

Digital Counter / Timer

Model **GX7** Free Tacam

INSTRUCTION MANUAL

This manual primarily describes precautions required in installing and wiring the Counter / Timer. When using the controller, please refer to the pertinent catalog for detailed information.



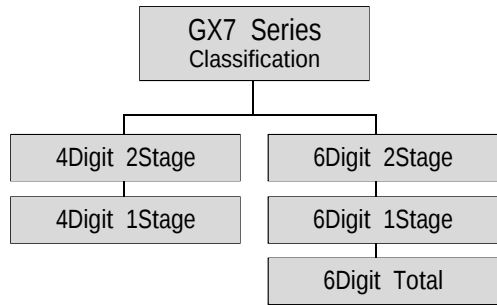
HEAD OFFICE
40-11 2-ga, Mullae-dong, Youngdeungpo-gu,
Seoul, Korea
TEL: (82-2)679-4697 FAX: (82-2)2633-3332

■ MAIN PRODUCTS

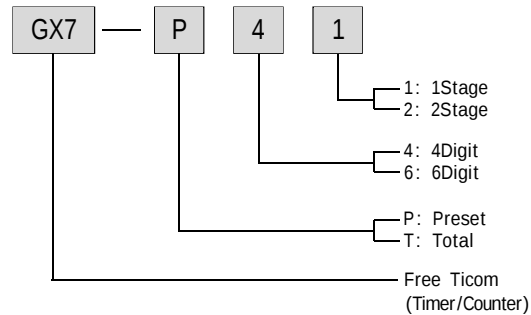
- DIGITAL:Temperature Controller,
Counter/Timer,
Tachometer/Panel Meter
- SENSOR:Proximity Switch/Photo Electric Sensor,
Rotary Encoder/Optical Fiber Sensor,
R.T.D/Thermo Couple
- ANALOG:Timer/Temperature Controller



■ Classification



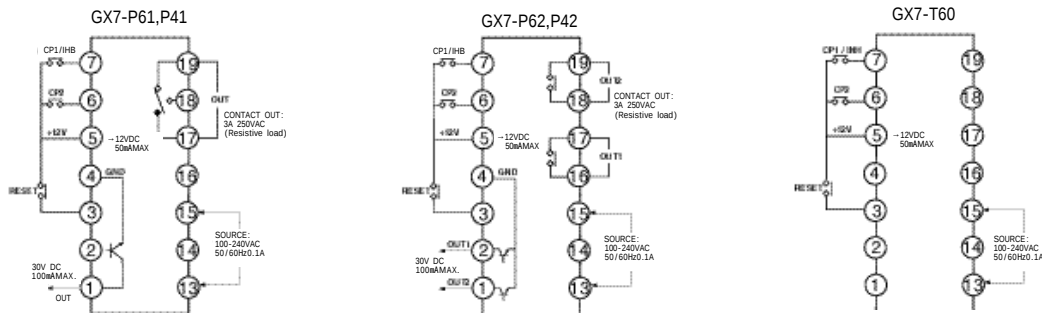
■ Suffix code



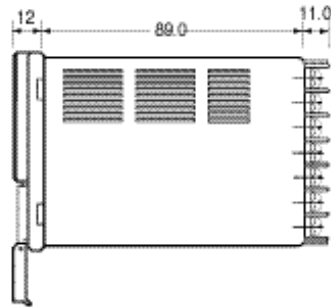
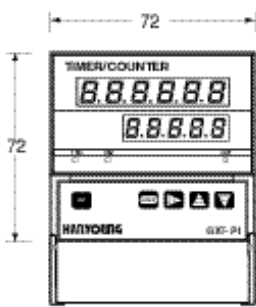
■ Features

- Operates all functions by switches at front (Multi-range input/Free scale)
- Counting speed 30cps/1Kcps/2Kcps/5Kcps selectable
- ON-DELAY/OFF-DELAY selectable
- Position of a decimal point is movable(in counter)
- Wide range of power supply (AC 100 ~ 240V)
- Semi-permanent backup power for memory protection
- 10 input/24 output mode

