



AUTOPRO

MICROCONTROLLER BASED FLOW INDICATORS & CONTROLLERS

ANALOG INPUT 2 SETPOINT BATCH CONTROLLER

MODEL A4452



A4452

SALIENT FEATURES

- 2 SET POINT BATCH CONTROLLER
- FLOW RATE INDICATION & TOTALISATION
- FLOW OR PRESSURE INPUTS
- SQUARE ROOT EXTRACTION OPTION
- ENGINEERING UNIT INDICATION
- DIGITAL SIGNAL FILTER
- FLOATING POINT FLOW CONSTANT
- 12 DIGIT AUTORANGING TOTALISATION
- NON VOLATILE MEMORY & TOTALS
- FACIA RESET DISABLE FUNCTION
- PASSWORD PROTECTION
- EXTERNAL COUNTER OUTPUT OPTION

DESCRIPTION

The Model A4452 Analog Input Batch Controller is a flow rate indicator, totaliser and 2 set point batch controller. The input signal is digitised by an A/D converter. This value is multiplied by a floating point flow constant, filtered by a digital filter and indicated on the display to show the flow/production rate in user selected volume and time units.

This flow is integrated by the microcontroller to get the total flow (batch) since the controller was last reset. This total is compared with the batch set point 1 and 2 and control outputs are generated with a normally-on or normally-off action when the batch equals or exceeds the batch set points. The output is used to control the batch volume by putting on the valves or shutting off the pump.

The integrated total is displayed on a 6 digit display with floating or fixed decimal point resolution. The digital filter gives stable readings. The auxiliary output can be used either for control or to drive an external batch totaliser. The batch total can also be reset automatically (Autoreset). All parameters are protected from changes by password protection and keypad lockout. The non-volatile memory is used to store all parameters.

APPLICATIONS

The A4452 Batch controller accepts inputs from either Differential Pressure Transmitters (DPTs) mounted across Orifice plates or directly from flow transmitters. The square root can be extracted (optionally) for DPTs. The unit can be used to indicate the flow rate. The rate can be integrated to get the batch total. The two set point outputs are used to control the batch.

The batch controller can be used for controlling the filling operation of sachets, pouches, vials, drums etc. with very precise amounts of liquid from storage sources. The Autoreset function allows automatic operation of filling operations with fast and slow filling control. The unit can be used in continuous process operations to integrate the production rate to get totals. The high dynamic range of measurement allows the unit to operate at low flow rates. The digital filter gives stable readings.

The controller can also be used for custody transfer operations, since the measurement is very precise. The second output when used as a pulse output for an external counter with a preset pulse constant can be used as a batch total indicator, even when the mains power supply is absent.

SPECIFICATIONS :

