

Autonics

Weekly/Yearly Timer

LE365S-41

INSTRUCTION MANUAL



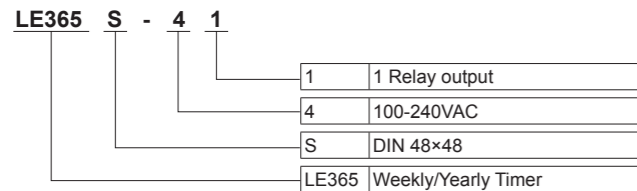
Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

Safety Considerations

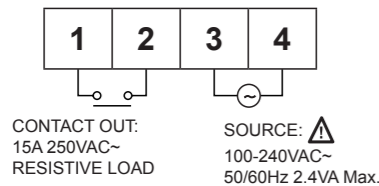
- ※Please keep these instructions and review them before using this unit.
 - ※Please observe the cautions that follow;
 - Warning** Serious injury may result if instructions are not followed.
 - Caution** Product may be damaged, or injury may result if instructions are not followed.
 - ※The following is an explanation of the symbols used in the operation manual.
 - Caution:**Injury or danger may occur under special conditions.
 - Warning**
- Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss.** (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
Failure to follow this instruction may result in fire, personal injury, or economic loss.
 - Install on a device panel to use.**
Failure to follow this instruction may result in electric shock or fire.
 - Do not connect, repair, or inspect the unit while connected to a power source.**
Failure to follow this instruction may result in electric shock or fire.
 - Check 'Connections' before wiring.**
Failure to follow this instruction may result in fire.
 - Do not disassemble or modify the unit.**
Failure to follow this instruction may result in electric shock or fire.
 - Since Lithium battery is embedded in the product, do not disassemble or burn the unit.**
Failure to follow this instruction may result in fire.
 - Please contact to us for battery replacement.**

- Caution**
- When connecting the power input and relay output, use AWG 20(0.50mm²) cable or over for the power input and use AWG 14(2.50mm²) cable or over for the relay output, and tighten the terminal screw with a tightening torque of 0.74 to 0.90N·m.**
Failure to follow this instruction may result in fire or malfunction due to contact failure.
 - Use the unit within the rated specifications.**
Failure to follow this instruction may result in fire or product damage.
 - Use dry cloth to clean the unit, and do not use water or organic solvent.**
Failure to follow this instruction may result in electric shock or fire.
 - Do not use the unit in the place where flammable/explosive/corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.**
Failure to follow this instruction may result in fire or explosion.
 - Keep metal chip, dust, and wire residue from flowing into the unit.**
Failure to follow this instruction may result in fire or product damage.

