VersaChart

Four Color and Fully Configurable

Handles virtually any type of application.



The VersaChart offers the best trend data readability... in FOUR COLOR PRINTING!

VersaChart, the world's first circular chart recorder to be fully configurable from a PC, prints, trends, and scales alphanumeric data in up to four colors and in 10, 11, or 12" charts. It prints straight timelines (not curved) on plain paper, making data records permanent as well as easy to read – and without the time registration errors associated with overlapping drag pens. In addition, all time lines are on even time intervals for easy time determination. Modular I/0 makes field upgrades simple and quick.

The VersaChart is built for use in harsh environments and comes standard with a NEMA 3 rating. If that's not enough, there's an option for NEMA 4. It can be configured with a PC or the key pad, and it's especially versatile because the software can be changed to suit a variety of applications. The VersaChart is designed for user-friendly operation with its Quick-Select keys, bright display and easily-replaced ink cartridge. From simple recording needs to more complex applications, the VersaChart blends the level of sophistication you need with the uncomplicated operator interface you desire.

The VersaChart is backed by a two-year warranty and free technical support throughout the life of the product.

VersaChart Specifications

INPUT TYPES

Thermocouple: Types J, K, T, R, S, E, B, N, G, D, C, Ni/Ni-Moly, and Platinel II
RTD: Pt100, 2 or 3 wire
.00385 coefficient DIN 43760/IEC 751
.00392 coefficient (USA)
.00392 coefficient (SAMA)
Nickel 100, 2 or 3 wire
Voltage DC: 0 to 25mV, 0 to 100mV DC, 0 to 1V DC, 0 to 10V DC
Current DC: 0 to 20mA, 4 to 20mA, Internal 50Ω shunt resistor.
Contact Closure: Open/closed switch sensing without external voltages or resistors.

PERFORMANCE

Measurement Error: ±.025% of measurement span reference accuracy.
Cold Junction Compensation Error: ± 0.2°C @ 25°C
Cold Junction Compensation Rejection: 0.04°/°C deviation from 25°C
Linearization Error:
TCs: ± 0 .25°C typical, 0.5°C worst case with exceptions.
RTDs: ± 0.1°C typical, 0.3°C worst case.
Ambient Temperature Error: ± 0 .01 % of span per °C deviation from 25°C
Isolation: 500V DC/350V AC
Common Mode Rejection: 120 dB min.
Normal Mode Rejection: 100 dB min. @ 60 Hz or greater.
Scan Rate: The input scan rate is programmable and dependent upon the number of active inputs present in the recorder. The overall capability of the instrument is 16 scans/second.
Processing: Square root and exponential functions for linear inputs.
Value Cutoff: None, at value, to zero below value, to zero near zero.
Sensor Fault Detection: Sensor break on all TCs, RTDs, 1 volt, 1 to 5 volt, 4-20mA, and millivolt inputs. Sensor high and low on all inputs, 5% above or below range.
Transmitter Power Supplies: Up to four isolated 25mA @ 24V DC supplies available.

RECORDING

Pen Type: Disposable 4-pen fiber-tip marker assembly.
Pen Colors: Red, green, blue, and black.
Chart Size: 10", 11", 12" (11.875" actual size).
Chart Drive: DC stepper motor.
Chart Rotation: 6 to 9999 hours per revolution.
Recorded Values: Any of over 20 values can be trended/recorded.
Recording Methods: Drag pen simulation, instantaneous value, connect the values, average value, connect the averages.
Action on New Chart: Print scales, print range list, begin normal recording.
Chart Messages: Twelve
Chart Recording Accuracy: 0.3% of chart span reference accuracy.
Chart Rotation Accuracy: ±0.2 minutes for a 24 hour rotation, assuming all backlash removed.

