



Dimensions: 8.75H x 8.0"W x 3.0"D

Part#	Inputs	Outputs	Relays
DV-10	(4) 4-20ma (4) Pulse (4) Digital	(4) 4-20ma	(9) 10 amp
DV-100	(8) 4-20ma (4) Pulse (4) Digital	(2) 4-20ma	(9) 10 amp

### Advantages

- Easy to read backlit LCD
- Readable in direct sunlight
- Bargraphs & numeric screens
- Easy to set up & program
- Set up with front panel keys
- Intuitive menus in English
- Detailed individual screens
- Input simulation feature
- RS-232 Modbus® RTU
- Power from AC or DC
- Wall or panel mount
- 32-point linearization
- Sum & difference functions
- Free programming & data logging software

## SPECIFICATIONS

Except where noted all specifications apply to operation at +25°C

### General

**Display:** Backlit LCD; 4.75" x 3.50" (121 mm x 89 mm)  
**Display Update Rate:** 1 every 2 seconds  
**Programming Method:** Front panel buttons, external buttons, PC with ConsoliDator software, or Modbus registers.  
**Password:** Programmable, restricts modification of settings.  
**Non-Volatile Memory:** Settings stored for a minimum of 10 years.  
**Power:** 90-264 VAC, 47-63 Hz, 20 VA or 8-30 VDC, 15 W (field)  
**Isolation:** AC: 1500 V; signal and output power grounds are connected to earth ground (chassis); DC: not isolated.  
**Surge Protection:** Analog inputs have chokes & TVS  
**Operating Temperature:** 0 to 50°C  
**Relative Humidity:** 0 to 90% non-condensing  
**Storage Temperature:** -40 to 60°C  
**Connections:** Removable screw terminals and DB9 male  
**Enclosure:** NEMA 1, powder-coated steel; color: warm gray  
**Mounting:** Panel or wall mount models  
**Weight:** 5.5 lb (2.5 kg)  
**UL File Number:** E160849; 508 Industrial Control Equipment  
**Warranty:** 1 year parts & labor

### Screen Displays

**Numeric Display:** Six digits, ±999999 or 99' 11.9" (feet & inches)  
**Bargraph:** Twenty divisions  
**Engineering Units:** User selectable or definable units (e.g. ppm, gal, m, lb, g/h, psi, ozs, ft, mA, °C, °F, f&i, %)  
**Master Input Screen:**  
**Numeric Displays:** Eight; process value & engineering units  
**Bargraphs:** Eight; process & channel number  
**Individual Input Screen:**  
**Numeric Displays:** Process and mA input value  
**Bargraphs:** High and low set point markings  
**Simulation Mode:** Test setup without applying an input

### Analog Inputs

**Number of Inputs:** Four (DV-10); Eight (dv-100)  
**Input:** 4-20 mA; minimum span of 1 mA  
**Accuracy:** ±0.03% FS ±1 count  
**Input Function:** Linear, square root, programmable exponent, or fixed value  
**Programmable Exponent:** From 0.50001 to 2.99999  
**Multi-Point Linearization:** 2 to 32 points, accessible through ConsoliDator software or Modbus registers.  
**Math Function:** Sum or difference of 2 or more channels  
**Totalizer:** Calculates total based on rate and time base of seconds, minutes, hours, or days; stored in non-volatile memory every 5 minutes; supports linear inputs only.  
**Totalizer Reset:** Via front panel buttons (password restricted)  
**Input Impedance:** 130 Ω  
**Transmitter Supply:** 24 VDC @ 20 mA per input; short circuit protection:  
 current limited to 40 mA max per input

### Pulse Inputs

**Number of Inputs:** Four  
**Input:** 100 mVp-p to 15 Vp-p; 1 Hz to 10 kHz  
**Accuracy:** ±1 count for K-Factor >1  
**K-Factor:** 0.00001 to 999999 pulses/unit  
**Totalizer:** Calculates total based on rate, stored in non-volatile memory every 5 minutes.  
**Totalizer Reset:** Via front panel buttons (password restricted)

### Digital Inputs

**Number:** Four  
**Type:** Switch closure, open collector transistor, or logic level  
**Input Impedance:** 240 Ω

**Your Single Source for Float Type Level Switches**

## Relays

**Number of Relays:** Nine

**Relay Type:** Form C (SPDT) with built in MOVs

**Rating:** 10 A @ 120/240 VAC resistive load;  
1/3 HP @ 120/240 VAC inductive loads; 5 A @ 28 VDC

**Minimum Load:** 50 mA for AC, 10 mA @ 5 VDC

**Assignment:** Any relay may be assigned to any channel. Multiple relays may be assigned to one channel. All relays are programmed independently.

**Cycle Monitoring:** Controller tracks time relay has been active and number of times relay has cycled on/off.

**Time Delay:** Programmable on/off delays, 0 to 999.9 seconds

**Operation:**(see instruction manual for complete list)

**High or Low Alarm:** Assign to analog or pulse channel for on/off relay control; 100% adjustable deadband.

**Summary Alarm:** Indicates when any relay enters alarm state.

**Supervisory Alarm:** Indicates CPU failure or analog input loss.

**Lead-Lag Alternation (Sequence):** Link multiple relays for sequential operation. Programmable override set points to turn on additional relays.

**Manual Override:** Override any relay (password restricted). Relays do not respond to input while in this mode.

## 4-20 mA Analog Output

**Number:** Four (DV-10); Two (DV-100)

Assign to any process or pulse input

**Accuracy:**  $\pm 0.05\%$  FS  $\pm 0.01$  mA

**Mode:** Linear or manual tuning PID

**Loop Resistance:** 10 to 600  $\Omega$ , powered by controller

**External Loop Power Supply:** 12 VDC min (300  $\Omega$  max); 32 VDC max (900  $\Omega$  max)

**Isolation:** 1500 V output-to-power line; 500 V output-to-input when powered by external supply.

## Modbus® Communications

**Compatibility:** EIA-232

**Protocol:** Modbus RTU

**Address:** Programmable between 1 and 247

**Baud Rate:** 1,200 to 38,400 bps

**Transmit Delay:** Programmable between 0 and 300 ms

**Data:** 8 bits (1 start bit, 1 stop bit)

**Parity:** Even, None with 1 stop bit, or None with 2 stop bits

## ConsoliDator® Software

**System Requirements:** Windows® 95/98/ME/NT4/2000/XP

**Communications:** RS-232 using null-modem serial cable

**Compatibility:** DV-10 & DV-100, two versions

**Configuration:** Configure inputs and outputs. Save settings to file for programming other controllers or restoring settings.

**Logging Interval:** 1 second to 10 minutes

**Data Logging Report:** Log to comma separated value (.csv) file compatible with spreadsheet applications.