

	SLIM TIMER (GTN Series) (Design registration No. 0344911)									
HISTORY										
2011.03.30 : Add new model of GTN-S5	SLIM(22.5mm) TIMER FOR MARINE & INDUSTRIAL ELECTRIC CONTROL PANEL									
	GTN - M3	<table><tr><th colspan="2">Contact output type</th></tr><tr><td>(1c,1c)</td><td>1c instant 1c delay</td></tr><tr><td>(2c)</td><td>2c delay</td></tr><tr><td>(1a,2c)</td><td>1a instant 2c delay</td></tr></table> ** WR : Wide range (0~99) type ** F R : Fixed range (0~30) type	Contact output type		(1c,1c)	1c instant 1c delay	(2c)	2c delay	(1a,2c)	1a instant 2c delay
	Contact output type									
	(1c,1c)	1c instant 1c delay								
	(2c)	2c delay								
(1a,2c)	1a instant 2c delay									
HIGH - CON	H1 --- On delay (AC 480V) timer (1c,1c) H2 --- On delay (AC 480V) timer (2c) H3 --- Interval (AC 480V) timer (1c,1c) H4 --- Interval (AC 480V) timer (2c)	WR								
SPECIAL	FL --- Flicker timer IC --- Inching(寸動) timer : (option) WH --- Winding heater timer YD --- Y-D starting timer F1 --- Sig. off delay timer (2c) F2 --- Sig. on-off delay timer (2c)	FR WR								
MULTI	M3 --- Multi-output / on delay timer (1a,2c) M4 --- Multi-output / interval timer (1a,2c) S1 --- Multi-source / on delay timer (1c,1c) S2 --- Multi-source / on delay timer (2c) S3 --- Multi-source / interval timer (1c,1c) S4 --- Multi-source / interval timer (2c) S5 --- Multi-source / interval timer (2c)	WR								
GENERAL	SF1 --- Sig. off delay timer (2c) SF2 --- Sig. on-off delay timer (2c) E1 --- On delay timer (1c,1c) E2 --- On delay timer (2c) E3 --- Interval timer (1c,1c) E4 --- Interval timer (2c)	FR								

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SLIM (22.5mm) TIMER (GTN Series)

NEW TYPE

1. GENERAL INFORMATION

1.1 GENERAL

GTN.. new type series are slim(22.5mm) type timers which have built in MICOM and flame retardant case.

And can be applied to marine equipments and industrial plants for the purpose of accurate time control.

Time setting is done by digital switch, so it is more convenient to set and more accurate to control time than VR adjusting timer. And also it operates accurately in shocks and temperature variation.

Besides, AC 380~480V can be supplied as source rating for the timer GTN-H1~H4 and GTN-WH, GTN-YD, it will make possible to simple and reduce the width of an individual or a group start panel.

And also the control voltages are AC/DC 24V, DC 120V, AC 100~240V, AC 380~480V 50/60Hz.

** Especially, GTN-S1/ S2/ S3/ S4 types are prepared for economical multi-source design, the input source is AC/DC 24V or AC 100~240V 50/60Hz.

And GTN-M3/ M4 types are prepared for economical multi-output contact design, these types consist of a "1a" instant "2c" fixed contact output and 0.1Sec~990Hrs wide digital range for the any specification.

1.2 ORDERING INFORMATION

The option voltages (DC 12, DC 48V, DC 240V) need 3 weeks after given an order.

ex) GTN - M3 (AC 100~240V)

GTN - S1 (AC/DC 24V/AC 100~240V)

Make a note rating voltage separately.

GTN - M3

** WR : Wide range (0~99)

** F R : Fixed range (0~30)

Contact output type	
(1c,1c)	1c instant 1c delay
(2c)	2c delay
(1a,2c)	1a instant 2c delay

CLASSIFI -CATION	FUNCTION	MODEL	OUTPUT CONTACT	TIME RANGE		RATING VOLTAGE	TB
HIGH-CON	* On delay	GTN - H1	(1c,1c)	0.1Sec.~99Min.	WR	* AC 380~480V	8P
	* On delay	GTN - H2	(2c)			* DC 120V	
	* Interval	GTN - H3	(1c,1c)			(OPTION)	
	* Interval	GTN - H4	(2c)			* DC 240V	
SPECIAL	* Flicker	GTN - FL	(2c)	0.2Sec.~99Hrs.	FR	* AC/DC 24V	
	* Inching(寸動)	GTN - IC	SSR	0.01Sec.~0.99Sec.		* AC 100~240V	
	* Winding heater	GTN - WH	(1a,1a)	30Sec.~58Sec.		* DC 120V	
	* Y-D starting	GTN - YD	(1a,1a)	2Sec.~30Sec.		* AC 380~480V	
	* Sig. off delay	GTN - F1	(2c)	0.1Sec.~990Hrs.	WR	* AC/DC 24V	10P
	* Sig. on-off delay	GTN - F2	(2c)			* AC 100~240V	
MULTI	* On delay	GTN - M3	(1a,2c)	0.1Sec.~990Hrs.	WR	* DC 120V	
	* Interval	GTN - M4	(1a,2c)				
	* On delay	GTN - S1	(1c,1c)	0.1Sec.~30Hrs.	FR	Combination source	
	* On delay	GTN - S2	(2c)			* AC/DC 24V or	
	* Interval	GTN - S3	(1c,1c)			AC 100~240V	
	* Interval	GTN - S4	(2c)				
GENERAL	* Pulse on delay	GTN - S5	(2c)	0.1Sec.~30Hrs.	FR		
	* Sig. off delay	GTN - SF1	(2c)			* AC/DC 24V	
	* Sig. on-off delay	GTN - SF2	(2c)			* AC 100~240V	
	* On delay	GTN - E1	(1c,1c)				
	* On delay	GTN - E2	(2c)			* DC 120V	
	* Interval	GTN - E3	(1c,1c)				
	* Interval	GTN - E4	(2c)				

SLIM (22.5mm) TIMER (GTN Series)

NEW TYPE

2. SPECIFICATIONS OF CONSTRUCTION & ENVIRONMENT

2.1. CASE

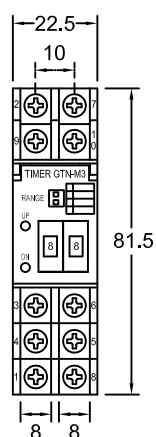
- 1) Material : PC(polycarbonate) - Flame retardant (UL94 V-O)
 - TRIREX3025G10 / Glass fiber reinforced
 - Dielectric strength : 31KV/mm (ASTM D149 / IEC 243)
 : ABS - Flame retardant (UL94 V-O)
 - STAREX (ABS VH-0800)
 - Dielectric strength : 16KV/mm (ASTM D149 / IEC 243)
- 2) Color : * Frame - Ivory, yellow ivory, blue, scarlet, gray (according to maker standard)
 * Body - Black, yellow ivory (according to maker standard)

2.2. EXTERNAL CONNECTION T.B

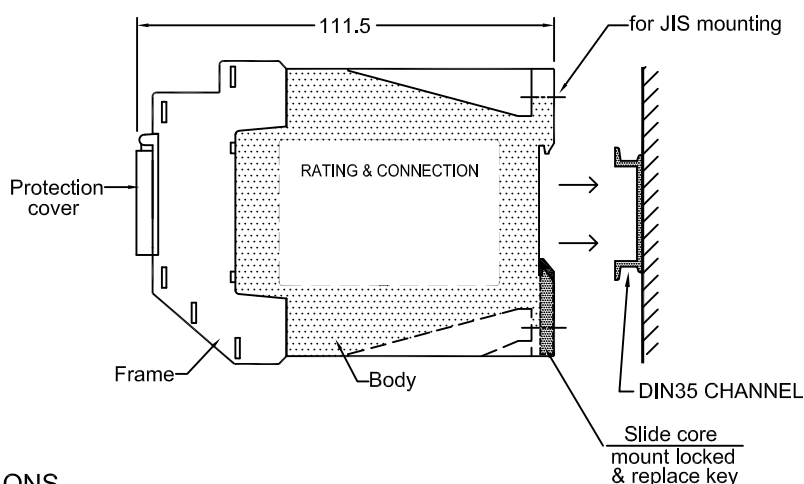
- 1) Material
 - Terminal : Brass (Zn plating)
 - Screw : Steel (Ni plating)
- 2) Screw size : M3.5
- 3) Spacing : 10mm

2.3. OUTSIDE FIGURE & MOUNTING (see detail : sheet No. A5) : Unit in mm

FRONT VIEW



SIDE VIEW



2.4. AMBIENT CONDITIONS

- 1) Ambient temperature range : -20°C ~ +55°C
 2) Storage temperature range : -25°C ~ +65°C
 3) Humidity : 35 ~ 85% R.H

2.5. VIBRATION TEST

: X, Y, Z (duration : 90min) 30 Hz, acceleration ; ±0.7G

SLIM (22.5mm) TIMER (GTN Series)

NEW TYPE

3. SPECIFICATIONS OF ELECTRICAL RATING

3.1 VOLTAGE RATING : (AC voltages are 50/60Hz)

MODEL	VOLTAGE	MODEL	VOLTAGE
GTN-H1/ H2/ H3/ H4	* AC 380~480V * DC 120V * DC 240V	GTN-WH/ YD	* AC 100~240V * AC 380~480V
GTN-F1/ F2	* AC/DC 24V * AC 100~240V * DC 120V	GTN-SF1/ SF2	* AC/DC 24V * AC 100~240V
GTN-FL/ IC		GTN-E1/ E2/ E3/ E4	* DC 120V
GTN-M3/ M4		GTN-S1/ S2/ S3/ S4/S5	* AC/DC 24V or AC 100~240V

3.2 VOLTAGE VARIATION : 80~120% of rating : AC/DC 24V, DC 120V
85~110% of rating : AC 100~240V, AC 380~480V, DC 240V

3.3 POWER CONSUMPTION(max) :

(1c,1c / 1a,2c output)

AC/DC 24V -- 2VA/1.5W	DC 120V -- 2.5W
AC 100~240V -- 10VA	DC 240V -- 4.5W
AC 380~480V -- 10VA	

(2c output)

AC/DC 24V -- 1.5VA/1W	DC 120V -- 1.5W
AC 100~240V -- 7VA	DC 240V -- 2.5W
AC 380~480V -- 10VA	

3.4 OUTPUT CONTACT RATING

CONTROL VOLTAGE : AC/DC 24V / AC 100~240V / DC 120V Model

VOLTAGE	p.f = 1	p.f = 0.4
30VDC	5A	2A
250VAC	5A	2A
125VDC	0.6A	
** SSR output : 150VDC 0.5A, 250VAC 2A (p.f=1)		

CONTROL VOLTAGE : AC 380~480V / DC 240V Model

Switching power 2000VA ** : Presumption calculation	VOLTAGE	p.f = 1	p.f = 0.4
	** 530VAC	3A	1.2A
	440VAC	4.5A	1.8A
	250VAC	8A	3.2A
	** 250VDC	0.6A	

(Dielectric strength : between open contacts --1,000VAC 1min.)

3.5 TIMING SPECIFICATIONS

- 1) Setting accuracy : Above 1Sec. : $\pm 1\%$ / Under 1Sec. : $\pm 5\sim 10\%$
- 2) Time adjusting : Value can be set by digital push or selector switch.
- 3) Effect of temperature : $\pm 0.5\%$ (-20°C to 80°C) of setting
- 4) Time changing during counting : Output will be outputted by changing value.

