. Applications can be transferred between PanelBuilder 1400e software and PanelView 1200e and 1400e terminals by using the RS-232 port or a PCMCIA compatible memory card. Applications can also be transferred using Allen-Bradley Data Highway Plus to Remote I/O Pass-through, ControlNet to Remote I/O Pass-through or using direct DH+ or ControlNet network.

## Features

- *VGA Color Pixel Graphics* provide more flexibility in size and location of screen objects and enhances screen design by allowing import of bit maps (.bmp) and AutoCAD (.dxf) files
- *Data Highway Plus interface* lets one PanelView 1200e or 1400e communicate with multiple PLC controllers or multiple PanelView terminals to access the same data from a single PLC controller. The tag-based Data Highway Plus interface supports unsolicited messages and eight scan classes
- *Expanded Remote I/O interface* is also tag-based and has a listen-only option. Up to 64 racks and 64 block transfers, containing up to 64 words each, allow the transfer of more data than PanelView 1200 terminals
- *ControlNet interface* combines high-speed capabilities of remote I/O and multiple PanelView/PLC connectivity of DH+ communication in a high-performance open systems network architecture
- *Expanded messages* include 2,000 Alarm, 2,000 Local and 2,000 Information messages to provide more information to the operator
- *PCMCIA Memory Card* can be used to update and save application files without using a personal computer. With the PCMCIA, the base user memory of 256K bytes in the terminal can be expanded to 16M bytes
- *Full complement of operator devices* to select from including push buttons, selectors, indicators, numeric displays, message displays, numeric keypad, bar graphs, ASCII input and display, online trend object, and custom graphics
- *Overlapping objects* allow control devices such as push buttons and indicators to be placed directly on top of other objects such as a bitmap of a machine layout, making operator control more intuitive
- *Expressions* reduce PLC addressing and logic required for the PanelView interface. Arithmetic, comparison, and logical operations can be applied to all object display components and numeric input object control tags.
- *Extensive alarm handling* during fault conditions is handled through Alarm Windows, Alarm Status Screen, and Alarm History Screen. Audio indicator can also be configured. A relay on the back of the terminal can be used to activate loud horns or highly visible devices. The RS-232 port on the back of the terminal allows for printouts of alarms or screen reports

For specifications, see page 7-41.

For a typical configuration drawing and for ordering information, see page 7-43.

For accessories and replacement parts, see page 7-44.

# PanelView 1200e and 1400e Operator Terminals and Software

**(Cat. Nos. 2711E-K12C6, -K12C6L2, -T12C4, -T12C6, -K14C6, -T14C6, -T14C7, -K14C7)**

## Specifications

| | | |
|---|---|---|
| **Display** | | |
| Type: | 1200e | 12-inch Color CRT |
| | 1400e | 14-inch Color CRT |
| Resolution | | VGA 640 x 480 pixels |
| **Application memory** | | |
| 256K bytes base terminal memory, expandable to 16M bytes via PCMCIA | | |
| **Touch Screen Design** | | |
| Type: | 1200e | Matrix of 120 touch cells (10 across x 12 high)<br>Rated for 1,000,000 presses |
| | 1400e | Analog touch screen |
| Membrane | | Water-clear, hardcoated, scratch-resistant polyester, over chemically strengthened glass |
| Bezel | | Cast aluminum with a black powder coating |
| **Keypad Front Panel Design** | | |
| Keypanel | | Black anodized sheet aluminum with continuous hard-coated scratch-resistant polyester surface |
| Keys | | Sealed stainless steel dome membrane switches with tactile feedback. Rated for 2,000,000 presses |
| Window | | Continuous water-clear hard-coated, eight mil. polyester over chemically strengthened glass |
| **Stainless Steel Keypad Front Panel Design** | | |
| Keypanel | | Type 304 stainless steel |
| Keys | | Sealed stainless steel dome membrane switches with tactile feedback. Rated for 2,000,000 presses |
| Window | | Continuous water-clear hard-coated, eight mil. polyester over chemically strengthened glass |
| **Electrical** | | |
| Power requirement | | 90 to 132, 180 to 264V ac, 47 to 63 Hz |
| Power consumption | | |
| | 1200e | 65 W typical, 90 W maximum |
| | 1400e | 90 W typical, 120 W maximum |
| **Environmental** | | |
| Operating temp. | | 0 to 50° C (32 to 122° F) |
| Storage temperature | | -40 to 85° C (-24 to 185° F) |
| Operating humidity | | 5 to 95% (without condensation) at 0 to 30° C (32 to 86° F) |
| Non-operating humidity | | 5 to 95% (without condensation) at -40 to 70° C (-40 to 158° F) |
| Approvals | | UL/C-UL — Designed for CE |
| Ratings | | NEMA 4X (indoor only), NEMA 12 and NEMA 13<br>2711E-T12C6 NEMA 12 only |
| **Dimensions** | | |
| Touch Screen: | | |
| | 1200e | 342.9 mm (H) x 350.5 mm (W) x 388.8 mm (D)<br>13.5 in (H) x 13.8 in (W) x 15.3 in (D) |
| | 1400e | 354.8 mm (H) x 441.5 mm (W) x 422.8 mm (D)<br>14 in (H) x 17.4 in (W) x 16.6 in (D) |
| Keypad: | | |
| | 1200e | 354.8 mm (H) x 482.6 mm (W) x 382.9 mm (D)<br>14 in (H) x 19 in (W) x 15.1 in (D) |
| | 1400e | 354.8 mm (H) x 482.6 mm (W) x 424.3 mm (D)<br>14 in (H) x 19 in (W) x 16.7 in (D) |
| **Weight** | | |
| Touch Screen: | | |
| | 1200e | 14.8 kg (32.6 lbs) |
| | 1400e | 18.6 kg (41 lbs) |
| Keypad: | | |
| | 1200e | 15.3 kg (33.8 lbs) |
| | 1400e | 19.1 kg (42 lbs) |

| | | |
|---|---|---|
| **Functionality - Push Buttons and Selector Switches** | | |
| • Momentary NO, NC | • Multi-state | • Set bit cursor point |
| • Maintained | • Control list selector | • Scroll list selector |
| • Latched | • Interlocked | • Screen selectors |
| **Data Entry** | | |
| • Numeric keypad | • ASCII input | • Numeric cursor point |
| **Information Display** | | |
| • Bar graph | • Numeric data display | • Time display |
| • Message display | • ASCII display | • Date display |
| • Multi-state indicator | • List indicator | • Trend Object |
| **Graphics** | | |
| • Line/connected line | • ISA symbols | • Custom graphics |
| • Rectangle | • Text | • Wedge |
| • Circle/ellipse | • Bit map (.bmp) import | • AutoCAD (.dxf) import |
| **Diagnostics** | | |
| • Alarm window | • Alarm history | • Alarm status |

# PanelView 1200 Operator Terminals and Software

**(Cat. Nos. 2711-KA1, -KC1, -TA1, -TC1, -TA4, -TC4)**

PanelView™ 1200 Operator Terminals are the original PanelView terminals designed to replace traditional hard-wired panel devices ①, such as (push buttons, bar graphs, digital readouts, and message displays) with CRT screens that are simple to configure. Use PanelView 1200 terminals in control panel applications that connect to Allen-Bradley PLC controllers over a Universal Remote I/O link.

## Features

- PanelBuilder Software for DOS (2711-ND1) lets you create, store, and transfer application screens. Create screens by selecting objects from a library and placing them on a screen. Then, use menus to assign attributes, such as a PLC address, color, and text.
- PanelBuilder 1200 Software for Windows™ (cat. no. 2711-ND1W) combines the functionality of PanelBuilder DOS Software with the advantages of Microsoft® Windows. Advanced editing features use Windows menus, dialog boxes and graphical editing tools to configure application files quickly and easily.

  PanelBuilder Software (for DOS or Windows) runs on Allen-Bradley Industrial Terminals, IBM PC or compatible computers with a minimum of 640K bytes of RAM.
- The remote I/O port connects directly to the Universal Remote I/O link supporting both single-transfer and block-transfer of data.
- The RS-232 port allows you to transfer application files between the PanelView 1200 terminal and a personal computer (IBM PC or compatible) running PanelBuilder software. You can also use this port as a printer port.
- Touch-Screen or keypad terminal options provide additional flexibility in size and ease of use.

  The keypad terminal has 21 configurable function keys, numeric keypad, Backspace, Enter, Home, directional cursor arrows, Select, Cancel, Raise, and Lower keys.

  The Touch-Screen Terminal has 120 touch cells (10 across × 12 high).
- Color or monochrome amber CRT supported by both terminals.

[1] Replaces hardwired interface devices for non-safety critical applications.

## Specifications

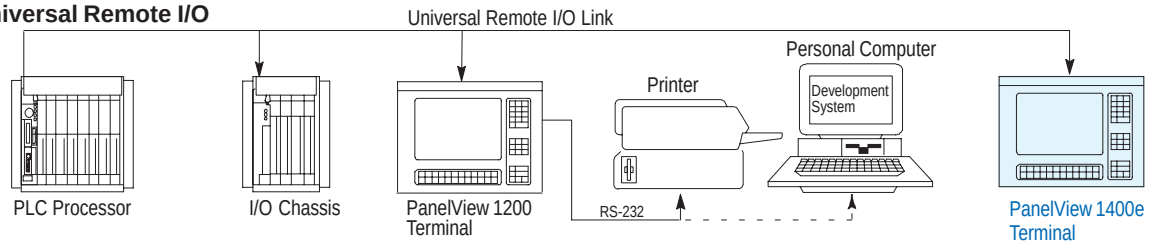
| | |
|---|---|
| Mounting | Panel or 19-inch rack |
| PLC interface | Allen-Bradley Universal Remote I/O link |
| Communication rates | • 57.6k bit/s<br>• 115.2k bit/s<br>• 230k bit/s |
| Memory | Series E or earlier, contains 64K bytes of battery backed CMOS RAM.<br>Series F is supplied with 128K bytes of battery backed CMOS RAM. All Terminals provide EEPROM / EPROM sockets for user memory backup. For Series E or earlier, these sockets may be alternatively used to provide an additional 64K bytes of user memory. |
| Supply voltage | 110/220V ac |
| Operating temperature | 0 to 50° C (32 to 122° F) |

For a typical configuration drawing and for ordering information, see page 7-43.

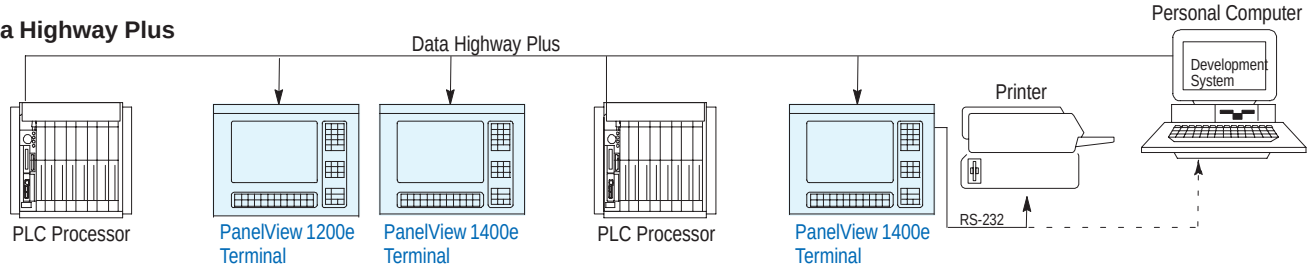
For accessories and replacement parts, see page 7-44.

## Typical Configuration

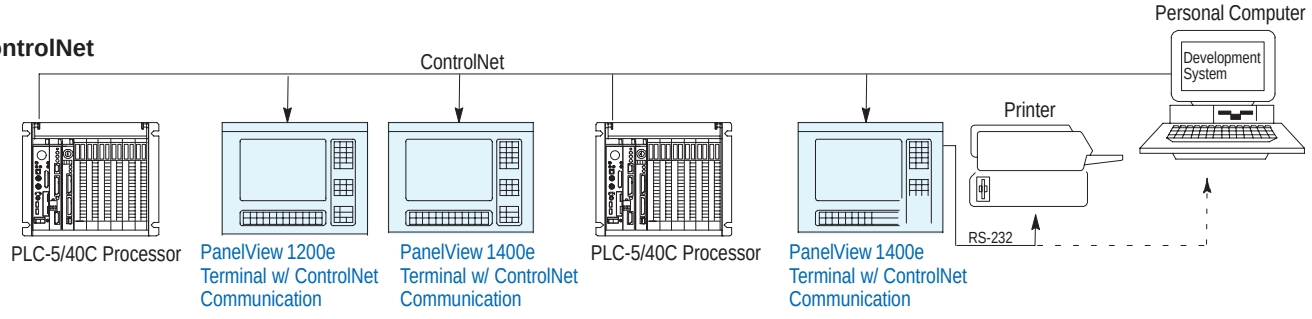
### Universal Remote I/O




### Data Highway Plus




### ControlNet




## Ordering Information

### PanelView 1400e and 1200e Enhanced High-End Graphics Terminals

| Description | Catalog Number |
|---|---|
| PanelView 1400e Color Touch-Screen Stud-Mount Terminal, NEMA Type 12, 13, 4X (indoor only) with DH+ and Universal Remote I/O | 2711E-T14C6 |
| PanelView 1400e Color Keypad Stud-Mount Terminal, NEMA Type 12, 13, 4X (indoor only) with DH+ and Universal Remote I/O | 2711E-K14C6 |
| PanelView 1400e Color Touch-Screen Stud-Mount Terminal, NEMA Type 12, 13, 4X (indoor only) with ControlNet communication | 2711E-T14C7 |
| PanelView 1400e Color Keypad Stud-Mount Terminal, NEMA Type 12, 13, 4X (indoor only) with ControlNet communication | 2711E-K14C7 |
| PanelView 1200e Color Touch-Screen Clip-Mount Terminal, NEMA Type 12 with DH+ and Universal Remote I/O | 2711E-T12C6 |
| PanelView 1200e Color Keypad Stud-Mount Terminal, NEMA Type 12, 13, 4X (indoor only) with DH+ and Universal Remote I/O | 2711E-K12C6 |
| PanelView 1200e Color Touch-Screen Stud-Mount Terminal, NEMA Type 12, 13, 4X (indoor only) with DH+ and Universal Remote I/O | 2711E-T12C4 |
| PanelView 1200e Stainless Steel Color Keypad Terminal, NEMA Type 12, 13, 4X (indoor only) with DH+ and Universal Remote I/O | 2711E-K12C6L2 |
| PanelBuilder 1400e Windows Development Software for PanelView 1200e, 1400e and enhanced Series F or Series G PanelView 1200 Terminals with 2711E-UIB12C enhancement kit | 2711E-ND1 |
| French PanelBuilder 1400e Windows Development Software for PanelView 1200e, 1400e, and enhanced series F or series G PanelView 1200 terminals with 2711E-U1B12C enhancement kit. | 2711E-ND1FR |
| German PanelBuilder 1400e Windows Development Software for PanelView 1200e, 1400e, and enhanced series F or series G PanelView 1200 terminals with 2711E-U1B12C enhancement kit. | 2711E-ND1DE |
| File Transfer Utility for PanelView 1400e, 1200e, and 1200 terminals. Note: File transfer software is included with PanelBuilder 1400e software. This is a stand-alone utility for file transfer only and requires less hard-disk space than PanelBuilder 1400e software. | 2711E-ND7 |

For PanelView 1200 ordering information, see page 7-44.

