



# TECHNICAL GUIDANCE

All-In-One Flow Indication, Totalizing and Alarm  
Complying with RoHS

## IR4600

UNIVERSAL TOTALIZER

### OUTLINE

**IR4600** is an indicator and a totalizer used in combination with flowmeters having analog or pulse output.

It indicates alternatively instantaneous or totalized flow rate with alarm output. Scaling, alarm setting and other parameters can be set through a key operation on front panel. Supplying loop power of 24V DC, it receives 2-wire transmitter and 3-wire pulse/analog signals. IR4600 saves panel space by its DIN48 × 96 compact housing and also eliminates troublesome wiring.



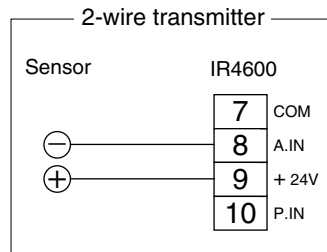
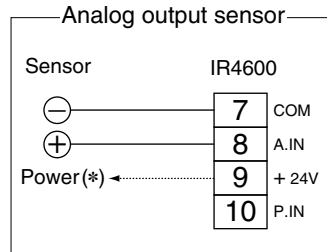
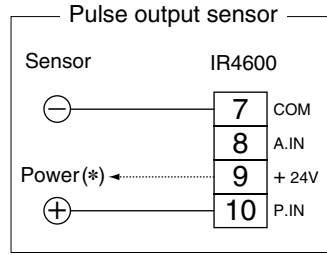
### STANDARD SPECIFICATION

- **INPUT**
  - ◇ Pulse input (receives pulse output sensor)
    - Full scale setting 0.01 to 1000Hz
    - NPN Open collector or dry contact pulse
      - Voltage at open terminals : 18V
      - Current at short circuit : 6mA
    - Active voltage pulse
      - L: 0 to 2 V DC H: 3.8 to 30V DC
  - ◇ Analog input (to receive analog output sensor)
    - 4 to 20 mA DC (Input resistance 250Ω)
    - 1 to 5 V DC or 0 to 5V DC (Input resistance 220kΩ)
  - ◇ Reset input and External input
    - To receive NPN open collector output or dry contact signal
      - Voltage at open terminal : 24V
      - Current at short terminal circuit : 7mA
    - Reset input : Totalizing counter or alarm is reset by ON input.
    - External input : Sensor input is inhibited or indication is kept hold by ON input.
- **INDICATION** (Instantaneous or totalized flow rate is selected by key operation)
  - ◇ Accuracy of flow rate and totalized flow
    - Pulse input : ±0.05% F.S. ±1digit (\*)
    - Analog input : ±0.25% F.S. ±1digit (\*)
  - ◇ Indicator
    - Letter height : 14mm, Selectable 1: Red LED or 2: Green LED
  - ◇ Flow rate indication
    - Indication Max. 4 digits LED (0 to 3 digits under decimal point)
    - Scaling 0.001 to 9999
    - Low cut-off 1 to 29% Freely-programmable.  
0.5% under is cut automatically.
    - Averaging of indication sampling period : 0.1 to 99.9 sec.
  - ◇ Totalizing count indication
    - Indication Max. 6digits LED, no decimal point
    - Scale factor 1 to 180000 count/h
    - Low cut-off Same setting applied as the one of flow rate
    - Totalizing count reset by key operation or reset input
    - Over scale If exceeding 6 digits, counter starts from 0 automatically with alarm, by incrementing over scale frequency endlessly.
- ◇ LED status lamps (Total 6 red and green LED lamps are on the front panel)
  - Each lamp turns on at flow rate or totalized flow indication mode, external input ON, flow rate or totalized flow over scale and alarm activation.
- **FLOW RATE ALARM/PRESET COUNTING**
  - Either flow rate alarm or preset counting is selectable. Duplicated use is not allowed.
  - No. of outputs 2 points (Alarm lamp ON)
  - Contact capacity 1A, 30V DC. 0.3A, 125V AC
  - Contact 1a, i.e. 1 make contact
  - Operation mode Comparison/Hold/1shot selectable
  - Reset by key operation or reset input
- **OUTPUT FUNCTION**
  - ◇ Analog output (4 to 20mA DC)
    - Transmits flow rate in rescaled current signal.
    - Accuracy ±0.2% of the indicated (\*)
  - (\*) Reference temperature 23°C, Temperature drift 200ppm/°C or less)
    - Renewal period approx. 20ms
    - Response time approx. 90ms (90% response to a step input)
    - Resolution 3600 per 4 to 20mA
  - ◇ Pulse output (Synchronized pulse as totalizing pulse)
    - One pulse is transmitted each time the counter counts up.
    - Output signal NPN Open collector, capacity 30V DC, Max.50mA
    - Pulse width 0.01 to 1.99s (default 50ms)
- **GENERAL SPECIFICATION**
  - Power supply 1: 85 to 264V AC (Free)  
2: 12 to 24V DC (10.8 to 26.4V DC)
  - Consumption Max. 15VA AC  
Max. 10W DC
  - Sensor loop supply 24V DC, 100mA (Stabilization)
  - Ambient cond. 0 to 50°C, 30 to 80%RH  
No condensation
  - Case material, color ABS resin, black
  - Installation Panel mounted
  - Enclosure Case : IP20 eq. (indoor use)  
Front : IP66 eq. (dust and water proof)
  - Cable termination By M3.5 screw
  - Mass approx. 350g
- **OTHER SPECIFICATIONS**
  - Withstand voltage 1500V AC, 1min.
  - Insulation resistance 500V DC, 50MΩ or more
  - Data back-up The setting values and totalized values are memorized in FRAM, in less than 100000 times for about 10 years.