3.6 Mechanical / Electrical life expectancy : 10,000,000 / 100,000 (30 operations/min)

3.7 DIELECTRIC STRENGTH : 2.5KV for 1 minute between live parts and enclosure

△ CAUTION

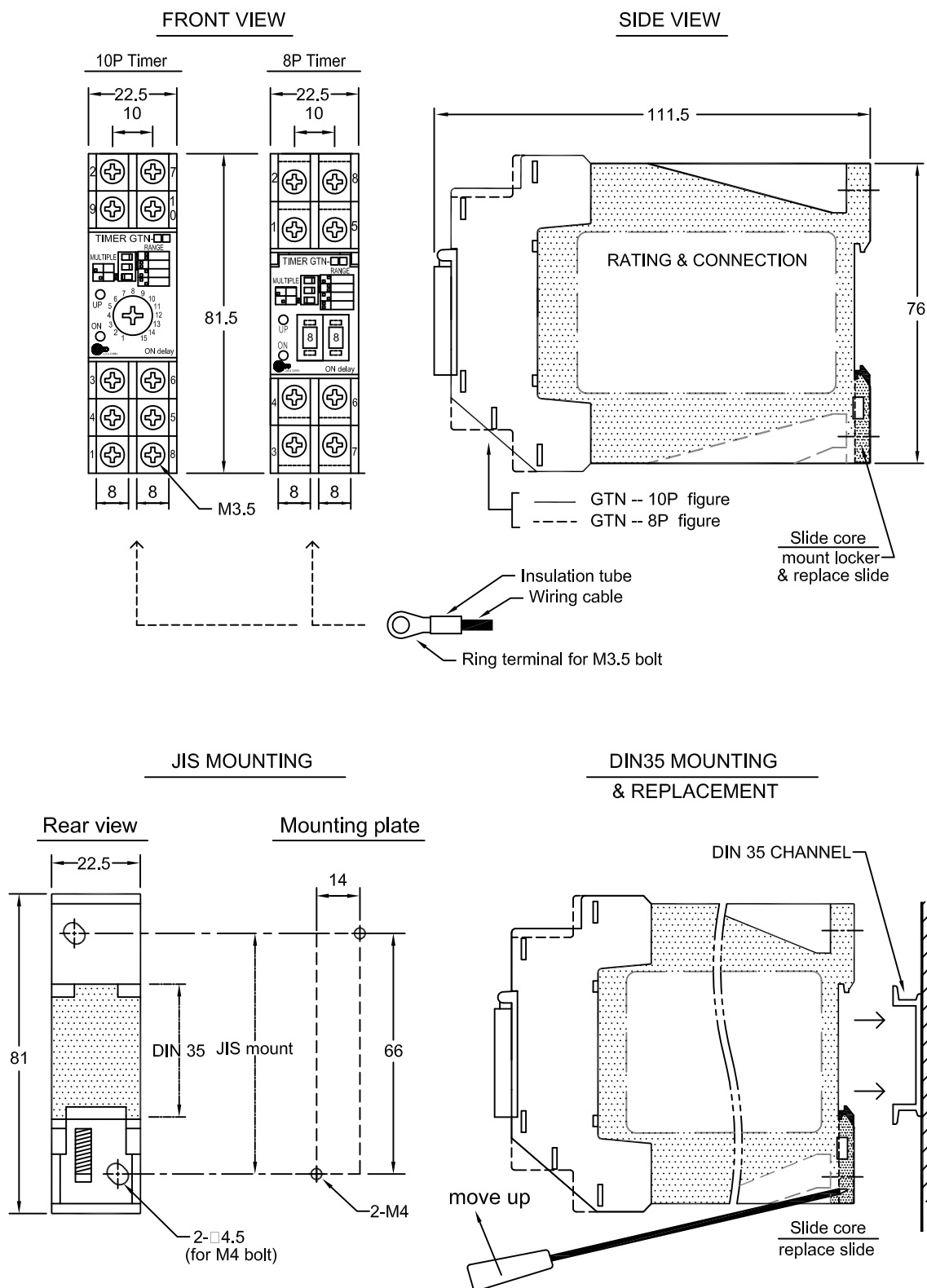
Do not give a high voltage test between a terminal and any other terminals.
It can cause very serious damage to inside electronic circuit.

SLIM (22.5mm) TIMER (GTN Series)

NEW TYPE

4. DIMENSIONS, MOUNTING AND REPLACEMENT (Unit in m/m)

- In case that replace the timer, use tool "-" figure driver.
Put in the slide hole and move up.

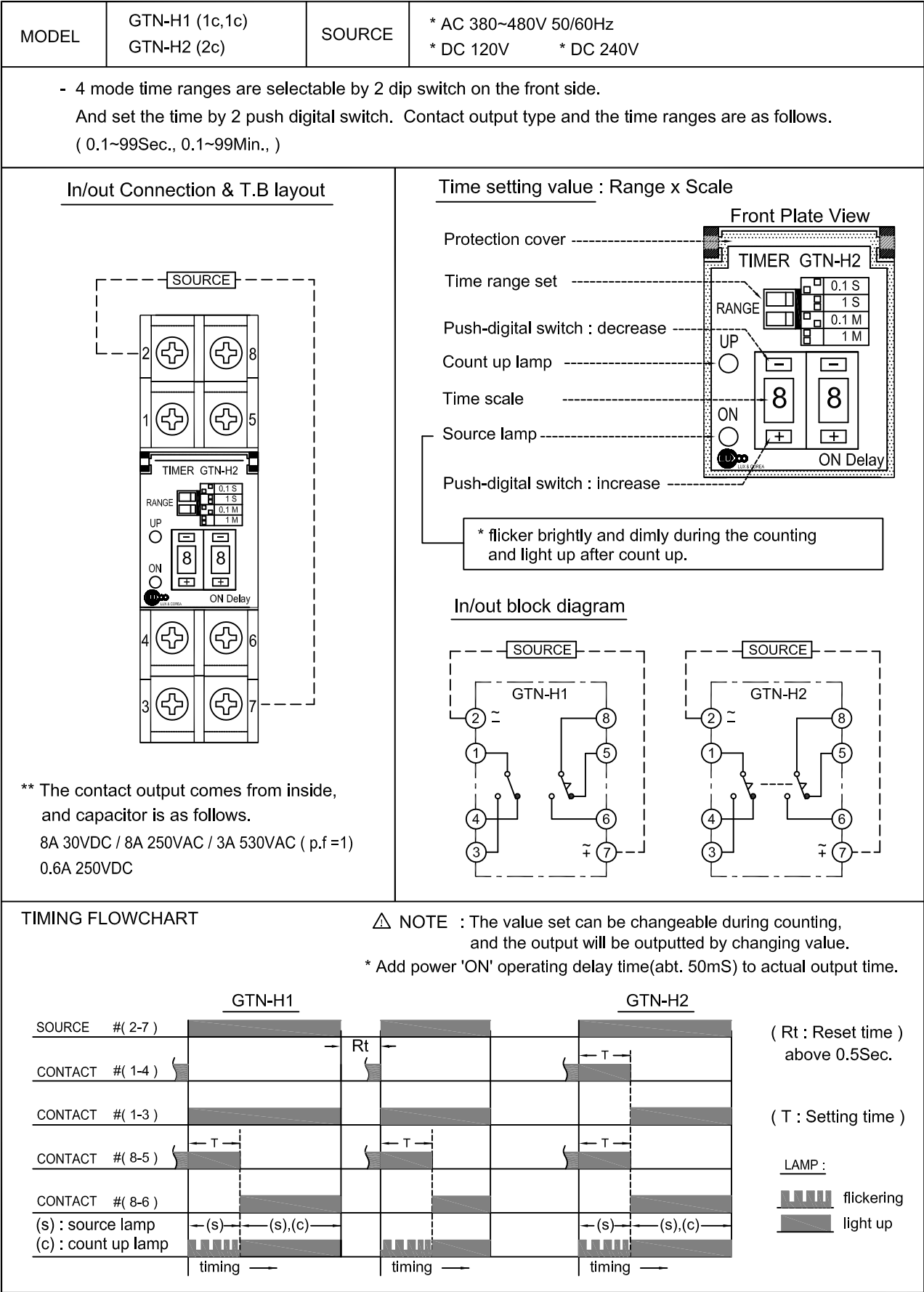


SLIM (22.5mm) TIMER (GTN Series)

GTN-H1/H2

5. HIGH-CON TIMER : POWER ON DELAY

5.1 OPERATING & TIMING-FLOWCHART



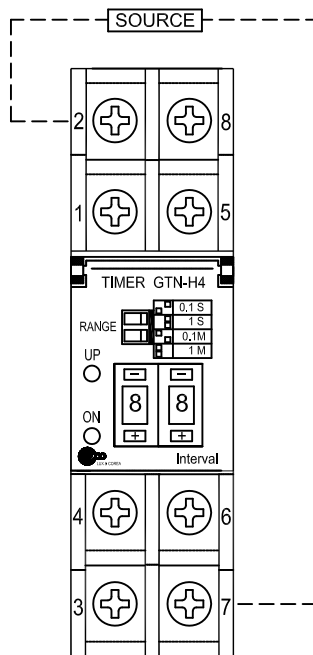
SLIM (22.5mm) TIMER (GTN Series)

GTN-H3/H4

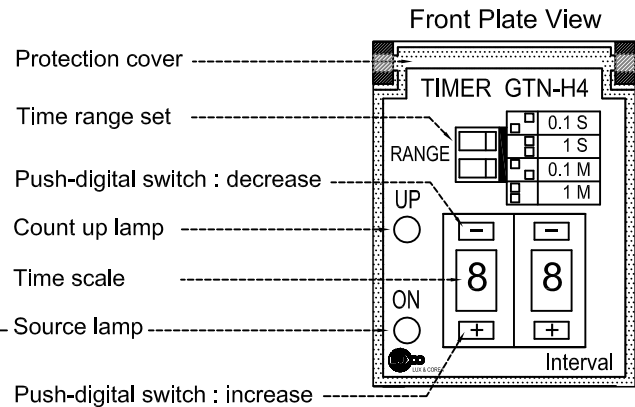
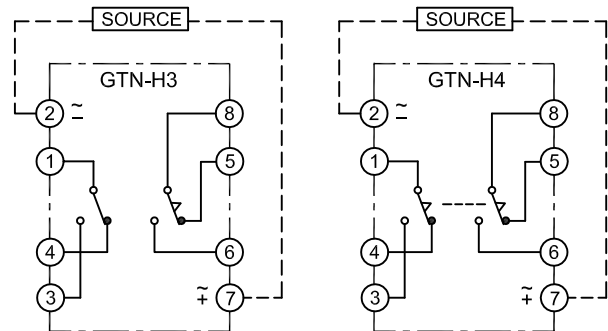
5.2 HIGH-CON TIMER : (8P) POWER ON INTERVAL

MODEL	GTN-H3 (1c, 1c) GTN-H4 (2c)	SOURCE	* AC 380~480V 50/60Hz * DC 120V * DC 240V
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- 4 mode time ranges are selectable by 2 dip switch on front side.
And set the time by 2 push digital switch. Contact output type and the time ranges are as follows.
(0.1~99Sec., 0.1~99Min.,)

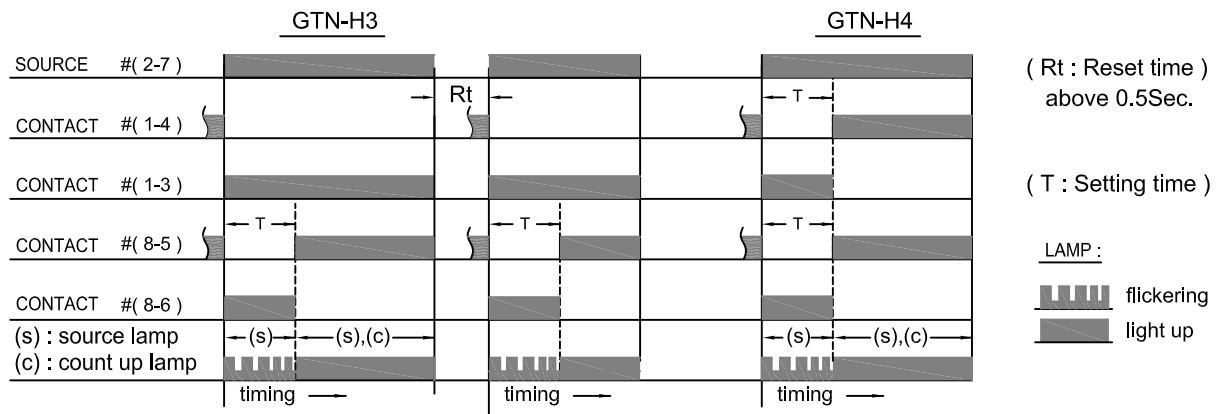
In/out Connection & T.B layout

** The contact output comes from inside,
and capacitor is as follows.
8A 30VDC / 8A 250VAC / 3A 530VAC (p.f =1)
0.6A 250VDC