# PanelView 1400e, 1200e, and 1200 Operator Terminals and Software

## (Bulletin 2711)

### PanelView 1200 Terminals and Software (Original Character Graphics, Remote I/O PanelView Terminals)

| Description | Catalog Number |
|---|---|
| PanelView 1200 Keypad Terminal, Monochrome CRT, Type 12, 13, 4X (indoor only) | 2711-KA1 |
| PanelView 1200 Keypad Terminal, Color CRT, Type 12, 13, 4X (indoor only) | 2711-KC1 |
| PanelView 1200 Touch-Screen Terminal, Monochrome CRT, Type 12 | 2711-TA1 |
| PanelView 1200 Touch-Screen Terminal, Color CRT, Type 12 | 2711-TC1 |
| PanelView 1200 Touch-Screen Terminal, Monochrome CRT, Type 12, 13, 4X (indoor only) | 2711-TA4 |
| PanelView 1200 Touch-Screen Terminal, Color CRT, Type 12, 13, 4X (indoor only) | 2711-TC4 |
| PanelBuilder 1200 Development Software for Windows v3.1 or later is used to develop application screens for PanelView 1200 terminals. Contains User Manual and:<br>• PanelBuilder 1200 software on four 3-1/2 inch diskettes.<br>• File Transfer Utility on one 3-1/2 inch diskette.<br>• Upload/Download Cable NOT included (use cat. no. 2711-NC1) | 2711-ND1W |
| PanelBuilder Development Software for DOS is used to develop application screens for PanelView 1200 terminals. Contains User Manual and:<br>• PanelBuilder software on two 5-1/4 inch diskettes and one 3-1/2 inch diskette.<br>• Pass-through Download Utility on one 5-1/4 inch and 3-1/2 inch diskette.<br>• Upload/Download Cable and Adapters (same as cat. no. 2711-NC1) | 2711-ND1 |

### Accessories and Replacement Parts for PanelView 1400e, 1200e, and 1200 Terminals

| Description | Catalog Number |
|---|---|
| Upload/download cable for PanelView 1400e, 1200e, and 1200 terminals 3.1 m (10 ft) long | 2711-NC1 |
| Remote keyswitch and RS-232 port assembly, with 3.1 m (10 ft) long cable, for PanelView 1400e, 1200e, and 1200 terminals | 2711-NC2 |
| Replacement Keypad Faceplate for PanelView 1200 Terminals, Series D or later (for cat. no. 2711-KA1, -KC1 only) | 2711-NK1 |
| EPROM Memory Chip Set is for PanelView 1200 Terminals, Series C and earlier. Two EPROMs help back up application memory. Download configuration files to EPROM programmer using PanelBuilder 1200 Development Software | 2711-NM1 |
| EEPROM Memory Chip Set for PanelView 1200 Terminals only<br>When you install this option in the PanelView 1200 Terminal, the configuration file is automatically loaded into the EEPROMs when downloaded from the development computer. Cat. no. 2711-NM2 (containing 2 EEPROMs) is for PanelView 1200 Terminals, Series C or earlier, and is used to increase application memory from 64K to 128K or to back up application memory. Cat. no. 2711-NM3 (containing 1 EEPROM) is for PanelView 1200 Terminals, Series D or E, and is used to increase application memory from 64K to 128K bytes or to back up application memory. Cat. no. 2711-NM4 is for PanelView 1200 Terminals, Series F, and is used for memory backup only (128K bytes). | 2711-NM2<br>2711-NM3<br>2711-NM4 |
| 256K-byte PCMCIA flash memory card for PanelView 1200 Terminals, Series F only, and PanelView 1200e and 1400e Terminals | 2711-NM11 |
| 1M-byte PCMCIA flash memory card for PanelView 1200e and 1400e Terminals | 2711-NM12 |
| 2M-byte PCMCIA flash memory card for PanelView 1200e and 1400e Terminals | 2711-NM13 |
| 4M-byte PCMCIA flash memory card for PanelView 1200e and 1400e Terminals | 2711-NM14 |
| 19-inch Rack Mount Kit for PanelView 1200 and 1200e clip mount touch screen terminals (for cat. nos. 2711-TA1, -TC1, and 2711E-T12C6) | 2711-NR1 |
| 19-inch Rack Mount Kit for PanelView 1400 and 1400e touch screen terminals (for cat. no. 2711E-T14C6) | 2711-NR4 |
| Replacement Touch Screens for PanelView 1200 Terminals, Series C or earlier, (for cat. nos. 2711-TA1, -TC1 only) | 2711-NT1C |
| Touch Screen Replacement Kit for PanelView 1200 Terminals, Series D or later, (cat. nos. 2711-TA1, -TC1, -TA4, -TC4) and for PanelView 1200e Terminals (cat. nos. 2711E-T12C6, -T12C4) | 2711-NT1 |
| Anti-glare, protective overlay for PanelView 1200 and 1200e terminals (package of 5) | 2711-NV1 |
| ControlNet Adapter Kit for PanelView 1200e (cat. nos. 2711E-T12C6, -K12C6, -T12C4, -K12C6L2) and 1400e (cat. nos. 2711E-T14C6, -K14C6).<br>**Note:** A ControlNet ISA/EISA Bus Interface (cat. no. 1784-KTCX Series B or later) is also required for ControlNet communication.<br>The adapter (cat. no. 2711E-NA1) and ControlNet Bus interface card (cat. no. 1784-KTCX) are not required for cat. nos. 2711E-T14C7 and -K14C7. They are already integrated into those terminals. | 2711E-NA1 |
| Keypad Replacement Kit for PanelView 1200e (for cat. no. 2711E-K12C6) | 2711E-NK2 |
| Stainless Steel Keypad Replacement Kit for PanelView 1200, Series D or later, and PanelView 1200e Keypad Terminals | 2711E-NK3 |
| Keypad Replacement Kit for PanelView 1400e (for cat. no. 2711E-K14C6) | 2711E-NK5 |
| Analog Touch-Screen Replacement Kit for PanelView 1400e terminals (for cat. no. 2711E-T14C6) | 2711E-NT2 |
| Enhancement kit for PanelView 1200 terminals, Series F and Series G, to PanelView 1200e first release functionality (includes 2M bytes SIMM and 4M bytes PCMCIA flash memory card) | 2711E-U1B12C |

# Industrial Computers with Flat TFT Displays

**(Cat. No. 6180 Series)**

As members of the Allen-Bradley family of high-performance open systems, 6180 Industrial Computers can be ordered with pre-installed software products including popular operating systems and MMI and control software.
With adherence to PC standards, these products can easily accommodate your evolving requirements.

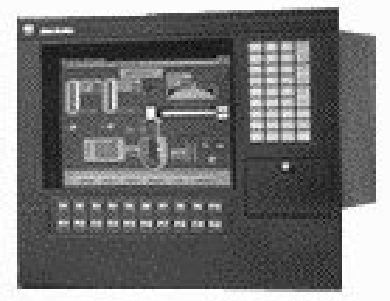
Use the specifications table as a selection guide. The exact catalog number is determined by selecting options such as processor speed, display size, system memory, hard drive size, floppy drive, CD ROM, and pre-installed software. For ordering information, see page 7-51 or visit our web site at http://www.ab.com, and select Operator Interface and Industrial Computer Products.

## Specifications

| **Catalog Number Series: 6180-xxC, -xxD** | **6180-xxG** | **6180-xxE, -xxF** |
|---|---|---|
| **Mounting:** Panelmount / NEMA 4X (indoor) or 19-inch Rackmount | | |
| **Display Type:** Integrated Flat TFT Display (800 × 600) | | |
| **Display Size:** 10.4-inch Display | | 11.3-inch Display |
| **Display Design:** QuickReplace™ Backlight System and OptiClarity™ Display offer exceptional brightness and clarity at wide ranges | | Standard Backlight |
| **Touchscreen:** Res-Ag Touch Screen Optional | — | Res-Ag Touch Screen Optional |
| **Description:** 26 Programmable Keys plus Numeric Keys, Integral Mouse, Front Status Indicators | 36 Programmable Keys plus Numeric Keys, Alphanumeric Keys, Front Status Indicators | 26 Programmable Keys plus Numeric Keys, Integral Mouse, Front Status Indicators |
| **Approximate Overall Dimensions (8U) (W×H×D):** 483 × 355.6 × 203.2 mm (19 × 14 × 8 in) | | |
| **Cut-out Dimensions (WxH):** 429.26 × 325.39 mm (16.9 × 12.85 in) | | |
| **Peripherals:** Sealed Front Access Doors to: Optional Diskette or CD ROM Drive, Power Switch, InfraRed Interface, PS/2 Mouse and Keyboard Ports | | |
| **Slots:** Active ATX Motherboard Option Slots: 2 ISA + 3 PCI + 1 Shared (PCI or ISA)<br>**Note:** Subtract 1 ISA slot for required Keyboard Interface Card and 1 PCI slot for required Video Card | | |
| **Chassis:** Chassis has two internal 3.5-inch hard drive bays, one bi-directional half-height bay (for diskette or CD ROM drive access via front left door or rear door opening, one 1-inch bay (for diskette drive access via upper left side), option card retention and corrosion resistance. | | |
| **Power Requirements:** 100-120 V ac / 200 – 240 V ac (47-63 Hz) | | |
| **Power Consumption:** 210 Watt input for 160 Watt output power supply | | |
| **Ambient Temperature (Operating):** 10 to 50°C (50 to 122°F)<br>**(Non-operating):** –25 to 60°C (–13 to 140°F) | | |
| **Relative Humidity:** 8 to 80% (without condensation) | | |
| **Vibration (Operating):** 1.0 g @ 10 to 150 Hz sine sweep; .006 peak to peak<br>**(Non-operating):** 2.0 g @ 20 to 500 Hz; .01 in. peak to peak | | |
| **Shock (Operating):** 15 g (½ sine, 11 ms)<br>**(Non-operating):** 30 g (½ sine, 11 ms) | | |
| **Weight:** 15.89 kg (35 lbs) | | |

# Industrial Computers with CRT Displays

**(Cat. Nos. 6151 and 6152 Series)**



The Integrated Industrial Computers (14-inch) are members of the A-B family of open systems, and they can handle shock, vibration, dirt, washdowns, and high temperatures. These computers are bundled with popular operating systems, Rockwell Automation application software, and equipped with ISA and/or PCI bus architecture.

Use the specifications tables (pages 7-46 and 7-47) as a selection guide. The exact catalog number is determined by selecting options such as processor speed, display size, system memory, hard drive size, floppy drive, CD ROM, and pre-installed software. For ordering information, see page 7-51 or visit our web site at http://www.ab.com, and select Operator Interface and Industrial Computer Products.

## Specifications

### 14-inch CRT Displays

| **Catalog Number Series: 6151** | **6152** |
|---|---|
| **Mounting:** Panelmount / NEMA 4 or 19-inch Rackmount | |
| **Approximate Dimensions:** (7U)<br>**(WxHxD)** 483 × 310 × 413mm (19.0 × 12.2 × 16.3 in.) | (9U)<br>483 × 399 × 412.83mm (19.0 × 15.7 × 16.25 in.) |
| **Front Bezel Dimensions (H × W):** 310 × 483 mm (12.2 × 19 in) | 399 × 483 mm (15.7 × 19 in) |
| **Display Type:** Integrated 14-inch CRT Display (1024 × 768) | |
| **Touchscreen:** Resistive Antiglare Touch Screen Optional | |
| **Description:** 10 Fkeys + 33 Numeric Keys/Cursor | 20 Fkeys + 33 Numeric Keys/Cursor |
| **Weight:** 22.70 kg (50 lbs) | 24.97 kg (55 lbs) |
| **Peripherals:** Front Door Access to Optional Diskette Drive and 9-pin Pass-through Serial Port | |
| **Slots:** Passive Backplane with 8 ISA Slots and Pentium 100, 166, or 200 (200 has Onboard Video) | |
| **Power Requirements:** 90-132V ac / 180-264V ac Auto-switching, (47-63 Hz) | |
| **Power Consumption:** 150 Watt (typical), 300 Watt (maximum) | |
| **Ambient Temperature:** Operating: 5 to 50°C (41 to 122°F)<br>**(Non-operating):** -30 to 60°C (–22 to 140°F) | |
| **Relative Humidity:** 8 to 80% (without condensation) | |
| **Vibration (Operating):** 0.01 in. peak to peak, 5-44 Hz sine; 1.0 g peak, 44-500 Hz sine<br>**(Non-operating):** 0.1 in. p-p, 5-20Hz sine, 2.0 g peak, 20-500Hz sine | |
| **Shock (Operating):** 10 g (½ sine, 11 ms)<br>**(Non-operating):** 30 g (½ sine, 11 ms) | |

# Industrial Computers with CRT Displays

**(Cat. Nos. 6153 and 6154 Series)**




The Integrated Industrial Computers (20-inch) are members of the A-B family of open systems, and they can handle shock, vibration, dirt, washdowns, and high temperatures. These computers are bundled with popular operating systems, Rockwell Automation application software, and equipped with ISA and/or PCI bus architecture.

Use the specifications table as a selection guide. The exact catalog number is determined by selecting options such as processor speed, display size, system memory, hard drive size, floppy drive, CD ROM, and pre-installed software. For ordering information, see page 7-51 or visit our web site at http://www.ab.com, and select Operator Interface and Industrial Computer Products.

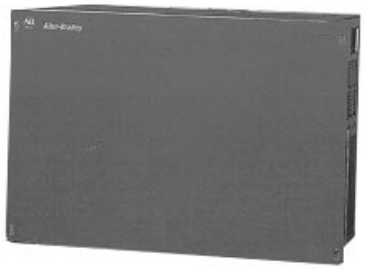
## Specifications

### 20-inch CRT Displays

| **Catalog Number Series 6153-AB, -AE, -AF** | **6153-CB, -CF, -EB, -EEx** | **6154-AB, -AE, -AF** | **6154-CB, -CF, -EB, -EEx** |
|---|---|---|---|
| **Mounting:** Panelmount | | Rackmount | |
| **Display Type:** Integrated 20-inch CRT (1280 × 1024) | | | |
| **Touchscreen:** Res-Pol, Res-Ag, Cap-Pol or Cap-Ag Touch Screen Options | | | |
| **Faceplate:** (12U)<br>**Approximate Dimensions (WxHxD):**<br>483 × 533.4 × 463.5mm<br>(19 × 21 × 18.25 in) | Faceplate: (13)<br><br>483 × 578 × 463.5mm<br>(19 × 22.75 × 18.25 in) | Faceplate<br><br>483 × 489 × 451mm<br>(19 × 19.25 × 17.75 in) | Faceplate: (13U)<br><br>483 × 578 × 451 mm<br>(19 × 22.75 × 17.75 in) |
| **Weight:** 43.13 kg (95 lbs) | 54.48 kg (120 lbs) | 40.86 kg (90 lbs) | 45.40 kg (100 lbs) |
| **Peripherals:**<br>— | Front Door Access to Optional Diskette and/or CD ROM Drive and Power Switch | — | Front Door Access to Optional Diskette and/or CD ROM Drive and Power Switch |
| **Slots:** Passive 4 Slot ISA with P100, 166, or 200 (200 has Onboard Video) | Passive 12 Slot ISA with P100, 166, or 200 (200 has Onboard Video)<br>or<br>Active 8 Slot 4 ISA + 3 PCI + 1 shared with P100 or 166 | Passive 4 Slot ISA with P100, 166, or 200 (200 has Onboard Video) | Passive 12 Slot ISA with P100, 166, or 200 (200 has Onboard Video)<br>or<br>Active 8 Slot 4 ISA + 3 PCI + 1 shared with P100 or 166 |
| **Power Requirements:** 90-132V ac / 180-264V ac Auto-switching, (47-63 Hz) | | | |
| **Power Consumption:** 150 Watt typical, 300 Watt maximum | | | |
| **Ambient Temperature (Operating):** 5 to 45°C (41 to 113°F)<br>**(Non-operating):** –30 to 60°C (–22 to 140°F) | | | |
| **Relative Humidity:** 8 to 80% (without condensation) | | | |
| **Vibration (Operating):** 0.01 in. peak to peak, 5-14 Hz sine; 1.0g peak, 44-500 Hz sine<br>**(Non-operating):** 0.1 in. p-p, 5-20Hz sine, 2.0 g peak, 20-500Hz sine | | | |
| **Shock (Operating):** 10 g (½ sine, 11 ms)<br>**(Non-operating):** 30 g (½ sine, 11 ms) | | | |

# Industrial Computers without Integral Display

**(Cat. Nos. 6155 and 6180 Series)**



As members of the Allen-Bradley family of high-performance open systems, 6180 Industrial Computers can be ordered with pre-installed software products including popular operating systems and MMI and control software.

The 6155 series Industrial Rackmount Computer can be used with any SVGA monitor (sold separately).

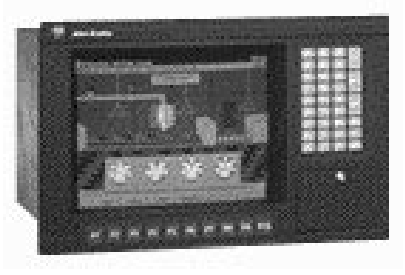
Use the specifications table as a selection guide. The exact catalog number is determined by selecting options such as processor speed, display size, system memory, hard drive size, floppy drive, CD ROM, and pre-installed software. For ordering information, see page 7-52 or visit our web site at http://www.ab.com, and select Operator Interface and Industrial Computer Products.

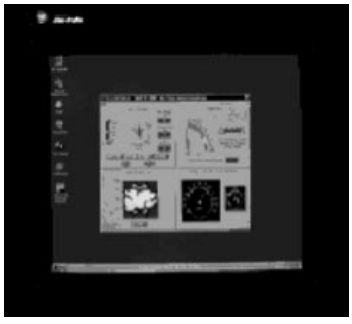
## Specifications

| **Catalog Number Series: 6155-xx** | **6180-xxB** | **6180-xxA** |
|---|---|---|
| **Mounting:** 19-inch Rack or Bench Top | Panelmount / NEMA 4X or 19-inch Rackmount | 19-inch Rack or Inside Panel |
| Front Bezel: (4U),<br>**(WxHxD):** 483 × 178 × 444.5mm<br>(19 × 7 × 17.5 in) | Faceplate: (8U),<br>483 × 355.6 × 203.2mm<br>(19 × 14 × 8 in) | Mounting Plate: (7.43U),<br>483 × 330.2 × 179mm<br>(19 × 13 × 7 in) |
| **Weight:** 15.89 kg (35 lbs) | | 11.35 kg (25 lbs) |
| **Peripherals:** Front Access to Opt. Diskette, CD ROM and 3rd Device Drive | Front Access to Opt. Diskette and/or CD ROM drive, Power Switch, Infrared port, PS/2 Mouse / Keyboard Ports | — |
| **Slots:** Passive 7 or 13 Slot ISA/PCI with P100, 166, or 200 (200 has Onboard Video) or<br>Active 8 Slot with P100, 166 4 ISA + 3 PCI + 1 Shared or<br>Active 7 Slot with PPro 200 3 ISA + 3 PCI + 1 Shared or<br>Active 4 Slot with Dual PPro 200 3 PCI + 1 Shared (PCI or ISA) | Active Motherboard Slots: 2 ISA + 3 PCI + 1 Shared (ISA or PCI) with Pentium 100, 133, 166, or 200 Processor Options | |
| **AC Power Requirements:** 90-132V ac / 180-264V ac Autoswitching, 47-63 Hz, 150W (typical), 300W (max) | 100-120V ac / 200-240V ac, 47-63 Hz, 210W Input, 160W Output | |
| **Operating Temperature:** 5 to 45°C (41 to 113°F)<br>**(Non-operating):** –30 to 60°C (–22 to 140°F) | | |
| **Vibration (Operating):**<br>0.1 in. peak to peak, 5-14 Hz,<br>1.0g peak, 14-500 Hz | 1.0g @ 10 to 150 Hz sine sweep; 0.006 peak to peak | |
| **Shock (Operating):** 10 g (½ sine, 11 ms) | 15 g (½ sine, 11 ms) | |
| **Relative Humidity:** 8 to 80% (without condensation) | | |
| **Certifications:** UL / C-UL 1950 Listed, CE Mark | UL / C-UL | |

# Industrial CRT Monitors

**(Cat. Nos. 6156, 6158, and 6159 Series)**





The Industrial 14-, 17-, and 21-inch CRT Color Monitors are designed for long-term, dependable performance in harsh factory environments.