Ordering Information

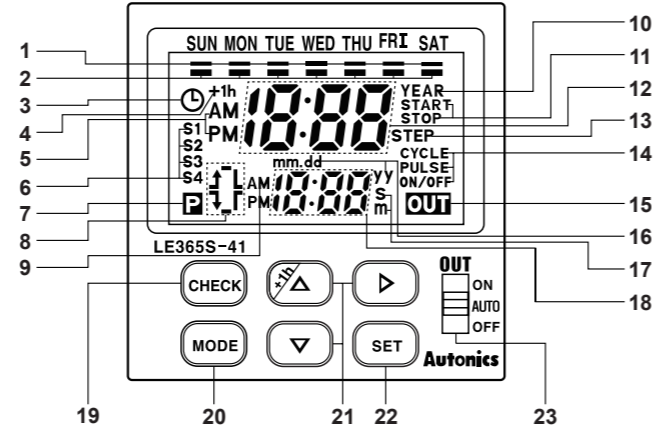


Connections



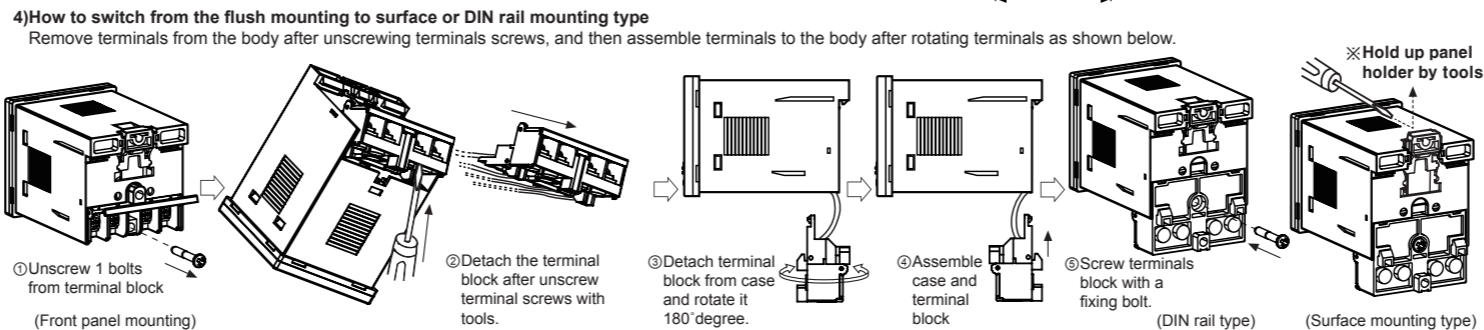
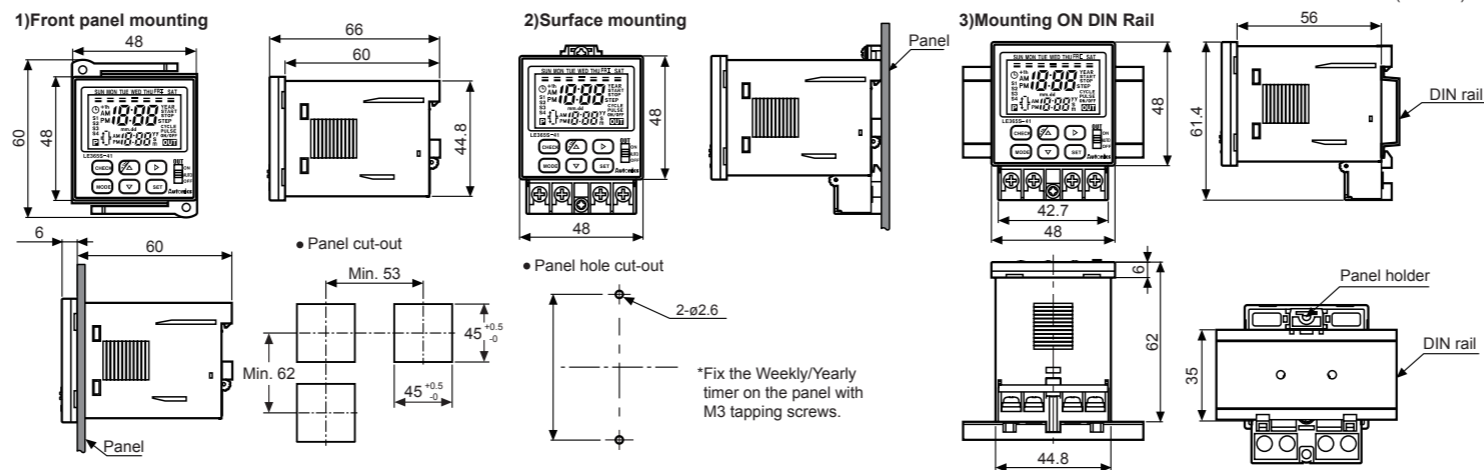
※The above specifications are subject to change and some models may be discontinued without notice.
※Be sure to follow cautions written in the instruction manual and the technical descriptions (catalog, homepage).

Front Panel Identification



- Day indicator**
- Day display**
 - Light : Day is selected.
 - Light-out : Day is not selected.
- Current time setting mode indicator**
- DST display(Daylight Saving Time)**
- AM/PM display(Main display)**
- Season display**
- Program display**
- Display ON time/day, OFF time/day, ON time width, OFF time width**
- AM/PM display(Sub-display)**
- YEAR display** : It is lighted when set, check, modify, delete yearly program, set yearly holidays and operate yearly program.
- Yearly START/STOP day display**
- Main display**
- Remaining step display**
- Operation mode display**
- Output mode display**
- Year, month, date display**
- Unit of pulse duration display**
- Sub-display**
- CHECK Key**
- MODE Key**
- Operation key** : Press [+1h] key over 3sec in RUN mode, DST mode is set and released.
- SET Key**
- Output selection switch**
 - AUTO : Control output according to the set program.
 - ON : Output is ON.(Operation)
 - OFF : Output is OFF.