Time setting value : Range x ScaleIn/out block diagram

TIMING FLOWCHART

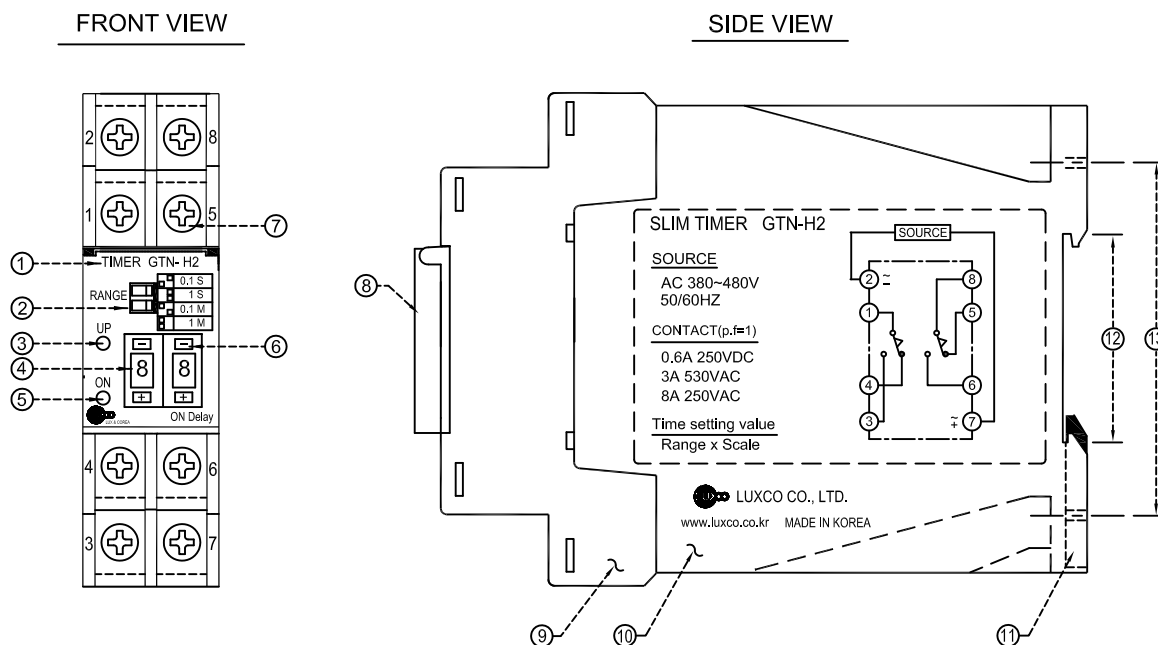
△ NOTE : The value set can be changeable during counting,
and the output will be outputted by changing value.
* Add power 'ON' operating delay time(abt. 50mS) to actual output time.



SLIM (22.5mm) TIMER (GTN Series)

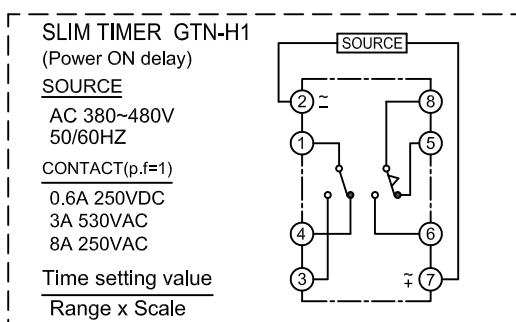
GTN-H1/H2/H3/H4

5.3 GTN-H1/ H2/ H3/ H4 DESCRIPTION

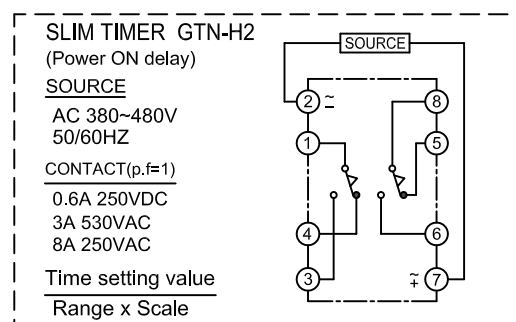


- | | |
|---|---|
| 1. Name & Model No. : TIMER GTN - H1/ H2/ H3/ H4 | 7. External T.B : M3.5 screw |
| 2. Range setting switch : 4 position 2 dip switch | 8. Protection cover : PC (clear) |
| 3. Count up lamp : LED (light up in red) | 9. T.B & Frame : PC |
| 4. Time scale : 00~99 | 10. Body : PC |
| 5. Source lamp : LED (light up in green) | 11. Slide core : Mount lock & replace key |
| 6. Adjusting switch : digital push-switch
(+) increase, (-) decrease | 12. Mounting guide : DIN 35 mounting |
| | 13. Mounting hole : M4 JIS mounting |

GTN-H1 (Power ON delay)
GTN-H3 (Power ON interval)



GTN-H2 (Power ON delay)
GTN-H4 (Power ON interval)



SLIM (22.5mm) TIMER (GTN Series)

GTN-FL

6. FLICKER TIMER : (8P) POWER ON FLICKERING

6.1 OPERATING & TIMING-FLOWCHART

MODEL	GTN-FL (2c)	SOURCE	* AC/DC 24V * AC 100~240V 50/60Hz * DC 120V
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Set the flickering time before operation : 4 mode duty ranges are selectable by 2 dip switch on the front side and set the duty time by 2 push digital switch. The time and duty ranges are as follows.

* Duty time range : (0.2~99Sec., 1~99Min., 1~99Hrs.)

In/out Connection & T.B layout

** The contact output comes from inside, and capacitor is as follows.
8A 30VDC / 8A 250VAC (p.f =1)
0.6A 250VDC

Duty time setting value : Range x Scale

In/out block diagram

TIMING FLOWCHART

△ NOTE : The value set can be changeable during counting, and the output will be outputted by changing value.

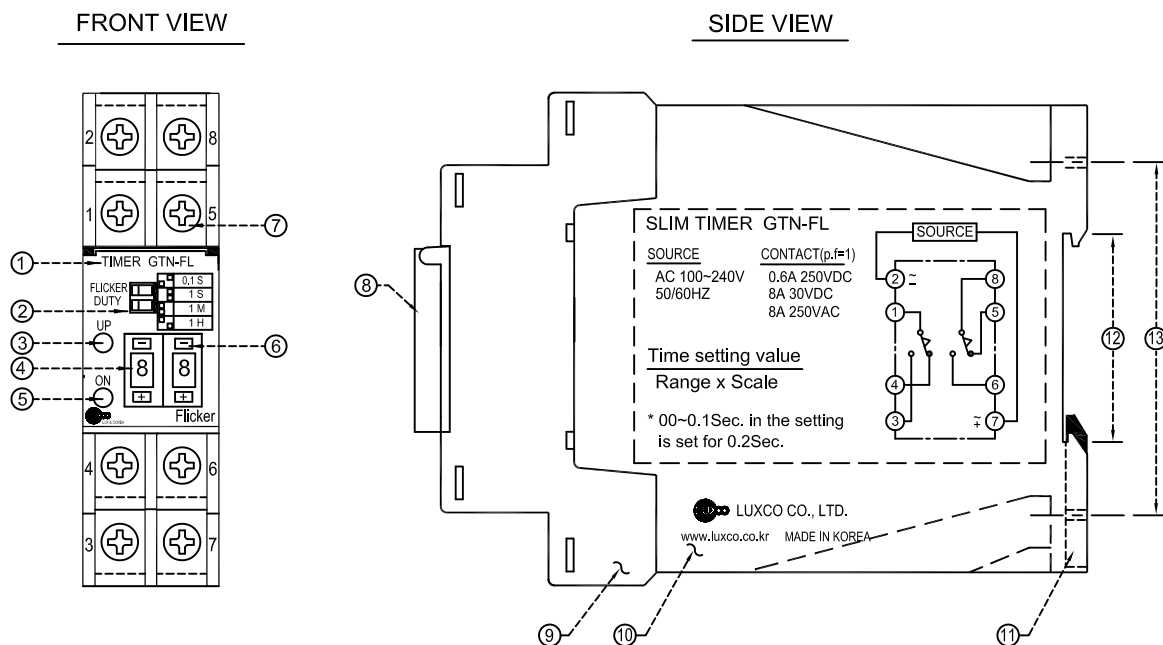
(Rt : Reset time)
above 0.5Sec.

(T : Setting time)
0.2Sec.(min)

SLIM (22.5mm) TIMER (GTN Series)

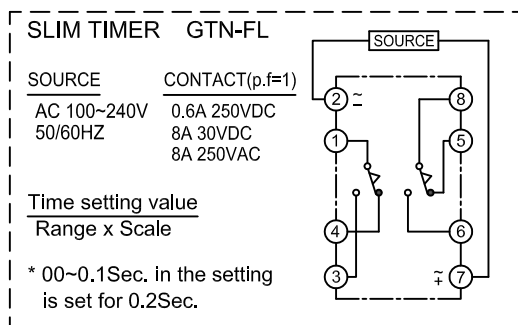
GTN-FL

6.2 FLICKER TIMER DESCRIPTION



- | | |
|--|---|
| 1. Name & Model No. : TIMER GTN-FL | 7. External T.B : M3.5 screw |
| 2. Range setting switch : 4 position 2 dip switch | 8. Protection cover : PC (clear) |
| 3. Count up lamp : LED (light up in red) | 9. T.B & Frame : PC / ABS |
| 4. Time scale : 00~99 | 10. Body : PC / ABS |
| 5. Source lamp : LED (light up in green) | 11. Slide core : Mount lock & replace key |
| 6. Adjusting switch : digital push-switch (+) increase, (-) decrease | 12. Mounting guide : DIN 35 mounting |
| | 13. Mounting hole : M4 JIS mounting |

FLICKER TIMER : GTN-FL

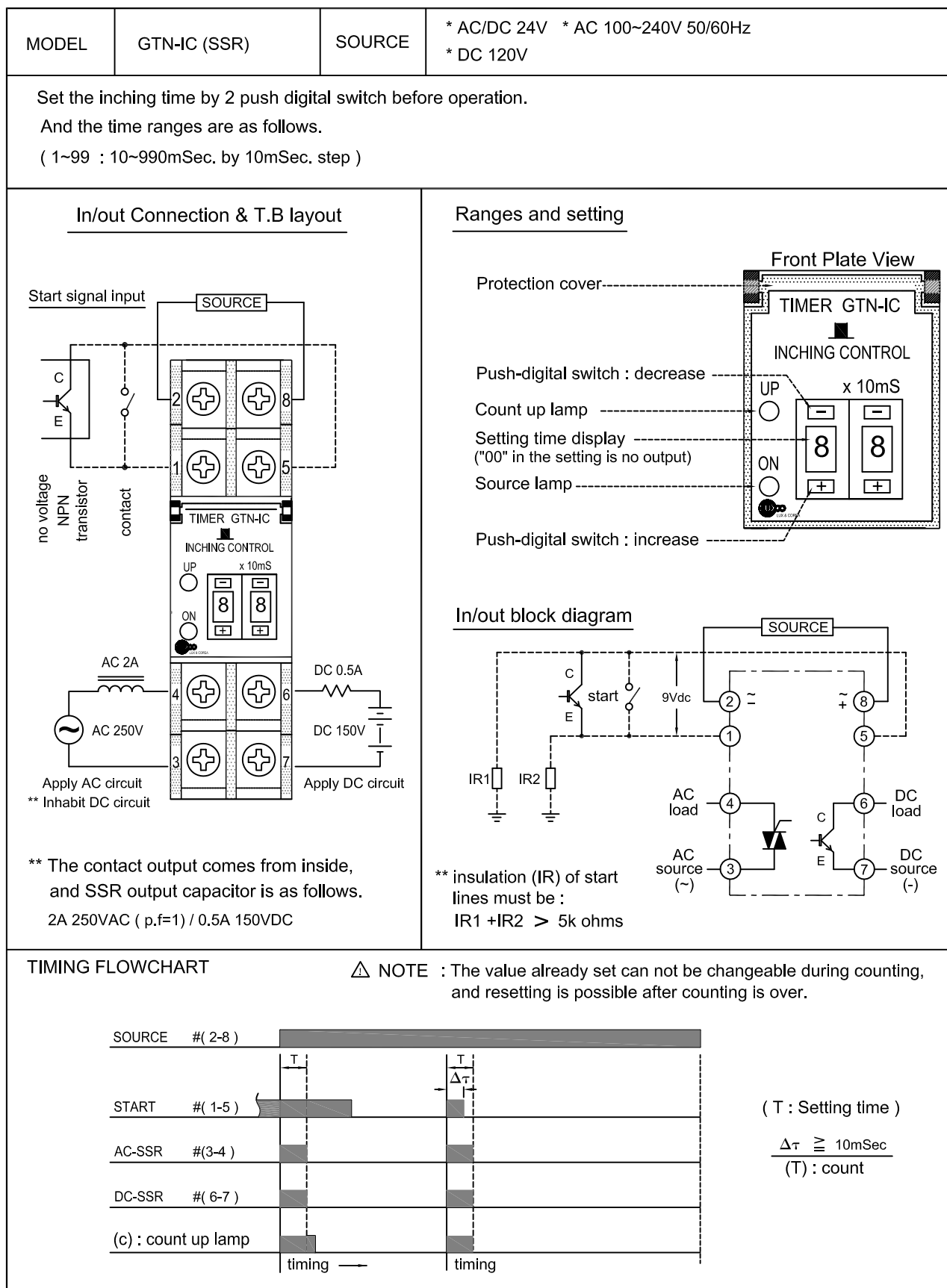


SLIM (22.5mm) TIMER (GTN Series)

