Vorne

87 Series 4" to 8" Digital Displays

**87/256
Count Display
Plus**

**87/415
Rate Display
Plus**

**87/705
Programmable
Timer**

**87/805
Efficiency
Display**

**87/232
Serial Display
Platform**

**87/719
Analog Input
Card**

**87/712
BCD Input Card**

**87/708
Real Time Clock
Option**

The 87 Series - A Winning Combination of Versatility and Value

Want to improve your production efficiency through real-time visual monitoring? Have a key process variable you want everyone to see? With eight different models and eighteen available display variables the 87 Series offers unmatched versatility at a great price. Choose one of our production display models to monitor count, rate, down time, cycle time, target count, efficiency or variance. Or select one of our data display models to show time of day, production goals, or to provide analog, BCD, parallel or serial to digital conversion.

A visual display should do more than just work well - it should also look great! Our meticulously crafted display digits feature super-bright red AlGaAs LEDs with a full 160° viewing angle to ensure that you can read the display from virtually anywhere on your plant floor. We also offer green, yellow and tri-color digits for extra visual impact. Add a choice of three character heights from 4" to 8" tall and it's easy to select an 87 Series display that's ideal for your application.

87 Series industrially hardened displays are perfect for "visual factory" initiatives. They save time with extensive built-in production monitoring capabilities, and even let you remotely monitor multiple displays from one PC terminal. Innovative features like automatic accumulation of down time improve the accuracy of your production statistics while requiring absolutely no operator intervention.

When it comes to large digital displays, the Vorne 87 Series is the industry leader in features, performance and price. Call today to request a free 30 day trial unit and discover why Vorne is your best choice for large digital displays!

Standard Features

- 4", 6", and 8" character heights available
- Super-bright red AlGaAs LEDs standard
- Green, yellow or tri-color LEDs optional
- Up to 12 digits per display
- Up to four variables per display
- Programmable inputs
- RS-232 communication port
- RS-422/485 data acquisition option

- Scale factors, triggers and presets
- Rugged industrial hang-mount enclosure
- Simple DIP switch setup for most applications
- Over 160 setup options for advanced applications
- Free Windows® programming software
- 3-year limited warranty
- Free 30-day demonstration/evaluation units
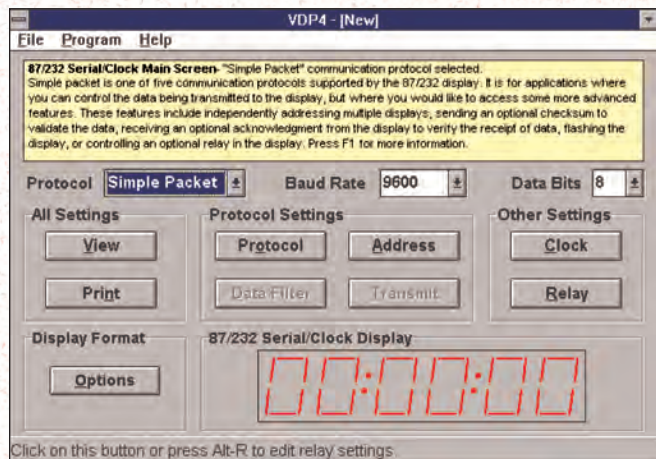- Free expert technical support

Pricing

- 4" Displays from $518
- 6" Displays from $669

- 8" Displays from $955

For advanced display applications, nothing beats Vorne Display-Pro® software for providing simple yet powerful setup of your 87 series display. Over one hundred programmable parameters are at your fingertips, in a point and click environment that is consistent throughout the 87 series family of products. Addresses, ID tags, trigger points, presets, scale factors, input characteristics, display ranges, and much more are all easily modified. And of course the software is yours **free of charge.**

Memory
87 series displays utilize EEPROM memory for storage of set up parameters and for retention of displayed values (where appropriate) when power is removed.

Addressing
Each display may be programmed with a specific unit address and an ID tag.

Options

RS-422/RS-485 Communication Card
Converts the standard RS-232 serial port into a user selectable RS-232 or RS-422/RS-485 port with optical isolation. Adds multi-drop network capability to any 87 series display. Recommended when using the standard RS-232 port for functions other than programming the display. Also includes relay output card functionality.

Relay Output Card
Adds a single pole double throw form C relay for preset counter, preset timer, rate limit and similar applications. Provided for annunciation purposes only.

Display Formats

All display digits are seven segment plus decimal point. Colons are optionally available. Diffused LEDs are recommended for applications where close viewing is of primary importance.