Dimensions & Mounting

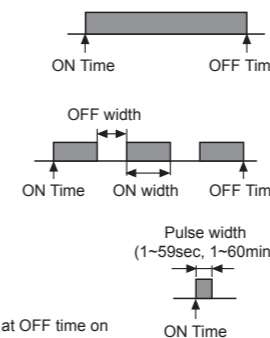


Specifications

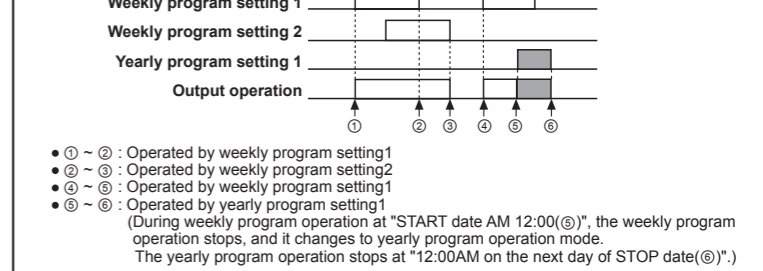
Model	LE365S-41
Power supply	100-240VAC~ 50/60Hz
Allowable voltage range	90 to 110% of rated voltage
Power consumption	Max. 2.4V
Control Output	Contact type SPST(Single Pole Single Contact) Contact capacity 250VAC~ 15A resistive load Number of circuits Independent 1 circuits(1a)
Number of steps	48 steps for weekly, 24 steps for yearly
Operation mode	ON/OFF mode, Cycle mode, Pulse mode
Mounting	Front panel mounting, Surface mounting, DIN rail mounting
Time deviation	±15sec/month(Ta:25°C)
Temperature error	0.01% ±0.05sec
Memory protection	Over 5 years(25°C)
Insulation resistance	Min. 100MΩ(at 500VDC)
Dielectric strength	2000VAC 50/60Hz for 1minute
Noise strength	±2kV the square wave noise(pulse width:1μs) by the noise simulator
Relay life cycle	Mechanical Min. 5,000,000 operations(Switching capacity 30 times/1 minute) Electrical 50,000 operations~Switching capacity 20 times/1 minute, at 250VAC 15A(resistive load)>
Environ -ment	Ambient temperature -10 to 55°C, Storage: -25 to 65°C (at non-freezing status) Ambient humidity 35 ~ 85%RH
Approval	CE, RoHS
Unit weight	Approx. 110g

Functions

- Definitions**
 - Record : A part of program that controls output operation.
 - Step : Basic component of Record.
- Operation mode**
If the operation mode of Program1 (Program2) is set on Pulse mode initially, the Pulse mode is fixed for additional programs.
- Weekly ON/OFF mode**
Output operation by ON/OFF set time.
 - Min. time setting unit : 1 min.
 - Able to set ON/OFF day separately.
 - One Record in two Steps (ON day/ON time, OFF day/OFF time)
- Weekly Cycle mode**
Output turns ON for ON time and turns OFF for OFF time. And the ON/OFF cycle is repeated.
 - Range of ON/OFF time : 1 min.~12:59
 - One Record in three Steps(ON day/ON time, OFF day/OFF time, ON width/OFF width)
- Weekly Pulse mode**
Output turns ON at ON time for a specified pulse width. (Pulse width : 1~59sec, 1~60min)
 - One Record in two Steps(ON day/ON time, Pulse width)
- Yearly ON/OFF mode**
Output turns ON at ON time on START date and turns OFF at OFF time on STOP date.
 - One Record in three Steps(START/STOP date, ON/OFF time)
- Yearly Pulse mode**
Output turns ON at ON time on START date and turns OFF at OFF time on STOP time for a specified pulse width repeatedly.
 - One Record in three Steps(START/STOP date, ON time, Pulse width)



Program operation



- ① ~ ② : Operated by weekly program setting1
 - ② ~ ③ : Operated by weekly program setting2
 - ③ ~ ④ : Operated by weekly program setting1
 - ④ ~ ⑥ : Operated by yearly program setting1 (During weekly program operation at "START date AM 12:00(④)", the weekly program operation stops, and it changes to yearly program operation mode. The yearly program operation stops at "12:00AM on the next day of STOP date(⑥)".)
- Display and change of next mode**
 - The day of next mode in program is displayed on the day indicator, and the time of next mode is displayed on the lower row of screen.
 - In ON/OFF or Cycle mode, set ON time and OFF time to next mode. In Pulse operation mode, set Pulse ON time to next mode.

Power restore mode

- In setting group 2-LEVEL 2("rEt" is lighted, "rEt" or "nor" are flashed), select Auto("rEt") or Normal("nor") by [▲] or [▼] keys and press [SET] key to set.
- Auto("rEt") power restore mode
Output(OUT1, OUT2) operates according to program when power turns on again after power failure.
- Normal("nor") power restore mode
When power turns on again after power failure, output is kept OFF and "rJn" is flashed on the lower row of screen and power restore input(press [SET] key over 3 sec., in RUN mode) is applied, "rJn" is light out and output operates according to program.