GTN-IC

7. INCHING(寸動) TIMER - (10P) SIGNAL ON INCHING

7.1 OPERATING & TIMING-FLOWCHART

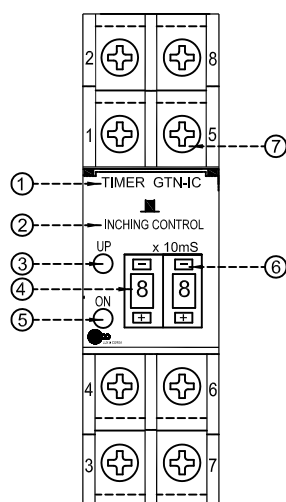


SLIM (22.5mm) TIMER (GTN Series)

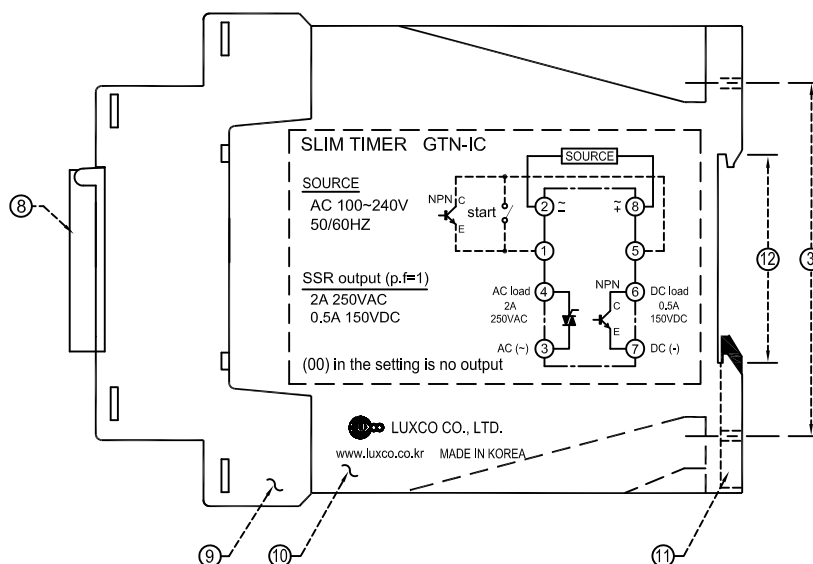
GTN-IC

7.2 INCHING TIMER DESCRIPTION

FRONT VIEW

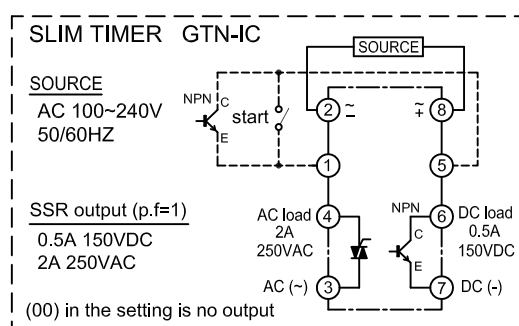


SIDE VIEW



- | | | | |
|---------------------|---|---------------------|----------------------------|
| 1. Name & Model No. | : TIMER GTN-IC | 7. External T.B | : M3.5 screw |
| 2. Control name | : inching(寸動) control | 8. Protection cover | : PC (clear) |
| 3. Count up lamp | : LED (light up in red) | 9. T.B & Frame | : PC / ABS |
| 4. Setting display | : 10mS.~990mS. | 10. Body | : PC / ABS |
| 5. Source lamp | : LED (light up in green) | 11. Slide core | : Mount lock & replace key |
| 6. Adjusting switch | : digital push-switch
(+) increase, (-) decrease | 12. Mounting guide | : DIN 35 mounting |
| | | 13. Mounting hole | : M4 JIS mounting |

INCHING(寸動) TIMER : GTN-IC

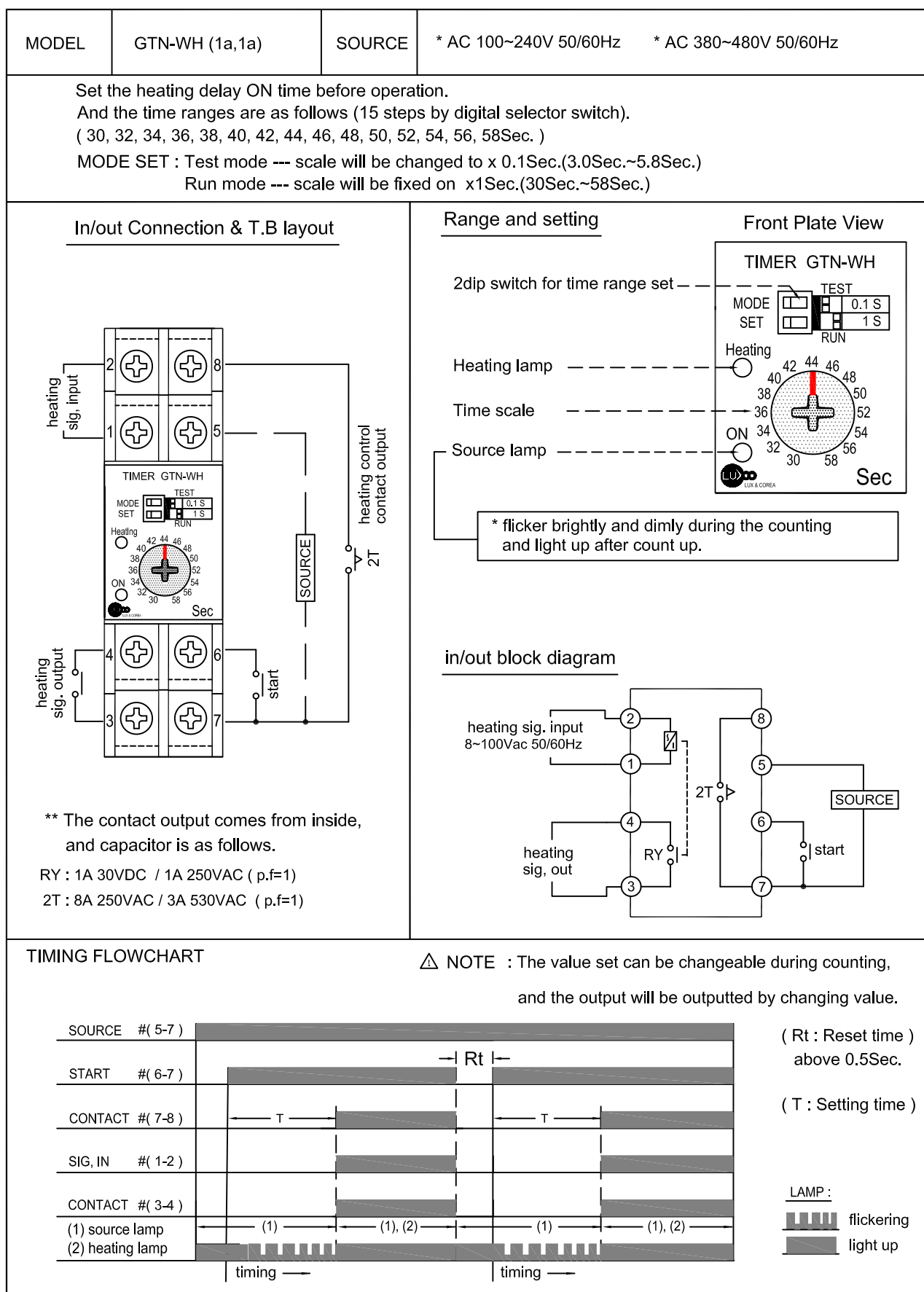


SLIM (22.5mm) TIMER (GTN Series)

GTN-WH

8. WINDING HEATER TIMER

8.1 OPERATING & TIMING-FLOWCHART

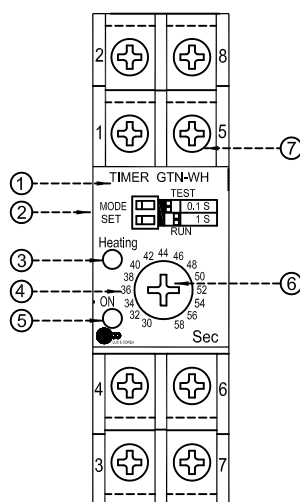


SLIM (22.5mm) TIMER (GTN Series)

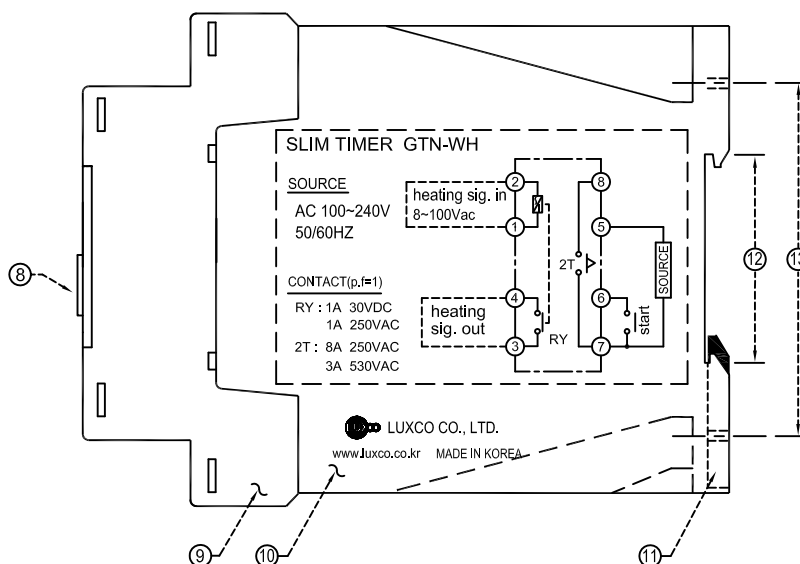
GTN-WH

8.2 WINDING HEATER TIMER DESCRIPTION

FRONT VIEW

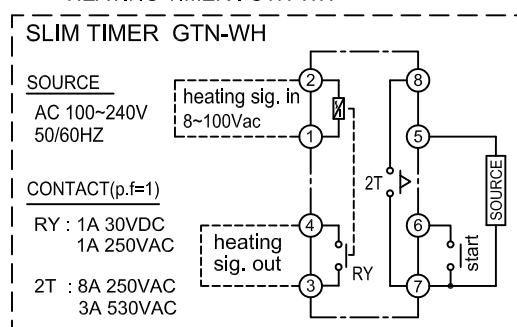


SIDE VIEW



- | | | | |
|---------------------|--|------------------------|----------------------------|
| 1. Name & Model No. | : TIMER GTN-WH | 7. External T.B | : M3.5 screw |
| 2. Mode set switch | : Test / Run mode | 8. Time adjusting knob | : PC / ABS |
| 3. Heating lamp | : LED (light up in yellow) | 9. T.B & Frame | : PC / ABS |
| 4. Time scale | : 30~58 | 10. Body | : PC / ABS |
| 5. Source lamp | : LED (light up in green) | 11. Slide core | : Mount lock & replace key |
| 6. Adjusting switch | : digital selector-switch
(15 step) | 12. Mounting guide | : DIN 35 mounting |
| | | 13. Mounting hole | : M4 JIS mounting |

