

# Partlow VersaChart™ Circular Recorders

Circular Chart Recorders/Controllers for Virtually Any Application



## Description

The VersaChart™ is a truly versatile and capable recorder/controller that can meet the demands of virtually any chart recording application.

## Outstanding Operation

The VersaChart™ prints brilliant 4 color trend lines, scales, and alphanumeric data on 12" plain paper charts at user-defined rotation speeds from 6 to 9,999 hours. All of the chart's time lines are printed straight, rather than curved, and they are printed on even time intervals for improved readability and easy time determination. In addition, the chart's trend lines are synchronized so there's no drag pen time offsets as there can be in conventional multi-pen recorders.

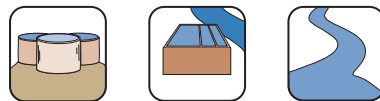
## Excellent Features

The VersaChart features two bright, easy to read, 40 character vacuum fluorescent displays, which can show values in a variety of user-configurable formats. The math and totalizer functions allow accurate flow recording, and can be configured for open channel flow systems that have standard flumes and weirs. The VersaChart is also designed for user-friendly operation with its quick-select keys, easy to read display, and easily replaced ink cartridge.

## Versions to Meet Your Needs

VersaChart recorders are available in two versions: record only (with alarm outputs), and recording controller. The controller is capable of controlling any process from a simple on/off to dual 4-20 mA outputs with full PID on up to 4 loops. The Ordering & Options section below lists four different models equipped with some of the most desirable options. All of our listed recorders include a NEMA 3 enclosure with glass window, transmitter power supply for each input, a box of 100 12" charts with 100 divisions, and all necessary documentation. Please contact Global Water for other configurations to best meet your needs.

## Applications



Ideal for monitoring flows in wastewater influent and effluent, potable water well and raw water, treatment plant processes, and environmental sites.

## Features

- Prints trend lines and alphanumeric annotations in four colors
- Chart speed from 6 to 9,999 hours for recording flexibility
- Can do open channel flow calculations with math option
- Two displays for viewing critical process values
- Straightforward step-by-step programming using a simple keypad
- Quick change 4-color pen cartridge
- Standard NEMA 3 enclosure

## Specifications

Modes	Digital; record, controller or profile functionality
Display	Two line, 40 character vacuum fluorescent display with 0.21" (5mm) high characters; 15 keys for programming and unit operation; display modes; automatic or manual sequencing; 3 display formats
Programmable Profiles	Up to 8 user programmable profiles
Status Indicators	8 user-configurable red LED status indicators; real time clock for time and date stamping on chart output
Chart	10 to 12" circular chart; 100 charts furnished with each instrument
Chart Drive	DC stepper motor
Chart Rotation	User-configurable from 6 to 9999 hours per revolution
Chart Range	Bottom and top of span -999999 to 999999 units
Pen Type	Four disposable fiber tip pens
Pen Color	Pen 1 (red); Pen 2 (green); Pen 3 (blue); Pen 4 (black)
Memory Backup	EEPROM and battery backed SRAM; 5 year minimum life
Construction/Enclosure	Gasketed, cover, case and windows. Structural foam case and cover; optional door lock or glass window option
Operating Temperature	32° to 122°F (0° to 50°C)
Storage Temperature	-40° to 149°F (-40° to 65°C)
Ambient Temperature	0.04% of span per degree C deviation from 25°C
Humidity	0% to 90% non-condensing R.H.
Vibration	0.5 to 100Hz @ 0.2g
Power Consumption	60VA max
Line Voltage	90-264VAC 50/60Hz
Thermocouple	J, K, T, R, S, E, B, N, G, D, C, Ni/ Ni-Moly and Platinel II



