



# TECHNICAL GUIDANCE

Compact indicator and totalizer  
CE marking and complying with RoHS

## IR1700

MINI UNIVERSAL TOTALIZER

### OUTLINE

**IR1700** is an indicating totalizer. Connecting with flowmeters having pulse output, it indicates alternatively instantaneous or totalizing flow rate with alarm output. Scaling, preset value and other parameters can be set through a key operation on front panel. Supplying built-in power of 12 V DC for sensor, it receives 3-wire pulse signals. **IR1700** compact housing of DIN48 × 24 is just the right size for your space saving control panel.



### STANDARD SPECIFICATION

#### ● INPUT

- ◇ Pulse input (receives pulse output signal)
  - Full scale input frequency setting : 1 to 1000Hz
- NPN Open collector or dry contact pulse (no-voltage contact)
  - Voltage at open terminals: 10.0 V, Current at short circuit: 6.0 mA
- Voltage pulse L: 2 V DC or less, H: 3.8 to 30 V DC
- ◇ External input
  - To receive NPN open collector output signal and contact output signal.
    - Select following functions.
    - Reset input : Totalizing count or alarm is reset by ON input.
    - Inhibit input : Sensor input is inhibited by ON input (Input becomes zero compulsorily)
    - Hold input : Current indication is kept hold by ON input.

#### ● INDICATION

- (Flow rate or totalized flow is selected by key operation)
- ◇ Indicator
  - Red 5 digit LED, height 7 mm (Zero blanking method)
- ◇ Flow rate indication
  - Indication Max. 4 digits LED (decimal point changeable)
  - Measurement accuracy  $\pm 0.05\%$  rdg.  $\pm 1$  digit (\* 1)
  - Scaling 0.001 to 9999
  - Low cut-off 1 to 29% variable (Stop functioning depending on setting)
  - Indication sampling period Averaging in 0.1 to 99.9 sec.
- ◇ Totalizing count indication
  - Indication Max. 5digits LED (decimal point changeable)
  - Accuracy  $\pm 0$  (at scaling 1) (\* 1)
  - 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 Selectable either of following
    - Stop totalizing with flickering indicating digit
    - Continue totalizing from zero endlessly
    - Continue totalizing with shifting (indicated as  $\times 10$ )
- Flow rate and totalized flow indication when abnormal signal is received.
  - The last digit flickers if input signal exceeds 150% F.S.
- ◇ 3 LED status lamps on the front panel
  - 1 (Red) : ON at alarm output OUT1 is ON
  - 2 (Red) : ON at alarm output OUT2 is ON
  - T (Green) : ON at totalizing count indication

(\* 1) At the conditions of 23°C measurement and less than 100ppm/°C temperature drift

(\* 2) Between OUT1 and OUT2 output terminals

#### ● ALARM OUTPUT

- Output Flow rate / Totalized flow
  - Duplicated use is not allowed.
- No. of outputs 2 points (Alarm lamp ON)
- Output signals NPN open collector
  - Maximum rating : 30 V DC, Max. 50 mA
- Operation mode Comparison/Hold/1shot selectable
- Reset by key operation or external reset input
- ◇ 1c contact relay output as option (cannot be combined)
- Output terminal Terminal 3-4 : Normal open  
Terminal 5-4 : Normal close (Terminal 4 : COM)
- Output method 1c contact relay output
- Rated control capacity / Maximum allowable power 220 V AC 0.12 A / 30 V DC 1 A
- Output indication OUT1 LED light up (OUT2 LED is always OFF)

#### ● OUTPUT FUNCTION

- ◇ Pulse output (Synchronized pulse with totalizing pulse)
  - One pulse is transmitted each time the counter counts up.
  - OUT1 output terminal used (common use with alarm is not allowed)
  - Pulse width 0.01 to 1.99s (default 50 ms)
- ◇ Current output as option
  - (4 to 20 mA DC, resistance load 500Ω or less)
  - Transmits flow rate in rescaled current signal.
  - Accuracy  $\pm 0.3\%$  F.S. of the indication (\* 1)
  - Renewal period approx. 20ms
  - Resolution Max. 1.6μA

#### ● GENERAL SPECIFICATION

- Power supply 24 V DC  $\pm 10\%$
- Consumption 3W or less
- Sensor power supply 12 V DC, Max. 50 mA
- Ambient cond. 0 to 50°C, 30 to 80% RH (No condensation)
- Case material, color Polycarbonate, Black
- Flame retardant grade UL94 V-0
- Enclosure Case: IP20 eq. (indoor use)  
Front: IP66 eq. (dust and water proof)
- Cable termination Plug-in type screw terminal
- Wire size AWG26 to 16 (0.14 to 1.25mm<sup>2</sup>)
- Mass Approx. 50g