HEATING TIMER : GTN-WH

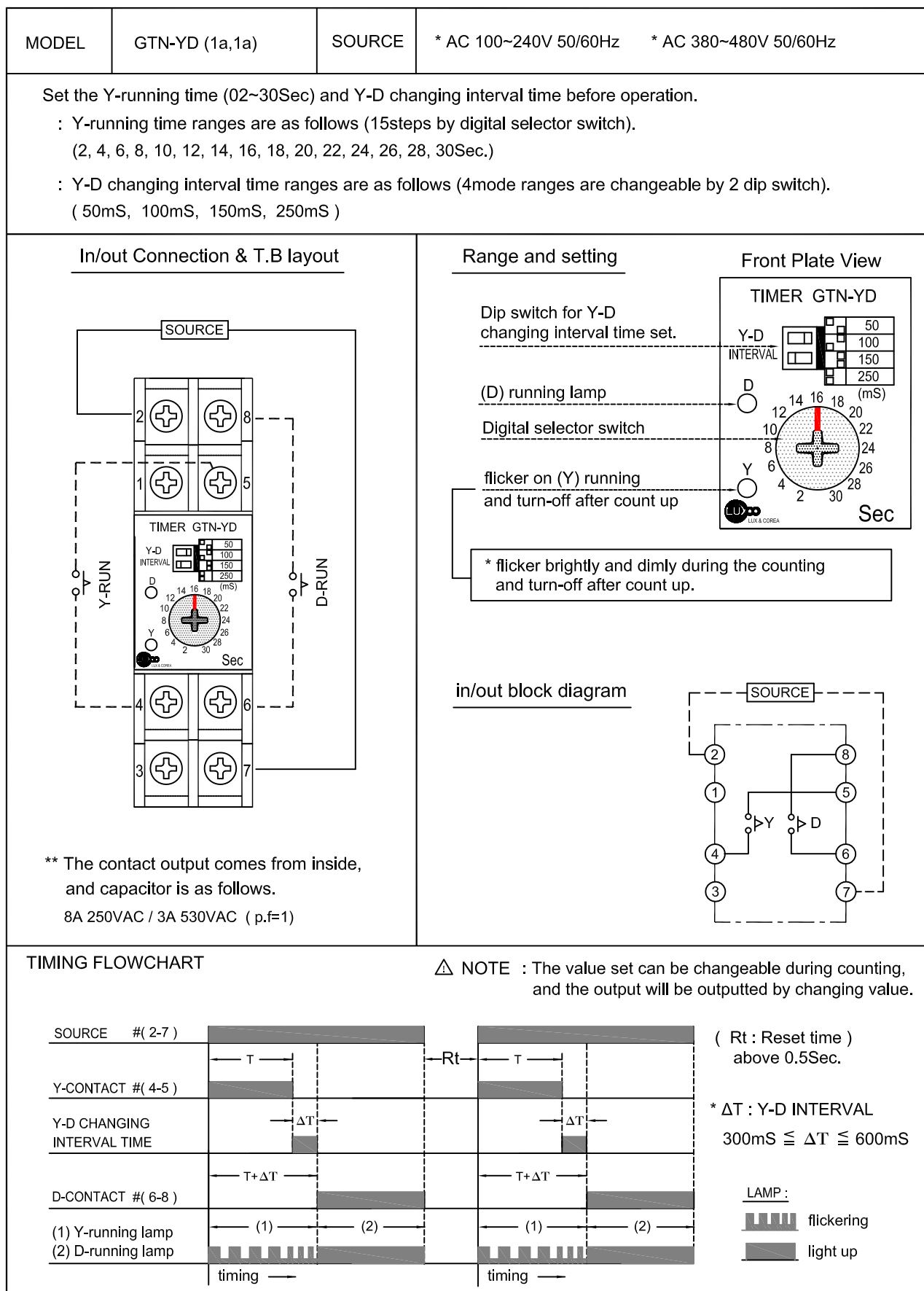


SLIM (22.5mm) TIMER (GTN Series)

GTN-YD

9. Y-D STARTING TIMER

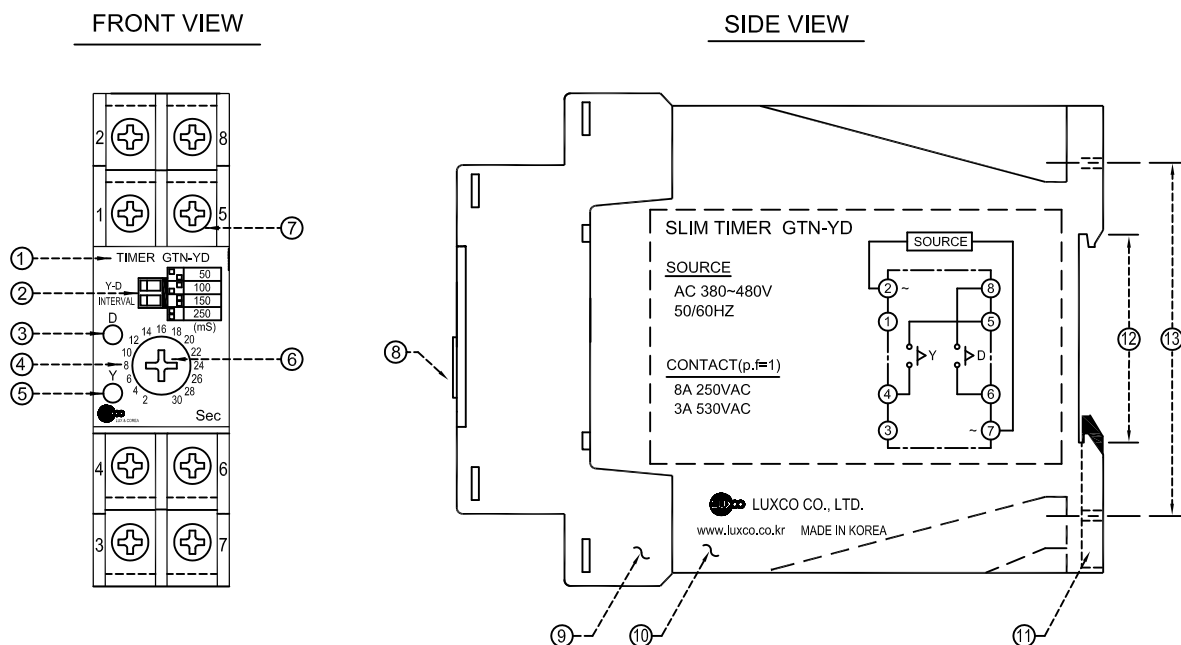
9.1 OPERATING & TIMING-FLOWCHART



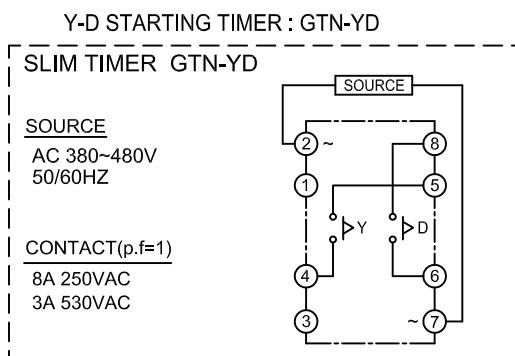
SLIM (22.5mm) TIMER (GTN Series)

GTN-YD

9.2 Y-D STARTING TIMER DESCRIPTION



1. Name & Model No.	: TIMER GTN-YD	7. External T.B	: M3.5 screw
2. Interval time range setting	: 4 position 2 dip switch	8. Time adjusting knob	: PC / ABS
3. Delta run lamp	: LED (light up in yellow)	9. T.B & Frame	: PC / ABS
4. Time scale	: 2~30	10. Body	: PC / ABS
5. Y-run lamp	: LED (light up in red)	11. Slide core	: Mount lock & replace key
6. Adjusting switch	: digital selector-switch (15 step)	12. Mounting guide	: DIN 35 mounting
		13. Mounting hole	: M4 JIS mounting



SLIM (22.5mm) TIMER (GTN Series)

GTN-F1/F2

10. SIG. OFF / ON-OFF DELAY TIMER

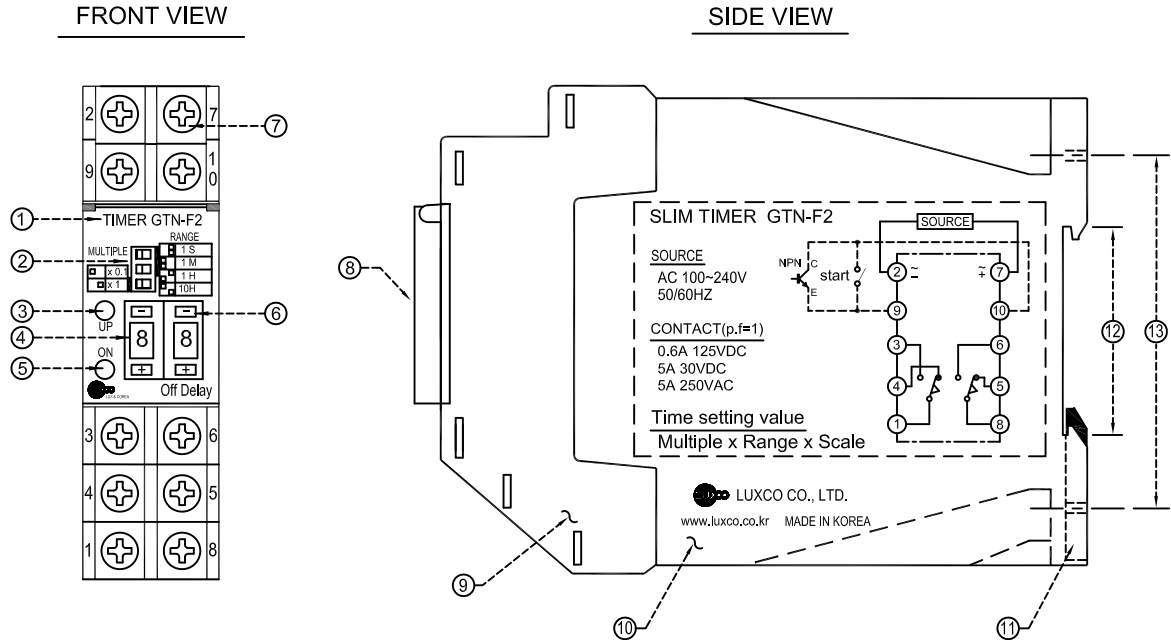
10.1 OPERATING & DESCRIPTION

MODEL	GTN-F1 : (2c) GTN-F2 : (2c)	SOURCE	* AC/DC 24V * AC 100~240V 50/60Hz * DC 120V
2mode time multiple and 4 mode time ranges are selectable by dip switch and adjust set the time (00~99) by 2 push digital switch. Output contact type and the time ranges are as follows. Time setting range : (0.1~99Sec., 0.1~99Min., 0.1~990Hrs.,)			
<u>In/out Connection & T.B layout</u> Start signal input no voltage NPN transistor contact SOURCE TIMER GTN-F1 RANGE MULTIPLE x 0.1 x 1 1 S 1 M 1 H 10 H UP ON OFF Delay 3 6 4 5 1 8 2 7 9 10		<u>Time setting value : Multiple x Range x Scale</u> Front Plate View Protection cover Time range set Multiple set time Push-digital switch : decrease Count up lamp Time scale Source lamp Push-digital switch : increase * flicker brightly and dimly during the counting and light up after count up. <u>In/out block diagram</u> IR1 IR2 start SOURCE 2 7 9 10 3 6 4 5 1 8	
** The contact output comes from inside, and capacitor is as follows. 5A 30VDC / 5A 250VAC / 0.6A 125VDC (p.f=1)		** insulation (IR) of start lines must be : $IR1 + IR2 > 10k \text{ ohms}$	
<u>TIMING FLOWCHART</u>		△ NOTE : The value set can be changeable during counting, and the output will be outputted by changing value.	
<u>GTN-F1</u> OFF delay SOURCE # (2-7) START # (9-10) CONTACT # (1-4) CONTACT # (1-3) (s) : source lamp (c) : count up lamp timing		<u>GTN-F2</u> ON-OFF delay (Rt : Reset time) above 0.5Sec. (T : Setting time) LAMP : flickering (s) light up (c) timing	

