

Batch Controller

Model 801A

Features

- Independently batches up to four products at one time
- Large backlit 32 character alphanumeric LCD
- Rugged sealed keypad
- RS422 computer interface and RS232 printer interface
- PIN number, magnetic card or touch key authorisation
- Ticket printing with time and date stamping
- One or two stage batch control
- Displays batch, total, accumulated total, flow rate and preset value for each channel
- No-signal alarm
- Remote start/stop

Applications

- Loading fuel into vehicles
- Oil dispensing in service bays
- Refuelling locomotives



Overview

The Contrec 801A is designed as a central controller for small to medium sized fluid batching systems.

The controller accepts up to four flowmeter inputs enabling it to batch up to four products at one time. Each batch can be authorised and started independently, while other batches are running.

The instrument accepts pulse inputs from a wide range of flowmeters with a maximum frequency of 2kHz. Flowmeter parameters are fully programmable and a 5-point correction curve can also be programmed.

User Authorisation

Up to 100 four digit PIN numbers can be stored internally and used to authorise the operator.

Alternatively, a magnetic card reader or touch key reader can be connected to the system and access permitted only via a valid card or key. If not required, the authorisation system can be disabled.

RS232/422 Interface

The 801A has an RS232 interface for printers and an RS422 interface for computers.

A printer can be connected to the system to provide a record of each transaction, including time and date stamping.

If communication with a host computer is required, the system can store up to 100 transactions and transmit these to the computer on request.

A software program is available to run on a PC to store and print transaction reports as well as to maintain a register of all PIN/card/touch key numbers.

In addition, all PIN data can be maintained in the computer and downloaded to the 801A.

Two Batch Operating modes

The 801A has two different modes of operation available.

The first being Start/Stop mode, where delivery of product is completely under operator control using the START and STOP keys located on the front keypad.

The second mode is Batch Preset where the operator can deliver a preset quantity under control of the Model 801A.

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Model 801A

Simple Operator Interface

The Model 801A is fully programmable with all setup parameters password protected.

A large backlit alphanumeric display and function/numeric keypad provides an excellent operator interface.

The display prompts the operator at each stage of the transaction and enables additional information, such as job numbers, to be entered and printed with each transaction.

The operator is able to display batch totals, accumulated totals, flow rates and preset values for each channel.

Versatile performance

The instrument will operate from 12 to 28V dc or from 100 to 220V ac mains.

The facia is fully watertight to Nema 4X or IP65 and is resistant to most chemicals.

The standard instrument is supplied as panel mount. Field enclosures and explosionproof enclosures are optionally available.

The 801A Batch Controller can be customised to interface other devices such as overflow protection systems or PLC's, and to provide system interlocks.

Relay Outputs

Eight relays are provided for controlling batch operations. As standard, four of these are normal 5A contact type relays and four are Solid State Relays.

The operation of the relays makes slow startup and slow shutdown of the batch possible. This enables batch quantities to be more accurately delivered using a two position valve (or dual valves).

Operation

Keypad operations are straightforward and four LED's indicate the operational status of each channel at all times.

The unique keypad simplifies operation, making the instrument suited to use by operators with minimal training. The operational keys and a full numeric keypad on the front facia, enable the batch quantity to be set, and batch operations to be started, stopped or cancelled.

Setting Batch Quantity

To set a batch quantity: the appropriate product Channel is entered; if enabled, identification data such as job number or odometer reading is then entered

according to the prompt from the display; the batch quantity value is entered via the numeric keypad, and; if the value is correct the ENTER key is then pressed to complete the procedure.

This procedure is repeated for each channel as required. The batch quantity can only be set while the channel is in a non-operational state such as when the batch is complete.

To check the batch quantity while a batch is in progress the DISPLAY and CHANNEL keys can be used.

Starting a Batch

To start the batch the START key is pressed. The Channel LED will light and the instrument will begin to totalise from zero.

Stopping a Batch

A batch can be stopped at any time by choosing the appropriate channel and pressing the STOP key. To continue the batch press the START key.

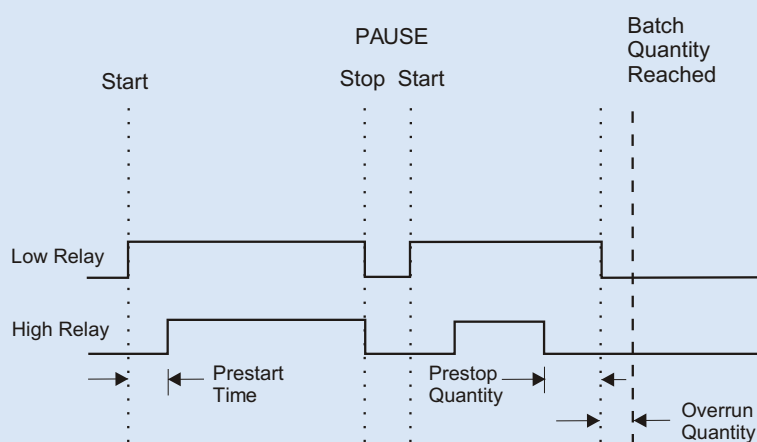
To abort the batch choose the required channel and press the CANCEL key.

