NITTOSEIKO
Taking new steps forward together

TOTALIZER TH61

SPECIFICATIONS

SSF30651 19.06

■ Outline

This pulse counter receives pulse signals from flowmeter, and indicates it's totalized value.

■ Features

- The input pulse signal can be used for both no-contact and contact pulses.
- There is a distributed pulse output synchronizing with the input pulse signal.
- The counting can be stopped with a inhibit signal input.
- The addition & subtraction system enables to connect an adding flowmeter and a subtracting flowmeter, to indicate the difference in totalized value.
- The power source is common to AC100, 110, 200 and 220V.
- The configuration of the front face is 72W x 72H which are DIN standard.

■ Specifications

Pulse input

The number of input : 1 input (2 input with the addition & subtraction system)

Input signal	No-contact input;	Frequency	5kHz or under (4kHz or under with the addition & subtraction system)
		Signal width	0.1ms or over
		Signal level	H:5～30V L:2V or under
		Input resistance	Approx. 4.7kΩ
	Contact input;	Frequency	30Hz or under
		Signal width	16ms or over
		Signal level	H:5～30V L:2V or under
		Input resistance	Approx. 4.7kΩ

Signal logic

Select the input signal logic by setting the switch SW2.

Positive input : SW2:R (When with Voltage transistor input , Contact input)

Negative input : SW2:L (When with Open-collector input , Contact input)

Addition & subtraction system

Select the addition & subtraction system by setting the switch SW1-5:ON.

Inhibit input SW1-5:OFF (1 input; addition system)

Subtraction input SW1-5:ON (2 input; addition & subtraction system)

Counting speed

Select the counting speed by setting the SW1-1 or SW1-2.

Addition input : SW1-1 ON:30Hz, OFF:5kHz

Subtraction input : SW1-2 ON:30Hz, OFF:5kHz

Dividing (Option)

It can be set 1 dividing both of Addition and Subtraction input.

Dividing : 1/2 ～ 1/9999 (Can not change after delivery.)

Indication of totalized value

Decimal 6-digit counter, red 7-segment LED, 4(W)×8(H)

Range of indication -199999 ～ 0 ～ 999999 , zero suppress

Minus indication Red LED 5(W)×2(H)

Decimal point Select from among None/First/Second before delivery.

Resetting

Resetting at hand　Reset with push-button switch.

Remote resetting　Reset with reset signal input.

Type of signal	No-voltage contact signal or voltage signal SW2:R ; voltage input, SW2:L ; No-voltage input
Signal width	5ms or over
Signal level	H:5～30V L:2V or under
Input resistance	Approx. 4.7kΩ

Inhibit input

Stop the counting by inputting the inhibit signal.

Type of signal	No-voltage contact signal or voltage signal SW2:R ; voltage input, SW2:L ; No-voltage input
Signal width	SW1-2:ON ; 16ms or over, SW1-2:OFF ; 5ms or over
Signal level	H:5～30V L:2V or under
Input resistance	Approx. 4.7kΩ