The 14-inch monitors (6156 series) are panel or rack-mountable and are available with or without keypads or touch screens.

The 21-inch monitors (6158 series) display a view of an entire process including minute detail and vast amounts of detail. A bonded capacitive touch screen is optional.

Use the specifications table as a selection guide. The exact catalog number is determined by selecting options such as display size, touchscreens, video connectors and cables, and accessories. For ordering information, see page 7-52 or visit our web site at http://www.ab.com, and select Operator Interface and Industrial Computer Products.

## Specifications

| **Catalog Number Series: 6156-Axx** | **6159-AAxx** | **6158-AAxx** |
|---|---|---|
| **Display Size:** 14-inch CRT (1024 × 768) | 17-inch CRT (1280 × 1024) | 21-inch CRT (1280 × 1024) |
| **Mounting:** Panelmount / NEMA 4 or 19-inch Rackmount | | Panelmount |
| **Description:** Optional Integrated Keypad includes 10Fkeys plus Numeric Keys | | No Integrated Keys |
| **Touchscreen:** Any combination of Keypad and/or Touch Screen Options | Either Polycarbonate Window over CRT or Resistive anti-glare or Capacitive anti-glare Touch Screen | Either with or without Polycarbonate Window or with Capacitive anti-glare Touch Screen |
| **Faceplate Dimensions:** (7U)<br>**(W × H × D)** 483 × 310 × 412.75 mm<br>(19 × 12.2 × 16.25 in) | Faceplate (9U)<br>483 × 400 × 422.40 mm<br>(19 × 15.75 × 16.63 in) | Faceplate<br>514.35 × 425.45 × 571.50 mm<br>(20.25 × 16.75 × 22.5 in) |
| **Weight:** 22.70 kg (50 lbs) | 22.70 kg (50 lbs) | 31.78 kg (70 lbs) |
| **AC Power Requirements:**<br>100-250V ac, 50-60 Hz, 120W (max) | 90-132 / 198-264V ac, 50-60 Hz, 120W (max) | 100-250V ac, 50-60 Hz, 135W (max) (461 BTU) |
| **Vibration (operating):**<br>0.01 in. peak to peak 5-17 Hz sine,<br>1.5 g peak, 17-640 Hz sine | 0.006 in. peak to peak 5-57 sine,<br>1.5 g peak, 57-640 Hz sine | 0.01 in. peak to peak 5-44 Hz sine<br>1.0 g peak, 44-500 Hz sine |
| **Shock (operating):** 15 g (½ sine, 11 ms) | | |
| **Ambient Temperature:** 0 to 50°C (32 to 122°F) | | |
| **Certification:** UL/C-UL 508, UL 1950 Recognized, NEMA 4/12/13,<br>CE Mark, EN60950, FCC Class A | UL/C-UL 1950 Recognized, NEMA 4/12/13,<br>CE97 (EMC Directive 89/336/EEC and<br>LV Directive; 73/23EEC), FCC Class A | UL/C-UL (UL 1950, CSA 950, Recognized), CE Mark (EN50081-2, EN50082-2, EN60950) |
| **Relative Humidity:** 5-95% | 10-90% | |

# Industrial CRT Monitors

**(Cat. Nos. 6157 Series)**

Designed for long-term, dependable performance in harsh factory environments, the 20-inch monitors are available in four basic form factors: ergonomic desktop, benchtop, rackmount, or panelmount. Operator input is completed via touchscreen with technology that can be integrated with your choice of capacitive, resistive, or SAW (Surface Acoustic Wave) touchscreens.

Use the specifications table as a selection guide. The exact catalog number is determined by selecting options such as display size, touchscreens, video connectors and cables, and accessories. For ordering information, see page 7-53 or visit our web site at http://www.ab.com, and select Operator Interface and Industrial Computer Products.

## Specifications

| Catalog Number Series 6157-AA, -BA, -BExx | 6157-BBxx | 6157-BCxx | 6157-BDxx |
|---|---|---|---|
| **Display:** 20-inch CRT,<br>-AA (1024 × 768)<br>-BA, -BE (1280 × 1024) | 20-inch CRT (1280 × 1024) | | |
| **Mounting:** Panelmount NEMA 4,<br>(-BE includes front video controls) | Rackmount<br>(for 19-inch Rack Systems) | Bench Top<br>(rectangular metal casing) | Desk Top<br>(ergonomic plastic casing) |
| **Touchscreen:** Res-Ag, Res-Pol,<br>Cap-Ag, Cap-Pol Touch Screen Options | Res-Ag, Res-Pol, Cap-Ag, SAW-Ag, SAW-Pol Touch Screen Options | | SAW-Ag, SAW-Pol<br>Touch Screen Options |
| **Description:** No Integrated Function/Numeric Keys | | | |
| Faceplate (9U)<br>**(W × H × D)** 483 × 399.2 × 496.3 mm<br>(19 × 15.72 × 19.54 in) | Faceplate (9U)<br>483 × 400 ⁄ 452 mm<br>(19 × 15.75 × 17.79 in) | Front of Unit<br>483 × 476.25 × 568.45 mm<br>(19 × 18.75 × 22.38 in) | Front of Unit<br>**(H × D)** 435.6 × 520.7 mm<br>(17.15 × 20.5 in) |
| **Weight:** 31.78 kg (70 lbs) | | 29.5 kg (65 lbs) | 27.24 kg (60 lbs) |
| **Options:** Flat Polycarbonate Window over CRT (standard with-AA or -BA, Opt. with-BE | 18 or 24-inch rack Slides Optional | Tilt Swivel Base Optional | |
| **Certification:** UL 1950 Recognized; FCC class A; EN55022; EN50082-2; EN60950:1992<br>CE Directives 89/336/EEC, 73/23/EEC; DHHS CFR 21.1020 Compliant<br>UL508, NEMA 4X (indoor) | | | |
| **Power Requirements:** 100-250V ac, 50-60 Hz single phase | | | |
| **Power Consumption:** 130W (max) | | | |
| **Ambient Temperature (Operating):** 0 to 50°C (32 to 122°F)<br>**(Non-operating):** -30 to 70°C (–22 to 158°F) | | | |
| **Relative Humidity:** 10 to 90% (without condensation) | | | |
| **Vibration (Operating):** 1.0g peak accl., 57 to 2 KHz sine; 0.006 in. peak to peak, 5 to 57 Hz sine | | | |
| **Shock (Operating):** 15 g (½ sine, 11 ms duration) | | | |

## 6151 and 6152 Industrial Computers with Integrated 14-inch CRT

**61xx – _ _ _ _ _ _ _ _ _ _ _**
**1 2 3 4 5 6 7 8 9 10 11**

**Position #1**
**Bulletin Number**
6151 = 7U Panelmount
6152 = 9U Panelmount

**Position #2**
**Processor and Backplane**
BB = Passive 8-Slot ISA, Pentium 100 MHz
BE = Passive 8-Slot ISA, Pentium 166 MHz
BF = Passive 8-Slot ISA, Pentium 200 MHz with on–board Video

**Position #3**
**Base Unit**
A = 14-inch CRT (1024 × 768)
B = 14-inch CRT with touch screen (resistive anti-glare)
T = 14-inch CRT (1024 ※768), T60 Cutout compatible 6152 Series Only

**Position #4**
**Video Card**
A = ISA, 1M byte Video Memory (not for processor 2–BF)
Z = None

**Position #5**
**System Memory**
C = 8M bytes RAM
D = 16M bytes RAM
E = 32M bytes RAM
F = 64M bytes RAM
G = 128M bytes RAM
H = 256M bytes RAM

**Position #6**
**Hard Drive**
C = 1.5+ Gbyte EIDE
D = 2+ Gbyte EIDE
Z = None

**Position #7**
**Removable Media**
A = 1.44-M byte 3.5-inch Diskette Drive
Z = None

**Position #8**
**Pre–installed Option Cards**
A = Ethernet Card (ISA Bus)
C = KTX card (Remote I/O Scanner – 1 channel, ISA Bus)
D = KTXD card (Remote I/O Scanner – 2 channel, ISA Bus)
F = KTC card (ControlNet Personal Interface, ISA Bus)
G = KTCX card (ControlNet Deluxe, ISA Bus)
H = Ethernet (ISA) card and KTX (ISA) card
I = Ethernet (ISA) card and KTXD (ISA) card
J = Ethernet (ISA) card and KTC (ISA) card
K = Ethernet (ISA) card and KTCX (ISA) card
Z = None

**Position #9**
**Power Input/Line Cord**
A = 120/240V ac Input with USA power cord
B = 120/240V ac Input no power cord
F = 24V dc Input

**Position #10**
**Pre-installed Operating System**
A = MS-DOS v6.22
B = Windows 95
D = Windows NT Workstation 4.0
Z = None

**Position #11**
**Pre-installed Application Software**
H = **RS**View32 Runtime 150 with LINX
I = **RS**View32 Runtime 300 with LINX
J = **RS**View32 Runtime 1500 with LINX
K = **RS**View32 Runtime with LINX
Z = None

## 6153 and 6154 Industrial Computers with Integrated 20-inch CRT

**61xx – _ _ _ _ _ _ _ _ _ _ _**
**1 2 3 4 5 6 7 8 9 10 11**

**Position #1**
**Bulletin Number**
6153 = 7U Panelmount
6154 = 9U Rackmount

**Position #2**
**Processor and Backplane**
AB = Passive 4-Slot ISA, Pentium 100 MHz
AE = Passive 4-Slot ISA, Pentium 166 MHz
AF = Passive 4-Slot ISA, Pentium 200 MHz with on–board Video
CB = Passive 12-Slot ISA, Pentium 100 MHz
CE = Passive 12-Slot ISA, Pentium 166 MHz
CF = Passive 12-Slot ISA, Pentium 200 MHz with on–board Video
EB = Active 8-Slot ISA/PCI, Pentium 100 MHz
EE = Active 8-Slot ISA/PCI, Pentium 166 MHz

**Position #3**
**Display/Touch Screen**
A = 20-inch CRT (1280 × 1024)
B = 20-inch CRT with touch screen (resistive polished)
C = 20-inch CRT with touch screen (resistive antiglare)
D = 20-inch CRT with touch screen (capacitive, polished)
E = 20-inch CRT with touch screen (capacitive, anti-glare)

**Position #4**
**Video Card**
A = ISA, 1M byte Video Memory
C = PCI, 2M bytes Video Memory (2EB or EE req)
D = PCI, 4M bytes Video Memory (2 EB or EE req)
Z = None

**Position #5**
**System Memory**
C = 8M bytes RAM
D = 16M bytes RAM
E = 32M bytes RAM
F = 64M bytes RAM
G = 128M bytes RAM
H = 256M bytes RAM (Not for Option 2 – "EB" and "EE")

**Position #6**
**Hard Drive**
C = 1.5+ Gbyte EIDE
D = 2+ Gbyte EIDE
Z = None

**Position #7**
**Removable Media**
A = 1.44-M byte 3.5-inch Diskette Drive
B = CD ROM Drive (EIDE)
C = 1.44-M byte 3.5-inch Diskette Drive and CDROM Drive (EIDE)
Z = None

**Position #8**
**Pre–installed Option Cards**
A = Ethernet card (ISA)
B = Ethernet card (PCI Bus), only for base system with PCI
C = KTX card (Remote I/O Scanner – 1 channel, ISA Bus)
D = KTXD card (Remote I/O Scanner – 2 channel, ISA Bus)
F = KTC card (ControlNet Personal Interface, ISA Bus)
G = KTCX card (ControlNet Deluxe, ISA Bus)
H = Ethernet PCI and KTX ISA Card, only for base system with PCI
I = Ethernet PCI and KTXD ISA card, only for base system with PCI
J = Ethernet PCI and KTC ISA card, only for base system with PCI
K = Ethernet PCI and KTCX ISA card, only for base system with PCI
Z = None

**Position #9**
**Power Input/Line Cord**
A = 120/240V ac Input with USA power cord
B = 120/240V ac Input no power cord

# Ordering Information

## 6153 and 6154 Industrial Computers with Integrated 20-inch CRT *(continued)*

**Position #10**
**Pre–installed Operating System**
A = MS-DOS v6.22
B = Windows 95
D = Windows NT Workstation 4.0
Z = None

**Position #11**
**Pre-installed Application Software**
H = **RS**View32 Runtime 150 with LINX
I = **RS**View32 Runtime 300 with LINX
J = **RS**View32 Runtime 1500 with LINX
K = **RS**View32 Runtime with LINX
Z = None

## 6155 Industrial Computer without Display, Rackmount

**6155 – _ _ _ _ _ _ _ _ _ _ _**
**1 2 3 4 5 6 7 8 9 10 11**

**Position #1**
**Bulletin Number**
6155 = 4U Rackmount

**Position #2**
**Processor and Backplane**
DB = Passive 7-Slot ISA/PCI, Pentium 100 MHz
DE = Passive 7-Slot ISA,/PCI Pentium 166 MHz
DF = Passive 7-Slot ISA/PCI, Pentium 200 MHz with on–board Video
EB = Active 8-Slot ISA/PCI, Pentium 100 MHz
EE = Active 8-Slot ISA/PCI, Pentium 166 MHz
FB = Passive 13-Slot PCI/ISA, Pentium 100 MHz
FE = Passive 13-slot PCI/ISA, Pentium 166 MHz
FF = Passive 13-Slot ISA, Pentium 200 MHz with on–board Video
GF = Active 7 Slot ISA/PCI, PentiumPro 200
HF = Active 4 Slot ISA/PCI, Dual PPro 200

**Position #3**
**Base Unit**
Y = Benchtop or Rackmount

**Position #4**
**Video Card**
A = ISA, 1M byte Video Memory
C = PCI, 2M bytes VRAM (2 EB or EE req)
D = PCI, 4M bytes VRAM (2 EB or EE req)
Z = None

**Position #5**
**System Memory**
C = 8M bytes RAM
D = 16M bytes RAM
E = 32M bytes RAM
F = 64M bytes RAM
G = 128M bytes RAM
H = 256M bytes RAM (Option 2 – “GF” and “HF” only)
J = 512M byte System RAM (Option 2 – “HF” only)

**Position #6**
**Hard Drive**
C = 1.5+ Gbyte EIDE
D = 2+ Gbyte EIDE
Z = None

**Position #7**
**Removable Media**
A = 1.44M byte 3.5-inch Diskette Drive
B = CD ROM Drive (EIDE)
C = 1.44M byte 3.5-inch Diskette Drive and CDROM Drive (EIDE)
Z = None

## 6155 Industrial Computer without Display, Rackmount *(continued)*

**Position #8**
**Pre–installed Option Cards**
A = Ethernet card (ISA) Bus
B = Ethernet card (PCI Bus), only for base system with PCI
C = KTX card (Remote I/O Scanner – 1 channel, ISA Bus)
D = KTXD card (Remote I/O Scanner – 2 channel, ISA Bus)
F = KTC card (ControlNet Personal Interface, ISA Bus)
G = KTCX card (ControlNet Deluxe, ISA Bus)
H = Ethernet PCI and KTX ISA Card, only for base system with PCI
I = Ethernet PCI and KTXD ISA card, only for base system with PCI
J = Ethernet PCI and KTC ISA card, only for base system with PCI
K = Ethernet PCI and KTCX ISA card, only for base system with PCI
Z = None

**Position #9**
**Power Input/Line Cord**
A = 120/240V ac Input with USA power cord
B = 120/240V ac Input no power cord

**Position #10**
**Pre–installed Operating System**
A = MS-DOS v6.22
B = Windows 95
D = Windows NT Workstation 4.0
Z = None

**Position #11**
**Pre-installed Application Software**
H = **RS**View32 Runtime 150 with LINX
I = **RS**View32 Runtime 300 with LINX
J = **RS**View32 Runtime 1500 with LINX
K = **RS**View32 Runtime with LINX
Z = None

## 6156 Industrial 14-inch CRT Monitor

**6156 – _ _ _ _ _ _ _ _ _ _**
**1 2 3 4 5 6 7 8 9 10**

**Position #1**
**Bulletin Number**
6156 = 14-inch CRT Monitor

**Position #2**
**Base Unit**
A = Panel/Rack, (7U) 640 ※ 480 to 1024 ※ 768

**Position #3**
**Touch Screen/Keypads**
AB = Keypad with 10Fkeys, Resistive Anti-glare Touch Screen
AD = Keypad with 10Fkeys, Capacitive Anti-glare Touch Screen
AZ = Keypad with 10Fkeys, not Touch Screen
BB = Resistive Anti-glare Touch Screen only
BD = Capacitive Anti-glare Touch Screen only
BZ = No Keypad, No Function keys, No Touch Screen