One or two stage valve control

Two output relays provide control for single or two stage valve operation. The low flow relay will energise at the start of the batch, and de-energise when the batch is complete.

The high flow relay can be programmed to energise at a set time after the start, and to de-energise at a set quantity prior to completion of the batch. This feature enables a slow shutdown of the flow so that the correct quantity can be accurately delivered and pipe hammer reduced.

The Prestart Time, Prestop Quantity and the Overrun Quantity can be programmed during set-up.



Two Stage Valve Control

General

Display	2-line x 16 character (5.55mm high) alphanumeric backlit LCD.
Decimal Points	Programmable (1.0, 0.1, or 0.01) on rate and total.
Keypad	Sealed membrane keypad with 10 numeric keys and 8 function keys.
Units	The engineering units are displayed and are programmable.
Transducer Supply	8-24V dc field adjustable, 70mA maximum.
Power Requirements	
dc Supply:	11.5 to 15.0V dc 800mA typical.
ac Supply:	ac mains set internally to 95-135V ac or 190-260V ac.
Operating Temperature	0 to 55°C.
Facia	IP65 (Nema 4X) watertight.

Frequency Input

Range	0 to 2000Hz. Single or dual quadrature inputs on each channel. Note: Dual pulse is for pulse verification only and does not detect reverse flow.
Pulse Integrity	If a pulse failure is detected the system will alarm and stop flow on that channel. Note: This is in accord with API Standards, Chapter 5, Section 5; AS2702 - 1984; and ISO6551 - 1982.
Accuracy	0.05% of reading on rate. Absolute on total.
K-factor-Linear:	Single point 1.0000 to 50000.0000.
-Non-Linear:	5 points 1.0000 to 50000.0000.

Relays (8 relays in total)

Low Flow	
Type:	Electromechanical with isolated switch contacts.
Maximum Current:	5 Amps.
Maximum Voltage:	250V ac, 30V dc.
High Flow (ac only)	
Type:	Solid State Relays.
Maximum Current:	1 Amp ac.
Maximum Voltage:	280V ac.

RS422 Computer Communications

Baud Rate	150 to 9600.
Data Bits	8.
Parity	None, odd and even.

RS232 Printer Communications

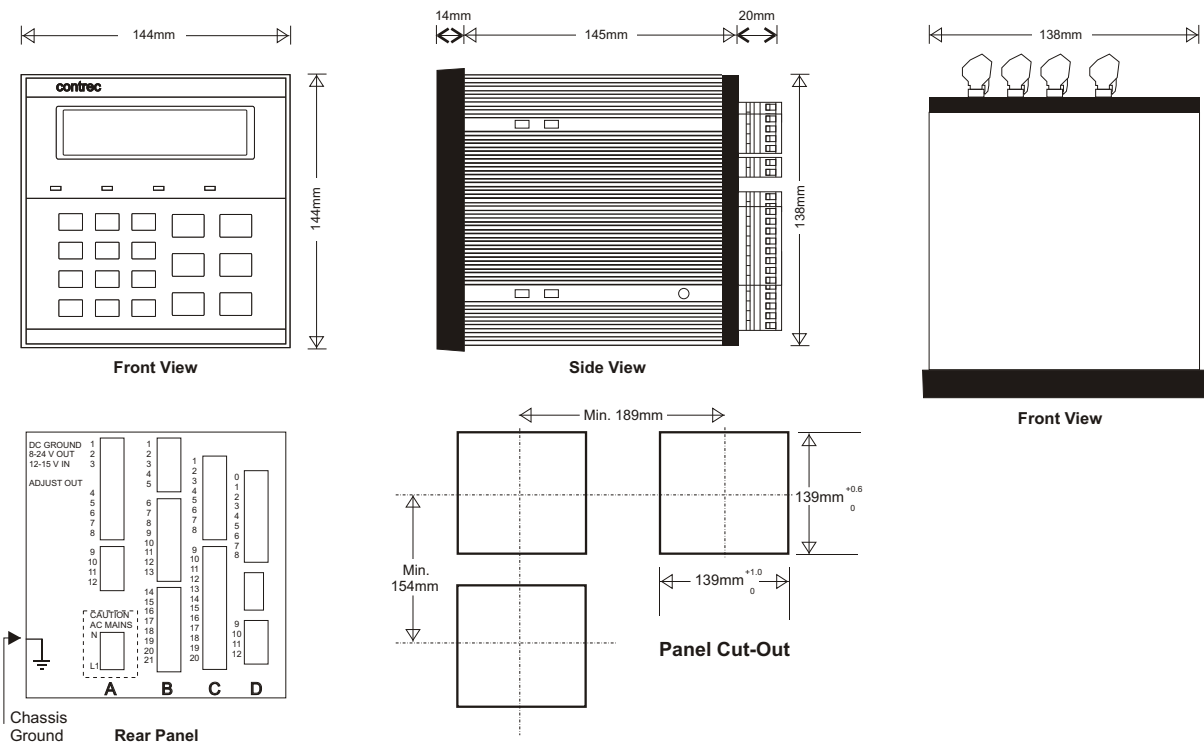
Baud Rate	150 to 9600.
Data Bits	7 or 8.
Parity	None, odd and even.