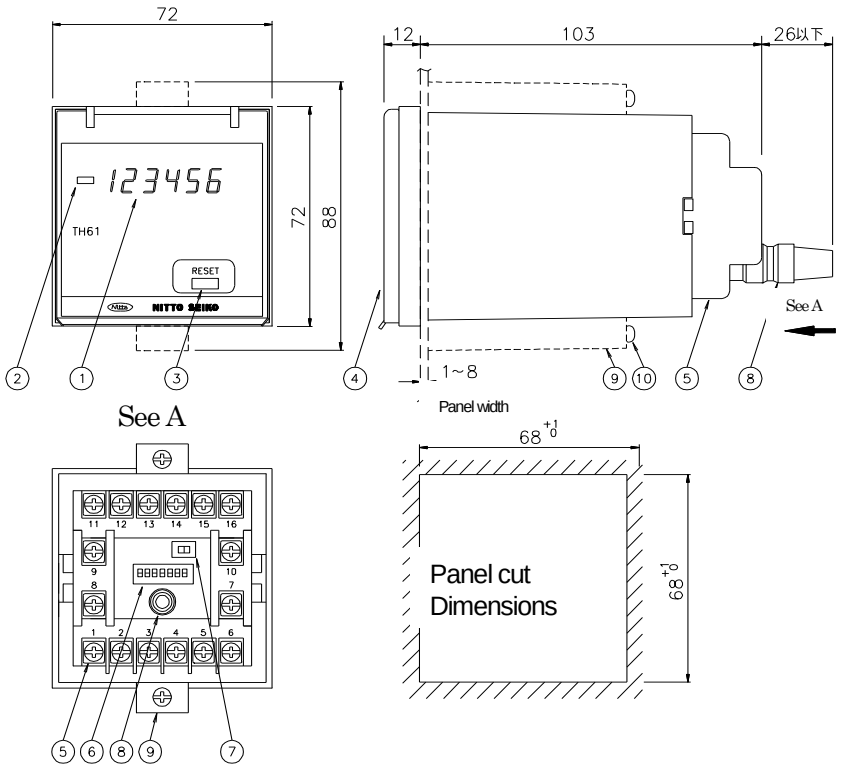
Distribution output

Output the Distribution pulse synchronizing with the input pulse signal.

Type of signal	12V transistor signal
Signal level	H: Approx. 12V（at no load）、L:1V or under（at no load）
Output resistance	Approx. 1.1kΩ (Protective resistance against short-circuit：Approx.100Ω)
Sink current	30mA max

Power failure storage	EEPROM storage
Power source for flowmeter	DC12V ±10% 50mA
Power supply	AC100/110,200/220V ±10% 50/60Hz
Power consumption	Approx. 7VA
Insulation resistance	DC500V 100MΩ or over (between exposed metal part and power supply terminal)
Withstand voltage	AC2000V 1 minute（Same test point with Insulation resistance）
Noise resistance	Square wave noise 1000v by noise simulator (Noise width 1μs, Polarity±, Simultaneous power application, Phase0～360°)
Ambient temperature	-10 ～ 50℃（without condensation）
Weight	APPROX. 0.4kg
Casing	ABS resin

■ External dimensions



NO.	Designation	NO.	Designation
1	Display of total	6	Switch SW1 *1
2	Minus LED	7	Switch SW2 *2
3	Resetting switch	8	Data output connector *3
4	Front cover	9	Mounting tools
5	Terminal (M3.5)	10	Mounting screws

*1 Switch SW1 ; Select counting speed and addition & subtraction system

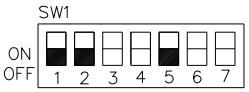
SW1-1 ; Counting speed of SIG1 OFF : 5kHz, ON : 30Hz

SW1-2 ; Counting speed of SIG2 OFF : 5kHz, ON : 30Hz

SW1-3,4,6,7 ; Not used

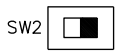
SW1-5 ; addition & subtraction system (Function of terminal13)

OFF : Inhibit input, ON : Subtraction pulse input



*2 Switch SW2 ; select input signal logic

Right [R] : Positive input, Left [L] : Negative input



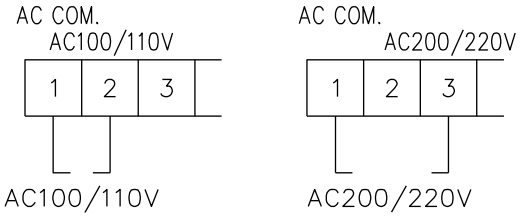
*3 Option

■ Terminal arrangement

No.	Signal name	No.	Signal name
1	AC COMMON	11	0V
2	AC100/110V	12	SIG1 Pulse input 1
3	AC200/220V	13	INH./SIG2 Inhibit input／Pulse input 2
4～9	NC	14	RESET Reset input
		15	+12V
10	0V	16	P.OUT Distributed pulse output