Digit Height	LEDs per Segment	Recommended Viewing	Maximum Viewing
4"	8 Diffused	Up to 100'	140'
4"	4 Discrete	Up to 120'	160'
6"	8 Discrete	Up to 180'	240'
8"	12 Discrete	Up to 240'	320'

Production Displays

87/256 Count Display Plus
Totalize inputs from one or two sources, with a unique scale factor for each input. Two data inputs allow independent increment/decrement operation or quadrature encoder inputs. Or you can use one of the data inputs to toggle to a rate display! Preset and trigger capabilities are also standard.

87/415 Rate Display Plus
Display rate per hour, minute or second, scaled to any units you desire. Built in smoothing options provide a stable yet responsive rate display. A switch input can be used to toggle the display between rate and total count, and limits can be set to trigger at any pre-determined rate values. You can even select automatic display of down time if the rate falls to zero!

87/705 Programmable Timer
Time in fractional or unit seconds, minutes, hours, or even days, with ten millisecond resolution. Displays can be ordered in a clock format (with colons) or standard format. Select from dozens of display formats. Time up or down from preset values, or simply accumulate elapsed time.

87/805 Efficiency Display
Display production efficiency in your choice of terms - Percent of Goal, Over/Under Target Pace, or Pace Counts. Input production and pace counts, or let the display compute pace counts based upon user selectable time increments. A hold input suspends counts during breaks, shift changes or other scheduled work stoppages.

Data Displays

87/232 Serial Display Platform
Versatility makes this unit shine. Select optically isolated RS-232 or RS-422/RS-485 communication. Select from eight baud rates, 256 addresses, and four communication modes. Easily connect dozens or even hundreds of displays in a multi-drop network. Choose simple data plus line terminator communication, or the more advanced packet protocol communication (with optional checksum). You can even use our universal mode to define your own protocol and drive the display from virtually any controller, scale, panel meter, master clock or other device which transmits a repetitive serial data string.

87/708 Real Time Clock Options
Select the standard or high accuracy 87/708 Real Time Clock option and your 87 series display will function as a rugged industrially hardened clock. Set time from a PC, PLC, GPS, master clock, or 87 hand held terminal. And since these clocks are based on the powerful 87/232 platform they can be easily networked for synchronized and accurate company wide time display. Select the HA (high accuracy) option and achieve a typical free-running accuracy of one minute per year (recommended for stand alone or master clock applications).

87/719 Analog Input Card
A 16 bit Sigma-Delta converter provides precise readings and self calibration, with excellent temperature stability. Display ranges are field programmable, and smoothing options provide a stable yet responsive display. Standard ranges include 4-20 mA, 0-1 Volt, 0-5 Volts, and 0-10 Volts (additional ranges available). Relay output card functionality is standard. Plugs into the 87/232 serial display.

87/712 BCD Input Card
Load up to four digits of parallel BCD, eight digits of multiplexed BCD, or 16 bits of binary data with this 16 bit parallel input card. Has wide range (3 to 30 volts DC) source/sink inputs. Relay output card functionality is standard. Plugs into the 87/232 serial display.

Standard Features

RS-232 Communication Port
The RS-232 port can be used to program the display, remotely access run time parameters, or connect the 87 hand held remote terminal. Is easily upgraded to RS-422/RS-485 for data acquisition and network applications.

Industrial Enclosure
The 87 series enclosure is designed specifically for industrial applications, with co-extruded gaskets, separate power and data conduit entry, and fast and simple mounting. An access plate puts wiring terminals and switch controlled set up parameters within easy reach.

Super Bright LEDs
Specially selected red surface mount Aluminum Gallium Arsenide (AlGaAs) LEDs provide outstanding brightness, low power consumption and an exceptionally wide viewing angle. Green, yellow and tri-color LEDs are also available.

Simple DIP Switch Set Up
A 10 position DIP switch allows easy selection of the most frequently used set up options. Or, for advanced applications use the free Vorne Display-Pro® software.

Pricing

4" Displays (3 to 12 digits)	$518	to	$1,205
6" Displays (3 to 8 digits)	$669	to	$1,136
8" Displays (3 to 6 digits)	$955	to	$1,473

87/001	Communication Card	$ 87
87/002	Relay Output Card	$ 29
87/003	Hand Held Terminal	$262
93-0119	Hand Held Terminal Cable	$ 27
87/708	Standard Accuracy RTC	$ 29
87/712	BCD Input Card	$ 87
87/719	Analog Input Card	$117

FREE Trial Units

All 87 series displays are available for a FREE 30 day trial. We know of no better way to show you our quality than to have you experience it for yourself.

For More Information

Call us toll free at 1-888-DISPLAYS (1-888-347-7529) and we will be happy to discuss your application, or send you more information.

Want on line access to your 87 series displays? Our hand held terminal allows you to view and modify presets, scale factors and more for individual or networked 87 series displays. Power is provided by the 87 series display. The standard 24 key keypad and 4 line by 20 character LCD display help make this terminal extra easy to use.

Call Today!
1-888-DISPLAYS
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Visit us at www.vorne.com