Optional Enclosures

Field Enclosures	IP67 (Nema 4X).
Explosionproof Enclosures	CENELEC, FM, CSA and SAA approved enclosures available for hazardous areas.

Important: Specifications are subject to change without notice.

Dimension Drawings



Terminal Descriptions

Power Supply Board			
No.		No.	
A1	dc Ground (0V)	A9	Not Used
A2	Supply Out (8-24V dc)	A10	Not Used
A3	Power Input	A11	Not Used
A4	Not Used	A12	Not Used
A5	Not Used		
A6	Not Used	L1	110/220V ac
A7	Not Used	N	Not Connected
A8	Not Used	L2	110/220V ac

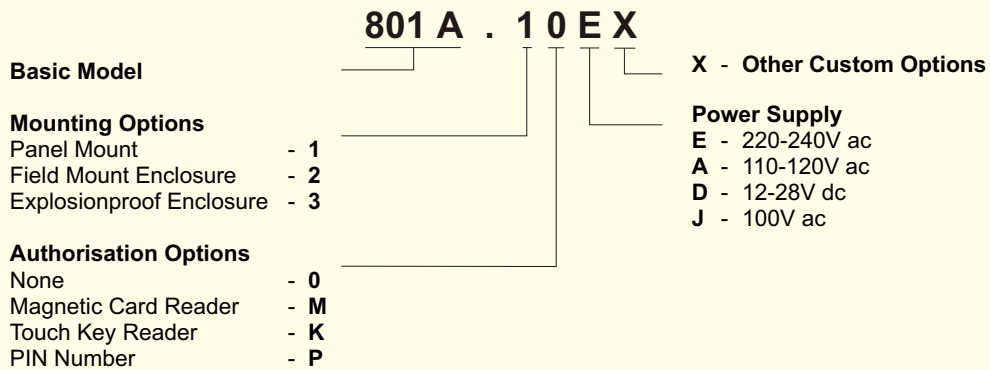
CPU Board			
No.		No.	
B1	0V	B6	Channel 1 - High Flow
B2	Line 1 Start	B7	Channel 1 - High Flow
B3	Line 2 Start	B8	Channel 2 - High Flow
B4	Line 3 Start	B9	Channel 2 - High Flow
B5	Line 4 Start	B10	Channel 3 - High Flow
		B11	Channel 3 - High Flow
		B12	Channel 4 - High Flow
		B13	Channel 4 - High Flow
		B14	Channel 1 - Low Flow
		B15	Channel 1 - Low Flow
		B16	Channel 2 - Low Flow
		B17	Channel 2 - Low Flow
		B18	Channel 3 - Low Flow
		B19	Channel 3 - Low Flow
		B20	Channel 4 - Low Flow
		B21	Channel 4 - Low Flow

Input/Output Board	
No.	
C2	Pulse Input - Channel 3
C6	Pulse Input - Channel 4
C9	0V
C10	Line 1 Stop
C11	Line 2 Stop
C12	Line 3 Stop
C13	Line 4 Stop
C16	Pulse Input - Channel 1
C19	Pulse Input - Channel 2

CPU Board			
No.		No.	
D1	Signal Ground	D9	Touch Key Reader (+)
D2	RS422 (-) Data In	D10	Not Used
D3	RS422 (+) Data In	D11	Touch Key Reader (-)
D4	RS422 (-) Data Out	D12	Not Used
D5	RS422 (+) Data Out		
D6	RS232 Data Out		
D7	RS232 DTR		
D8	RS232 Data In		

Ordering Information

When specifying please indicate model(s) required using the following method.



Distributed by:

contrec

Contrec Pty Ltd
 22 Hall Street Hawthorn East, Melbourne 3123 AUSTRALIA
 Tel: +61 3 9822 8966 Fax: +61 3 9822 8329 Email: sales@contrec.com.au
 d Delft Instruments company

Contrec - USA, LLC
 916 Belcher Drive Pelham AL 35124 USA
 Tel: (205) 685 3000 Fax: (205) 685 3001 Email: contrec@contrec-usa.com

Contrec Europe Limited
 PO Box 436 Sowerby Bridge, West Yorkshire HX6 3YA, UK
 Tel: +44 1422 829 940 Fax: +44 1422 829 941 Email: sales@contrec.co.uk

Website: www.contrec.com.au