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RTD	100 ohm, platinum 100 or nickel 100, 1-2 wire; 0.00385 ohms or 0.00392/ohm/°C; -94° to 300°F (-70° to 150°C)
RTD Excitation Current	1 mA
DC Voltage	0 to 25mV, 0 to 100mV, 0 to 1V, 0 to 10V
DC Current	0-20mA or 4-20mA
Control Outputs	Relay: SPST; 5.0A resistive @ 115VAC; 2.5A resistive, 1/8HP @ 230VAC SSR Driver: Open collector output; short circuit protected @ 100mA max; provides 4VDC @ 20mA or 3VDC @ 40mA Current: 0-20mA or 4-20mA; 650 ohm maximum load
Alarm/Event Outputs	Number: Up to four alarms for each of four process variables. Type: Process high/low and rate/rising and falling Relay: SPST/SPDT; 5.0A resistive @ 115VAC; 2.5A resistive @ 230VAC SSR Driver: Open collector output; short circuit protected @ 100mA max; provides 4VDC @ 20mA or 3VDC @ 40mA Process Alarm: Direct (High) or Reverse (Low) -999999 to 999999 units Deviation Alarm: Direct (deviation above setpoint) or Reverse (deviation below setpoint) -3000 to 3000 units Deviation Band Alarm: Open or closed 1 to 3000 units
Input Measurement Error	±0.25% of measurement span reference accuracy
Ambient Temperature	0.01% of span per degree C deviation from 25°C
Cold Junction Compensation Error	±0.2% @ 25°C
Cold Junction Compensation Rejection	0 ±0.4°C 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
Isolation	500VDC/350VAC
Chart Accuracy	Recording: 0.3% of span. Chart Rotation: ±0.2 minutes for a 24 hour rotation, assuming all backlash removed, 6-9999 hours
Scan Rate	2 scans/second; scan rate is programmable for each input with the limitation that a total of 16 measurements can be made in one second
Noise Rejection	Normal mode: 100dB minimum at 60Hz or greater. Common mode: 120dB minimum at 115VAC maximum
Sensor Fault Detection	Sensor break on all temperature controls, RTUs, 1 to 5 volt and 4-20mA inputs
Transmitter Power Supply	Up to 4 isolated 25mA @ 24VDC supplies available
Communications	Port: RS-232/485 serial, half duplex Protocol: Modbus RTU Bit Rate: User-configurable 1200, 2400, 4800, 9600 baud Address: User-configurable, 1-247

Ratings/Approvals	Safety: UL 1092 File E67237; CSA Spec 142 File 67237; CE EN60010-1 1193/1995 Immunity: CE compliance EN50082-2 Emissions: CE compliance EN550081-1:1992; EN55022 Class A Hazardous Location: ETL Listed Class 1 & II Division 2 and Class III, Division 1 & 2 Ref 56042 Other: ISO 9002 registered
Protection	NEMA 3 standard; NEMA 4 optional
Mounting	Panel or wall
Weight	25 lbs (9.1kg)
Dimensions	14.12 x 7.75 x 16.77" (359 x 197 x 426mm)
Warranty	2 Years

## Ordering & Options

### Record Only VersaCharts

Order No.	Pen/ Colors	Inputs	4-20 mA Outputs	Relays	Math	Totalizer
9111020110011	1/1	1	1	2	No	No
9162020223011	2/4	2	2	2	Yes	Yes

### Record and Control VersaCharts

Order No.	Pen/ Colors	Inputs	4-20 mA Outputs	Relays	Math	Totalizer
9211020110011	1/1	1	1	2	No	No
9262040223011	2/4	2	2 <sup>1</sup>	2	Yes	Yes

1) Isolated output signals.

### Replacement Pen Cartridges

Order No.	Colors
60500802	Green, Red
60500803	Blue, Green, Red
60500804	Blue, Green, Red, Black

### Replacement Chart Paper<sup>2</sup>

Order No.	Size	Divisions (Rings)
00215205	12"	70
00215208	12"	100
00215206	12"	120
00215204	11"	100

2) Please call us for chart paper not listed here.



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