



Model 434

Batch Controller

FEATURES

- Displays Batch Total, Preset Quantity, Flow Rate, and Accumulated Total
- Software Control of Flow Input Type and Output Voltage
- Overrun Compensation
- Remote Operation
- No Flow Alarm
- Numeric Keypad for Easy Preset Entry
- Custom Headers for Ticket Printing
- Universal Mains Input Voltage
- Dual Relay Outputs
- Optional 4-20mA Output
- RS485 & RS232 Output
- Adjustable Backlight
- Green LED Status Lamps



The 434 Batch Controller is suited to flow applications where precise measurement and control of batch quantities is required. Batch total, flow rate, accumulated total and preset value can all be readily accessed and displayed on the clearly viewed, backlit LCD display. The batch preset is easily entered via the numeric keypad.

The 434 will interface to most flowmeters generating pulse or frequency outputs.



Field Mounting Batch Controller

CONTREC RELIABILITY, PROVEN IN THOUSANDS OF FIELD INSTALLATIONS THROUGHOUT THE WORLD.

The 434 is a high accuracy Batch Controller designed to operate with pulse/frequency output flowmeters. Having an IP65 weatherproof fascia and new tactile keyboard, the 434 is perfect for the most arduous of installations.

Models Available

Model 434._0

Frequency input version with an input circuit capable of accepting mV signals from coils, 2-wire proximity sensors, reed switch inputs and most other pulse type signals.

Model 434._1

Adds 4-20mA output capability to the controller.

Batch Features

Automatic Overrun Compensation

Based on previous batches, the 434 will automatically compensate for any overrun which may be caused by slow closing valves.

Batch Limit

A maximum batch quantity can be programmed during set-up, so that the operator cannot enter a batch size that exceeds this limit.

Signal Time-out

If the flow signal cuts out midway through a batch, e.g. flowmeter failure, the output relays are de-energised and an alarm signalled via an open collector output.

Remote Start/Stop

Remote push-button switches can be connected to the rear terminal strip, to start and stop batches.

Auto Restart

The 434 can be programmed to automatically restart the batch after a preset time delay.

Count Up/Down

The instrument can be programmed to count up from zero, or to count down from the batch quantity.

End of Batch

An 'End of Batch' signal is provided via an open collector transistor output

Operation

The 16-key keypad on the front fascia enables the batch quantity to be set quickly and easily as well as allowing batch operations to be started, stopped and reset.

To set a batch, the **BATCH SET** key is pressed and then the numeric keypad is used to enter the batch quantity. Once set the **BATCH SET** key is pressed again to return to **RUN** mode.

Keypad operations are straight forward, and four green LEDs indicate the operational status at all time

In **RUN** mode the **RATE** displays the current flow rate, the **ACCUM** key shows the accumulated total and the **BATCH SET** key shows the batch size.

Versatile Performance Options

The instrument will operate from 12 to 28Vdc or from a universal AC input.

The fascia is fully watertight to IP65 (Nema 4X) and is resistant to most chemicals.

The standard instrument is supplied as panel mount.

One or Two Stage Valve Control

Two output relays provide control for single or dual stage valve operation.

The first relay will energise at the start of the batch, and de-energise when the batch is complete.



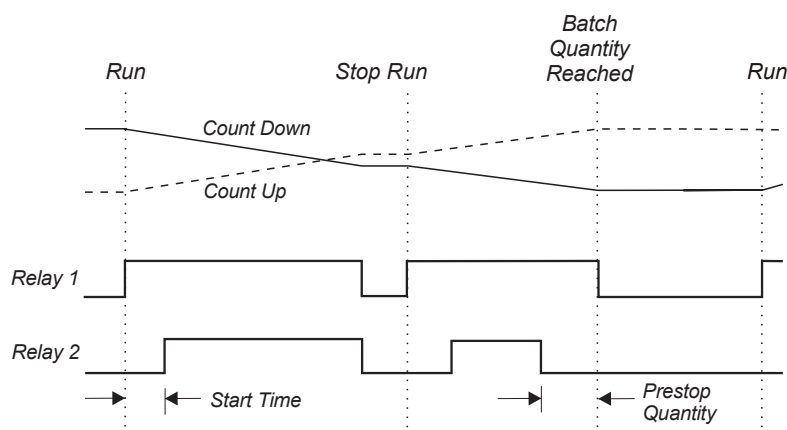
The second relay can be programmed to energise at a set time after the start, and to de-energise at a set quantity prior to completion of the batch. This feature enables a slow startup and slow shutdown of the flow.