Connections

■ Connection of power source

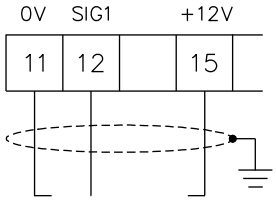


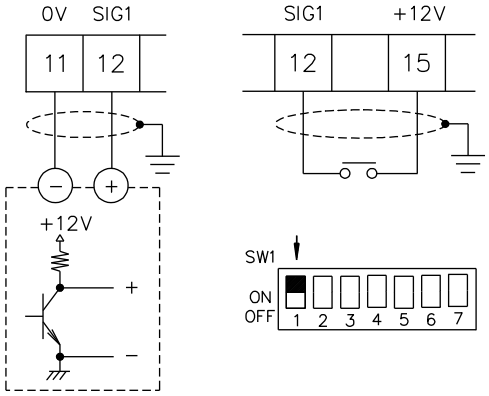
■ Connection of positive input（Use shielded cable）

Set the switch SW2 to［R］position.

●Connection of flowmeter（Positive inp

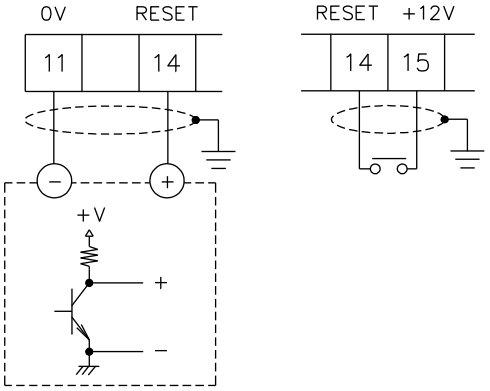
Case of 12V-Transictor signal output flowmeter





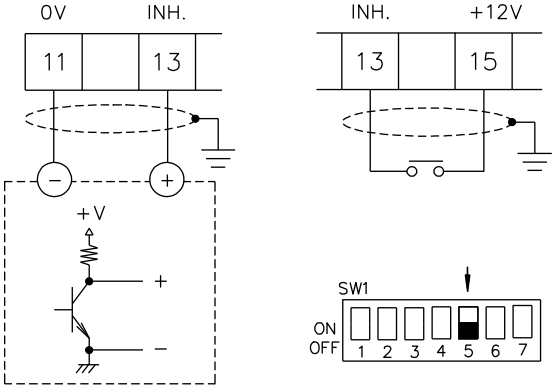
●Connection of reset signal（Positive input）

Case of 12-Transistor, Case of Contact signal



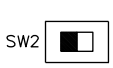
●Connection of inhibit signal（Positive input）

Case of 12-Transistor, Case of Contact signal



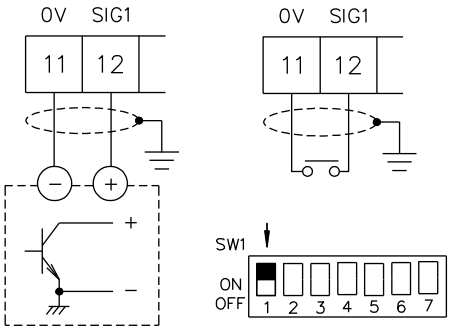
■ Connection of negative input（Use shielded cable）

Set the switch SW2 to［L］position.