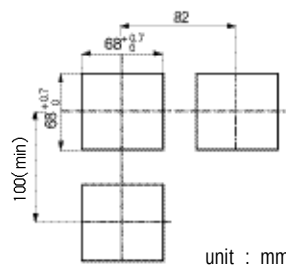
■ Connections



■ Dimensions



● Panel cutout



unit : mm

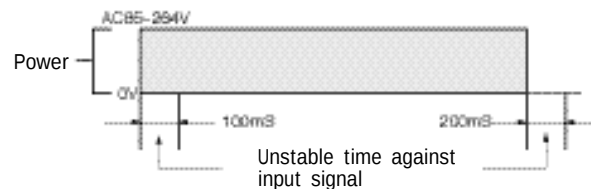
■ Ratings

Item \ Code	GX7
Supply voltage	100 ~ 240V AC 50/60 Hz, 0.1A
Power consumption	Approx 5 VA (at 220VAC, 60 Hz)
Reset/Inhibit	Reset by power OFF: Min. power OFF time:0.5sec. External reset or inhibit: Min. reset input signal width: 0.02 sec.
Control output	SPDT:250VAC 2A cosφ=1(resistive load) Open collector:30VDC max 100 mA max.
Ambient temperature	Operating: -10 to 55
Humidity	35 to 85 % RH

■ Characteristics

Item \ Code	GX7
Repeat accuracy	±0.01 % ±0.05 % second max.
Variation due to voltage change	(Power supply start) ±0.005 % ±0.03 % second max. (Reset start)
Variation due to temperature change	(Ratio to set value)
Insulation resistance	100 MΩ Min. (at 500VDC) (between current-carrying terminal and exposed noncurrent-carrying metal part between power supply circuit and control output circuit)
In Pulse voltage	6 KV(between operating power supply terminal)
Dielectric strength	2,000 VAC, 50/60 Hz for 1 minute (between currentcarring terminal and exposed noncurrent-carrying metal parts. between power supply circuit and control output circuit)
Noise immunity	Square wave noise by simulator AC: ±2KV(inbetween power supply terminal board) ±500V(inbetween terminal)
Vibration	Mechanical durability:10 to 55 Hz;0.75 mm double amplitude Malfunction durability:10 to 55 Hz;0.5 mm double amplitude
Shock	Mechanical durability:300 m/s ² (approx.30G) Malfunction durability:100 m/s ² (approx.30G)
Life expectancy	Mechanical:10,000,000 operations min. Electrical:100,000 operations min(AC 250V 2A)
Weight	Approx. 254 gms(with adaptor)

■ Power supply



Please note that voltage of inside circuit is increasing or decreasing in time between 100 ms after power on and 200 ms after power off.

■ Range of Timer mode

Range Signal	Range	
	Decimal system	Sexagesimal system
0.1S	9999.9 s	59 m 59.9 s
0.01S	999.99 s	9 m 59.99 s
0.1H	99999 s	9 h 59 m 59 s
0.1D	99999 m	999 h 59 m

* " 0.1S " is up count mode and " 0.1D " is down count mode

■ Key functions

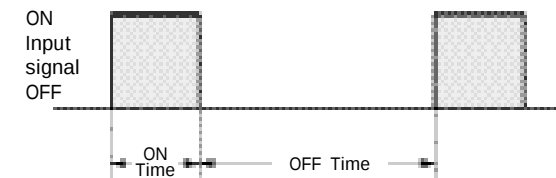
- [RST] RESET KEY
- [SET] SELECTION KEY of 1stage/2stages setting
- [MODE] MODE PROGRAM KEY (Push 2.5 sec.)
- [▶] SHIFT KEY of digit
- [▲] INCREASEMENT KEY of set value (MODE shift key in MODE PROGRAM)
- [▼] DECREASEMENT KEY of set value

* Initial setting

	Function	Mode
Timer	Progressing	Sexgesimal
	Time mode	Up count 0.1 S
	Output mode	N
	Output method	ON DELAY
Counter	Input mode	U-A
	Output mode	F
	Output time	500mS
	Max.count speed	30CPS
	Memory protection	Built-in
	Scale	1:1