**MODEL CODE**

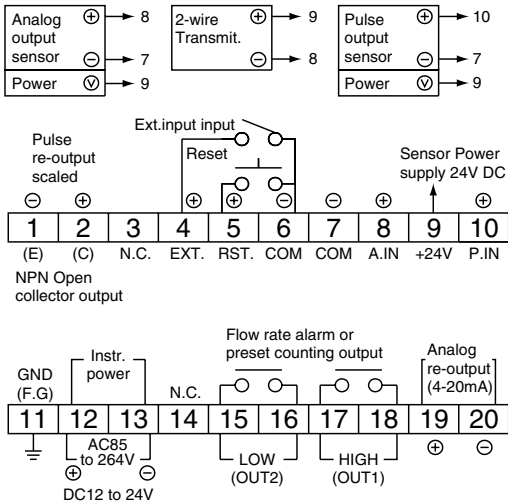
Model code			Description
IR	4	6	
Power supply	1		85 to 264V AC (Free)
	2		12 to 24V (10.8 to 26.4V DC)
Indication	1		Red 6 digits LED
	2		Green 6 digits LED
Input signal	-01		Open collector pulse
	-02		4 to 20 mA DC
	-13		1 to 5 V DC
	-24		0 to 5 V DC
	-35		Voltage pulse

**INPUT SIGNAL**

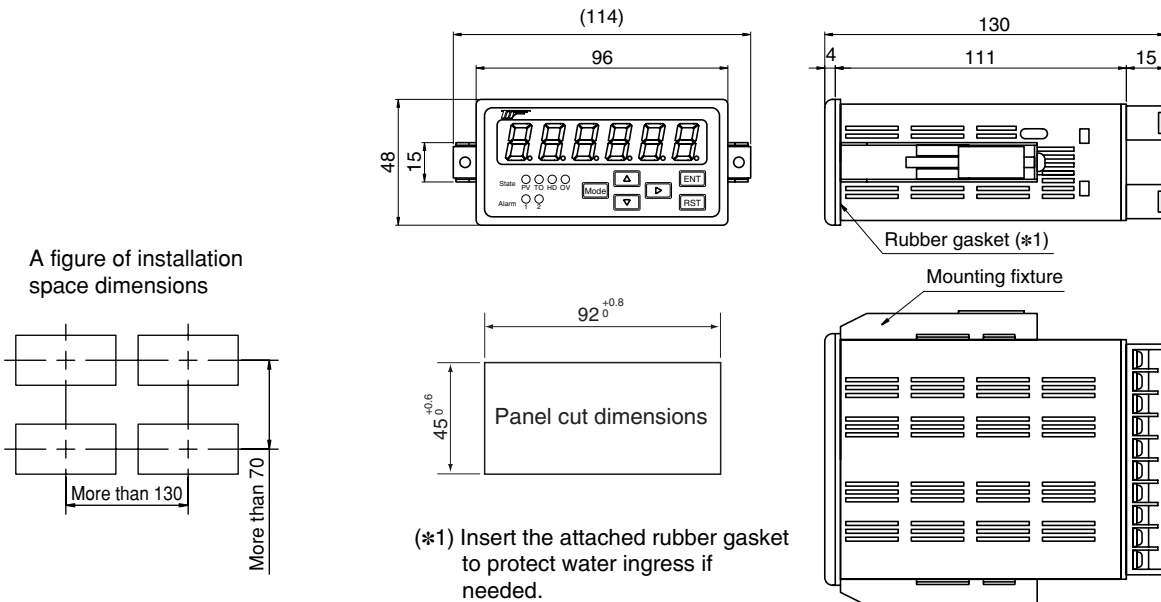


(\* ) Connect power source terminals of sensor and No.9 terminal of IR4600 for the 3-wire pulse/analog output sensor.

**TERMINAL**



**DIMENSIONS**



\* Specification is subject to change without notice.

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