Computer/Printer Interface

An RS232 and RS485 output is available for interfacing to computers and printers. The interface allows the Batch Controller to be fully controlled from a computer via an ASCII protocol.

Software drivers are included for a number of printers and can print a ticket with time and date, a sequential delivery/batch number, and the batch and accumulated totals. An optional header for the ticket can also be printed (factory configured).



Dual Relay Outputs

Batch Controller – Model 434

SPECIFICATIONS

General

Display: 6 digit 12.7mm (0.5") high LCD

Display Update Rate: 0.25s

Data Retention: All set-up parameters and totals are stored in a non-volatile memory with 10 years retention

Pulse Output: Open collector output with a 1/10/100ms pulse produced on each increment of the accumulated total.

Max. Output: 499 Hz @ 1ms

Max Current: 100mA

Transducer Supply: 8-24Vdc software adjustable, 50mA maximum

Relays:

Max. Power: 1250 VA

Max Voltage: 250Vac, 30Vdc

Max Current: 5 Amps

Power Requirements:

DC Supply: 12-28.5Vdc 200mA typical current

AC Supply: AC mains universal 100-240V input

Frequency Input

Frequency Range:

Minimum: 0.25Hz on Rate, 0Hz on Total

Maximum: 10kHz Pulse, 2.5KHz NPS & Coil

Scaling Range: 0.1000 to 50,000

Outputs

4-20mA Output Option

Type: Fully isolated output corresponding to the displayed flow rate, suitable for driving a recorder or controller

Resolution: 12 bits

Accuracy: 0.1% full scale

Maximum Load: 390 ohms from internal power, 950 ohms if externally powered

Communications Output

Type: RS232, or RS485 interface is available for driving printers and communicating with computers

Baud Rate: 300 to 115200

Parity: None, odd and even

Protocols: A number of protocols are included to interface to printers and computers

Time/Date: A real-time clock provides time/date printing on tickets

ID Code: For multi-point communications, a unique address can be programmed

Physical

Operating Temperature: 0 to 55°C, 32 to 131°F (–20 to +60°C, –4 to +140°F with Conformal Coating)

Enclosure

Case: Aluminium

Rear Connection: Terminal block

Front Panel Material: Polycarbonate

Dimensions: 144mm (5.7") W x 72mm (2.9") H x 179mm (7") D

Protection:

IP65 (Nema 4X)

Mounting Options

Panel: Supplied with mounting brackets and panel mount gasket. Terminals accessible from rear. *(Note: IP65 fascia integrity only maintained when correctly panel mounted using supplied gasket).*