Season switching mode

- In setting group 2-LEVEL 2("SEn" is lighted, "OFF" is flashed.), select ON("on") by [▲] or [▼] keys and press [SET] key to set.
- (Note) : When the season switching mode changed from "OFF" to "ON" or vice versa, previous set programs are deleted.**
- ON("on") mode
Weekly program is switched automatically by season switching.
 - Period setting per season
 - Press [SET] key in period setting per season mode of setting group 2. ("SEn" is flashed, season with preset period is lighted and "START" and "STOP" are lighted.)
 - Advance to the flashing position of season selection among S1, S2, S3, S4 by [▲] or [▼] keys and press [SET] key.
 - After set START month, date per season and press [SET] key.
 - [SET] key is pressed after set STOP month, date per season, it is advanced to LEVEL1 of period setting per season. Add or adjust the period setting by [SET] key.
 - It is disable to use when it is OFF("OFF").

Daylight Saving Time

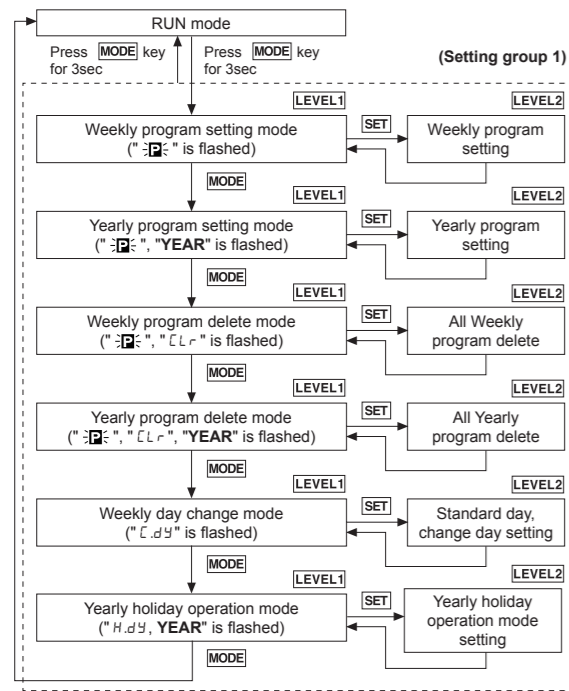
- In setting group 2-LEVEL 2("dSt" is lighted, "rEt" or "nor" is flashed.), select Auto("rEt") or Normal("nor") by [▲] or [▼] keys and press [SET] key to set.
- Auto("rEt") Daylight Saving Time mode
Current time will be faster as an hour when it is started and will be slower as an hour when Auto mode is finished.
 - Automatic Daylight Saving Time period setting
 - Automatic Daylight Saving Time period setting LEVEL 1 of setting group 2. ("dSt" is flashed and "START" and "STOP" are lighted.)
 - Set START date(Month, date) of automatic Daylight Saving Time mode and press [SET] key.
 - Set START time(AM/PM, Hour) of automatic Daylight Saving Time mode and press [SET] key. But, the minute will be fixed as 00.
 - Set STOP date(Month, date) of automatic Daylight Saving Time mode and press [SET] key.
 - Set STOP time(AM/PM, Hour) of automatic Daylight Saving Time mode and press [SET] key. But, the minute will be fixed as 00.
 - Normal("nor") Daylight Saving Time mode
Press [+1h] key over 3sec in RUN mode, "+1h" is lighted and current time is faster as an hour and "+1h" is lighted out, current time will be slower as an hour when press [+1h] key over 3sec again.

Current time setting

- (Ex)Set the current time as 10, Mar, 2008, 5:10 PM.
- ① Advance to the current time setting mode
SUN MON TUE WED THU FRI SAT
[MODE] + [SET] keys are pressed over 3sec in RUN mode, it is advanced to current time setting of setting group 2 and clock will be flashed and t.r.J will be lighted in second display part, press [SET] key.
- ② Year, Month, Date setting
SUN MON TUE WED THU FRI SAT
[▲] or [▼] keys to set 08(year 2008) and move the flashing digit to position month by [▶] key. Press [SET] key after press [▲] or [▼] keys to set date 10.
- ③ Current time(AM, PM) setting
SUN MON TUE WED THU FRI SAT
[▲] or [▼] keys to select PM and move the flashing digit to position hour by [▶] key.
- ④ Current time(Hour, Min.) setting
SUN MON TUE WED THU FRI SAT
[▲] or [▼] keys to set 5 PM and move the flashing digit to position min. by [▶] key. Press [▲] or [▼] key to set 10min and press [SET] key and it is returned to RUN mode when press [MODE] key over 3sec.
- It advances to "③Current time setting mode" in ON status and set current time as shown above ②~④ by [SET] key.
- Current time is set up to 31, Dec, 2099.
- Check current year/month/date in RUN mode
When [▶] key is pressed over 3sec in RUN mode, it advances to current year/month/date display. After display current year/month/date for 3sec, it returns to RUN mode displaying current display.