**Position #4**
**Video Connectors (on Unit)**
A = HD15 (standard)
B = HD15 and DB13C3
C = HD15 and 4-BNC

**Position #5**
**Power Input/Line Cord**
A = 120/240V ac with USA Power Cord
B = 120/240V ac with No Power Cord

## 6156 Industrial 14-inch CRT Monitor *(continued)*

**Position #6**
**Reserved**
Z = None (Option Letter Required)

**Position #7**
**Video Cable**
A = HD15-HD15, 1.83m (6 ft) (standard)
B = HD15-HD15, 4.57m (15 ft) (standard)
C = HD15-DB13C, 1m (3.3 ft)
D = HD15-DB13C3, 5m (16.4 ft)
E = HD15-DB13C3, 10m (32.8 ft)
F = BNC-BNC, 1.83m (6 ft)
G = BNC-BNC, 5m (16.4 ft)
Z = None

**Position #8**
**Serial Cable for Touch Screen**
A = DB9F-DB9F, 1.83m (6 ft)
B = DB9F-DB9F, 5m (16.4 ft)
C = DB9F-DB9F, 10m (32.8 ft)
D = DB9F-DB25, 1.83m (6 ft)
Z = None

**Position #9**
**Keyboard Extension Cable**
A = 5-pin DIN keyboard extension cable 1.83m (6 ft) (keypads only)
B = 5-pin DIN keyboard extension cable 5m (16.4 ft) (keypads only)
Z = None

**Position #10**
**Reserved**
Z = Reserved (option Letter Required)

## 6157 Industrial 20-inch CRT Monitors

**6157 – _ _ _ _ _ _ _ _ _ _**
**1 2 3 4 5 6 7 8 9 10**

**Position #1**
**Bulletin Number**
6157 = 20-inch CRT Monitor

**Position #2**
**Base Unit**
AA = Panel/NEMA 4,1024 × 768 autosync
BA = Panel/NEMA 4, 1280 × 1024
BB = Rackmount 640 × 480 to 1280 × 1024
BC = Benchtop 640 × 480 to 1280 ※1024
BD = Desktop 640 × 480 to 1280 × 1024
BE = Panelmount, NEMA 4, 1280 × 1024, Front Video Controls

**Position #3**
**Touch Screen**
B = Resistive Anti-glare Touch Screen Benchtop (2-BC)
B = Resistive Anti-glare Touch Screen Rackmount (2-BB)
B = Resistive Anti-glare Touch Screen Panelmount (2-AA,BA)
B = Resistive Anti-glare Touch Screen Panelmount, with Front Controls (2–BE) only
C = Resistive Polished Touch Screen Benchtop (2-BC)
C = Resistive Polished Touch Screen Rackmount (2-BB)
C = Resistive Polished Touch Screen Panelmount (2-AA,BA)
C = Resistive Polished Touch Screen Panelmount with Front Controls (2–BE) only)
D = Capacitive Anti-glare Touch Screen (Bonded) Benchtop (2-BC)
D = Capacitive Anti-glare Touch Screen (Bonded) Rackmount (2-BB)
D = Capacitive Anti-glare Touch Screen Panelmount (2-AA,BA)
D = Capacitive Anti-glare Touch Screen Panelmount (2–BE) only
E = Capacitive Polished Touch Screen Panelmount (2-AA,BA)
E = Capacitive Polished Touch Screen Panelmount with Front Controls (2–BE) only
F = Surface Acoustic Wave Anit-glare Touch Screen Benchtop (2-BC)
F = Surface Acoustic Wave Anit-glare Touch Screen Rackmount (2-BB)
F = Surface Acoustic Wave Anit-glare Touch Screen Desktop (2-BD)
G = Surface Acoustic Wave Polished Touch Screen Benchtop (2-BC)
G = Surface Acoustic Wave Polished Touch Screen Rackmount (2-BB)
G = Surface Acoustic Wave Polished Touch Screen Desktop (2-BD)
Y = No Touch Screen, Polycarbonate Window (2–BE only)
Z = No Touch Screen, Polycarbonate Window (2–AA, BA only)
Z = No Touch Screen (2–BB, BC, BD, BE)

**Position #4**
**Video Connectors (on Unit)**
A = HD15
B = HD15 and DB13C3 (2-AA only)
C = HD15 and 4 BNC

**Position #5**
**Power Input/Line Cord**
A = 120/240V ac with USA Power Cord
B = 120/240V ac with No Power Cord

**Position #6**
**Options**
A = Mu–metal shadow mask shield (for magnetic fields)
Z = None

**Position #7**
**Video Cable**
A = HD15-HD15, 1.83m (6 ft) (for 4-A)
B = HD15-HD15, 4.57m (15 ft) (for 4-A)
C = HD15-DB13C, 1m (3.3 ft) (for 4-B only)
D = HD15-DB13C3, 5m (16.4 ft) (for 4-B only)
E = HD15-DB13C3, 10m (32.8 ft) (for 4-B only)
F = BNC-BNC, 1.83m (6 ft) (for 4-C only)
G = BNC-BNC, 5m (16.4 ft) (for 4-C only)
Z = None

# Ordering Information

## 6157 Industrial 20-inch CRT Monitors *(continued)*

**Position #8**
**Serial Cable for Touch Screen**
A = DB9F-DB9F, 1.83m (6 ft)
B = DB9F-DB9F, 5m (16.4 ft)
C = DB9F-DB9F, 10m (32.8 ft)
D = DB9F-DB25, 1.83m (6 ft)
Z = None

**Position #9**
**Reserved**
Z = Future (option letter required)

**Position #10**
**Accessories**
A = Tilt Swivel Base (Benchtop only, 2-BC)
A = Tilt Swivel Base (Desktop only, 2-BD)
B = Slides, Rackmount, Pair 18-inch
C = Slides, Rackmount, Pair 24-inch
Z = None

## 6158 Industrial Monitors with 21-inch CRT, Panelmount

**6158 – _ _ _ _ _ _ _ _ _ _**
**1 2 3 4 5 6 7 8 9 10**

**Position #1**
**Bulletin Number**
6158 = 21-inch CRT Monitor

**Position #2**
**Base Unit**
AA = Panelmount/NEMA 4

**Position #3**
**Touch Screen**
A = Cap-AG Touch Screen
Y = No Touch Screen, Polycarbonate window
Z = No Touch Screen, No Polycarbonate window

**Position #4**
**Video Connectors (on Unit)**
A = HD15
C = HD15 and 4 BNC

**Position #5**
**Power Input/Line Cord**
A = 120/240V ac with USA Power Cord
B = 120/240V ac with No Power Cord

**Position #6**
**Options**
Z = Reserved (Option letter required)

**Position #7**
**Video Cable**
A = HD15-HD15, 1.83m (6 ft)
B = HD15-HD15, 4.57m (15 ft)
C = BNC-BNC, 1.83m (6 ft)
D = BNC-BNC, 4.57m (15 ft)
Z = None (Option letter required)

**Position #8**
**Serial Cable for Touch Screen**
A = DB9F-DB9F, 1.83m (6 ft) (for Touch Screen only)
B = DB9F-DB9F, 5m (16.4 ft) (for Touch Screen only)
C = DB9F-DB9F, 10m (32.8 ft) (for Touch Screen only)
D = DB9F-DB25, 1.83m (6 ft) (for Touch Screen only)
Z = None

## 6158 Industrial Monitors with 21-inch CRT, Panelmount *(continued)*

**Position #9**
**Reserved**
Z = None (Option letter required)

**Position #10**
**Reserved**
Z = None (Option letter required)

## 6159 Industrial Monitors with 17-inch CRT

**6159 – _ _ _ _ _ _ _ _ _ _**
**1 2 3 4 5 6 7 8 9 10**

**Position #1**
**Bulletin Number**
6159 = 17-inch CRT Monitor

**Position #2**
**Base Unit**
AA = Panel/Rackmount, 1280 × 1024

**Position #3**
**Touch Screen**
A = Capacitive Antiglare Touch Screen
B = Resistive Antiglare Touch Screen
Z = Polycarbonate Window, No Touch Screen

**Position #4**
**Video Connectors (on Unit)**
Z = Integral Video Cable, HD15

**Position #5**
**Power Input/Line Cord**
A = 120/240V ac with USA Power Cord
B = 120/240V ac with No Power Cord

**Position #6**
**Reserved**
Z = Reserved

**Position #7**
**Video Cable**
Z = Integral Video Cable, HD15

**Position #8**
**Serial Cable for Touch Screen**
A = DB9F-DB9F, 1.83m (6 ft)
B = DB9F-DB9F, 5m (16.4 ft)
C = DB9F-DB9F, 10m (32.8 ft)
D = DB9F-DB25, 1.83m (6 ft)
Z = None

**Position #9**
**Reserved**
Z = Reserved

**Position #10**
**Accessories**
B = Slides, Rackmount, Pair, 18-inch
C = Slides, Rackmount, Pair, 24-inch
Z = None

## 6180 Industrial Computers with Flat TFT Displays

**6180 – _ _ _ _ _ _ _ _ _ _ _**

**1 2 3 4 5 6 7 8 9 10 11**

**Position #1**
**Bulletin Number**
6180 = Industrial Computer

**Position #2**
**Processor & Motherboard**
AB = 8-slot Active MB, Pentium 100 MHz
AC = 8-slot Active MB, Pentium 133 MHz
AD = 8-slot Active MB, Pentium 166 MHz
AE = 8-slot Active MB, Pentium 200 MHz

**Position #3**
**Base Unit**
A = No Display, Metal Bezel, NEMA 1
B = No Display, Front Access Bezel, NEMA 4X indoor
C = 10.4-inch TFT (QuickReplace Backlight), NEMA 4X indoor
D = 10.4-inch TFT (QuickReplace Backlight), Touch Screen, NEMA 4X
E = 11.3-inch TFT (Standard Backlight), NEMA 4X indoor
F = 11.3-inch TFT (Standard Backlight), Touch Screen, NEMA 4X
G = 10.4-inch TFT with Quick Replace Backlight, Alphanumeric Keypad, NEMA 4X Indoor

**Position #4**
**Video Card**
B = PCI, 2M byte DRAM
C = PCI, 4M byte SGRAM (Base Option A or B only)
Z = None (Base Option A or B only)

**Position #5**
**Gold Plated SIMMS**
C = 8M bytes EDO RAM (two 4M byte)
D = 16M bytes EDO RAM (two 8M byte)
E = 32M bytes EDO RAM (two 16M byte)
F = 64M bytes EDO RAM (four 16M byte, banks full)

**Position #6**
**Hard Drive**
C = 2.0 Gbyte EIDE
D = 80M byte EIDE Solid State Flash
E = 1.6 Gbyte . EIDE
Z = None

**Position #7**
**Removable Media**
A = 1.44-M byte 3.5-inch Diskette Drive, Front Access
B = 1.44-M byte 3.5-inch Diskette Drive, Side Access
C = EIDE CDROM Drive
D = EIDE CDROM Drive and 1.44-M byte 3.5-inch Drive (Side Access)
Z = None

**Position #8**
**Pre-installed Option Cards**
B = ETHERNET Card (PCI Bus) Combo, Bus Master
C = KTX Card (Remote I/O Scanner – 1 channel, ISA Bus)
D = KTXD card (Remote I/O Scanner – 2 channel, ISA Bus)
F = KTC card (ControlNet Personal Interface, ISA Bus)
G = KTCX card (ControlNet Deluxe ISA Bus)
H = Ethernet (PCI) card and KTX (ISA) card
I = Ethernet (PCI) card and KTXD (ISA) card
J = Ethernet (PCI) card and KTC (ISA) card
K = Ethernet (PCI) card and KTCX (ISA) card
Z = None

**Position #9**
**Power Cord**
A = 120/240V ac, 160 Watt with USA power cord
B = 120/240V ac 160 Watt no power cord

## 6180 Industrial Computer with Flat Display Option *(continued)*

**Position #10**
**Operating System**
B = Windows 95
C = Windows NT Workstation 4.0
Z = None

**Position #11**
**Application Software**
D = **RS**View32 Runtime 150 with LINX
E = **RS**View32 Runtime 300 with LINX
F = **RS**View32 Runtime 1500 with LINX
G = **RS**View32 Runtime with LINX
Z = None

# Industrial Mouse

**(Cat. Nos. 6189-DPMOUSE, -DPMOUSEP)**


## Features

- Solid-potted mouse that is rugged and wear-resistant
- Resistant to harsh industrial environments (liquids, gases, and contaminants)
- Maintenance-free and without moving parts
- Connects to either a Microsoft compatible serial interface (RS-232-C) or PS/2 mouse port on your computer

The Industrial Mouse, which is constructed of stainless steel and heavy rubber, comes as a tabletop version shown above that is a fully sealed and submersible mouse (cat. no. 6189-DPMOUSE). A NEMA 4X panelmount version is also available (cat. no. 6189-DPMOUSEP).

## Specifications

| | |
|---|---|
| **Compatibilities** | |
| Hardware Interface | RS-232 serial port, PS/2 mouse port |
| Hardware Compatibilities | IBM PC, PC-AT compatible computers, PC-XT, PS/2 |
| Operating System Compatibilities | DOS, Windows, OS/2, UNIX and others |
| Software Drivers | Compatible with standard MS drivers |
| Serial Data Format | Emulates Microsoft or Mouse Systems two-button mouse |
| Power Consumption | Less than 10MA @ 5V dc |
| **Physical** | |
| Approximate Overall Dimensions | Desktop: 12.8 × 10.8 × 2.5 cm (5.0 × 4.25 × 1.0 in)<br>Panelmount: 15.88 × 13.97 × 2.11 cm (6.25 × 5.50 × 0.83 in) |
| Approximate Weight | 0.9 kg (2.0 lb) including cable |
| Primary Materials | Stainless Steel, silicone rubber buttons, and silicone potting material |
| Cables | Standard - 1.8 m (6 ft) shielded cable with 9-pin D-sub serial connector (PS/2 adapter included)<br>Panelmount - Per standard cable, but includes in-line, low-profile disconnect for use with enclosure cord grips |
| **Environmental** | |
| Operating Temperature | 0 to 60° C (32 to 140° F) |
| Non-operating Temperature | -40 to 85° C (-40 to 185° F) |
| Agency Approval | Meets NEMA 4. 4X, 6P, 12, and 13; CE Mark pending; CUR 1950, CUL |
| Chemical Resistance | Bleach, soap, alcohol, oil, saline, Cidex 7 |
| Vibration Operating<br>Non-operating | 2 g, 10-150 Hz<br>30 g, 10-150 Hz |

# Industrial PC/AT Keyboards

**(Cat. Nos. 6160-KBM1, -KBE1, -KBD1)**

The Industrial PC/AT Keyboards are lightweight and boast a long-life technology. They have EMI/RFI shielding and a rugged design that helps protect them from many harsh substances.

## Features

Choose the industrial keyboard with the features that best suits your needs.

| Panelmount Membrane (cat. no. 6160-KBM1) | Industrial Tabletop (cat. no. 6160-KBE1) | Industrial Tabletop (cat. no. 6160-KBD1) |
|---|---|---|
| • For NEMA 4 control panels or 19-inch racks | • For harsh environments where a tabletop spill-resistant keyboard is preferred | • A traditional tabletop keyboard with full-travel keys |
| • Sealed Membrane Technology | • Sealed Elastomer Technology | • Long-lasting printing on keys |
| • Lock LED indicators | • Lock LED indicators | • Lock LED indicators |
| • Sealed switches | • Durable lightweight construction | • Keyboard cover (cat. no. 6169-KC) |
| • Protective legend overcoating | • Tactile response | |

## Specifications

| | Panel-mount Membrane (cat. no. 6160-KBM1) | Industrial Tabletop (cat. no. 6160-KBE1) | Industrial Tabletop (cat. no. 6160-KBD1) |
|---|---|---|---|
| NEMA Rating | NEMA Type 4 and 12 rated (panel mount only) | NEMA Type 13 rated | Not Applicable |
| Mounting | #10-32 threaded studs; keyboard has nuts for its 16 studs | two extension legs | |
| Mounting Holes (diameter) | 7.14 mm (.281 in) | Not Applicable | |
| Dimensions | 483 × 222 × 25.4 mm (19 × 8.75 × 1 in) | 448 × 194 × 31.7 mm (17.625 × 7.625 × 1.25 in) | 489 × 213 × 38.1 mm (19.25 × 8.375 × 1.5 in) |
| Footprint | 165.73 mm (6.525 in) | 193.04 mm (7.6 in) | 210.82 (8.3 in) |
| Number of Keys | 101 (changeable legends) | 101 | 101 (102 international) |
| Key Total Travel | Not Applicable | 1.0 mm (.04 in) | 3.8 mm (.150 in) |
| Key Actuating Force | Not Applicable | 150 gm (5 oz) | 308 gm (11 oz) |
| Operating Termperature | 0 to 55° C (32 to 131° F) | | |
| Storage Temperature | -40 to 65° C (-40 to 149° F) | | |
| Humidity (operating and non-operating | 5 to 95% (without condensation) | | |
| Altitude (operating) | 3,657.60m (0 to 12,000 ft) | | |
| Input Power | 350 ma (maximum) @ 5V dc<br>250 ma (typical) @ 5V dc | | |
| Serial Input/Output | IBM-enhanced AT-compatible | | |
| Computer End | Standard 5-pin DIN connector - 7 ft extended shielded coil cord (PS/2 adapter included) | | |
| Shipping Weight<br>Alphanumeric keypad:<br>Function keypad: | <br>308 gm (11 oz)<br>616 gm (22 oz) | <br>1.13 kg (2 lb, 8 oz)<br>1.5 kg (3 lb, 5 oz) | <br>1.47 kg (3 lb, 4 oz)<br>1.9 kg (4 lb, 3 oz) |

# ViewPort Operator Interface Enclosures

**(Cat. No. 1891 Series)**

ViewPort™ Operator Interface Enclosures are tabletop, wall-mount, overhead-mount, and pedestal-mount enclosures designed to house PanelView 1200, 1200e, and 1400e terminals in harsh or hazardous environments.