OPERATOR INTERFACE

Display: Two line, 40 character vacuum fluorescent display with .21 inch (5 mm) high characters.
Status Indicators: Eight, user-configurable, red LED status indicators.
Keypad: Fifteen keys for programming and unit operation.
Display Formats: Three
Display Modes: Automatic or manual sequencing.
Operator Messages: Twelve
Operator Inputs: Twelve

ALARMS

Number: Up to four alarms for each of four process variables.
Type: Process high or low, rate rising or falling.
Hysteresis: Fully adjustable.

ON/OFF OUTPUTS

On/Off Output Actuators: Any of over 100 digital values/states can be used to actuate on/off outputs (e.g. alarms, time/dates, timers, etc.).
Relays: SPDT contacts rated 5 amps resistive at 115V AC, 2.5 amps resistive at 230V AC - 1/8 HP at 230V AC (single phase), 250 VA at 115/230V AC.
Solid State Relay Driver: Open collector output provides 40mA at 3V DC or 20mA at 4V DC. Short circuit current is limited to 100 mA.
Pulsed Outputs: 50ms pulse when used with totalizer pulsed outputs.

CURRENT OUTPUTS

Drivers: Any of over 20 values drive analog outputs (e.g. inputs, derived variables, etc.).
Output Span: 0 to 20mA or 4 to 20mA, nominal.
Resolution: 12 bits based on a 0 to 25.6mA span.
Accuracy: ± 0.1% of 20mA span.
Compliance: 650Ω load

TOTALIZERS

Number: Four are included in the option.
Digits: Nine, displayable with or without commas.
Types: Continuous, preload count down, and pulse counting.
Presets: One per totalizer.
Pulsed Outputs: Fully configurable.

COMPUTING CAPABILITIES

Derived Variables: Twelve
Math Functions: Add, subtract, multiply, divide, average, exponential, log 10, log e, power 10, power e.
Built-In Equations: Linear, polynomial, C to F, F to C, linear mass flow, DP mass flow, BTU, RH, Fo, $Zr0_2$
Other Functions: High select, low select, high peak, low peak, track and hold, 1 of 2 selector, convert actuator.
Custom Curves: Four 21 point curves, usable in multiple calculations.
RH calculation: Typically accurate to better than 1%.

LOGIC CAPABILITIES

Actuators: Over 100 digital values are accessible.
Derived Actuators: Twenty four combinations of 24 items.
Logic Operators: NOT, OR, AND, parentheses.
Timers: Four
Time/Date Combination Actuators: Six

POWER REQUIREMENTS

Line Voltage: 85 min. to 265 max. V AC, 50/60Hz
Power Consumption: 60 VA max.

CONSTRUCTION

Enclosure: Gasketed cover, case, and windows. Structural foam case and cover with plastic or glass window areas. Door lock available.
NEMA Rating: NEMA 3 standard, NEMA 4 option.
Conduit Openings: Four openings standard, 2 additional as required.
Mounting: Panel, wall, or optional pipe mounting.
Overall Dimensions: 14.12" W x 16.77" H x 7.75" D (358.65mm W x 425.96mm H x 196.85mm D)
Panel Cutout: 12.7" W x 12.7" H (322.58mm W x 322.58mm H)
Panel Depth: 5.25" (133.35 mm)
Panel Protrusion: 2.5" (63.5mm)
Weight: 25 lbs max.

ENVIRONMENTAL AND OPERATING CONDITIONS

Operating Temperature: 0 to 50°C (32 to 122°F)
Storage Temperature: -40 to 65°C (-40 to 149°F)
Humidity: 10 to 90% RH, non-condensing
Vibration: 0.3 to 100 Hz @ 0.2g
Mounting Position: Up to 30° forward or backward tilt from vertical. Up to 10° side tilt from vertical.

OTHER SPECIFICATIONS

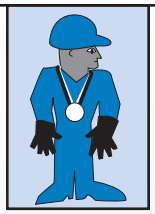
Clock Accuracy: 1 minute/month typically, 4 minutes/month worst case.
Battery Backup: 5 years minimum life, 10 years typically.
Simulated Variables: Four function generators.