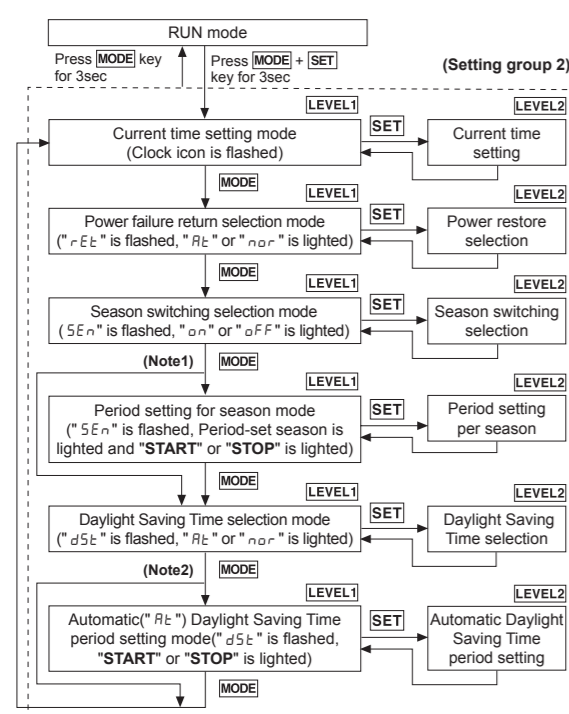
Program Setting

Setting group 1



- When it is advanced to setting group 1 in RUN mode, output (OUT1, OUT2) will be OFF.
- It is returned to previous setting group 1 when power of time switch is ON again in setting group 1.
- When **MODE** key is pressed in LEVEL2 of setting group 1, current setting will be canceled and it is returned to previous LEVEL1.
- When press **SET** key to program over max. number of steps for weekly program in Weekly program setting mode of setting group 1-LEVEL 1, number of remaining steps and "STEP" are flashed and it returns to LEVEL 1 status.
- When press **SET** key to program over max. number of steps for yearly program in Yearly program setting mode of setting group 1-LEVEL 1, number of remaining steps and "STEP" are flashed it returns to LEVEL 1 status.

Setting group 2

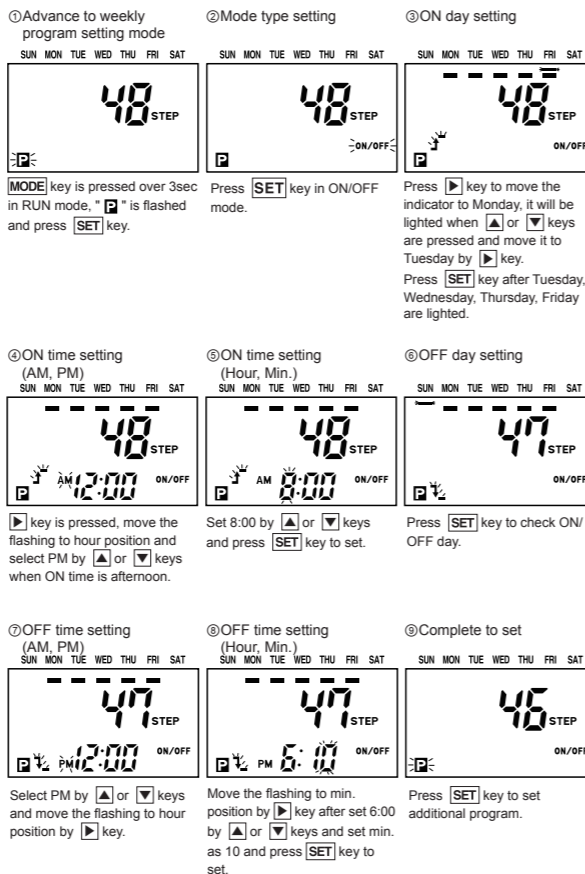


- (Note1) Season switching selection is "off".
- (Note2) Automatic switching selection of Daylight Saving Time is Normal ("nor").
- When it advances to setting group 2 in RUN mode, output(OUT1, OUT2) will be OFF.
- When power of time switch is ON again in setting group 2, it is returned to previous setting group 1.
- Front **MODE** key is pressed in LEVEL2 of setting group 2, it is returned to previous LEVEL1.
- When season switching selection is changed from "off" to "on" or "on" to "off", previous set weekly program will be deleted.