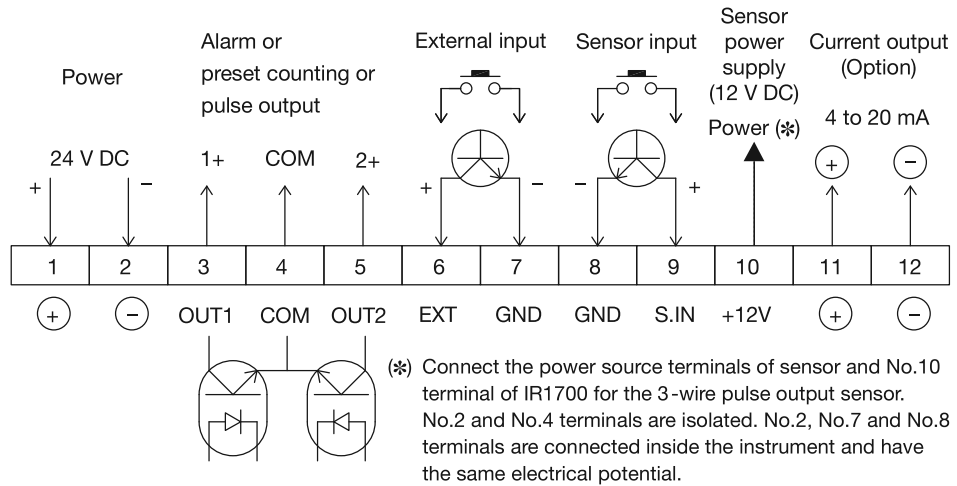
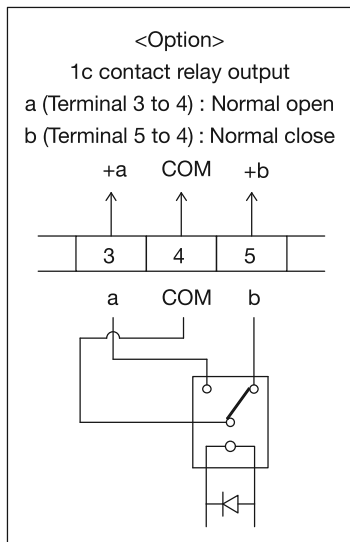
#### ● OTHER SPECIFICATIONS

- Withstand voltage 1000 V AC, 1min. (\* 2)
- Insulation resistance 500 V DC, 50 MW or more (\* 2)
- Data back-up The setting values and totalized values are memorized in FRAM, in less than 100000 times for about 10 years.

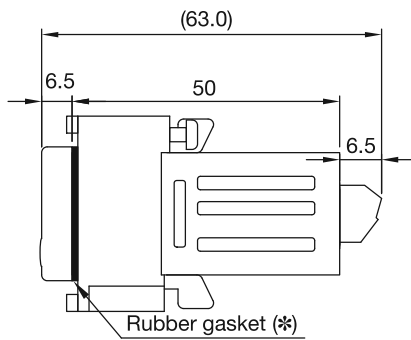
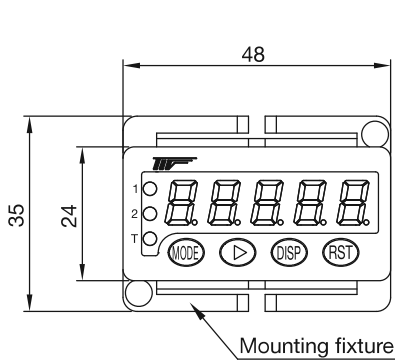
**MODEL CODE**

Model code			Description
IR	1	7	
Output signal	0		Without (Standard)
	1		Activate (Current output: 4 to 20mA)
	2		Activate (1c contact relay output)
	3		Activate (Current output, 1c contact relay output)
Input signal	0		Open collector pulse
	1		Voltage pulse

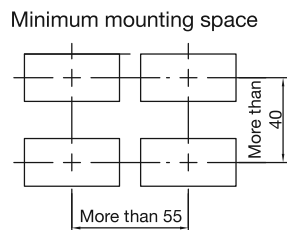
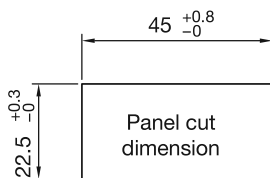
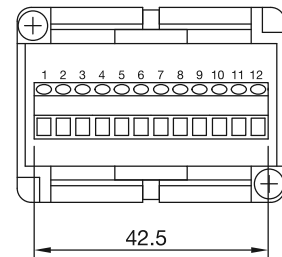
**TERMINAL**



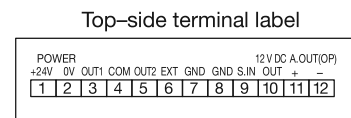
**DIMENSIONS**



(\*) Insert the attached rubber gasket to protect water ingress if needed.



Panel thickness 1 to 4 mm



\* Specification is subject to change without notice.

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