The ViewPort housings are either aluminum (NEMA 4) or stainless steel (NEMA 4X). An optional Z-purge is available for hazardous environments such as Class I, Division 2 areas. Each ViewPort enclosure comes *fully assembled* with the selected PanelView terminal already installed.

## Features

- Adjustable tilt assembly allows up to 30° of movement and includes a locking disk to maintain the desired viewing angle
- Swivel assembly provides for 180° of horizontal rotation
- Base plate of 20 inches × 20 inches with rubber feet provides anchor-free table top mounting
- A universal mounting trunnion provides for wall or overhead mounting
- Thumbscrews on removable front plate and rear panel provide easy access
- Handles on front plate allow for quick removal of the PanelView terminal for servicing
- Removable rear panel facilitates direct power and communication wire termination
- Optional gasketed cable-way simplifies field installation by eliminating the need for conduit knock-outs
- Fully warranted by the Rockwell Automation

## Ordering Information

You can order PanelView products housed inside ViewPort enclosures only through the Industrial Automation Systems Flex Factory Team (see page 11-11).

Base configuration includes an adjustable tilt and swivel assembly, which provides for tabletop and pedestal mounting, and can be easily modified for wall or overhead mounting by removing the swivel assembly and base plate.

When placing an order, use the tables below to identify two catalog numbers: one representing the ViewPort enclosure and one representing the PanelView terminal (see Compatibility below).

**1891-VP4 __ __ __**
**1 2 3**

| Description | Options |
|---|---|
| 1 ViewPort housing | O Aluminum housing (NEMA 12/4)<br>X Stainless steel housing (NEMA 4x) |
| 2 Cable entry plate * | O Conduit knock-out<br>G Gasketed cable-way |
| 3 Optional purging ** | O No purge<br>Z Z-purge |

***** The conduit knock-out plate is required for NEMA 4, NEMA 4x, and Z-purge installations. The gasketed cable-way reduces the overall ViewPort enclosure rating to NEMA 12.
****** Z-purging is for Class I, Division 2 environments. Touch-screen PanelView terminals are not suitable for Class I, Division 2 environments.

You can also order a steel (cat. no. 1891-PED) or stainless steel (cat. no. 1891-PEDX) fixed mounting pedestal. The pedestal, which weighs 95 pounds and is 38 inches high, has a 12-inch × 12-inch base plate and four 0.5-inch diameter mounting holes. Pedestals are shipped separately.

## Compatibility

ViewPort enclosures can house the following A-B products:

| PanelView 1200 Terminals page 7-42 | PanelView 1200e Terminals page 7-40 | PanelView 1400e Terminals page 7-40 |
|---|---|---|
| • 2711-KA1[1] | • 2711E-K12C6[1] | • 2711E-K14C6[1] |
| • 2711-KC1[1] | • 2711E-K12C6L2[1] | • 2711E-T14C6 |
| • 2711-TA1 | • 2711E-T12C4 | |
| • 2711-TA4 | • 2711E-T12C6 | |
| • 2711-TC1 | | |
| • 2711-TC4 | | |

[1] The Z-purge version of the ViewPort (cat. no. 1891-VP400Z or 1891-VP4X0Z) is **Factory Mutual Research Approved** with these Allen-Bradley products for Class I, II, Division 2; Groups A, B, C, D, E, F, G. Be aware that Class II, Group E must be rated as Division 1. Touch-screen CRT devices are not suitable for Class I, Division 2 installations.

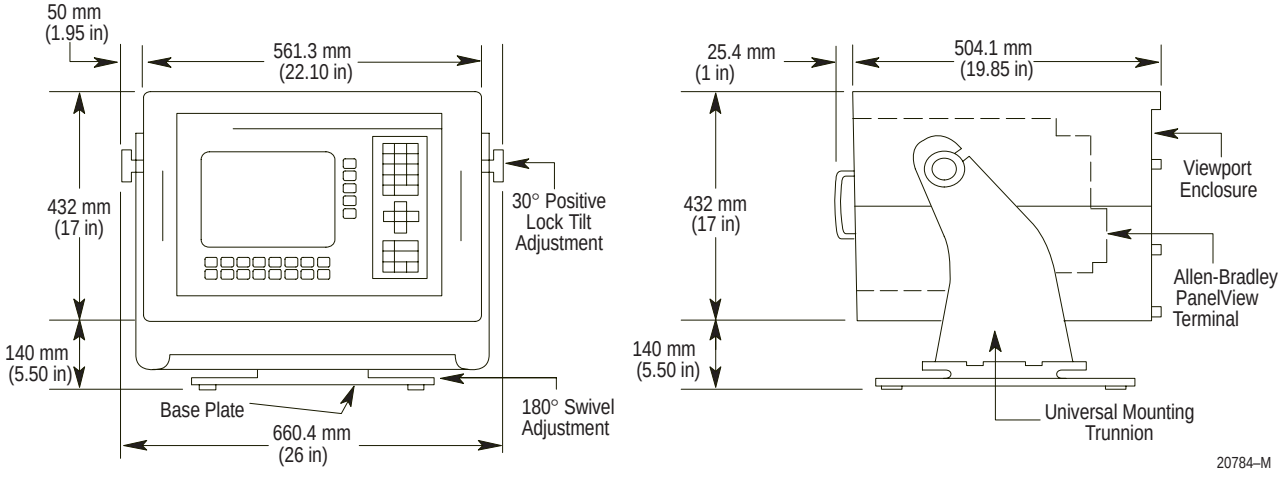
For specifications and dimensions, see page 7-59.

## Specifications

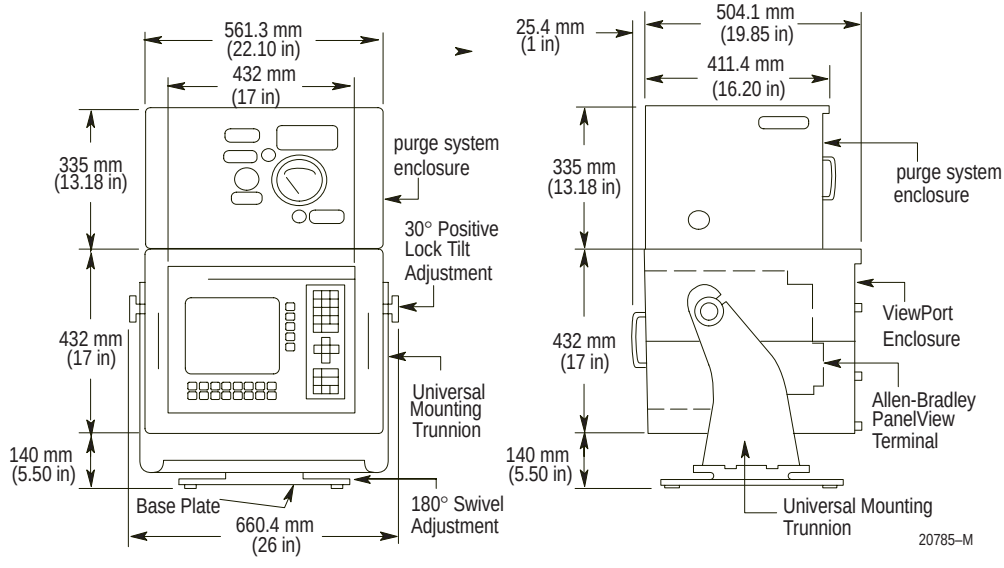
| | | | |
|---|---|---|---|
| **Catalog Numbers** | 1891-VP4000, -VP40G0 -VP4X00 | Weight (without PanelView terminal) | 40.9 kg (90 lb) |
| | | Temperature | External cooling is not required if ambient temperatures do not exceed 43° C (110° F) |
| | 1891-VP4000, -VP400Z | Internal material | Aluminum |
| | | External material | Painted aluminum [Paint: S-W Polane T-Plus, Textured (charcoal gray)] |
| | 1891-VP4X00, VP4X0Z | Internal material | Aluminum |
| | | External material | Stainless steel |
| | 1891-VP400Z, 1891-VP4X0Z | Weight (without PanelView terminal) | 54.5 kg (120 lb) |
| | | Temperature | External cooling is not required if ambient temperatures do not exceed 43° C (110° F) |
| | | Z-purge pneumatic | • Inert gas supply requirements of 80 to 100 PSI.<br>• Approximate air/gas consumption:<br>- Normal operation: 7-10 SCFH<br>- Rapid exchange: 240 SCFH for 10 min.<br>- Average enclosure pressure 0.25-0.50 in. |
| | | Z-purge electrical | • 120V, 60Hz, 15A maximum<br>• Internal 4-outlet surge suppressor<br>• Alarm contact, 15A maximum |

## Dimensions

### ViewPort 1891-VP4000 (Aluminum) and -VP4X00 (Stainless Steel) Enclosures




### ViewPort 1891-VP400Z (Aluminum) and -VP4X0Z (Stainless Steel) Enclosures with Z-purge



# Operator Interface

Some of the operator interface products covered in this section have NEMA ratings. This page provides an overview of the NEMA Types referenced in this section. For complete definitions, descriptions, and test criteria, see the National Electrical Manufacturers Association (NEMA) standards Publication No. 250.

## NEMA 4

Type-4 enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, and hose-directed water; and to be undamaged by the formation of ice on the enclosure. They are designed to meet hosedown, dust, external icing (undamaged after ice which built up during specified test has melted but **not** required to be operable while ice-laden), and rust-resistance design tests. They are not intended to provide protection against conditions such as internal condensation or internal icing. Enclosures are made of heavy gauge stainless steel, cast aluminum or heavy gauge sheet steel, depending on the type of unit and size. Cover has a synthetic rubber gasket. For complete definitions, descriptions, and test criteria, see the National Electrical Manufacturers Association (NEMA) standards Publication No. 250.

## NEMA 4X Non-Metallic, Corrosion-Resistant Fiberglass Reinforced Polyester

Type-4X enclosures are intended for indoor or outdoor use primarily to provide a degree of protection against windblown dust and rain, splashing water, and hose-directed water; and to be undamaged by the formation of ice on the enclosure. They are designed to meet hosedown, dust, external icing (undamaged after ice which built up during specified test has melted but **not** required to be operable while ice-laden), and rust-resistance design tests. They are not intended to provide protection against conditions such as internal condensation or internal icing. Enclosures are fiberglass reinforced polyester with a synthetic rubber gasket between cover and base. Ideal for such industries as chemical plants and paper mills. For complete definitions, descriptions, and test criteria, see the National Electrical Manufacturers Association (NEMA) standards Publication No. 250.

## NEMA 12

Type-12 enclosures are intended for indoor use primarily to provide a degree of protection against dust, falling dirt, and dripping non-corrosive liquids. They are designed to meet drip (no water has entered enclosure during specified test), dust, and rust-resistance tests. They are not intended to provide protection against conditions such as internal condensation. Refer to NEMA publication no. 250 for complete test specifications.

## NEMA 13

Type-13 enclosures are intended for indoor use primarily to provide a degree of protection against dust, spraying of water, oil, and non-corrosive coolant. They are designed to meet oil exclusion and rust resistance design tests. They are not intended to provide protection against conditions such as internal condensation. Refer to NEMA publication no. 250 for complete test specifications.

### **RS**View **Software**

**RS**View software (page 7-62) provides monitoring, control, and data acquisition functions in the Microsoft Windows 32-bit environment. Through its open platform, **RS**View software guides you through your automation process and gives you ODBC, OLE, and DDE capabilities. **RS**View software provides object-oriented graphics with animation, open database format, trending, alarming, data logging, derived tags, and event detection.

### WINtelligent VIEW Software

WINtelligent VIEW software (page 7-64), industrial software that takes advantage of the powerful Microsoft Windows 16-bit environment, lets you develop and run animation, alarms, data analysis, security, and an action/reaction system. VIEW software communicates via AdvanceDDE, which enhances DDE communication between Microsoft Windows applications.

### WINtelligent RECIPE Software

WINtelligent RECIPE software (cat. no. 9304-WRM300D) helps you manage data (page 7-65). It uses a spreadsheet for downloading values and .csv file formats for storing values. With RECIPE's scheduler, you can download recipes at specific times or based on events. RECIPE software is a DDE client that lets you integrate WINtelligent LINX software with DDE servers.

### **RS**Trend **Software**

**RS**Trend software (cat. no. 9304-WTD300) is the Microsoft Windows 32-bit software tool you need for data acquistion, data scaling, trending, and logging of real-time and historical data (page 7-66). You can accurately measure data values on the graph, which makes data comparison and analysis fast and easy. Data is logged to a .dbf file, so that you can use third-party packages for other data manipulation. **RS**Trend software is a DDE client that lets you integrate WINtelligent LINX software with DDE servers.

### ControlView Software

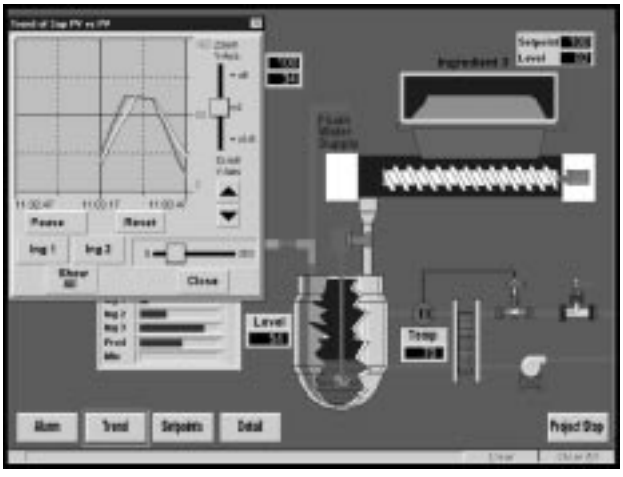
ControlView Software (page 7-67) is the MMI/Supervisory software you need to monitor and control real-time data in the MS-DOS environment. The ControlView tools let you animate your process, configure your databases, alarms, trends, event detectors, data logs, and derived tags. With ControlView software, you can customize your applications to meet your needs.

### **RS**Tools **and RS**Workbench **Products**

**RS**Tools ActiveX Controls (page 7-71) and **RS**Workbench Development Environment (page 7-73) are part of a new family of ActiveX controls that provides a component approach to monitoring, control and data acquisition functions in the Microsoft Windows NT or Windows 95 environment.

### **RS**Power **Software**

The **RS**Power™ power device and monitoring tool (page 7-70) is a Windows-based software program that accurately represents power systems in your facility by configuring and displaying data from Allen-Bradley Bulletin 1400 Powermonitors.



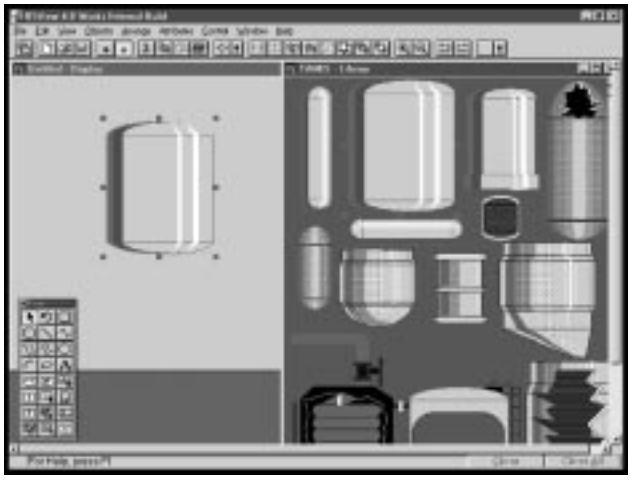
**RS**View Software provides monitoring, control, and data acquisition functions in the Microsoft Windows 32-bit environment. It uses an open-platform to guide you through your automation process, thus giving you ODBC, OLE, and DDE capabilities.

**RS**View software provides interoperability between Rockwell Software and Microsoft products. It improves upon traditional methods for MMI functionality by providing object-oriented animation of graphics, an open database format, .DBF historical data storage, and enhanced capabilities for trending, alarming, derived tag creation, and event detection.

## Benefits

- *Interoperability with WINtelligent LINX, WINtelligent RECIPE, and WINtelligent LOGIC software, and PanelView 1200e terminals.* Interoperability with Rockwell Software and A-B products adds functionality and saves time. WINtelligent LINX software provides DDE drivers for Allen-Bradley, Modicon®, Square D, GE, Reliance, plus over 100 third-party companies that are currently developing DDE drivers for LINX software. In addition, interoperability with LINX software offers full functionality of all LINX tools such as SuperWho, used for showing network configuration, and LINX diagnostic tools. There's no need to develop tags twice. Browse and select WINtelligent LOGIC and A.I. tags, and use them in **RS**View software's applications. Display a specific rung of ladder logic in response to an event such as an alarm. Interoperability with WINtelligent RECIPE software and PanelView 1200e terminals helps prevent re-development. Download a WINtelligent RECIPE based on demand. Share tags between **RS**View software and PanelView 1200e terminals.
- *Interoperability with Microsoft products.* **RS**View software is interoperable with Microsoft products such as Excel, Word, crystal reports, and Visual Basic.
- *Object-oriented graphics.* With sophisticated object-oriented graphics, **RS**View software makes development fast and easy. With OLE drag and drop, **RS**View software lets you easily choose from a large selection of library objects — gauges, tanks, pipes, faceplates, buttons, and many more. Based on Microsoft standards, **RS**View software's graphics editor lets you drag-and-drop from a library, cut/paste objects from the clipboard internal and external to **RS**View software, develop and display in any video resolution, as well as import third-party graphics, .dxf, .bmp, .wmf. To make the graphic displays more useful, you can embed trends, numeric displays, alarm summaries, and OLE applications into graphic screens.
- *Productivity tools.* **RS**View software provides tools that let you keep your process up and running while making changes. Edit graphic displays while running other displays, test animation from within the graphics editor before going online with a PLC processor, and modify tag addresses, node addresses, PLC networks, and device drivers on the fly.
- *Animation links.* **RS**View software is the only application that includes an object editing mode — the ability to modify attributes of a custom object without first destroying the object and rebuilding it later. The individual parts or the entire object can be animated with position, fill, touch, visibility, rotation, OLE Verb, and other animation controls. **RS**View software introduces Object Smart Path, the ability to interactively select animated object sizes and positions, leaving painstaking details of counting pixels a thing of the past.
- Open Database Connectivity (ODBC).. Open Database Connectivity is a standard developed by Microsoft that lets database formats become available to third-party tools. All **RS**View tag and system configurations are stored in an ODBC compliant database, which allows configuration creation/modification from a long list of third-party tools. These third-party tools can be used to create custom reports and to merge the contents of the configuration with other databases.
- *OLE (Object Linking and Embedding).* **RS**View offers complete OLE support, which allows third-party OLE applications to be seamlessly embedded into **RS**View graphic displays for in-place editing. In-place editing makes all the functionality of the original application available from within **RS**View software, which extends **RS**View software's capabilities beyond that of traditional MMI. For example, **RS**View software can contain an Excel spreadsheet whose contents can be modified directly from **RS**View displays while maintaining full Excel spreadsheet functionality.