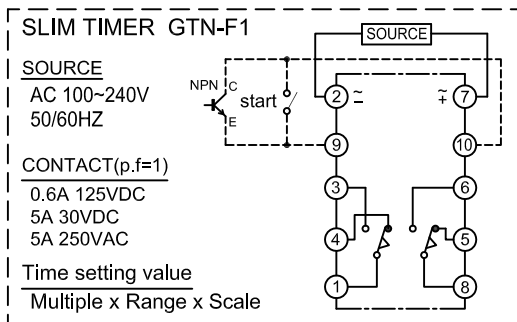
SLIM (22.5mm) TIMER (GTN Series)

GTN-F1/F2

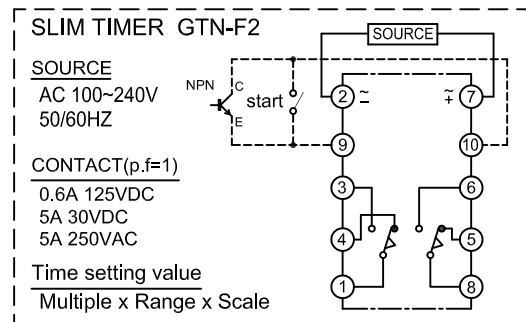
10.2 SIG. OFF/ ON-OFF TIMER DESCRIPTION



SIG. OFF-DELAY TIMER : GTN-F1



SIG. ON-OFF-DELAY TIMER : GTN-F2

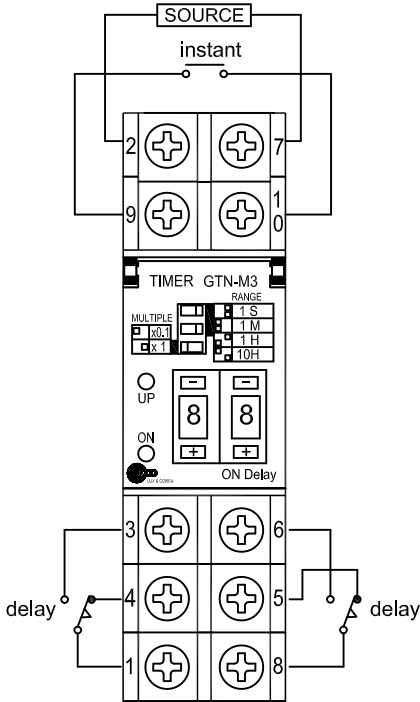
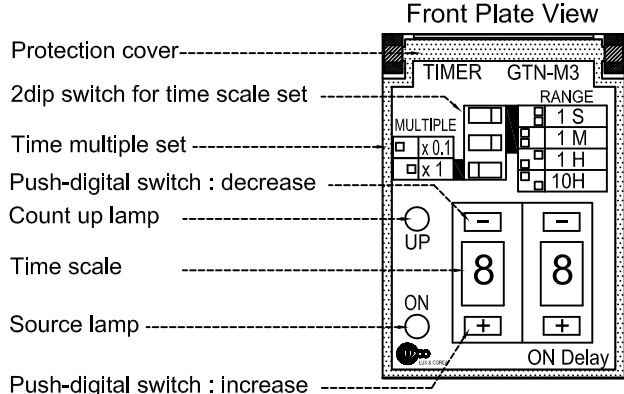
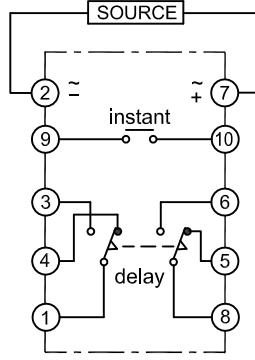


SLIM (22.5mm) TIMER (GTN Series)

GTN-M3, M4

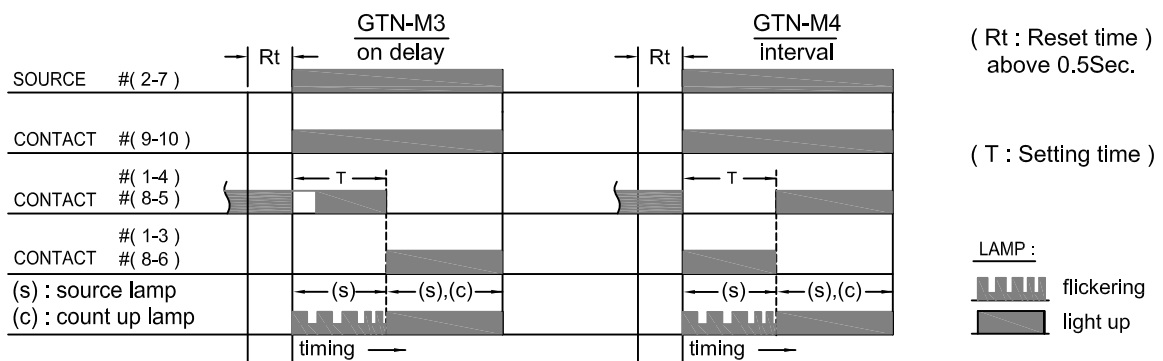
11. MULTI OUTPUT TIMER - (10P) 1a, 2c output

11.1 OPERATING & TIMING-FLOWCHART

MODEL	GTN-M3 (ON delay) GTN-M4 (Interval)	SOURCE	* AC/DC 24V * AC 100~240V 50/60Hz * DC 120V
- 2 mode time multiple and 4 mode time ranges are selectable by dip switch. And set the time by 2 push digital switch. Output contact type and the time ranges are as follows. (0.1~99Sec., 0.1~99Min., 0.1~990Hr.)			
<u>In/out Connection & T.B layout</u> (1a instant 2c output) 		<u>Time setting value : Multiple x Range x Scale</u> Front Plate View  * flicker brightly and dimly during the counting and light up after count up.	
** The contact output comes from inside, and capacitor is as follows. 5A 30VDC / 5A 250VAC / 0.6A 125VDC(p.f=1)		<u>In/out block diagram</u> 	

TIMING FLOWCHART

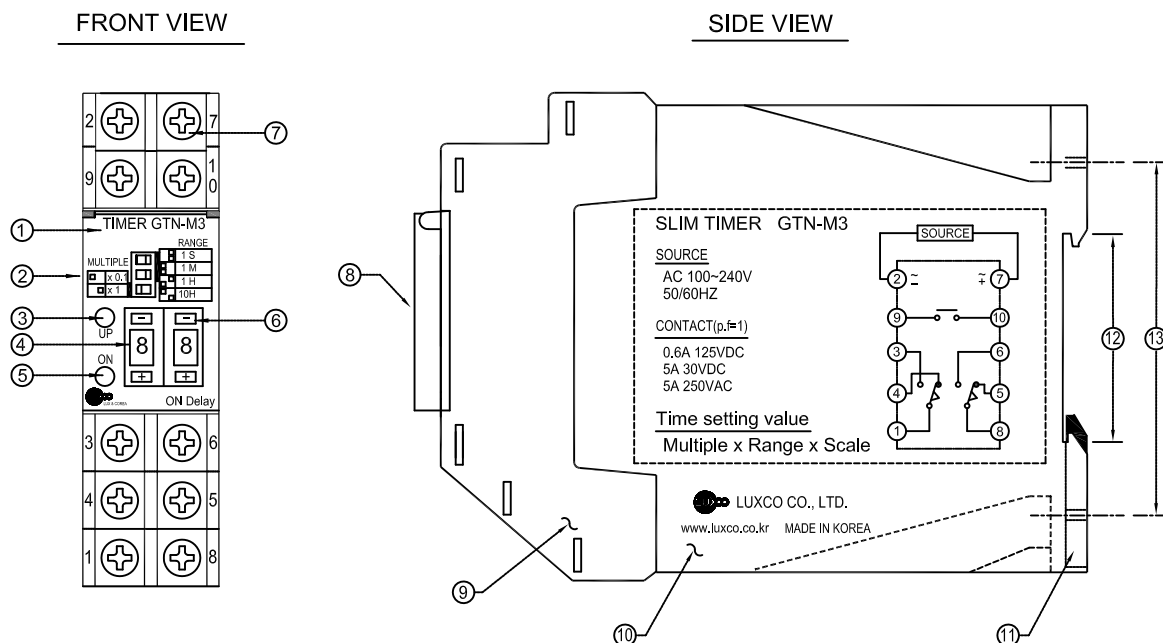
△ NOTE : The value set can be changeable during counting, and the output will be outputted by changing value.
* Add power 'ON' operating time(abt. 50mS) to actual output time.



SLIM (22.5mm) TIMER (GTN Series)

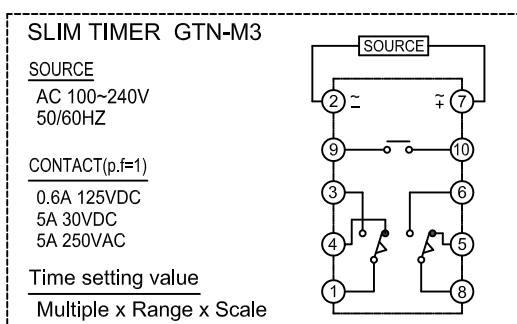
GTN-M3, M4

11.2 MULTI OUTPUT TIMER : (10P) GTN-M3, M4

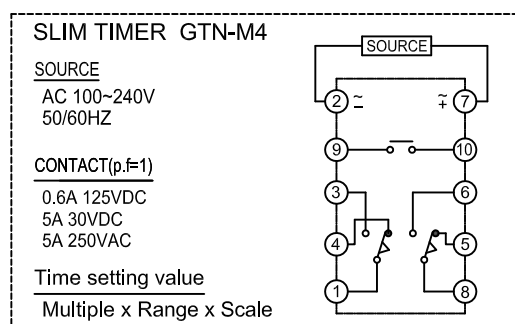


- | | | | |
|----------------------------|---|---------------------|----------------------------|
| 1. Name & Model No. | : TIMER GTN-M3, M4 | 7. External T.B | : M3.5 screw |
| 2. Time multiple/scale set | : dip switch | 8. Protection cover | : PC (clear) |
| 3. Count up lamp | : LED (light up in red) | 9. T.B & Frame | : PC / ABS |
| 4. Time scale | : 00~99 | 10. Body | : PC / ABS |
| 5. Source lamp | : LED (light up in green) | 11. Slide core | : Mount lock & replace key |
| 6. Adjusting switch | : digital push-switch
(+) increase, (-) decrease | 12. Mounting guide | : DIN 35 mounting |
| | | 13. Mounting hole | : M4 JIS mounting |

MULTI OUTPUT TIMER : GTN-M3



MULTI OUTPUT TIMER : GTN-M4



SLIM (22.5mm) TIMER (GTN Series)