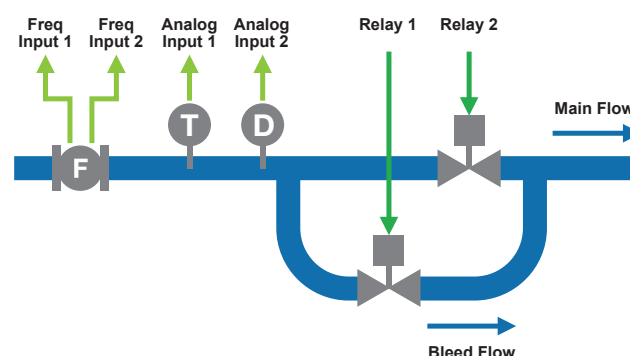
Approvals

Safety: EN61010:2010, CSA

EMC: EN61326:2013



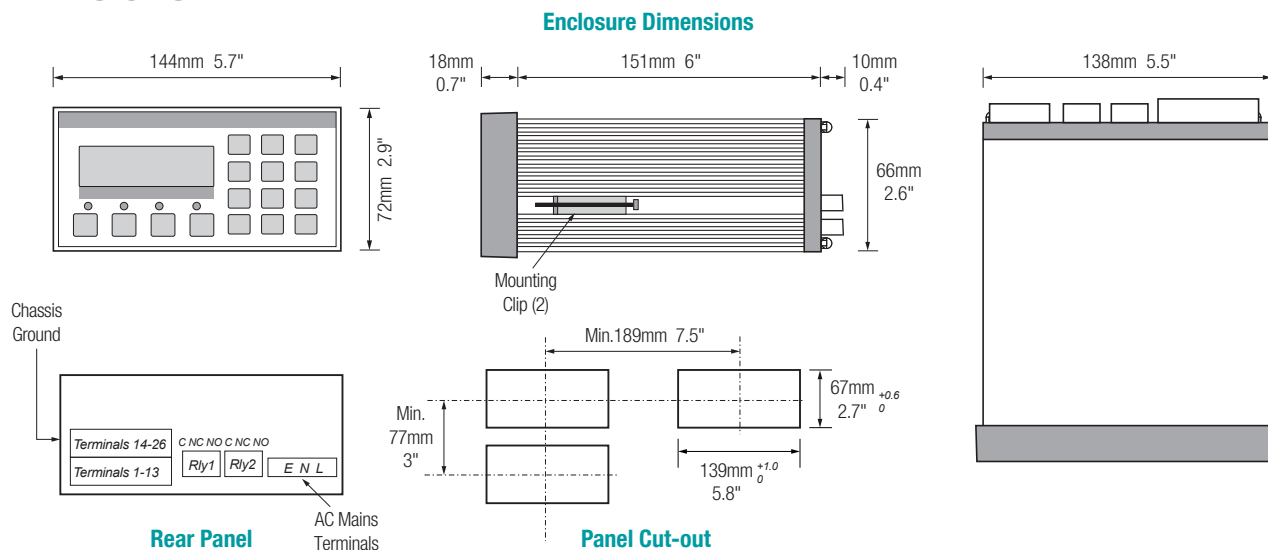
Typical Plant Diagram



Important: Specifications are subject to change without notice.

Batch Controller – Model 434

DIMENSIONS



TERMINAL DESCRIPTIONS

Inputs & Outputs			
No.		No.	
1	Flow Common (-)	14	Calibration Link
2	Flow Signal Input (+)	15	Run Switch
3	+15V (option)	16	Display Switch
4	4-20mA Power Input (option)*	17	Batch Set Switch
5	I (+) (option)	18	Stop Switch
6	Either I (-) 0V Return (option)**	19	Switch Ground
7	Or I (-) -15V Return (option)***	20	CTS In
8	RS232 Signal Ground	21	RS232 Data In
9	RS485 (-)	22	RS232 Data Out
10	RS485 (+)	23	Pulse & Power Out Ground
11	Pulse Out	24	End of Batch / Pump Control
12	DC Power Input (12-28.5Vdc)	25	Flow Alarm
13	DC Ground	26	DC Power Out (8-24Vdc)

* Link to 3 or ext PSU

** Loads up to 390 ohms

*** Loads up to 950 ohms

Relays	
No.	
27	Relay 1 – Common
28	Relay 1 – Normally Closed
29	Relay 1 – Normally Open
30	Relay 2 – Common
31	Relay 2 – Normally Closed
32	Relay 2 – Normally Open

PRODUCT CODES

Product Code, Mounting Types & Options			
434	•		Batch Controller
Enclosure Mounting	1		Panel mounting
4-20mA Output	0 1		None 4-20mA Output
Power Supply	U D		Universal 110/240Vac 12-28Vdc Supply
Special Options	N C		No Option Conformal Coating

Typical Part Number: 434.10UN

Instruments within the Contrec family:

100 Series – Accurate process instruments for field mounting applications

200 Series – Intrinsically safe, precise and reliable process instruments

400 Series – Rugged and dependable batch and flow control solutions

515 Series – Precise flow and batch control for more complex applications

TRAC 50 – Vehicle mount custody transfer approved registers

LoadPro® – Robust load controllers for petroleum and chemical applications



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