*(Continued)*



## Benefits (continued)

- *Alarms.* **RS**View alarming has digital and analog alarms with 8 thresholds and 8 levels of severity. Alarm summaries can be embedded directly into **RS**View displays for quick viewing of one or all alarms. Analog alarming contains provisions for indirect threshold assignments from other **RS**View tag values, removing the headache of working with seasonal alarming. Digital alarming allows alarms to be set when data values change state, and each alarm can be logged or printed and filtered with a variety of tools.
- *Trends.* **RS**View trend capabilities are flexible — data can come from real-time data values or from historical data files. You can display information even when data isn't being logged. The capability of 16 pens per trend and the ability to display as many trends as desired gives **RS**View software increased flexibility. Finally, trend objects can be transparent, allowing the comparison between actual and predicted values.
- *Networking features.* **RS**View software provides capabilities to create a networked system. **RS**View nodes can retrieve most configuration data from a file server. **RS**View software relies on AdvanceDDE format for optimum throughput. Global alarming and remote historical data retrieval further facilitate multi-node operations to create a flexible, easily maintained system.
- *Communication.* **RS**View software's robust communication system dynamically optimizes for minimum network traffic and optimum performance; does error checking on a per tag basis; and hot switches between drivers on error. **RS**View software lets you choose between direct drivers for A-B processors or DDE servers. **RS**View software supports WINtelligent LINX software, Data Highway Plus, DH-485, DF1, and Ethernet for A-B processors as well as available DDE drivers for other programmable controllers and devices.

## Built to Order

We offer built-to-order combinations of the following **RS**View products so you can select the bundle you want to use to create, test, and run your operator interface applications.

- **RS**View **Software** lets you create, test, and run your applications in the Microsoft Windows 32-bit environment. It provides a development system with runtime functionality in sizes of 150, 300, 1500, or 32,000 tags that give you data acquisition, supervisory monitoring and control, and information management functions.
- **Device Drivers** communicate with the A-B complete line of PLC processors over DH+, DH-485, DF1, and TCP/IP-over-Ethernet networks.
- **DDE Drivers** communicate via WINtelligent LINX drivers to programmable controllers and other DDE server applications.

## Ordering Information

| Catalog Number | Product |
|---|---|
| 9301-2SE-2400 | **RS**View Works |
| 9301-2SE-2401 | **RS**View Works with WINtelligent LINX for A-B processors (LINX for A-B) |
| 9301-2SE-3400 | **RS**View Runtime |
| 9301-2SE-3401 | **RS**View Runtime with LINX for A-B |
| 9301-2SE-2300 | **RS**View Works 1500 |
| 9301-2SE-2301 | **RS**View Works 1500 with LINX for A-B |
| 9301-2SE-3300 | **RS**View Runtime 1500 |
| 9301-2SE-3301 | **RS**View Runtime 1500 with LINX for A-B |
| 9301-2SE-2200 | **RS**View Works 300 |
| 9301-2SE-2201 | **RS**View Works 300 with LINX for A-B |
| 9301-2SE-3200 | **RS**View Runtime 300 |
| 9301-2SE-3201 | **RS**View Runtime 300 with LINX for A-B |
| 9301-2SE-2100 | **RS**View Works 150 |
| 9301-2SE-2101 | **RS**View Works 150 with LINX for A-B |
| 9301-2SE-3100 | **RS**View Runtime 150 |
| 9301-2SE-3101 | **RS**View Runtime 150 with LINX for A-B |

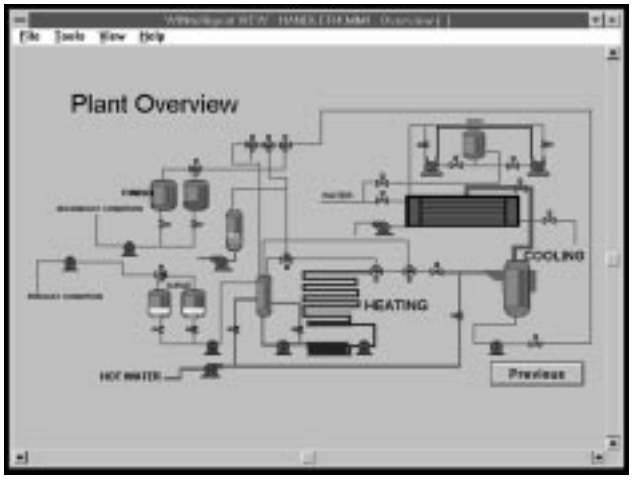
## System Requirements

| | |
|---|---|
| Operating System | • Windows 95<br>• Windows NT (future release) |
| PLC Processor | • PLC-2 processor<br>• PLC-3 processor<br>• PLC-5/250 processor (supported with WINtelligent Linx software DDE tags)<br>• PLC-5 (Enhanced, Ethernet, Local I/O)<br>• SLC 500 family of processors |
| Networking | • Supports any Windows-compatible network |

ROCKWELL SOFTWARE

# WINtelligent VIEW Software

**(Cat. Nos. 9304-WVD300, -WVR300, -WVD256, -WVR256, -WVD128, -WVR128)**




WINtelligent VIEW 16-bit Windows software is a visual graphics system that simultaneously modifies and animates data values (data points) through state changes, bargraphs, numeric, string, color changes, embedded trends, and slider bars to animate values. The Action/Reaction system automates WINtelligent VIEW software.

VIEW software communicates through AdvanceDDE servers, such as Rockwell Software LINX products, or any Windows DDE-compliant server.

## Features

- Provides several tools for process variable animation: the bargraph, vessel fill, color change, and numeric animations can have 64 different levels for color change based on process variable value
- Includes ASCII string, PC date, PC time, buttons, alarm views and embedded trends
- Can trend up to 16 process variables per animation and log data to a DBF file format
- Contains simple dialog boxes that let you easily configure display formats, operator functions, and scaling
- Has a visual action/reaction system that handles all operator input (alarming, product interaction, downloading values, and screen display); users configure actions and reactions with simple dialog boxes rather than with script programming
- Links logical expressions together to trigger one or more reactions
- Can play sounds for different alarms or change a picture based on severe alarms
- Acts as an industrial program manager for factory-floor use and can start or bring focus to other applications; sends keystrokes and interaction commands (DDE Execute) to other applications and reads and writes to DDE Items. These reactions can be triggered by process variable change, keyboard keys or buttons.

## System Requirements

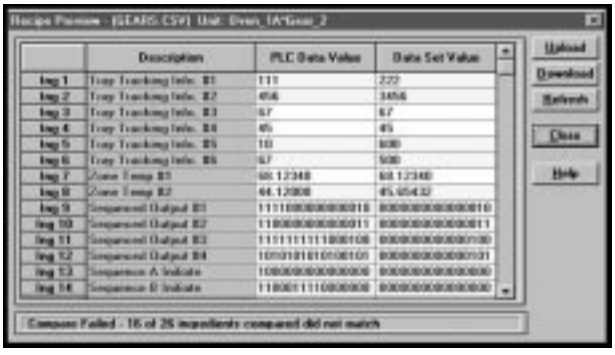
- IBM compatible 486 33-MHz computer
- MS-DOS v5.0 operating system
- Microsoft Windows v3.1 operating system
- 16M-byte RAM
- 20M-byte hard disk space
- 16-color VGA graphics adapter
- any Windows-compatible pointing device

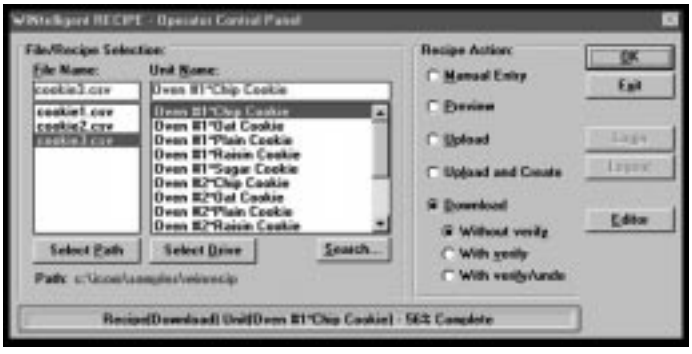
## Ordering Information

| Catalog Number | Product Characteristics |
|---|---|
| 9304-WVD300 | 3,000-tag development system with one 3,000-tag runtime |
| 9304-WVR300 | 3,000-additional-tag runtime |
| 9304-WVD256 | 256-tag development system with one VIEW 256-tag runtime |
| 9304-WVR256 | 256-additional-tag runtime |
| 9304-WVD128 | 128-tag development system with one VIEW 128-tag runtime |
| 9304-WVR128 | 128-additional-tag runtime |

# WINtelligent RECIPE Software

**(Cat. No. 9304-WRM300D)**





WINtelligent RECIPE software is a Microsoft Windows-based application for managing industrial process control recipes used with programmable controllers. With RECIPE software you can upload data from a live process and store the data in an existing recipe or you can download existing recipes to your process and manufacturing applications. RECIPE software's verification and confirmation options tell you whether or not valuable data has been downloaded successfully.

## Features

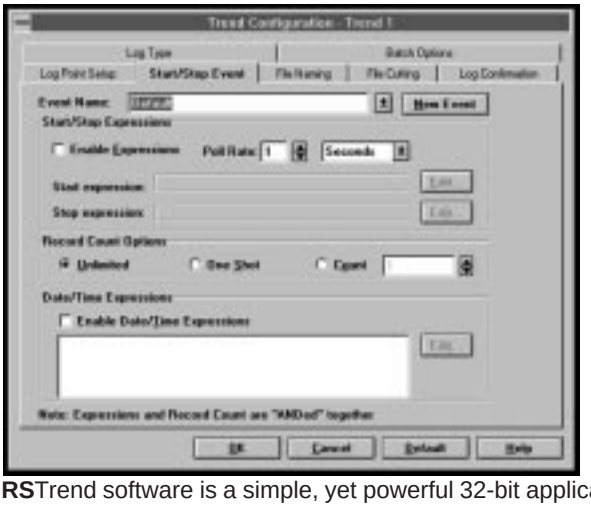
- Displays live process data and the currently selected recipe data in a side-by-side comparison and highlights any mismatches for fast visual reference
- Works with applications that generate DDE Execute requests to:
  - upload, download, preview, and manually change process data
  - upload and create new recipe unit
  - display runtime interface
  - enable, edit, disable scheduler
  - create new recipe or open existing recipe
- Includes a wizard that builds DDE Execute commands and, therefore, reduces the time needed to create the command string
- Can be a standalone system through the use of a runtime interface
- Lets you display and edit multiple recipes at the same time as well as cut, copy, and paste from one recipe to another
- Since each recipe can contain multiple address and data sets, you can define a different range of addresses and also maintain a variety of values for each ingredient defined in your process
- Records basic recipe actions: upload, download, preview, and manual entry, and upload and create recipe unit. The log file contains a date/time stamp, recipe action description, operator login ID, recipe name and recipe file name with path

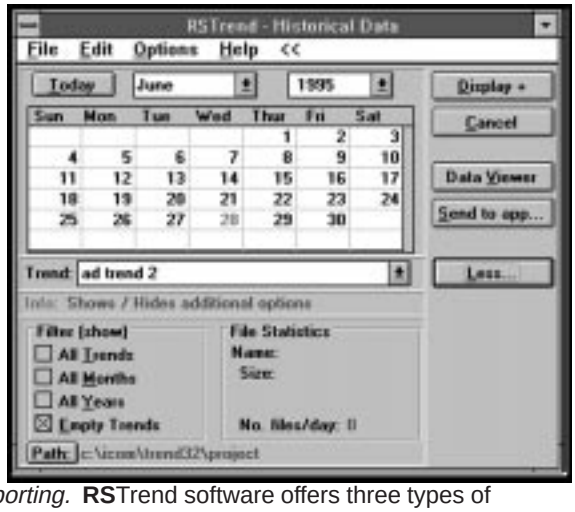
## System Requirements

- IBM compatible 486 33-MHz computer
- MS-DOS v5.0 operating system
- Microsoft Windows v3.1 operating system
- 8M-byte RAM
- 10M-byte hard disk space
- 16-color VGA graphics adapter

# RSTrend Software

**(Cat. No. 9304-WTD300)**






**RS**Trend software is a simple, yet powerful 32-bit application for collecting and monitoring real-time and historical PLC data for Microsoft Windows, Windows 95, and Windows NT operating systems. **RS**Trend software provides several display formats for the logged data including the familiar strip-chart recorder. Trend graphs can be scaled automatically or manually.

**RS**Trend software can log data by time, event, unsolicited, or continuously. Data can be acquired from the PLC processor's data table or from a Windows-compliant DDE driver. **RS**Trend software is designed to work with all members of the Allen-Bradley family of programmable controllers as well as other controllers. Data is logged to disk using the standard DBF™ file format.

With **RS**Trend software's simple tab dialog menu system, you can set up and begin logging data in minutes.

## Features

- *Event-based Logging.* Start or stop logging using global events based on time, PLC values, or DDE events. Each trend can contain a unique Start/Stop log "expression," which can include up to 11 variables.
- *Displaying Real-time and Historical Data.* **RS**Trend can simultaneously display real-time and historical data. **RS**Trend software's flexible trend viewer provides pan and zoom options and VCR buttons to adjust the graph to suit your needs. Advanced viewer options are provided for X-Y plots, profiles, and overlays. Viewer settings can be saved in templates and workspaces.
- *WINtelligent Historian and Data Viewer.* The WINtelligent Historian provides a familiar "Calendar" type display for viewing real-time or historical data. Days that contain logged data "light up" in green. Select one or more days and press "Display" to display one or more views of the historical data. With the Historian, you can copy data to another application (e.g. Microsoft Excel) for viewing or analysis.

  The Data Viewer provides a numeric display of the logged data, which can be displayed in floating-point, integer, or binary formats. A search option lets you quickly find values in the data.
- *Reporting.* **RS**Trend software offers three types of reporting: project, numeric, and graphical. Project reporting contains all information necessary for documenting the project, including all log-point information, trend setup, and program settings.

  Data reporting is divided into numerical and graphical types. A numerical report consists of a table of data values based on a selection of log points and required time range. Graphical reporting contains a print-out of the displayed trend graph, including colors and a variety of line styles and polymarkers. Black and white or color reports may be printed on any Windows, v3. 1 or later, supported printer.

## Additional Features

- Batch logging with batch ID
- Flexible file naming and file cutting options
- Log to primary and/or backup disks
- Formula support to scale PLC values into engineering units
- Value bar displays exact numeric values on graph
- Security through user Login/Logout
- Log on change with an adjustable "Deadband"

## Typical Applications

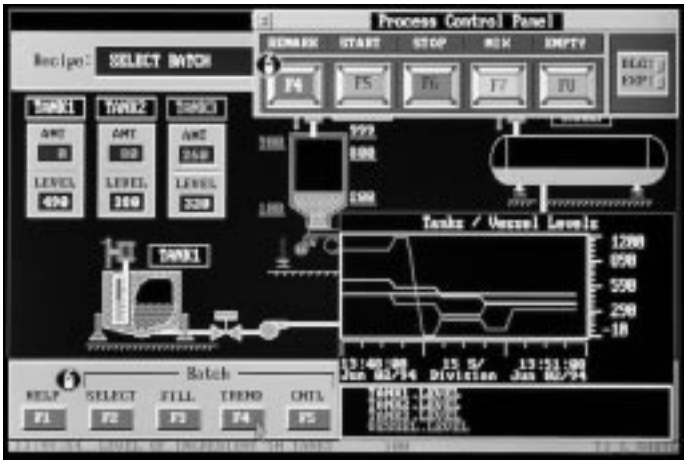
- Process monitoring
- Historical trending
- Batch logging
- Maintenance
- Diagnostics
- Reporting

## System Requirements

- IBM compatible 486 33-MHz computer
- MS-DOS v5.0 operating system
- Microsoft Windows v3.1 operating system
- 8M-byte RAM
- 40M-byte hard disk space
- 16-color VGA graphics adapter

# ControlView Software

**(Cat. No. 9302 Series)**



ControlView software is the MMI/Supervisory software you need to monitor and control real-time data in the MS-DOS environment. The ControlView tools help you animate your process and configure your databases, alarms, trends, event detectors, data logs, security, recipes, and derived tags. With ControlView for DOS options, you can customize your applications to meet your needs. ControlView software lets you develop either in the Microsoft Windows or MS-DOS environment. Both operating systems use the same multi-tasking Runtime (Chronos) system for DOS.

