



Technology Solutions

TEK-BATCH 7900B

NEMA 4X Large Display Batcher



ACCESSORIES





Introduction

The Tek-Batch 7900B NEMA 4X Large Display Batcher

The Tek-Batch 7900B satisfies the instrument requirements for a variety of flowmeter types in liquid batching applications. Multiple flow equations and instrument functions are available in a single unit with many advanced features. The large digit alphanumeric display shows measured and calculated parameters in easy to understand format. Single key direct access to measurements and display scrolling is supported

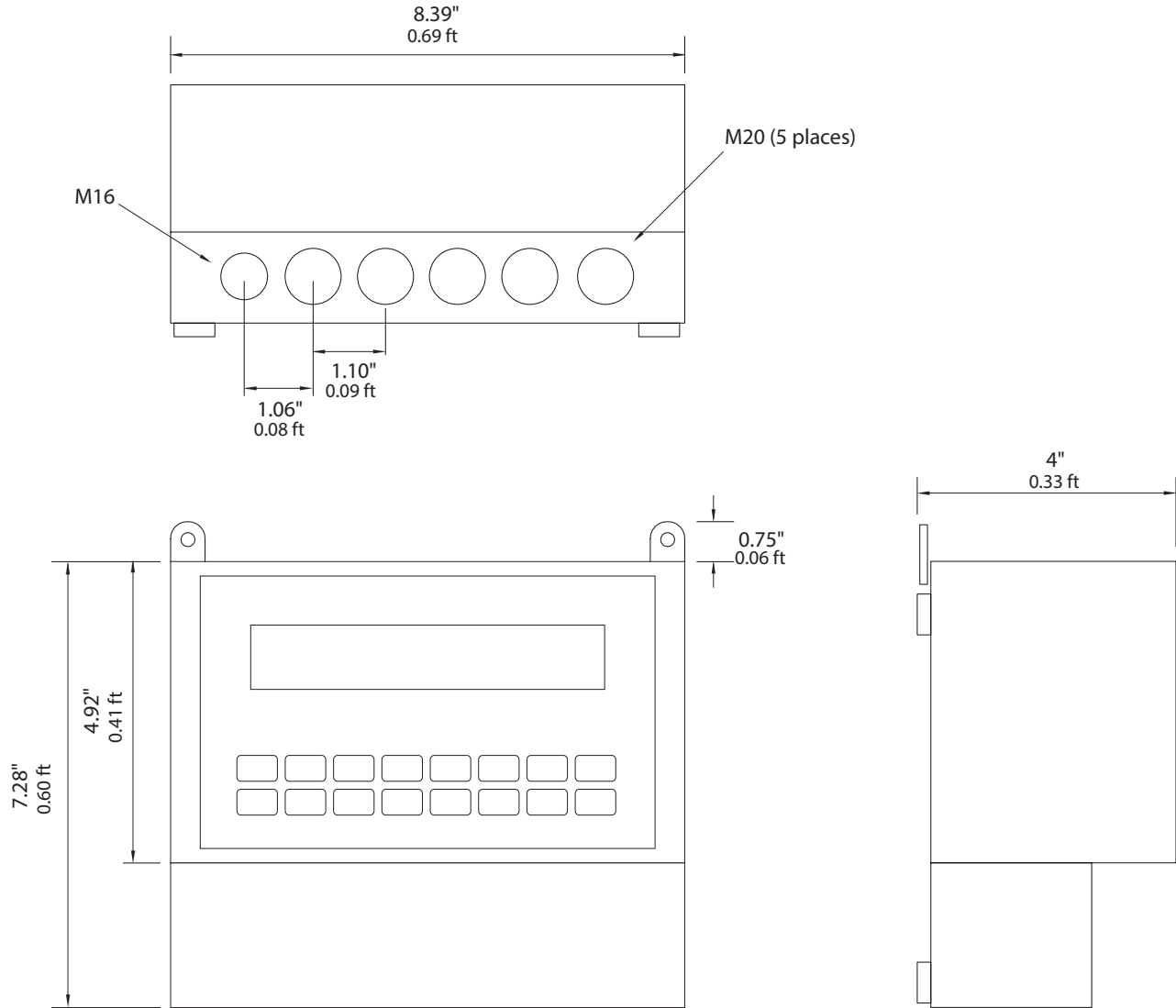
The versatility of the LDB permits a wide range of functions within the instrument's attractive wall mount package. The various hardware inputs and outputs can be "soft" assigned to meet a variety of common application needs. The user "soft selects" the usage of each input/output while configuring the instrument. The isolated analog output can be chosen to follow volume flow, corrected volume flow, mass flow, temperature, or density by means of a menu selection. Most hardware features are assignable by this method.