GTN-S1, S2, S3, S4, S5

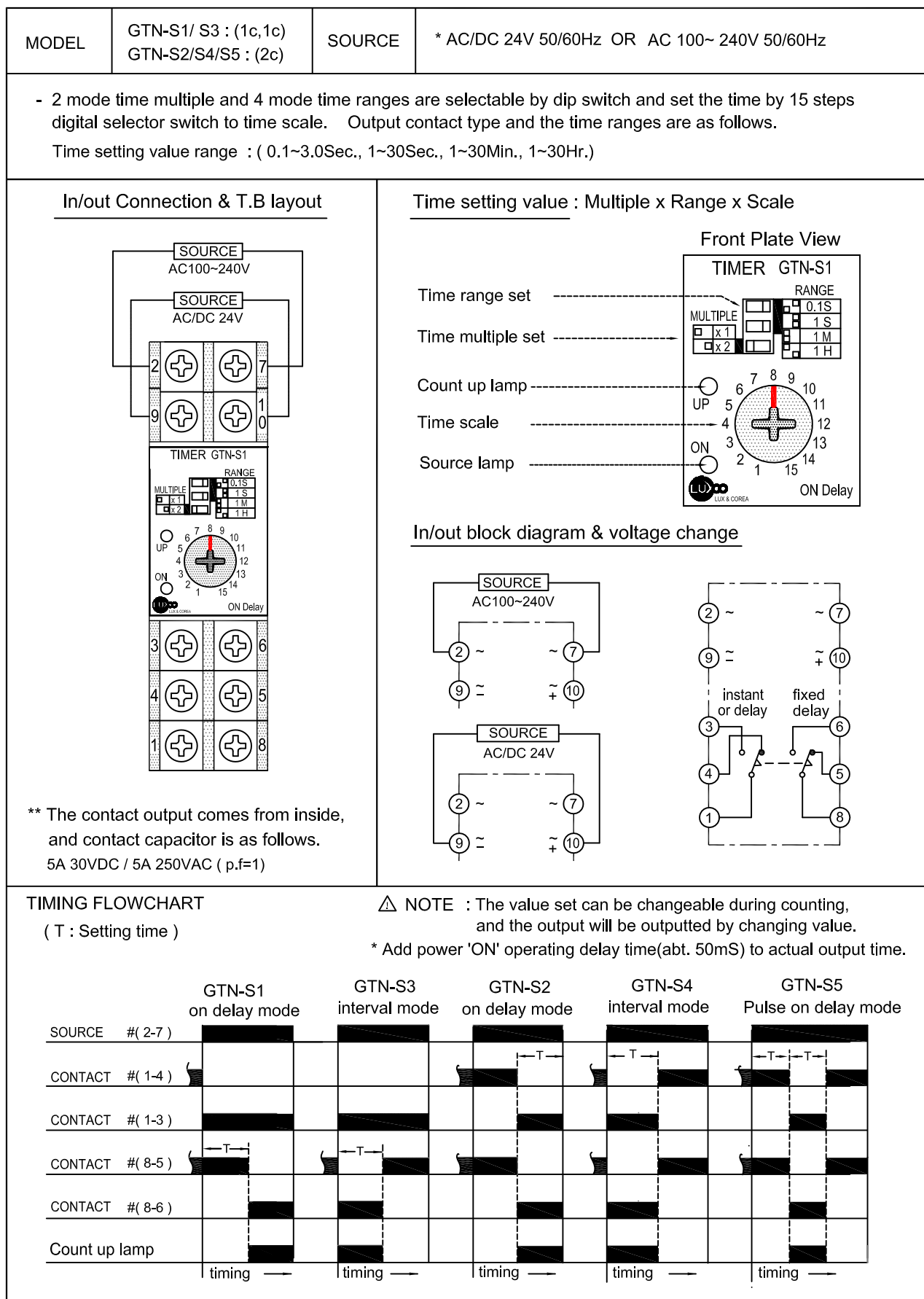
12. MULTI SOURCE TIMER

12.1 OPERATING & TIMING-FLOWCHART

GTN-S1,S2 : Power ON delay timer

GTN-S3,S4,S5 : Power ON interval timer

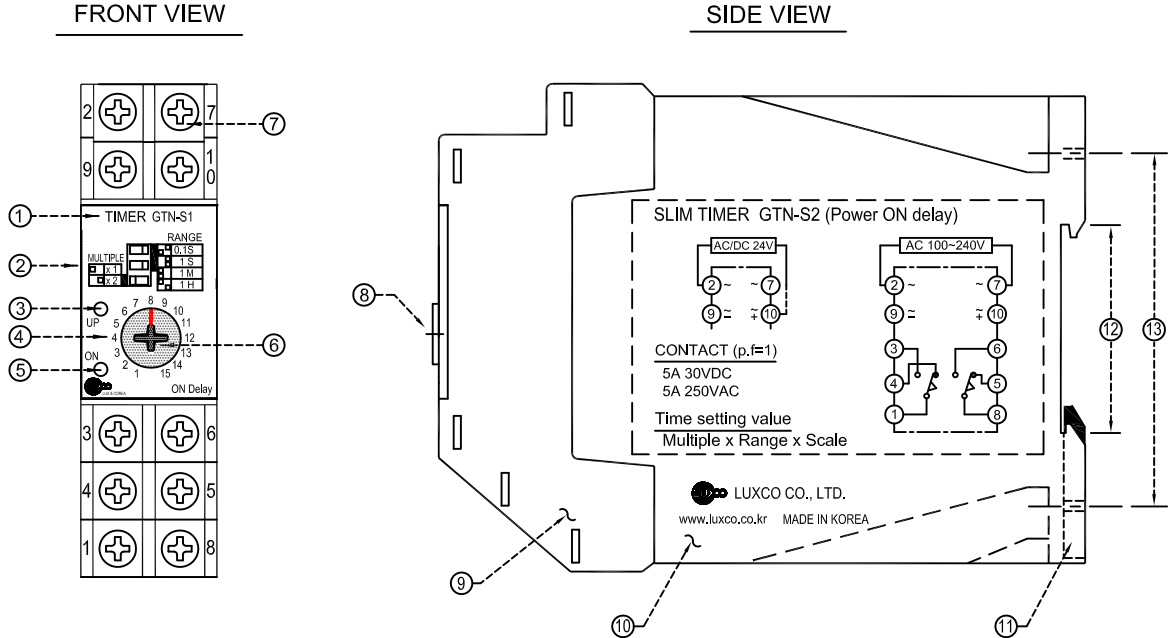
GTN-S3,S4,S5 : Power ON interval timer



SLIM (22.5mm) TIMER (GTN Series)

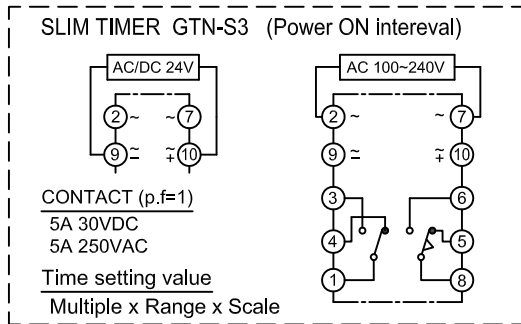
GTN-S1, S2, S3, S4, S5

12.2 MULTI-SOURCE TIMER DESCRIPTION

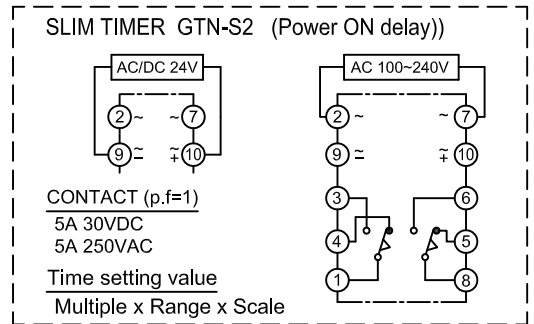


- | | | | |
|---------------------------------------|---------------------------------------|------------------------|----------------------------|
| 1. Name & Model No. | : TIMER GTN-S1/ S2/ S3/ S4/S5 | 7. External T.B | : M3.5 screw |
| 2. Time multiple/range setting switch | : dip switch | 8. Time Adjusting knob | : PC / ABS |
| 3. Count up lamp | : LED (light up in red) | 9. T.B & Frame | : PC / ABS |
| 4. Time scale | : 1~15 | 10. Body | : PC / ABS |
| 5. Source lamp | : LED (light up in green) | 11. Slide core | : Mount lock & replace key |
| 6. Adjusting switch | : digital selector-switch (15 step) | 12. Mounting guide | : DIN 35 mounting |
| | | 13. Mounting hole | : M4 JIS mounting |

MULTI SOURCE TIMER : GTN-S1 (Power ON delay)
MULTI SOURCE TIMER : GTN-S3 (Power ON interval)



MULTI SOURCE TIMER : GTN-S2 (Power ON delay)
MULTI SOURCE TIMER : GTN-S4 (Power ON interval)

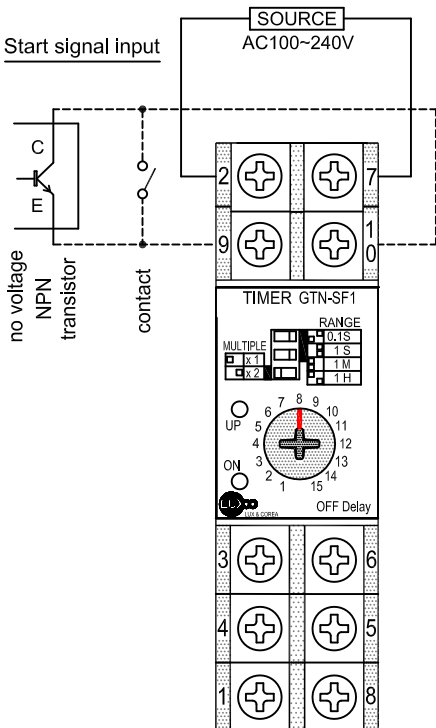
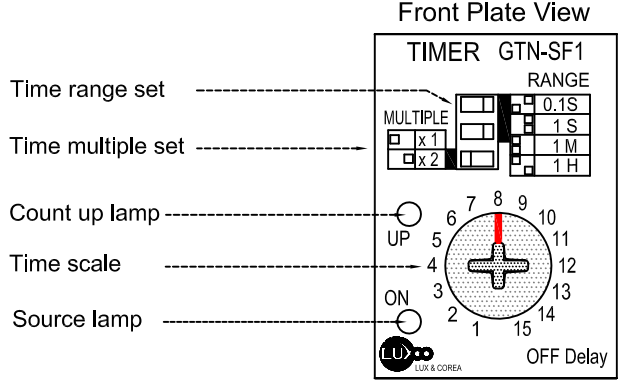
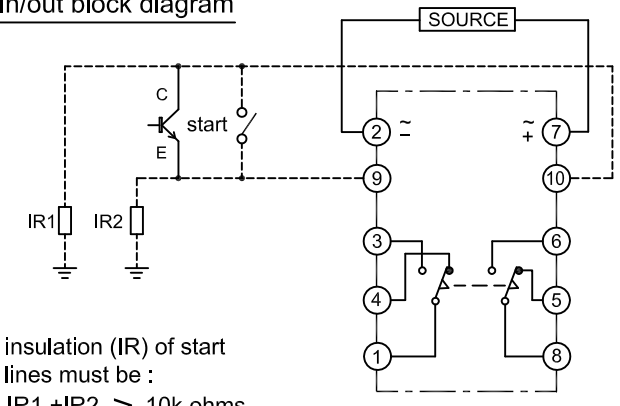
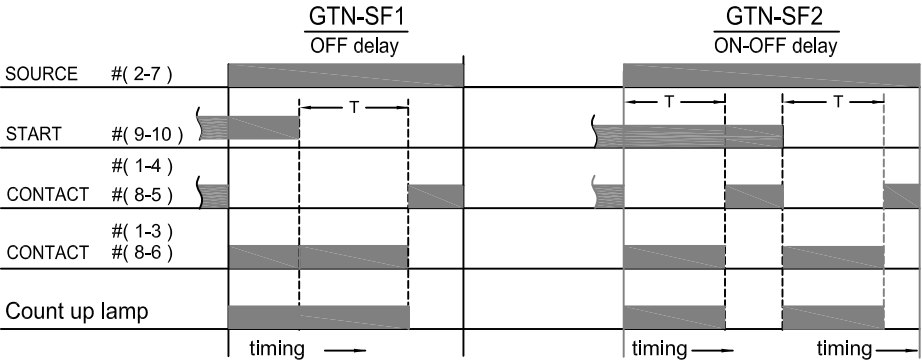


SLIM (22.5mm) TIMER (GTN Series)