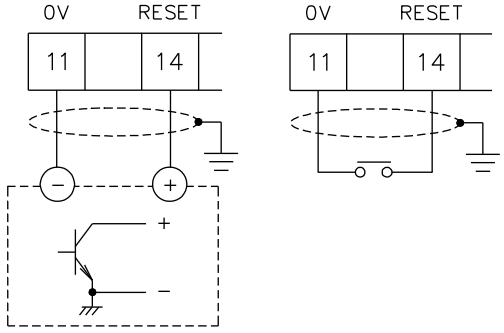
●Connection of flowmeter（Negative input）

Case of Open-collector signal, Case of Contact signal



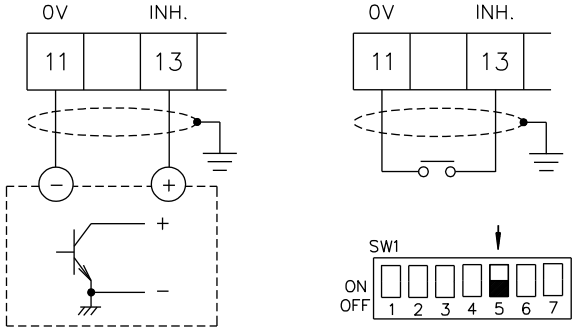
●Connection of reset signal（Negative input）

Case of Open-collector signal, Case of Contact signal



●Connection of inhibit signal（Negative input）

Case of Open-collector signal, Case of Contact signal

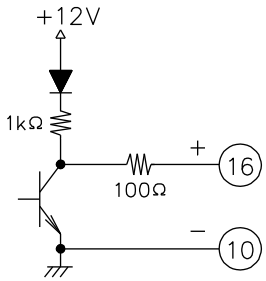


■ Connection of subtraction pulse input

The terminal 13(SIG2) will change to subtraction pulse input terminal, when the switch SW1-5 is [ON] position.
The connection is same way as addition pulse input terminal 12(SIG1).

■ Connection of distributed pulse output

（Use shielded cable）



■ Actions

● Counting action

- The counter gets ready for working, at approximately one second after the closing of power.
- The signal logic can be set with the switch SW2 in the rear part, to determine the input logic of pulse signal, reset signal, and prohibit signal.
  Edge the direction of high(H) count system is adopted in positive logic. Counting is made when the pulse input signal level changes from L to H. Edge the direction of low(L) count system is adopted in negative logic. Counting is made when the pulse input signal level changes from H to L.
- In the case of contact pulse input, turn ON the switches SW1-1 and SW1-2 in the rear part.
- No counting is made while the inhibit signal input is ON.
- The decimal point is set in advance of delivery according to the flowmeter to be connected.
  Please contact us for any change.

● Dividing (Option)

- The counting can be made by dividing the pulse input.
- The dividing value which is set before delivery cannot be changed. Please contact us for any change.

● Addition system

- The counter makes actions of addition count while the switch SW1-5 in the rear part is OFF.
  The terminal 13 has a inhibit input signal, and no counting is made while the inhibit input signal is ON.

● Addition-subtraction system

- The counter makes actions of addition-subtraction count while the switch SW1-5 in the rear part is ON.
  The terminal 13 has an operation of pulse input.
- Displays the difference of totalized flow, by inputting an addition pulse signal at the terminal 12, and a subtraction pulse signal at the terminal 13.
  The minus indicating LED lights, when the difference in flow becomes negative.

● Resetting

- The indication of totalized value becomes 0 and the dividing (option) is also reset, the moment when the reset switch on the panel face is pressed or a reset signal input is ON.
- To retain a reset state, it is necessary to also use a inhibit signal input.

● Distribution output

- Outputs a pulse signal synchronizing with the pulse signal input at the pulse input terminal 12.
  Use this output when transmit the flowmeter signal to another instrument.

● Actions in case of power failure

- The totalized value goes out, but it is memorized. When the power source is recovered, the totalized value immediately before power failure is displayed.

■ Type

Type	Spec. Code		Remarks
ＴＨ６１－			Totalizer
Counting Unit	1		１ ｍＬ
	2		０．０１Ｌ
	3		０．１ Ｌ
	4		１ Ｌ
	5		０．０１m^3
	6		０．１ m^3
	7		１ m^3
	9		Another
Option		－２	With divider

*** Matters to be specified at the time of ordering ***

1. Type, and specification code.
2. Input pulse unit, and output pulse unit.

▼The contents given here are subject to change without notice.

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