The user can assign the standard RS-232 Serial Port for data logging, transaction printing, or for connection to a modem for remote meter reading. Remote metering software available. A Service or Test mode is provided to assist the user during start-up system check out by monitoring inputs and exercising outputs and printing system setup.

Features

- Large Digit LCD Display
- Rate/Total and Batching Functions
- Advanced Batching Features: Overrun Compensation, Print End of Batch, Slow Start of Batch Fill, Slow End of Batch Fill, 2 Stage Batching
- Advanced Printing Capabilities
- "EZ Setup" Guided Setup for First Time Users
- Menu Selectable Hardware and Software Features
- Isolated Pulse, Analog and Relay Outputs Standard on AC Powered Models
- RS-232 Port Standard, Modbus RTU RS-485 Optional
- Windows™ Setup Software
- On Board Data Logging
- DDE Server & HMI Software Available
- Environmental Compliance Monitoring and Report Generation
- Enhanced Modem Features for Remote Metering

Dimensional Drawings





Specifications

Flow Meters and Computations	Meter Types: All linear and square law meters supported including: vortex, turbine, magnetic, PD, target, orifice, venturi, v-cone, coriolis and many others. Linearization: Square root, 16 point table or UVC table Computations: Volume, Corrected Volume and Mass. Fluid Computations: Temperature, Density, Viscosity and API 2540 for petroleum.
Operating Temperature	0 °C to 50 °C
Storage Temperature	-40 °C to 85 °C
Humidity	0-95% Non-condensing
Extended Temperature	-20 °C to 55 °C
Listing Display	UL/C-UL Listed (File No. E192404), CE Compliant, Type: 2 lines of 20 characters, Types: Backlit LCD, Character Size: 0.35" (8.3mm) nominal user programmable label descriptors and units of measure
Keypad	Keypad Type: Membrane Keypad with 16 keys
Type	NEMA 4X
Materials	Plastic, UL94V-0, Flame retardant Bezel: Textured per matt finish
Real Time Clock	The Tek-Batch is equipped with a battery backed real time clock with display of time and date. Format: 12 or 24 hour time display; Day, Month, Year, date display
Power Input	The factory equipped power option is internally fused. An internal line to line filter capacitor and MOV are provided for added transient suppression. 110 VAC Power: 85 to 127 Vrms, 50/60 Hz 220 VAC Power: 170 to 276 Vrms, 50/60 Hz DC Power: 2 VDC (10 to 14 VDC), 24 VDC (14 to 28 VDC) Power Consumption: AC: 11.0 VA (11W), DC: 300 mA max.
Accuracy	0.02% FS at 20 °C
Ranges	Voltage: 0-10 VDC, 0-5 VDC, 1-5 VDC, Current: 4-20 mA, 0-20 mA
Basic Measurement Resolution	16 bit
Update Rate	4 updates/sec
Automatic Fault Detection	Signal over/under-range, Current Loop Broken
Calibration	Software Calibration (no trimmers) and Auto-zero Continuously
Extended Calibration	Learns Zero and Full Scale of each range using special test mode.
Fault Protection	Reverse Polarity: No ill effects Over-Voltage Limit: 50 VDC Over voltage protection Over-Current Protection: Internally current limited protected to 24VDC
Pulse Inputs	Number of Flow Inputs: one with or without quadrature or pulse security checking Input Impedance: 10 K Ω nominal Pullup Resistance: 10 K Ω to 5 VDC (menu selectable) Pull Down Resistance: 10 K Ω to common Trigger Level: (menu selectable) High Level Input Logic On: 3 to 30 VDC, Logic Off: 0 to 1 VDC Low Level Input (mag pickup) Sensitivity: 0 mV or 100 mV Minimum Count Speed: Menu selectable Maximum Count Speed: Menu Selectable: 40Hz, 3000Hz or 20 kHz Over voltage Protection: 50 VDC
Auxiliary / Compensation Input	The auxiliary/compensation input is menu selectable for temperature, density or not used. This input is used for the compensated input when performing compensated flow calculations. It can also be used as a general purpose input for display and alarming. Operation: Ratiometric Accuracy: 0.02% FS at 20° C Basic Measurement Resolution: 16 bit Update Rate: 1 update/sec minimum Automatic Fault detection: Signal Over-range/under-range, Current Loop Broken, RTD short, RTD open, Fault mode to user defined default settings Fault Protection: Reverse Polarity: No ill effects, Over-Voltage Limit (Voltage Input): 50 VDC Available Input Ranges: Voltage: 0-10 VDC, 0-5 VDC, 1-5 VDC, Current: 4-20 mA, 0-20 mA, Resistance: 100 Ohms DIN RTD 100 Ohm DIN RTD (DIN 43-760, BS 1904) Three Wire Lead Compensation Internal RTD linearization learns ice point resistance 1 mA Excitation current with reverse polarity protection Temperature Resolution: 0.01 °C, Temperature Accuracy: \pm 0.25 °C