GENERAL REFERENCE DATA

Data Backup: EEPROM for input board calibration data. EEPROM for motherboard calibration data. Battery backed SRAM for configuration data.
Warranty: Two years.

APPROVALS AND COMPLIANCE

Safety: UL Approved for USA - UL 1092, UL 916, and QUXY - File E67237. UL Certified for Canada - CSA Spec 142.
Immunity/Susceptibility: CE - Complies with EN 50082-1.
Emissions: CE - Complies with EN 55011.
Hazardous Locations: ETL certified for Class I & II, Division 2, and Class III, Divisions 1 & 2. Reference No. 560462.



VersaChart Benefits:

Four color printing—provides best trend data readability

Prints on plain paper in 10", 11", or 12" sizes—data records are permanent and in the size you desire

Prints straight timelines—data records are easy to read and free of time register error

NEMA 3 rating (with option for NEMA 4)— protection against harsh environments

Quick Select keys—offers user-friendly operation and simplifies the programming of many parameters

40-character vacuum fluorescent displays in a variety of user-configurable formats—view the values you need, in the format you need them

Wide variety of configuration options—versatility for the applications you need without the necessity for additional equipment

Configurable logic equations—permits PLC-like control function

Fully configurable from a PC or the keypad—convenient and versatile programming

Selective enabling—allows access to data/options available to a specific model while hiding its unusable parameters

Password protection—access to various operating areas can be limited and controlled

Chart messages—ability to write specific messages on chart paper

Modular I/O— makes field upgrades simple and quick

Trend zoning and dual zone capability— easy readability of trend data with two separate zones available

Logic equations for actuators— custom output for operation of nonlinear actuator

Math and equation package with custom curves—math functions for 21 point curves used in multiple calculations

9-digit totalizers— totalize channels together and add PV inputs

UL, C-UL, CE, and ETL approvals and certifications—ensure standards of quality and performance

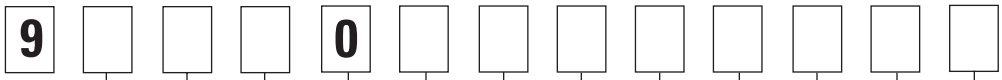
Two-year warranty— protects you against factory defects

CE

UL LISTED c UL 88BO E67237

ETL LISTED 110273

VERSACHART MODEL CONFIGURATION



Type
1 Recorder Only
2 Recording Controller

Pens/Colors
1 One Trend Pen, One Color*
2 Two Trend Pens, Two Colors*
3 Three Trend Pens, Three Colors*
4 Four Trend Pens, Four Colors
5 One Trend Pen, Four Colors
6 Two Trend Pen, Four Colors
7 Three Trend Pen, Four Colors

Universal Inputs
1 One
2 Two
3 Three
4 Four
6 Six
8 Eight

Fixed Character

Relay Outputs (SPDT)**
0 None
2 Two
4 Four
6 Six
8 Eight

SSR Driver Outputs**
0 None
2 Two
4 Four
6 Six
8 Eight

Case Type & Mounting
1 NEMA3 Panel Mount
2 NEMA4 Panel Mount

Enclosure Option
1 Glass Window
2 Glass Window & Door Lock
3 Plastic Window
4 Plastic Window & Door Lock

Communications
0 None
1 RS-232/ RS-485

Math/Totalizer
0 None
1 Math
2 Totalizers
3 Math & Totalizers

Transmitter Power Supplies
0 None
1 One
2 Two
3 Three
4 Four

4-20mA Outputs
0 None
1 One (non-isolated)
2 Two (non-isolated)
3 One (isolated)
4 Two (isolated)
5 Three (isolated)
6 Four (isolated)



* Pens/colors are added to the instrument in the following order: red, green, blue, and black
** Total quantity of SPDT Relays and SSR Drivers must be less than or equal to 8.