Weekly program setting

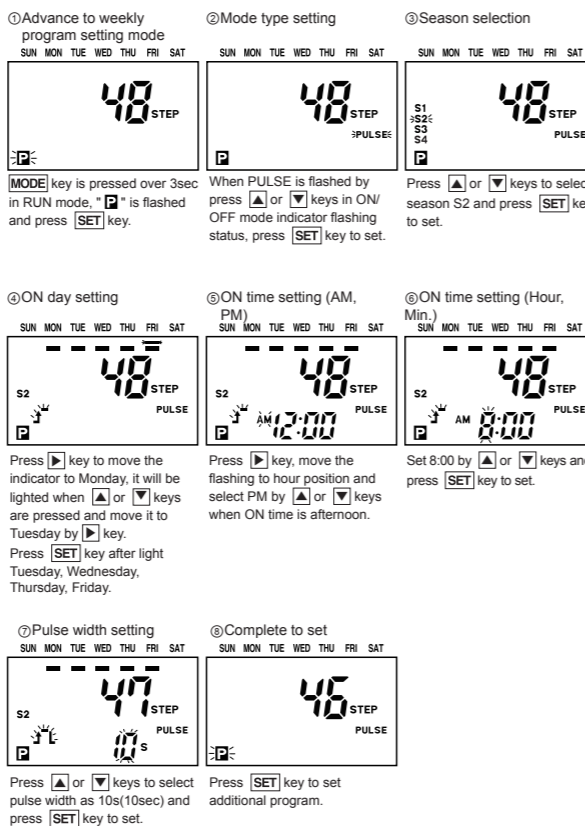
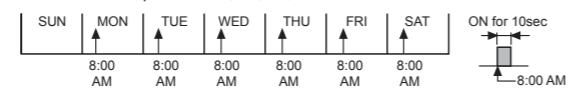
Weekly ON/OFF mode

(Ex)Output1(OUT1) is ON from Monday to Friday at 8:00 AM and OFF at 6:10 PM.



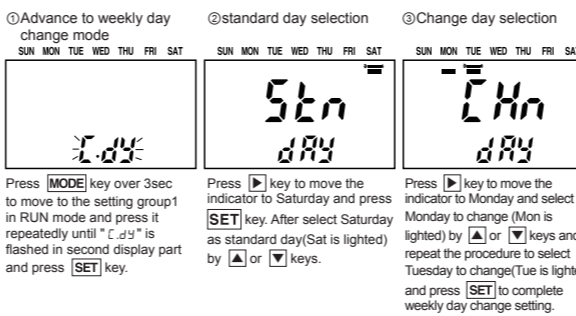
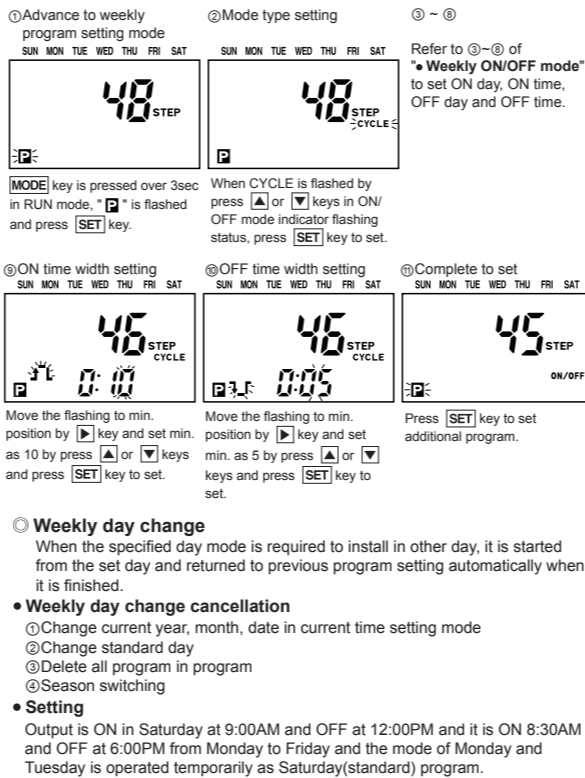
Weekly Pulse mode

Output2(OUT2) is ON for 10sec at 8:00AM from Monday to Friday during S2 season in case, period of S1, S2, S3, S4 is set.



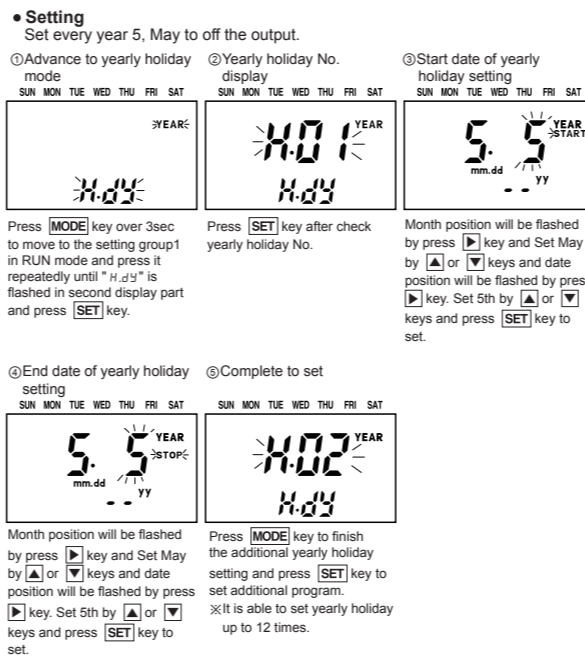
Weekly Cycle mode

(Ex)Output1(OUT1) is ON for 10min and OFF for 5min from Monday 6:00AM to Saturday 5:30PM.