■ Maximum counting speed

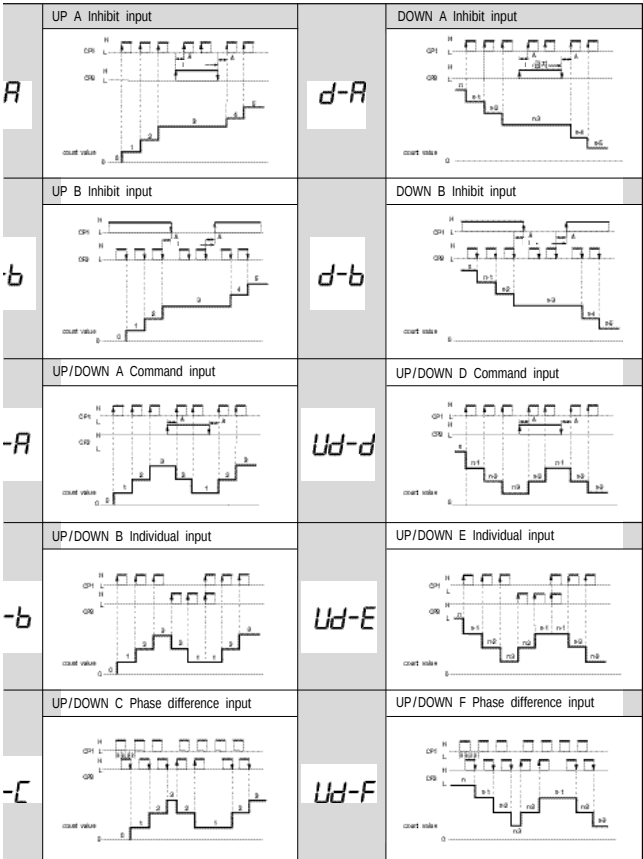
- Rating of maximum counting speed (MCS)is response speed in case of input for 1:1 duty ratio.
- Though input signal is in the MCS, if ON/OFF time is lower than the rating of minimum input signal width, counting is not operated.
- Minimum signal time
30 CPS mode: 16 ms min.
1 KCPS mode: 0.5 ms min.
2 KCPS mode: 0.25 ms min.
5 KCPS mode: 0.1 ms min



* Minimum signal time means ON time.

Input Mode

A requires over minimum signal width and B requires over half of minimum signal width.

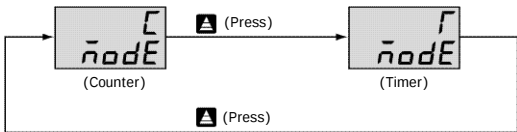


Selection of Counter/Timer

Apply power supply to GX7

Press MODE key over 2.5sec., then display will be as example

After setting, press RESET Key

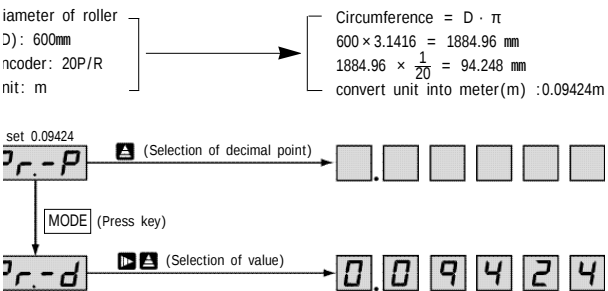


What is Free Scale Function?

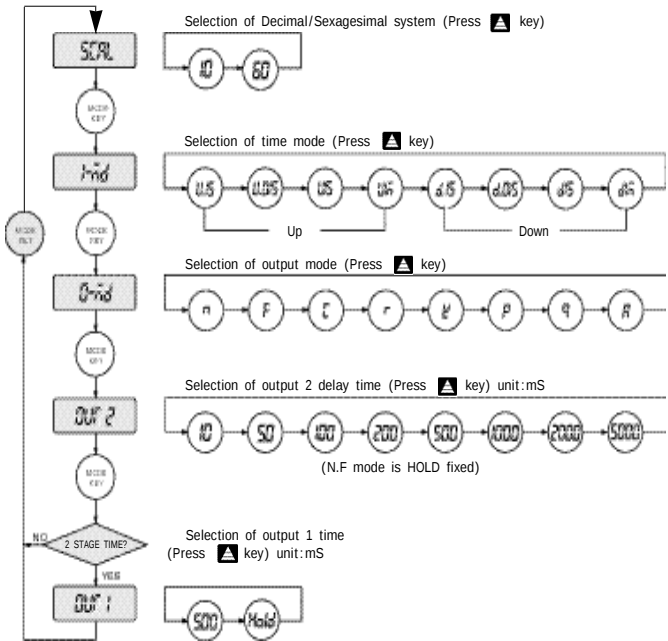
means signal function to substitute actual scale for count value.

