



# AUTOPRO

## MICROCONTROLLER BASED FLOW INDICATORS & CONTROLLERS

### PULSE INPUT RATE INDICATOR

### MODEL A4459



### SALIENT FEATURES

- FLOW / PRODUCTION RATE INDICATION
- WIDE RANGE INPUT FREQUENCY
- VERY LOW FREQUENCY INPUT (0.01 Hz)
- PRESETTABLE DIGITAL SIGNAL FILTER
- AUTO FILTER FOR STABLE DISPLAY
- FLOATING POINT RATE CONSTANT
- 7 DECADE RATE RANGE
- LARGE 14.2 MM STABLE DISPLAY
- KEYPAD PARAMETER SETTING
- INTEGRAL 12 V SENSOR SUPPLY
- PASSWORD PROTECTION
- WIDE VARIETY OF ENCLOSURES

### DESCRIPTION

The Model A4459 Pulse Input (Flow /Production) Rate Indicator is a rate indicator. The input pulse rate is multiplied by a floating point flow constant, filtered by auto or manually set filter constants and indicated on a 4 digit display to show the pulse flow / production rate in user selected volume and time units for flow and other engineering units for production rate.

The indicator accepts potential free contact closure or opening as inputs. It can even accept pulses from a capacitive or inductive proximity switch. The auxiliary supply of 12 V can be used to power the rate sensor including proximity switches.

The basic input frequency is multiplied by the floating point flow constant and is used to indicate the flow rate or the production rate in measured units per unit time.

The production rate is displayed on 4 digit display with floating point resolution. All parameters are protected from unauthorised changes by password protection and keypad lockout. The non volatile memory is used to store all parameters.

The (optional) RS232 serial communication is used to send the process value to the Printer or with the PC.

### APPLICATIONS

The A4459 Flow Rate Indicator accepts pulse inputs from flow rate sensors like Turbine Wheel, Paddle Wheel flow sensors and Positive Displacement Meters (PDMs). The unit can be used to indicate the fluid flow rate or production rate of any continuous process in engineering units.

The indicator accepts potential free contact closure or opening as inputs. It can even accept pulses from a capacitive or inductive proximity switch. The auxiliary supply of 12 V can be used to power the rate sensor including proximity switches.

The high dynamic range of measurement coupled with the very low pulse input rate allows the unit to operate at rates as low as 0.6 rpm (0.01Hz). The autofilter gives stable reading even when the flow rate fluctuates due to the valve opening or closing.

Since the measurement is very precise, stable and has very good resolution. It can be used in various applications where the production rate determines the quality, like wire drawing machines, rope and tape manufacturing machines and textile cloth production and calendering machines for optimum linear production rate.

## SPECIFICATIONS :

### INPUT

#### Input sources (specify)

1. Voltage pulse  
05 - 50 V DC
2. Inductive proximity switch.  
PNP Type NO contact
3. Potential free contacts  
Contact close or open

#### Input signal range \*

0.01 Hz - 29.99 Hz

#### Input and control isolation

500 V DC @ 1 min

#### Under range indication

Below 0.01 Hz input signal

#### Over range indication

Above 99.99 Hz input

#### Flow constant

4 digit user programmable

#### Flow constant range

0.001 to 9999 counts

### INDICATION

#### Flow indication

"Autoranging" upto 4 digit

#### Decimal point

4 digit 10.2 mm LEDs

### AUXILLIARY SUPPLY

#### Output Voltage \*

12 V DC  $\pm$  10 %

#### Output Current \*

30 mA max

### Enclosure options

T72 : 72 x 72 x 110 (HxWxD)mm

Panel mounting

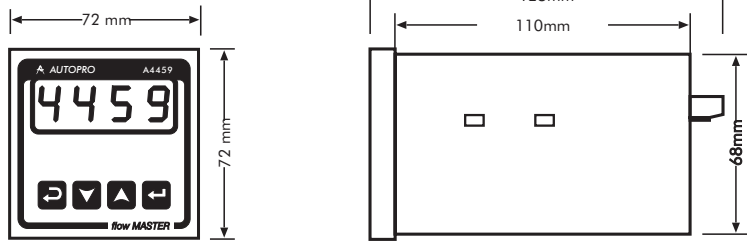
WP1: 250 x 250 x 160 (HxWxD)mm

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

### DIMENSIONAL DETAILS :



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

### SETUP & SECURITY

#### Setup display

Automatic display

#### Setup programming

By keypad on facia

#### Setup memory

Non volatile EPROM

#### Programme security

4 digit user editable password

### COMMUNICATION (option)

#### Transmission standard

RS232C Serial 3 wire

#### Baud rate

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

#### Transmission delay

1 to 9999 seconds

#### ID number

4 digit user set tag number

### GENERAL

#### Key pad

4 Key keypad on facia.

#### Power supply \*

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

#### Power consumption

4 VA ( max.)

#### Operating temp.

05<sup>o</sup> - 50<sup>o</sup>C Ambient

#### Terminals

Suitable for 1.5mm<sup>2</sup> wire

#### Mounting

Panel mounting

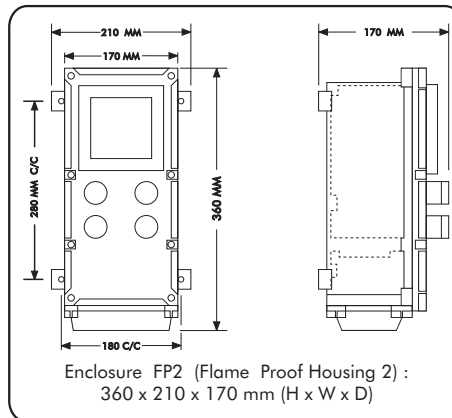
#### Cutout

68 x 68 mm ( H x W )

#### Enclosure \*

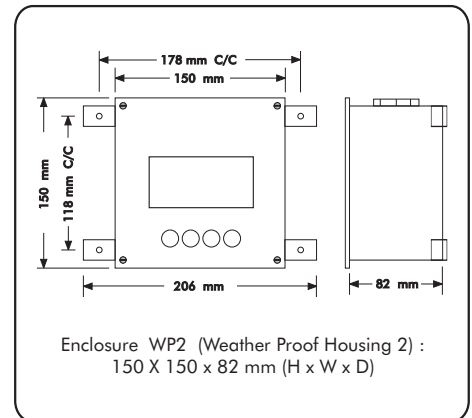
T72 : 72 (H) x 72 (W) x 110 (D) mm

### Enclosure Options



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

### \* Note : other options available



Enclosure WP2 (Weather Proof Housing 2) :  
150 X 150 x 82 mm (H x W x D)

## AUTOPRO

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☆ 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