## Features

- *Graphics/Animation Links.* Design and animate your process through the MouseGRAFIX editor. Combine animation links to create complex processes. In addition, ControlView software gives you the tools for linking displays and creating an overall application structure that's easy for operators to use.
- *Trends.* Trend displays can plot realtime data or can retrieve data from historical data logger files for analysis. Plot as many as 16 pens at one time. Trends can show changes in tag values over time or relationships between tag values. Log data periodically based on event or on demand.
- *Alarms.* Alarms are flexible and easy to use. Alarms are set up based on thresholds and can be assigned different levels of severity. This lets you assign the action based on the severity. For example, a low severity might print a message, while a high severity alarm might ring a bell.
- *Event Detector.* Use ControlView Event Detector to trigger actions based on an event. For example, initiate a data logger model snapshot, start another application, display a help window, set a tag in the database.
- *Runtime.* For the MS-DOS power users, ControlView software is the only MMI/Supervisory Control software that has true pre-emptive multi-tasking within the MS-DOS environment. This allows you to achieve maximum data integrity, while simultaneously monitoring your real-time data with graphics, alarms, and trend charts.

## Additional Features

- Use DDE to communicate between ControlView software and other Windows-based applications over a network
- Use "C" Toolkit to develop custom applications to work with ControlView software
- Design high-level reports using database information, data logger files, and activity log files
- Supports Allen-Bradley Modicon, Siemens, Texas Instruments, and GE drivers

See page 7-68 for a typical configuration drawing.

## Ordering Information

| Catalog Number | Product Characteristics |
|---|---|
| 9302-CV | ControlView for DOS System |
| 9302-RT | ControlView for DOS Runtime |
| 9302-CV3 | ControlView for DOS 300 System |
| 9302-RT3 | ControlView for DOS Runtime 300 |
| 9302-RT15 | ControlView for DOS Runtime 1500 |
| 9302-BLD | ControlView for DOS Builder |
| 9302-BLDRT | ControlView for DOS Builder and Runtime |
| 9302-BLDRT3 | ControlView for DOS Builder and Runtime 300 |

## System Requirements

MS-DOS operating system. [ControlView for DOS Builder (cat. no. 9302-BLD) runs on Windows v3.1 or Windows 95 operating system.]

## Software and Hardware Recommendations

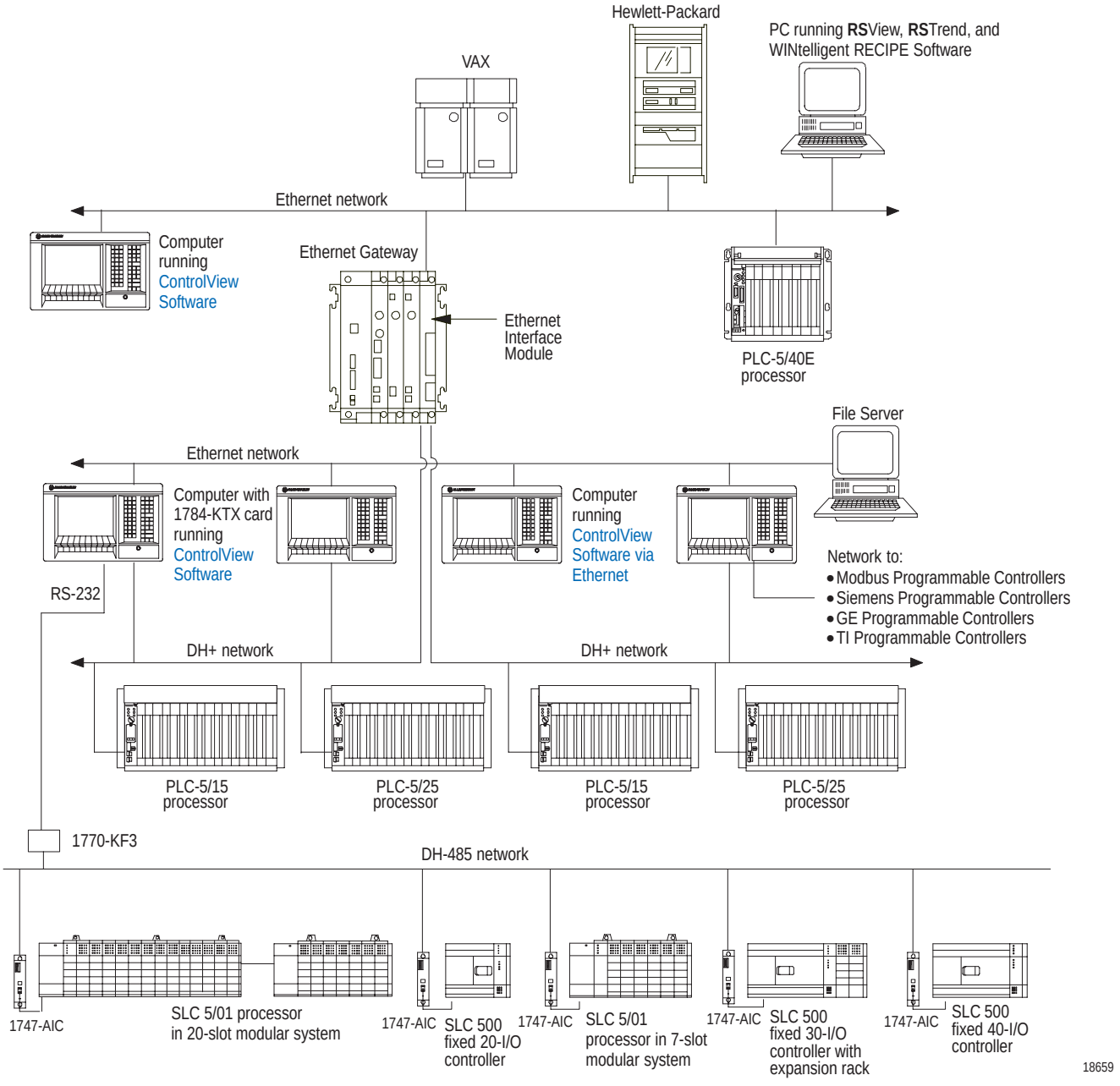
For ControlView hardware and software platform recommendations, see *ControlView Recommended Hardware and Software Platforms,* publication 6190-2.5.

ROCKWELL SOFTWARE

# ControlView Software

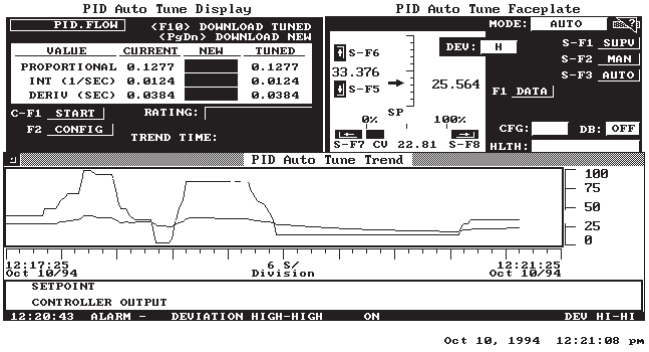
**(Cat. Nos. 9302 Series)**

## Typical Configuration



# Process Configuration and Operation (PCO) Software

**(Cat. Nos. 6723-PCO, -PCS, -PFP)**




PCO Software (cat. nos. 6723-PCO, -PCS, -PFP) lets you develop your process more quickly and easily using familiar tools. By simplifying the integration of analog I/O modules, PLC processors, discrete devices, and operator interface workstations, PCO lets you make incremental, cost-effective process improvements as you develop your PLC processor-based control system. The software was developed as a Windows application and is compatible with v3.11, Windows 95, and Windows NT v3.51 or greater.

You'll start working with PCO by using a Windows-based Excel application to identify and configure your process functions. You can then add the PCO functions to your existing PLC processor programs using Rockwell Software PLC-5 A.I. Series Programming Software or **RS**Logix 5 Software. PCO's pre-developed Excel spreadsheets have interfaces in the PLC processor that enable Excel to communicate directly to the PLC processor over the Data Highway Plus, Ethernet network, serial port or ControlNet network.

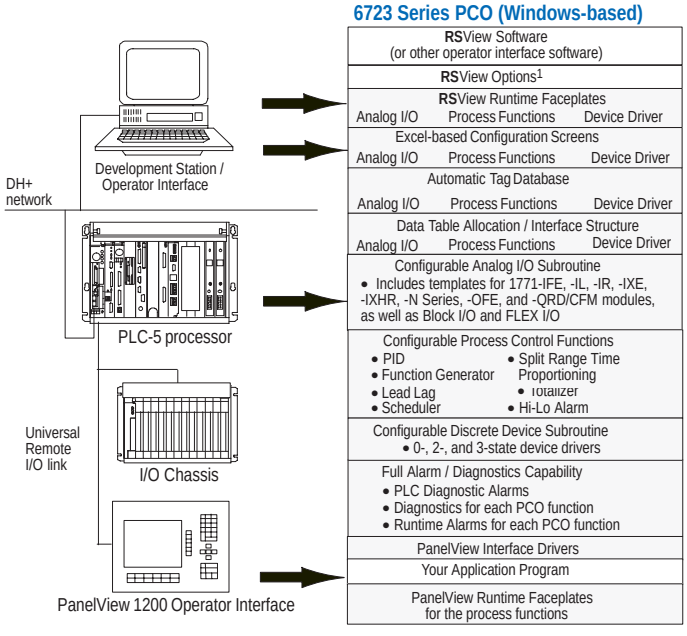
Once the process functions are configured and the PLC processor code is integrated, the PCO MMI faceplates allow online operation, control, and maintenance of the process loops. PCO MMI interface graphics or faceplates are provided for software packages from Rockwell Software and A-B Encompass Program partners.

## Features

- Analog I/O, process control, and discrete control functions that you *configure* instead of *program*. PCO's function logic saves you valuable time and reduces the risks associated with writing custom routines each time you use these functions. PCO's consistent, structured implementation of these functions also saves you time in developing, debugging, and maintaining your system
- Addresses the complete system — from the I/O to the operator interface — thru factory-written functions and factory-configured runtime faceplates
- Runs on A-B PLC-5/20, -5/30, -5/40, -5/60, and -5/80 processors, and works with many of the leading operator interfaces, including Rockwell Software **RS**View Software and PanelView workstations
- Contains process functions with an Excel-based configuration template for each. You just fill in the blanks and download the information to your PLC processor
- Uses an enhanced PID algorithm, so you need to configure only for simple or complex loop control. For a 15-loop system, we estimate a time savings of 16-24 hours for general layout and definition, and 3 hours of coding/testing per loop

*For more information, see: Take Control of your Application with PCO Software Product Overview, publication 6190-2.1.*

## Typical Configuration




PCO process functions work with:

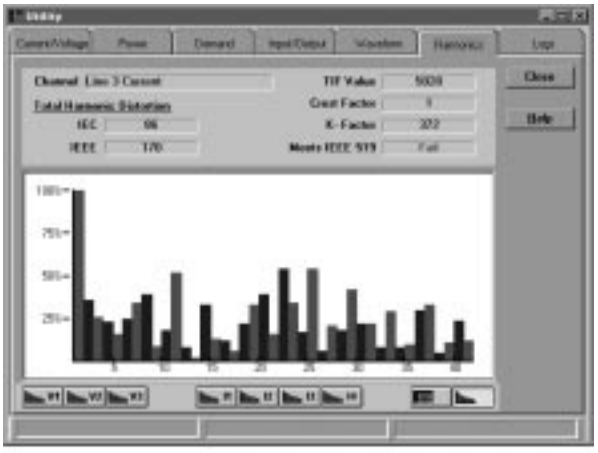
- A-B 1771 analog modules, Block I/O, FLEX I/O
- Rockwell Software **RS**View Software and other PSP operator interface software
- PLC-5 Family of processors
- PLC-5 programming tools: PLC-5 A.I., WINtelligent LOGIC 5 software
- ControlNet, Remote I/O, Data Highway Plus networks

The shaded portions of this figure identify what you receive with PCO Software.

[1] See page 7-62 for a list of **RS**View Options.

# RSPower Software

**(Cat. Nos. 9307-RSPDEVD, -RSPRTD)**



The **RS**Power™ power device and monitoring tool is a Windows-based software program that accurately represents power systems in your facility by configuring and displaying data from Allen-Bradley Bulletin 1400 Powermonitors.

With **RS**Power software, you can configure power devices, create custom graphical displays, and begin monitoring power systems within minutes of installing the software. Like many other Rockwell Software products, **RS**Power software runs on Microsoft Windows v3.x, Windows for Workgroups, and Windows 95 operating systems.

Intuitive configuration procedures, a well-stocked graphical toolbox, and easy navigation make **RS**Power software a valuable tool for creating data monitoring systems in your facility.

**RS**Power software includes two separate programs as described in the table below.

| **RS**Power Program | Type of Software | Function |
|---|---|---|
| **RS**PowerCFG | Configuration Software | Configures power devices and provides tools for creating graphical displays to monitor power |
| **RS**PowerRUN | Runtime Software | Displays real-time power system data, trends, and alarms in custom-designed graphical displays. Records historical trend and alarm data in standard database files. You can open these files in any Windows application that accepts .DBF files. |

## Features

- *Quickly configure power devices.* Download or upload configuration settings between physical power monitors and the **RS**Power software.
- *Create custom graphical displays.* Use a toolbox of graphical elements to create drawings that include objects such as three-phase wiring runs, transformers, breakers, and motors.
- *Provide quick access to power system data.* Configure objects such as analog meters, digital meters, and bar graphs that report values back to operators during run time.
- *Set up trends and alarms* that report values back to operators during run time and record historical data in standard database .DBF file format.
- *Display all power system parameters* from all configured power devices in an easy-to-read spreadsheet format.
- *Proven Universal Remote I/O link* transfers data quickly and efficiently from power monitor devices to **RS**Power software. Use either a PLC-5 or an SLC 5/03 or SLC 5/04 processor as the gateway to the Universal Remote I/O link. Because power monitor data passes through the processors without even entering its memory space, you don't have to program the processors in order to run **RS**Power software.

## System Requirements

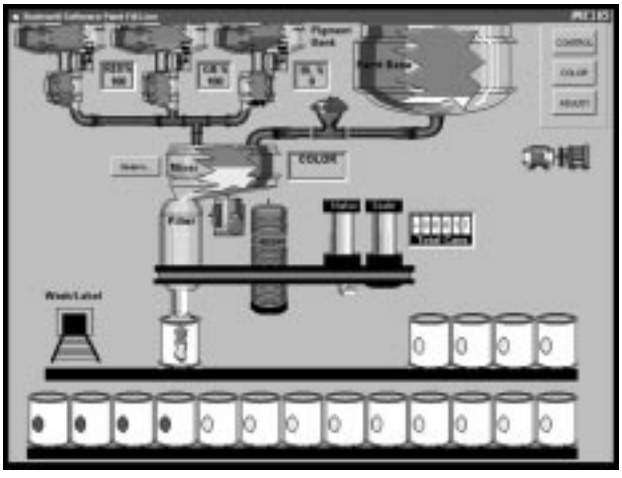
- 486DX2 66 MHz personal computer with a minimum of 16M bytes memory
- Windows 3.x, Windows for Workgroups, or Windows 95 operating system
- Enhanced PLC-5 processor with at least 1 Universal Remote I/O scanner port or a SLC 5/03, or SLC 5/04 processor [if you're using a SLC processor, you also need a SLC 500 Remote I/O Scanner (cat. no. 1747-SN/B), page 3-7]
- DH+, DH-485, Ethernet, or channel 0 for connecting the personal computer to the network

## Ordering Information

| Catalog Number | Product |
|---|---|
| 9307-RSPDEVD | **RS**PowerCFG and RUN |
| 9307-RSPRTD | **RS**PowerRUN |

# RSTools ActiveX Controls

**(Cat. No. 9361-TOOLS)**



**RS**Tools™ are a collection of ActiveX Controls that let you use Rockwell Software AdvanceDDE format to represent data graphically for reliable, high-volume, high-speed communication. These tools help you develop applications for discrete manufacturing, process control, SCADA, and other industrial automation environments.

All **RS**Tools components can be accessed by Microsoft Visual Basic, Microsoft Access, or any Microsoft compatible ActiveX control container. The tools consist of seven ActiveX controls (as described in the table below) and a flexible DDE (Dynamic Data Exchange) **RS**JunctionBox™ communication module. The **RS**JunctionBox module lets all Rockwell Software controls communicate with DDE servers supporting AdvanceDDE and Excel Table formats.

| ActiveX Control | Function |
|---|---|
| **RS**Data | The **RS**Data OCX, a 32-bit Visual Basic, (successor to **RS**Data VBX, a 16-bit Visual Basic, page 7-72) provides numerical display of data and automatic database logging of values on value change |
| **RS**Vessel | A powerful free-form dynamic fill shape control that allows percent fill based on the current value. You can create images representing storage tanks, ovens, or vats and actively show their current status |
| **RS**Wheel | A panel thumbwheel emulator (mechanical, electronic, random number generator, etc.) to help you present your data in a familiar classic format (binary, octal, decimal, or hexadecimal) while still using the power and flexibility (over 100 custom and standard properties) that's built into every one of the Rockwell Software ActiveX controls |
| **RS**Gauge | A multi-functional highly-configurable graphical gauge (used for speedometers, thermometers, pressures, etc.) lets you create dynamic round, semi-circular, or arc gauges all tied directly to live DDE data |
| **RS**Button | Quickly create momentary, LEDs, check box, toggle, radio or rocker buttons or switches to control and illustrate the process. **RS**Button has graphic images for on/off states |
| **RS**Slider | Use **RS**Slider to provide custom data entry. **RS**Slider has Min/Max value restriction, dual-scale display, an assortment of scroll bars and knob styles, and horizontal and vertical slider bars |
| **RS**Compare | A multi-state evaluation control that supports *linear* (new value is compared to the last value read) or *absolute* (compares current state to a check value) compare methods. |

All of the controls can be bound to the Visual Basic Data control to link to most any database (Microsoft Access, dBASE™, FoxPro, SQL, Server, or Oracle). **RS**Tools and Visual Basic help make the rapid creation of an inexpensive, seamless link from the plant floor to the entire enterprise possible.