Yearly holiday mode

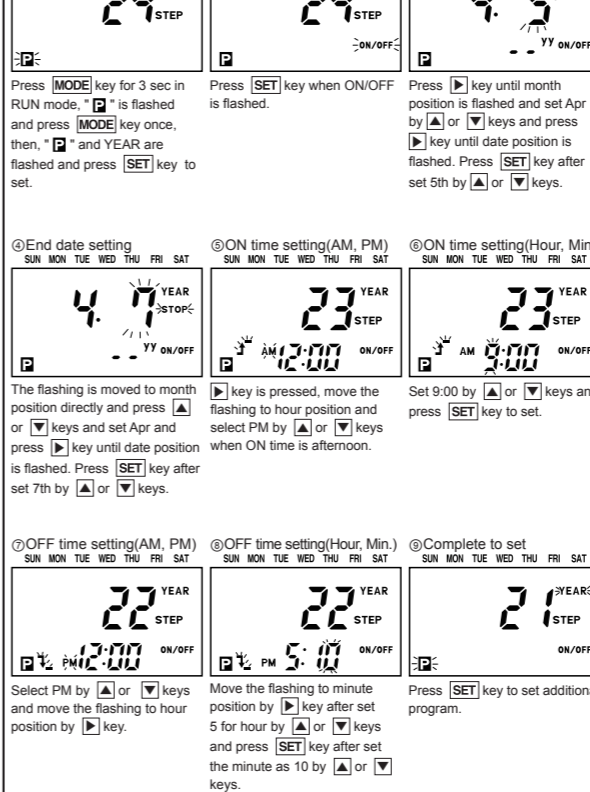
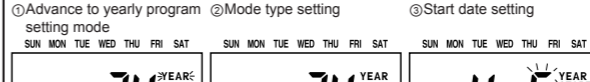
It is used to off the output without program adjustment during previously set yearly holiday period available from present year to 31, Dec of the next year. Designate the start date of yearly holiday and year of end date as every year("YY") to repeat the holiday mode for specified in every year.



Yearly program setting

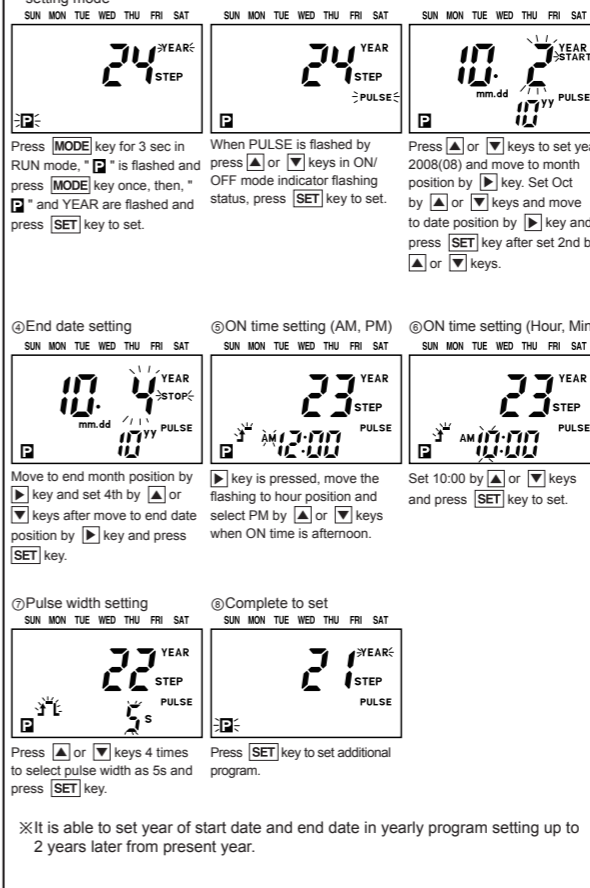
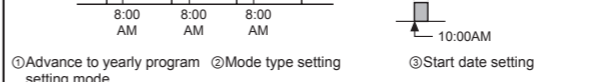
Yearly ON/OFF mode

(Ex)Output(OUT) is ON from every 5, Apr to 7, Apr at 9:00AM and OFF 5:10PM.