Illustration of Free Scale Figure

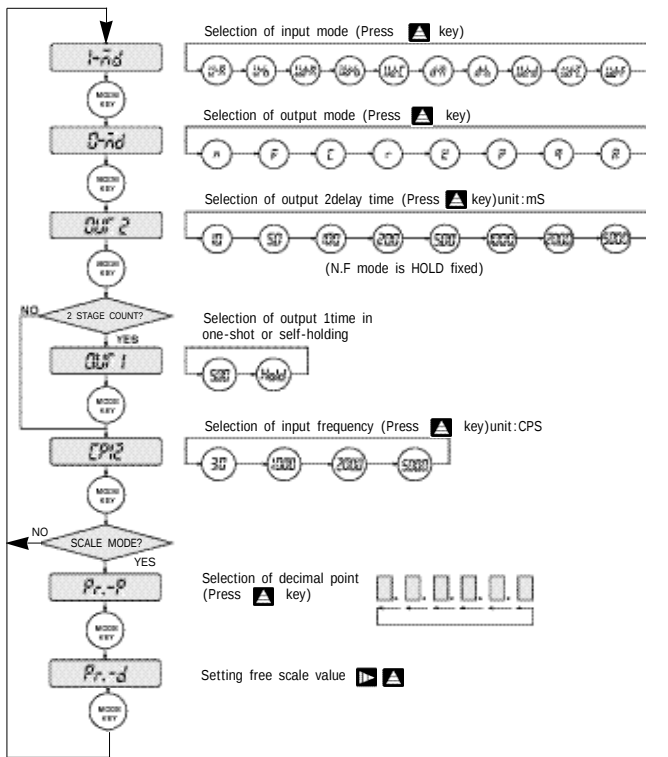
ing rope in a roller, it is possible to show length of winding or to
' output at the setting length.



- Routine of mode selection in timer

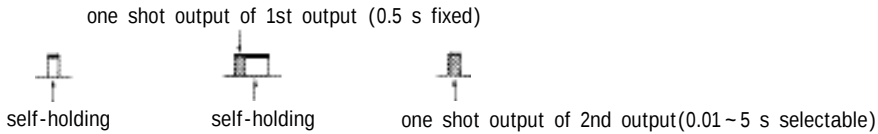


- Routine of mode selection in counter



■ Output mode

In case of single [1 stage] counter, operating mode is same as 2nd. output.



		Setting of output mode			Operation after COUNT UP
		UP	DOWN	UP/DOWN A.B.C	
Setting of output mode	N				Maintain output and current value display until RESET input.
	F				Progress current value display on. Maintain output until RESET input.
	C				Current value display to be reset at the same time of output ON and to be returned to START. Value of COUNTUP will not show. Output to be operated repeatedly as ONESHOT. Self holding output(OUT1) to be turned off after the time of ONE SHOT (OUT2). ONESHOT output(OUT1) is operated separately to OUT2.
	R				Current value display to be reset after ONE SHOT time and to be returned to START. Output to be operated repeatedly as ONE SHOT. Self holding output(OUT1) to be turned off after the time of ONE SHOT (OUT2). ONESHOT output(OUT1) is operated separately to OUT2.
	K				Progress current value display on. Self holding output(OUT1) to be turned off after the time of ONE SHOT(OUT2) ONE SHOT output(OUT1) is operated separately to OUT2.
	P				Current value display to be maintained during ONE SHOT time. Preservation to be returned to RESET condition at the same time of output ON. Output to be returned to START. Output to be operated repeatedly as ONE SHOT. Self holding output(OUT1) to be turned off after the time of ONE SHOT (OUT2). ONESHOT output(OUT1) is operated separately to OUT2.
	Q				Progress current value display on during ONE SHOT time, afterwards to be returned to RESET and START condition. OUTPUT to be operated repeatedly as ONE SHOT. Self holding output(OUT1) to be turned off after the time of ONE SHOT (OUT2). ONESHOT output(OUT1) is operated separately to OUT2.
	A				Maintain current value display and self holding output(OUT1) until RESET input. Separated OUT1 and OUT2.