INPUT

Input source

1. Flow (linear)
2. Pressure (Square root)

Input signal range *

- 4 - 20 mA current loop

Input & control isolation

- 500 V DC @ 1 minute

External control inputs

- Batch enable & reset

Flow rate units

- per Sec/ Min / Hour

Flow constant

- 4 digit user programmable

Flow constant range

- 0.001 to 9999 units

CONTROL

Control algorithm

- On - off batch control

No. of set points

- 2 independent batch setpoints

Batch setpoint range

- 0.00,001 to 999,999 unit

Control action

- Normally on, normally off

Cyclic operation

- Selectable by autoreset function

Batch pause

- By run / hold / key on facia

OUTPUT

Output type

- Latched & pulsed

Output actuation

- EM relay 6 Amp @ 230 V AC

Output & control isolation

- 500 V DC @ 1 minute

Pulse output time

- 0.01 S to 99.99 S

INDICATION

Flow rate indication

- Direct by 4 digit LEDs

Batch total indication

- Direct indication in 6 digits

PV & SV display

- 6 digit 10.2 mm display

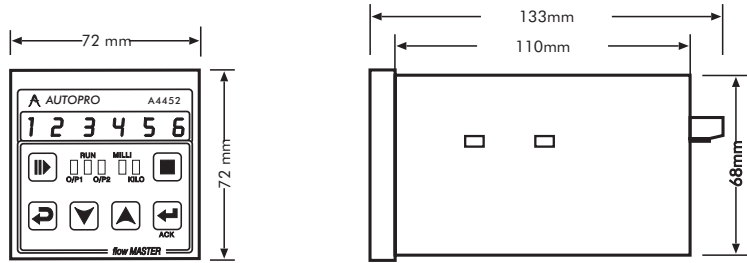
Output indication

- Output 1 & output 2 LEDs

Decimal point

- "Autoranging" upto 6 digits

DIMENSIONAL DETAILS :



Enclosure T72 (Panel mounting) Cutout : 68 X 68 mm

SETUP & SECURITY

Setup display

- Automatic display at startup

Setup programming

- By keypad on facia

Setup memory

- Non volatile EEPROM

Programme security

- 6 digit user editable password

COMMUNICATION

Baud rate

- 1.2k / 2.4k / 4.8k / 9.6k / 19.2k

Transmission delay

- 1 to 9999 seconds

ID or TAG

- 4 digit user set tag number

AUXILIARY OUTPUT

Second output

- Pulse output for external counter

Pulse constant

- 1 to 9999 counts to o/p pulses

Pulse on time

- 0.01 Sec to 99.99 Sec

Pulse off time

- 0.01 Sec to 99.99 Sec

Output actuation

- EM relay 6A @ 230V AC (std.)

Enclosure options

T72 : 72 x 72 x 110 (HxWxD)mm

Panel mounting

WP1: 250 x 250 x 160 (HxWxD)mm

Weather Proof Wall mounting

as per IS: 2147 IP55

FP1 : 360 x 210 x 170 (HxWxD)mm

Flame Proof Wall mounting

as per IS: 2148 Gr IIA & IIB

GENERAL

Key pad

- 6 digit keypad on facia

Power supply *

- 230 V AC \pm 10 % 50 / 60 Hz

Power consumption

- 4 VA (max.)

Operating temp.

- 05° - 50°C Ambient

Terminals

- Suitable for 1.5mm² wire

Mounting

- Panel mounting

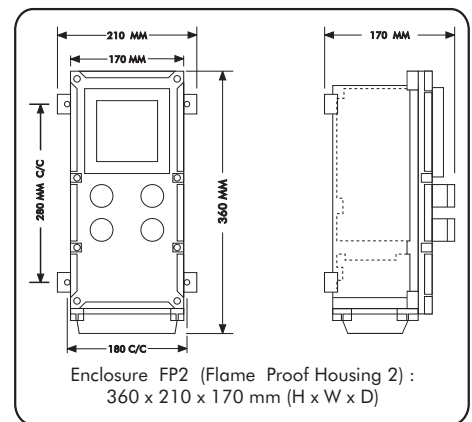
Panel cutout

- 68 x 68 mm (H x W)

Enclosure

- T72 : 72 (H) x 72 (W) x 110 (D) mm

* Other options available
consult factory for details



Enclosure FP2 (Flame Proof Housing 2) :
360 x 210 x 170 mm (H x W x D)

AUTOPRO

Factory : 117, Manish Industrial Estate No. 3, Vasai Road (E), Dist.: Thane, MAH, 401 210 .

☎ : +91 - 250 - 239 0006, 239 0269, ☎ / Fax : +91 - 250 - 239 0813.

Email : sales@autoproinstrumentation.com, autopro@vsnl.net Web: www.autoproinstrumentation.com

452BR4 / 20070130

☆ AUTOPRO IS THE FIRST NAME FOR THE LAST WORD IN INNOVATIVE INSTRUMENTATION ☆

☞ Due to our policy of continuous improvement all specifications are subject to change without notice.

w.e.f. 01-01-2007