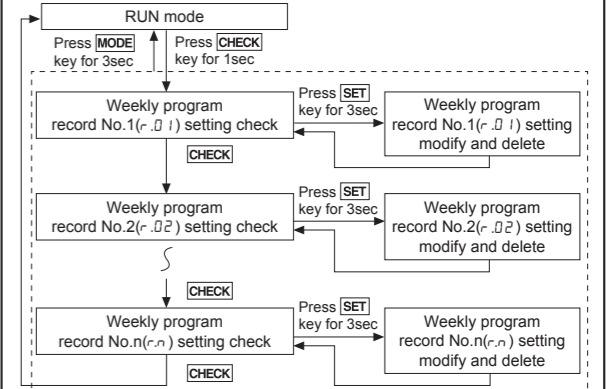
Yearly Pulse mode

(Ex)Output(OUT) is ON from 2, Oct, 2008 to 4, Oct, 2008 at 10:00AM and OFF after 5sec. (Present is 2007.)

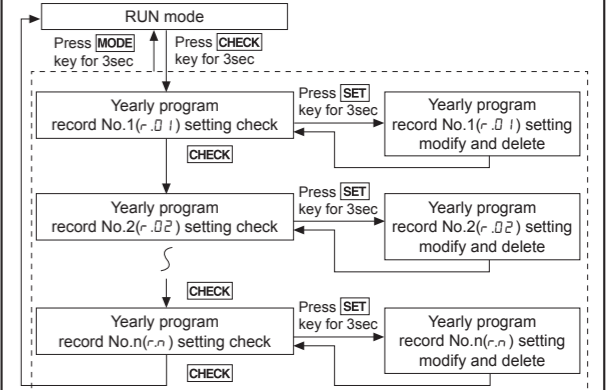


Program Check, Modify and Delete

Weekly program check, modify and delete



Yearly program check, modify and delete



- If any key is untouched for 60sec, it is returned to RUN mode in weekly or yearly program check.
- In weekly or yearly program check, it controls output depending on program setting and output is OFF in modify or delete mode.
- When **MODE** key is pressed in weekly or yearly program record modify, delete stand by or delete mode, current work is cancelled and it is returned to check mode.
- Weekly or yearly program record modify and delete
 - Program record modify
 - When press **SET** key over 3sec in program check, "Edt" is flashed in second display part, press **SET** key.
 - It is returned to check mode when finish the modify same as the above procedure.
 - Program record delete
 - When press **SET** key over 3sec in program check, "Edt" is flashed in second display part and press **SET** key.
 - Press **SET** key over 3sec when "CLR" is lighted in second display part, it is returned to program check.

Lithium Battery

Since lithium battery is embedded in the product, follow instructions below for safety.

- Do not charge, short, disassemble, subject it to shock, heat.
- Do not solder on a battery directly.
- Do not store this unit in the place with the direct sunlight, high temperature and humidity.

Cautions during Use

- Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
- When supplying or turning off the power, use a switch or etc. to avoid chattering.
- Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
- Keep away from high voltage lines or power lines to prevent inductive noise. In case installing power line and input signal line closely, use line filter or varistor at power line and shielded wire at input signal line. Do not use near the equipment which generates strong magnetic force or high frequency noise.
- In case of controlling a heater, must use a thermostatic switch at load circuit.
- This unit may be used in the following environments.
 - Indoors (in the environment condition rated in 'Specifications')
 - Altitude max. 2,000m
 - Pollution degree 2
 - Installation category II

Major Products

- Photoelectric Sensors
- Fiber Optic Sensors
- Door Sensors
- Door Side Sensors
- Area Sensors
- Proximity Sensors
- Pressure Sensors
- Rotary Encoders
- Connectors/Sockets
- Control Switches/Lamps/Buzzers
- I/O Terminal Blocks & Cables
- Stepper Motors/Drivers/Motion Controllers
- Graphic/Logic Panels
- Field Network Devices
- Laser Marking System (Fiber, Co., Nd: YAG)
- Laser Welding/Cutting System
- Temperature Controllers
- Temperature/Humidity Transducers
- SSRs/Power Controllers
- Counters
- Timers
- Panel Meters
- Tachometers/Pulse (Rate) Meters
- Display Units
- Sensor Controllers
- Switching Mode Power Supplies
- Temperature/Humidity Transducers

Autonics Corporation
<http://www.autonics.com>
HEADQUARTERS:
 18, Bansong-ro 513beon-gil, Haeundae-gu, Busan, South Korea, 48002
 TEL: 82-51-519-3232
 E-mail: sales@autonics.com