## Features

- Configure controls with graphical, point-and-click setup
- Connect to a variety of DDE sources through AdvanceDDE, XL_TABLE or CF_TEXT protocols
- Display any error that occurs in the data stream automatically with built-in error notification and handling
- Store configurations for easy re-use with **RS**Tools *Template Manager*
- Use the WYSIWYG *Preview Mode* to preview results (before applying them) while modifying properties or applying templates
- Use **RS**Tools ActiveX Controls with any Dynamic Data Exchange (DDE) server
- Build a quick-pick of DDE links with the *Symbol Manager*
- Display DDE link information at run-time using *Link-Tips*
- Use read/write math expressions capabilities to scale incoming or outgoing data without writing code
- Use **RS**Tools ActiveX Controls as a container for pictures, text, and other ActiveX controls
- Extend Visual Basic events and provide additional custom events including advanced communication, error notification, and troubleshooting

## System Requirements

- Microsoft Visual Basic for Windows v4.0 or other development environments capable of using ActiveX Controls
- **RS**JunctionBox module communicates with any DDE server capable of using one of the following formats:
  - Rockwell Software AdvanceDDE
  - Microsoft Excel Table (XL_Table) or Text (CF_Text)
- IBM-compatible 486 processor or greater with 10M bytes of free hard disk space and at least 8M bytes of RAM. Rockwell Software recommends 16M bytes of RAM and a Super VGA (800 × 600) or greater display
- Windows 95 or Windows NT v3.51 operating system

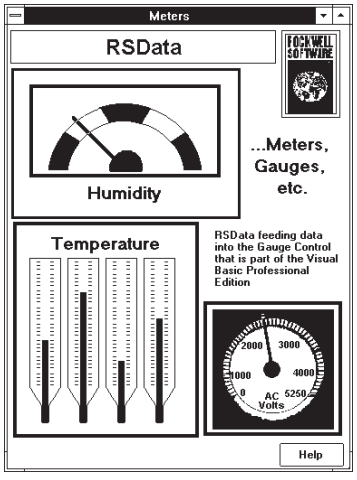
## Ordering Information

| Catalog Number | Product |
|---|---|
| 9361-TOOLS [1] | Includes **RS**Data, **RS**Gauge, **RS**Vessel, **RS**Compare, **RS**Wheel, **RS**Button, **RS**Slider, **RS**JunctionBox |
| 9361-DATAOCX [1] | **RS**Data and **RS**JunctionBox module |
| 9361-JBOX | **RS**JunctionBox module |

[1] Includes Microsoft Visual Basic v4.0 standard edition (in the U.S./Canada).

# RSData Software

**(Cat. No. 9361-VBX)**




**RS**Data™ Software, a Visual Basic® custom control software, lets you use the Rockwell Software AdvanceDDE™ format for high-volume, high-speed communication. This control software replaces the standard Visual Basic DDE-aware client controls (Text Box and Label).

**RS**Data software can communicate through many formats and chooses the best common format when establishing links to server applications. **RS**Data software first attempts to link through the AdvanceDDE format, followed by the Microsoft Excel Table format, and, finally, through the standard text format. Without writing any code, you can link **RS**Data software to the Visual Basic data and log changes in any linked third-party database, such as Access, Paradox, DBase, Microsoft SQL Server, Oracle and Foxpro® databases.

## Features

- Brings robust industrial communication into the quick and easy Visual Basic development environment
- Provides custom solutions for difficult tasks with the same communication efficiency as sophisticated industrial programs
- Links to databases, such as Access, Paradox, DBase, Microsoft SQL Server, Oracle, and FoxPro databases, and performs automatic logs to the database upon change of the data value
- Notifies you of important communication events, such as ItemChange, PokeCompleted, RequestCompleted, and LinkError
- Provides high-volume, high-speed data transfer using standard Windows DDE
- Reduces DDE transaction time geometrically with the amount of data
- Has easy “search and replace” conversion from standard DDE-aware controls
- Provides link-tip display of link information
- Accepts data from different servers and uses the best common format (AdvanceDDE, Excel Table, Text). Each server negotiates its own communication
- Supports array data types to further improve data transfer rates
- Offers enhanced reading and writing methods, such as requesting and poking, when using control arrays
- Has extended data transmission error detection

## System Requirements

- Microsoft Visual Basic for Windows, v3.0
- Support is provided with a reduced feature set for: Microsoft Visual C++™, Borland® Delphi, Powersoft’s PowerBuilder, previous versions of Visual Basic, and other development environments providing VBX Level 1 compatibility
- Any DDE Server capable of using one of the following formats:
  - Rockwell Software AdvanceDDE
  - Microsoft Excel Table (XL_Table)
  - Text (CF_Text)

## Compatibility

- Visual Basic v4.0 (16-bit)
- Applications using Microsoft Windows v3.x
- Windows 95 operating system
- Windows NT operating system

## Custom Properties

| | | | |
|---|---|---|---|
| AllowItemChangeEvent | AlwaysDisplayData | DataUpdate | DataValue(item) |
| DoPoke | DoRequest | LinkErrorDisplay | LinkErrorNumber |
| LinkErrorString | LinkItem | LinkMode | LinkServer |
| LinkTip | LinkTipBackColor | LinkTipForeColor | LinkTopic |
| NumberOfDataItems | PokeLength | PokeStartIndex | PokeResult |
| PokeType | RequestLength | RequestMode | RequestResult |
| RequestStartIndex | UseInPoke | UseInRequest | |

## Custom Events

| | | |
|---|---|---|
| ItemChanged | PokeCompleted | RequestCompleted |
| LinkError | LinkNotify | |

# RSWorkbench Development Environment

**(Cat. No. 9462-BENCH)**

The **RS**Workbench™ development environment attaches to the Visual Basic v4.0 add-in menu to enhance both the Visual Basic and the **RS**Tools family of ActiveX controls.

Once attached, the **RS**Workbench product provides easy access to re-usable Forms, Code, Images, Templates, Apprentices for Database creation and Action creation. “Outlets” consisting of PLC database symbols, addresses, and descriptions can be dragged and dropped directly onto the **RS**Tools ActiveX Controls (page 7-71) to quickly link to process data.

The **RS**Workbench product is part of the **RS**Workshop, which consists of **RS**Tools and **RS**Workbench.

| **RS**Workshop | |
|---|---|
| **RS**Workbench | **RS**Tools |
| Electrician, Outlets, Pegboard, Drawers, Image Foundry, Control Forge, Database Apprentice, Action Apprentice, Forms Library, Draftsman, Code Library, and Project Manager | **RS**Gauge, **RS**Vessel, **RS**Button, **RS**Data, **RS**Slider, **RS**Compare, **RS**Wheel |

## Features

- *Outlets* provide a set of Tags for process linking and animation. This list of Tags is read directly from a user database, Text file (CSV), or PLC database. Importing and conversions are not necessary.
- *Electrician* lets you assign a “Name” that is associated with a Server, Topic, and Database. Once defined, the electrician “Wires up an Outlet.”
- *Pegboard,* a virtual clipboard, provides over 50 pegs to save clipboard data. One click captures the contents of the clipboard. Another click restores the clipboard data. You can save Pegboards to disk.
- *Drawers* organize project data. Libraries of Pegboards, Databases, Images, Templates, Forms, Code, etc. are accessible through these animated drawers.
- *Image Foundry,* a powerful object-oriented drawing package, creates simple to complex drawings and saves them in the standard windows MetaFile format (.WMF). Autocad DXF files can be imported and modified to create new drawings or symbol libraries.
- *Control Forge* is a WYSIWYG (what-you-see-is-what-you-get) tool to simplify the creation of property Templates for **RS**Tools (ActiveXs)
- *Database Apprentice* creates a Microsoft ACCESS database from scratch, creates a form from the database fields and binds the controls to the database all in just four clicks.
- *Action Apprentice* takes standard Actions and prompts the user for action options. Once complete, this apprentice generates code and puts it into the clipboard. Syntax is automatic, necessary Form, Class, and Basic modules are automatically added to the project as needed.
- *Forms Library* provides a visual preview of Forms from a library of Forms and helps organize sets of Forms. Select a Form and press the Apply button to automatically add the Form to the open project.
- *Draftsman* has tools for aligning and sizing controls on a Form as well as design rules for consistency to promote a common look and feel to Forms.
- *Code Library* quickly accesses sample Code snippets that can be copied to the clipboard. Code libraries promote code re-use and dramatically reduce code development time.
- *Project Manager* lets you select multiple modules and using the right mouse menu duplicate or copy the modules to a user-defined library.

## System Requirements

- Microsoft Visual Basic for Windows v4.0 or other development environments capable of using ActiveX Controls
- **RS**JunctionBox module communicates with any DDE server capable of using one of the following formats:
  - Rockwell Software AdvanceDDE
  - Microsoft Excel Table (XL_Table) or Text (CF_Text)
- IBM-compatible 486 processor or greater with 10M bytes of free hard disk space and at least 8M bytes of RAM. Rockwell Software recommends 16M bytes of RAM and a Super VGA (800 × 600) or greater display
- Windows 95 or Windows NT v3.51 operating system

# Operator Interface Products

## UL/CSA and CE

The following products (in addition to the ones we've already identified in this section) have UL/CSA approval and CE certification.

| Class I Div 2 Hazardous | | | | | |
|---|---|---|---|---|---|
| • 2705-EM21J1 | • 2705-K11C1 | • 2706-B13J8 | • 2711E-K14C6 | • 1747-CP3 | • 2707-V40P1 |
| • 2705-EM11J1 | • 2705-K11C2 | • 2706-B13J16 | • 2711E-K14C7 | • 2705-EP11S1 | • 2707-V40P2 |
| • 2705-EM2x | • 2705-P11J1 | • 2706-B13J31 | • 2711E-T14C6 | • 2705-EP21S1 | • 2707-V40P2N |
| • 2705-EP2x | • 2705-P11J1L | • 2706-B23J8 | • 2711E-T14C7 | • 2705-EP21SE1 | • 2711-B5A1 |
| • 2705-EP21SE1 | • 2705-P11J2 | • 2706-B23J16 | • 6151 Series[2] | • 2705-T3DN1A42A | • 2711-B5A2 |
| • 2705-EP11S1 | • 2705-P11J2L | • 2706-B23J31 | • 6152 Series[2] | • 2705-T3DN1B42A | • 2711-B5A5 |
| • 2705-T3DN1A42A | • 2705-P21C1 | • 2706-B43J16 | • 6153 Series[2] | • 2706 DL5 | • 2711-K5A1 |
| • 2705-T3DN1B42A | • 2705-P21C2 | • 2706-B43J31 | • 6154 Series[2] | • 2706 DL10 | • 2711-K5A2 |
| • 2706-A41J | • 2705-P21J1 | • 2706 DL20[4] | • 6155 Series | • 2706 DL20 | • 2711-K5A5 |
| • 2706-A42J | • 2705-P21J1L | • 2706- DL40[4] | • 6156 Series[3] | • 2706 DL40 | • 2711-K9A1 |
| • 2706-D11J2 | • 2705-P21J2 | • 2706 DL50[4] | • 6157 Series[2] | • 2706 DL50 | • 2711-K9A2 |
| • 2706-D21J2 | • 2705-P21J2L | • 2706-E23J16 | • 6158 Series[2] | • 2706-E23J16 | • 2711-K9A5 |
| • 2706 DL5 | • 2705-P31J1 | • 2706-E23J16B1 | • 6159 Series | • 2706-E23J16B1 | • 2711-K14C6 |
| • 2706 DL10 | • 2705-P31J1L | • 2706-E23J32 | • 6180 Series[3] | • 2706-E23J32 | • 2711-T9A1 |
| • 2706-M1D | • 2705-P31J2 | • 2706-E23J32B1 | • 6189-DPMOUSE | • 2706-E23J32B1 | • 2711-T9A2 |
| • 2706-M1D1 | • 2705-P31J2L | • 2706-E43J32 | • 6189-DPMOUSEP | • 2706-E43J128B1 | • 2711-T9A5 |
| • 2706-M1F1 | • 2705-T3ND | • 2706-E43J32B1 | | • 2706-E43J32 | • 2711-T14C6 |
| • 2706-M1N1 | • 2706-M1F | • 2706-E43J64 | | • 2706-E43J32B1 | • 2711E-K14C6 |
| • 2707-DNC | • 2706-M1N | • 2706-E43J64B1 | | • 2706-E43J64 | • 2711E-T14C6 |
| • 2707-L8P1 | • 2711-B5A1 | • 2706-E43J128 | | • 2706-E43J64B1 | • 6151 Series |
| • 2707-L8P1R | • 2711-B5A2 | • 2706-E43J128B1 | | • 2706-F11J | • 6152 Series |
| • 2707-L8P2 | • 2711-B5A5 | • 2706-F11J | | • 2706-F11JC | • 6153 Series |
| • 2707-L8P2R | • 2711-B5A9 | • 2706-F11JC | | • 2706-F21J | • 6154 Series |
| • 2707-L40P1 | • 2711-K5A1 | • 2706-F21J | | • 2706-F21JC | • 6155 Series |
| • 2707-L40P1R | • 2711-K5A2 | • 2706-F21JC | | • 2706-M1F1 | • 6156 Series |
| • 2707-L40P2 | • 2711-K5A5 | • 2707-MVH232 | | • 2706-M1N1 | • 6157 Series |
| • 2707-L40P2R | • 2711-K9A1 | • 2707-MVP232 | | • 2707-L8P1 | • 6158 Series |
| • 2707-M232P3 | • 2711-K9A2 | • 6151 Series[2] | | • 2707-L8P2 | • 6159 Series |
| • 2707-M485P3 | • 2711-K9A5 | • 6152 Series[2] | | • 2707-L40P1 | • 6180 Series |
| • 2707-MVH232 | • 2711-KA1 | • 6153 Series[2] | | • 2707-L40P2 | |
| • 2707-MVH232D | • 2711-KC1 | • 6154 Series[2] | | | |
| • 2707-MVP232 | • 2711-T9A1 | • 6155 Series | | | |
| • 2707-MVP232D | • 2711-T9A2 | • 6156 Series[3] | | | |
| • 2707-V40P1 | • 2711-T9A5 | • 6157 Series | | | |
| • 2707-V40P1R | • 2711-TA1 | • 6158 Series[2] | | | |
| • 2707-V40P2[1] | • 2711-TA4 | • 6159 Series | | | |
| • 2707-V40P2N[1] | • 2711-TC1 | | | | |
| • 2707-V40P2N | • 2711-TC4 | | | | |
| • 2707-V40P2NR | • 2711E-K12C6 | | | | |
| • 2707-V40P2R | • 2711E-K12C6L2 | | | | |
| • 2711-K5A3 | • 2711E-K14C6 | | | | |
| • 2711-K5A9 | • 2711E-K14C7 | | | | |
| • 2711-K9A3 | • 2711E-T12C4 | | | | |
| • 2711-K9A9 | • 2711E-T12C6 | | | | |
| • 2711-K9C1 | • 2711E-T14C6 | | | | |
| • 2711-K9C3 | • 2711E-T14C7 | | | | |
| • 2711-K9C9 | | | | | |
| • 2711-T9A3 | | | | | |
| • 2711-T9A9 | | | | | |
| • 2711-T9C1 | | | | | |
| • 2711-T9C3 | | | | | |
| • 2711-T9C9 | | | | | |

[1] Rated Class I Division 1.
[2] This product is UL Listed to Canadian safety standards, and it also bears the UL Listing Mark.
[3] This product is UL Listed to Canadian safety standards.
[4] This product is UL Listed for Type 12 and 13. Designed but not Listed for Type 4.

*(Continued)*

## Certification for Off-shore Applications


The following products have certification for off-shore applications.

- 1785-KE
- 2705-EM11J1
- 2705-EM21J1
- 2705-EP11S1
- 2705-EP21S1
- 2705-EP21SE1
- 2706-E23J16
- 2706-E23J16B1
- 2706-E23J32
- 2706-E23J32B1
- 2706-E43J32
- 2706-E43J32B1
- 2706-E43J64
- 2706-E43J64B1
- 2706-E43J128
- 2706-E43J128B1
- 2711-B5A①②
- 2711-K5A①②
- 2711-K9A①②
- 2711-K9C①②
- 2711-T9A①②
- 2711-T9C①②
- 6151 Series

① Catalog numbers vary depending on the communication options:
1 = Remote I/O communication and RS-232 printer port,
2 = DH-485 comm. and no printer port, 3 = DH-485 comm. and RS-232 printer port, 5 = RS-232 comm. with DH-485 protocol and no printer port,
8 = DH+ comm. and RS-232 printer port, 9 (RS-232 comm. with DH-485 protocol and RS-232 printer port), 10 (DeviceNet comm. and RS-232 printer port), 11 (ControlNet comm. and RS-232 printer port),
14 (Modbus comm. and RS-232 printer port.② The suffix L1 is for 18-30V dc (no suffix is for 120/240V ac).

**Notes**