GTN-SF1, SF2

13. SIG. OFF / ON-OFF DELAY TIMER (Fixed range)

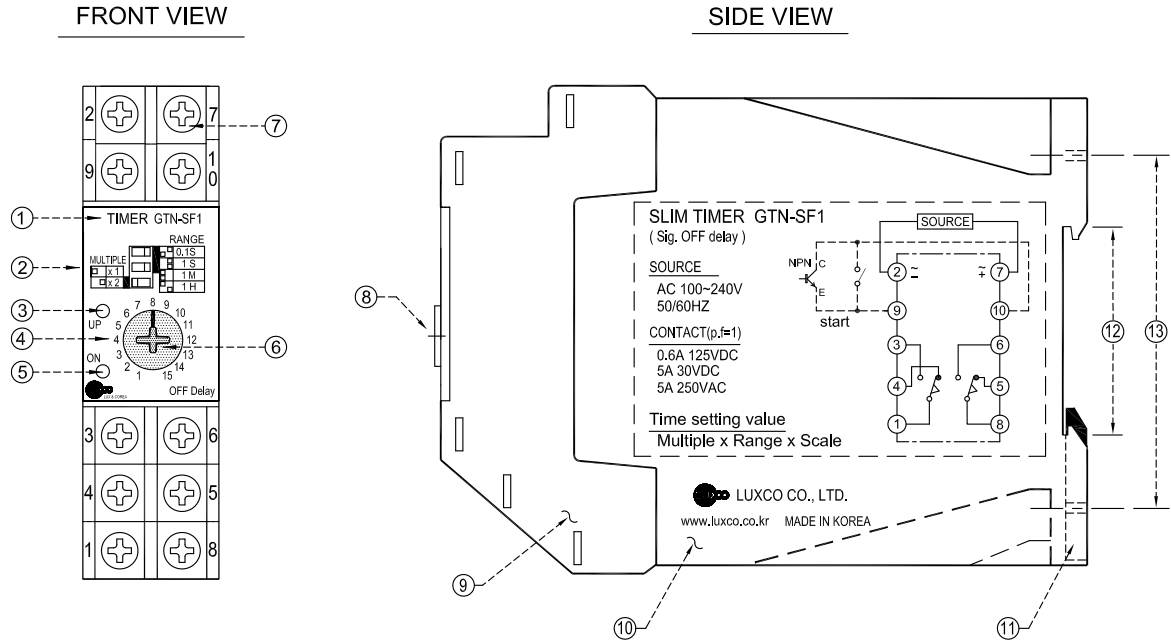
13.1 OPERATING & TIMING-FLOWCHART

MODEL	GTN-SF1 : (2c) off delay GTN-SF2 : (2c) on-off delay	SOURCE	* AC/DC 24V 50/60Hz * AC 100~ 240V 50/60Hz * DC 120V
- 2 mode time multiple and 4 mode time ranges are selectable by dip switch and set the time by 15 steps digital selector switch to time scale. Output contact type and the time ranges are as follows. Time setting value range : (0.1~3.0Sec., 1~30Sec., 1~30Min., 1~30Hr.)			
In/out Connection & T.B layout  ** The contact output comes from inside, and contact capacitor is as follows. 5A 30VDC / 5A 250VAC (p.f=1)		Time setting value : Multiple x Range x Scale Front Plate View  In/out block diagram  ** insulation (IR) of start lines must be : $IR1 + IR2 > 10k \text{ ohms}$	
TIMING FLOWCHART  GTN-SF1 OFF delay GTN-SF2 ON-OFF delay timing ———→		△ NOTE : The value set can be changeable during counting, and the output will be outputted by changing value. * Add power 'ON' operating delay time(abt. 50mS) to actual output time. (Rt : Reset time) above 0.5Sec. (T : Setting time)	

SLIM (22.5mm) TIMER (GTN Series)

GTN-SF1, SF2

13.2 OFF / ON-OFF DELAY TIMER (fixed range) DESCRIPTION



1. Name & Model No. : TIMER GTN-SF1/ SF2

2. Time multiple/range : dip switch setting switch

3. Count up lamp : LED (light up in red)

4. Time scale : 1~15

5. Source lamp : LED (light up in green)

6. Adjusting switch : digital selector-switch (15 step)

7. External T.B : M3.5 screw

8. Time Adjusting knob : PC / ABS

9. T.B & Frame : PC / ABS

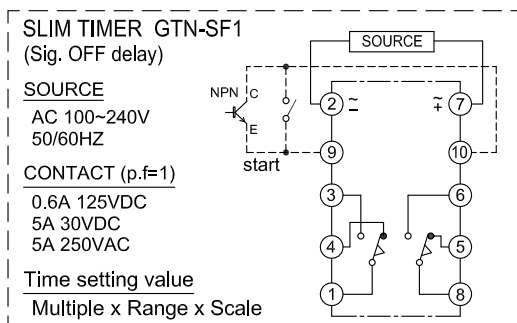
10. Body : PC / ABS

11. Slide core : Mount lock & replace key

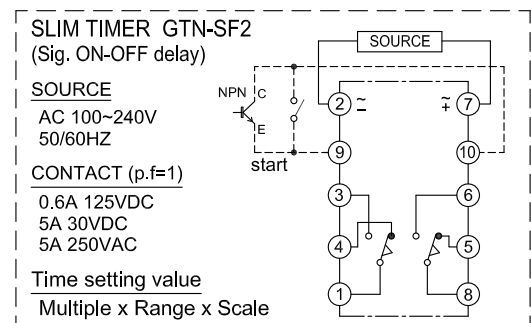
12. Mounting guide : DIN 35 mounting

13. Mounting hole : M4 JIS mounting

SIGNAL OFF DELAY TIMER : GTN-SF1



SIGNAL ON-OFF DELAY TIMER : GTN-SF2



SLIM (22.5mm) TIMER (GTN Series)

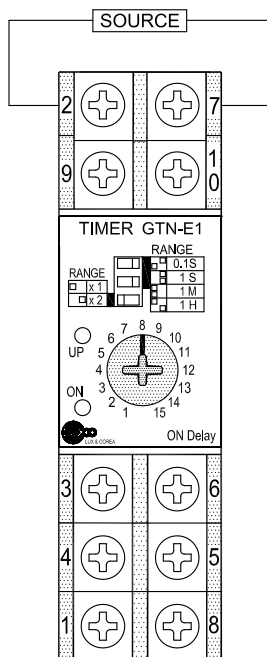
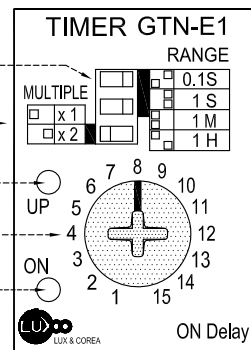
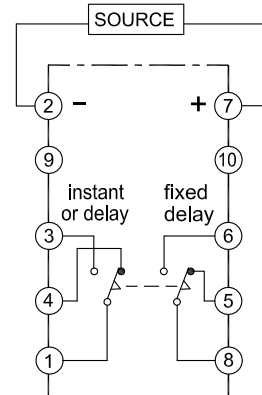
GTN-E1, E2, E3, E4

14. GENERAL TIMER

14.1 OPERATING & TIMING-FLOWCHART

GTN-E1,E2 : Power ON delay timer

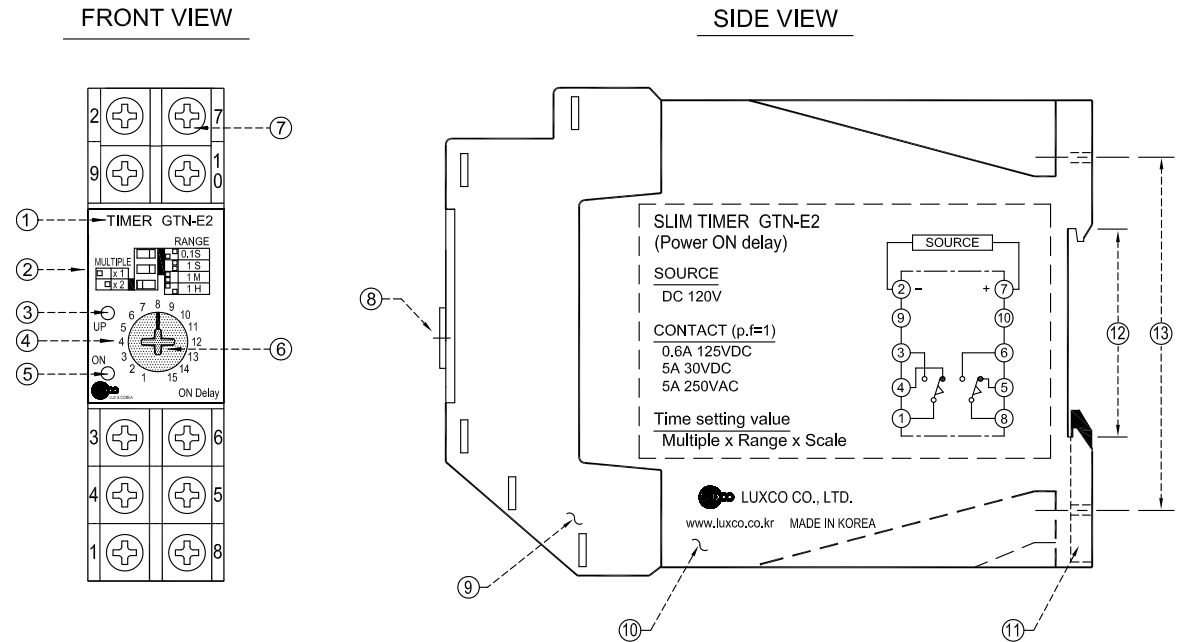
GTN-E3,E4 : Power ON interval timer

MODEL	GTN-E1/ E3 : (1c,1c) GTN-E2/ E4 : (2c)	SOURCE	* DC 120V																																								
- 2 mode time multiple and 4 mode time ranges are selectable by dip switch and set the time by 15 steps digital selector switch to time scale. Output contact type and the time ranges are as follows. Time setting value range : (0.1~3.0Sec., 1~30Sec., 1~30Min., 1~30Hr.)																																											
In/out Connection & T.B layout  ** The contact output comes from inside, and contact capacitor is as follows. 0.6A 125VDC / 5A 30VDC / 5A 250VAC (p.f=1)		Time setting value : Multiple x Range x Scale Front Plate View  In/out block diagram & voltage change 																																									
TIMING FLOWCHART (T : Setting time)		△ NOTE : The value set can be changeable during counting, and the output will be outputted by changing value. * Add power 'ON' operating delay time(abt. 50mS) to actual output time.																																									
<table><tr><th></th><th>GTN-E1 on delay mode</th><th>GTN-E3 interval mode</th><th>GTN-E2 on delay mode</th><th>GTN-E4 interval mode</th></tr><tr><td>SOURCE # (2-7)</td><td></td><td></td><td></td><td></td></tr><tr><td>CONTACT # (1-4)</td><td></td><td></td><td></td><td></td></tr><tr><td>CONTACT # (1-3)</td><td></td><td></td><td></td><td></td></tr><tr><td>CONTACT # (8-5)</td><td></td><td></td><td></td><td></td></tr><tr><td>CONTACT # (8-6)</td><td></td><td></td><td></td><td></td></tr><tr><td>(c) : count up lamp</td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>timing →</td><td>timing →</td><td>timing →</td><td>timing →</td></tr></table>					GTN-E1 on delay mode	GTN-E3 interval mode	GTN-E2 on delay mode	GTN-E4 interval mode	SOURCE # (2-7)					CONTACT # (1-4)					CONTACT # (1-3)					CONTACT # (8-5)					CONTACT # (8-6)					(c) : count up lamp						timing →	timing →	timing →	timing →
	GTN-E1 on delay mode	GTN-E3 interval mode	GTN-E2 on delay mode	GTN-E4 interval mode																																							
SOURCE # (2-7)																																											
CONTACT # (1-4)																																											
CONTACT # (1-3)																																											
CONTACT # (8-5)																																											
CONTACT # (8-6)																																											
(c) : count up lamp																																											
	timing →	timing →	timing →	timing →																																							

SLIM (22.5mm) TIMER (GTN Series)

GTN-E1, E2, E3, E4

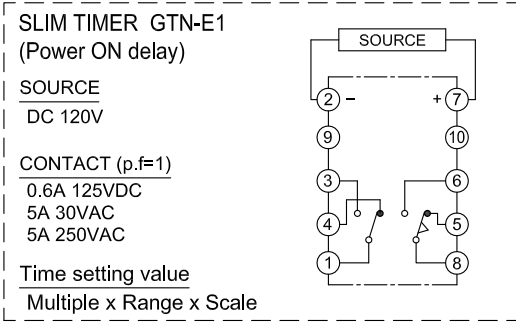
14.2 GENERAL TIMER DESCRIPTION



1. Name & Model No. : TIMER GTN-E1/ E2/ E3/ E4
2. Time multiple/range setting switch : dip switch
3. Count up lamp : LED (light up in red)
4. Time scale : 1~15
5. Source lamp : LED (light up in green)
6. Adjusting switch : digital selector-switch (15 step)

7. External T.B : M3.5 screw
8. Time Adjusting knob : PC / ABS
9. T.B & Frame : PC / ABS
10. Body : PC / ABS
11. Slide core : Mount lock & replace key
12. Mounting guide : DIN 35 mounting
13. Mounting hole : M4 JIS mounting

MULTI SOURCE TIMER : GTN-E1 (Power ON delay)
MULTI SOURCE TIMER : GTN-E3 (Power ON interval)



MULTI SOURCE TIMER : GTN-E2 (Power ON delay)
MULTI SOURCE TIMER : GTN-E4 (Power ON interval)