Control Inputs	<p>Switch Inputs are menu selectable for Start, Stop, Reset, Lock, Inhibit, Alarm Acknowledge, Print or Not Used.</p> <p>Number of Control Inputs: 3 Control Input Specifications</p> <p>Input Scan Rate: 10 scans per second</p> <p>Logic 1: 4 - 30 VDC, Logic 0: 0 - 0.8 VDC</p> <p>Input Impedance: 100 KΩ</p> <p>Control Activation: Positive Edge or Pos. Level based on product definition for switch usage.</p>
Excitation Voltage	Menu Selectable: 5, 12 or 24 VDC @ 100 mA (fault protected)
Relay Outputs	<p>The relay outputs are menu assignable to (Individually for each relay) Low Rate Alarm, Hi Rate Alarm, Prewarn Alarm, Preset Alarm or General purpose warning (security), low temperature/high temperature.</p> <p>Number of relays: 2</p> <p>Contact Style: Form C contacts</p> <p>Contact Ratings: 5 amp, 240 VAC or 30 VDC</p>
Serial Communication	<p>The serial port can be used for printing, data logging, modem connection and communication with a computer.</p> <p>RS-232: Device ID: 01-99</p> <p>Baud Rates: 300, 600, 1200, 2400, 4800, 9600, 19200 Parity: None, Odd, Even</p> <p>Handshaking: None, Software, Hardware</p> <p>Print Setup: Configurable print list and formatting.</p> <p>Print Out: Custom form length, print headers, print list items.</p> <p>Print Initialization: Print on end of batch, key depression, interval, time of day, control input or serial request.</p> <p>RS-485: (optional 2nd COM port) Device ID: 01-247</p> <p>Baud Rates: 2400, 4800, 9600, 19200 Parity: None, Odd, Even</p> <p>Protocol: Modbus RTU (Half Duplex)</p>
Data Logging	The data logger captures print list information to internal storage for approximately 1000 transactions. This information can be used for later uploading or printing. Storage format is selectable for Comma-Carriage Return or Printer formats.
Isolated Analog Output	<p>The analog output is menu assignable to correspond to the Uncompensated Volume Rate, Corrected Volume Rate, Mass Rate, Temperature, Density, Volume Total, Corrected Volume Total or Mass Total.</p> <p>Type: Isolated Current Sourcing</p> <p>Available Ranges: 4-20 mA, 0-20 mA</p> <p>Resolution: 12 bit</p> <p>Accuracy: 0.05% FS at 20° C</p> <p>Update Rate: 1 update/sec minimum</p> <p>Temperature Drift: Less than 200 ppm/C</p> <p>Maximum Load: 1000 ohms (at nominal line voltage) Compliance Effect: Less than .05% Span</p> <p>60 Hz rejection: 40 dB minimum</p> <p>Calibration: Operator assisted Learn Mode</p> <p>Averaging: User entry of damping constant to cause a smooth control action</p>
Isolated Pulse Output	<p>The isolated pulse output is menu assignable to Uncompensated Volume Total, Compensated Volume Total or Mass Total</p> <p>Pulse Output Form: Photomos Relay</p> <p>Maximum On Current: 25 mA</p> <p>Maximum Off Voltage: 30 VDC</p> <p>Saturation Voltage: 1.0 VDC</p> <p>Maximum Off Current: 0.1 mA</p> <p>Pulse Duration: 10 mSec or 100 mSec (user selectable) Pulse output buffer: 256</p> <p>Fault Protection Reverse polarity: Shunt Diode</p>

Popular Models

Model Number	Description
7900B-LDB	NEMA 4X Large Display Batcher

Customer Service and Support



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