W 48 × H 48 mm LCD Week / Year Digital Timers

LE365S-41 Series
INSTRUCTION MANUAL

DRW171153AC　　　　**Autonics**

Thank you for choosing our Autonics product.
Read and understand the instruction manual and manual thoroughly before using the product.
For your safety, read and follow the below safety considerations before using.
For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.
Keep this instruction manual in a place where you can find easily.
The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.
Follow Autonics website for the latest information.

Safety Considerations

- Observe all 'Safety Considerations' for safe and proper operation to avoid hazards.
- ⚠ symbol indicates caution due to special circumstances in which hazards may occur.

⚠ Warning　Failure to follow instructions may result in serious injury or death.

01. **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 personal injury, economic loss or fire.
02. **Do not use the unit in the place where flammable/explosive/corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present.**
 Failure to follow this instruction may result in explosion or fire.
03. **Install on a device panel or DIN rail to use.**
 Failure to follow this instruction may result in fire or electric shock.
04. **Do not connect, repair, or inspect the unit while connected to a power source.**
 Failure to follow this instruction may result in fire or electric shock.
05. **Check 'Connections' before wiring.**
 Failure to follow this instruction may result in fire.
06. **Do not disassemble or modify the unit.**
 Failure to follow this instruction may result in fire or electric shock.
07. **Since Lithium battery is embedded in the product, do not disassemble or burn the unit.**
 Failure to follow this instruction may result in fire.
08. **Please contact to us for battery replacement.**

⚠ Caution　Failure to follow instructions may result in injury or product damage.

01. **When connecting the power input, use AWG 20 (0.50 mm²) cable or over and connecting the relay output, use AWG 14 (2.50 mm²) cable or over and tighten the terminal screw with a tightening torque of 0.74 to 0.90 N m.**
 Failure to follow this instruction may result in fire or malfunction due to contact failure.
02. **Use the unit within the rated specifications.**
 Failure to follow this instruction may result in fire or product damage.
03. **Use a dry cloth to clean the unit, and do not use water or organic solvent.**
 Failure to follow this instruction may result in fire or electric shock.
04. **Keep the product away from metal chip, dust, and wire residue which flow into the unit.**
 Failure to follow this instruction may result in fire or product damage.

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, be sure to use a thermostatic switch at the load circuit.
- This unit may be used in the following environments.
 - Indoors (in the environment condition rated in 'Specifications')
 - Altitude max. 2,000 m
 - Pollution degree 2
 - Installation category II

Product Components

- Product (+ bracket)
- Instruction manual

Cautions for Lithium Battery

Follow these instructions for using the product safely.
- Do not charge, short, disassemble, subject it to shock, heat.
- Check the polarity.
- Do not solder on a battery directly.
- Insulate a battery with tape to dispose.
- Do not store this unit in the place with the direct sunlight, high temperature and humidity.
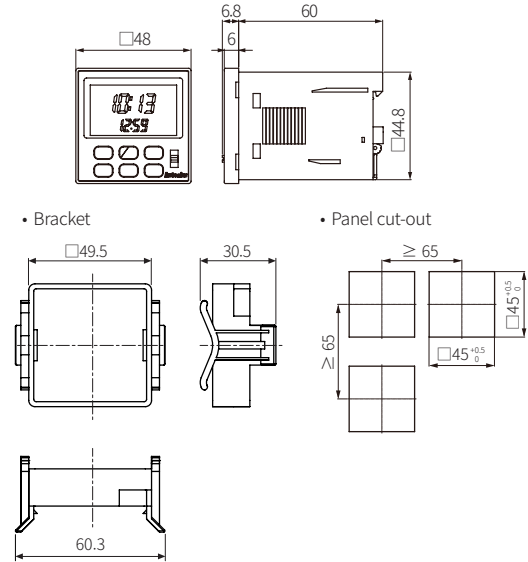
Specifications

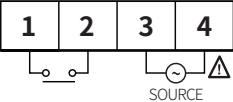| Model	LE365S-41
Timing program	Weekly 48 step, yearly 24 step
Control output	Relay
Contact type	SPST, independent 1 circuit (1a)
Contact capacity	250 VAC∼ 15 A, 30 VDC⎓ 5 A resistive load
Error	Temp.: ≤ ± 0.01% ± 0.05 sec (ratio by set time)
Time deviation	± 15 sec/month (25 °C), ± 4 sec/1week
Installation	Panel front, surface, DIN rail mounting
Unit weight	≈ 110 g
Approval	CE ⚠ℜus EHC
Power supply	100 - 240 VAC∼ ± 10% 50 / 60 Hz
Power consumption	≤ 2.4 VA
Memory retention	≈ 5years (25 °C)
Insulation resistive	≥ 100 MΩ (500 VDC⎓ megger)
Dielectric strength	2,000 VAC∼ 50 / 60 Hz for 1 min
Noise immunity	± 2 kV square-wave noise by noise simulator (pulse width 1 μs)
Relay life cycle	Mechanical: ≥ 5,000,000 operations Electrical: ≥ 50,000 operations (250 VAC∼ 15 A resistive load)
Ambient temperature	-10 to 55 °C, storage: -25 to 65 °C (no freezing or condensation)
Ambient humidity	35 to 85%RH, storage: 35 to 85%RH (no freezing or condensation)

Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.
- You can change the installation method depending on the position of terminals (surface and DIN rail mounting). Refer to the manual. Dimensions can differ based on these methods.
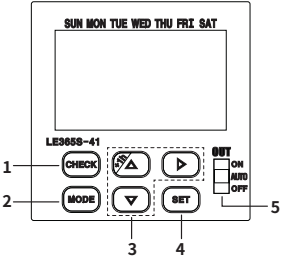
■ Panel front mounting

6.8　60
6
□48
44.8

- Bracket
□49.5　30.5

- Panel cut-out
≥ 65
≥ 65
45⁺⁰·⁵₀
45⁺⁰·⁵₀

60.3

Connections

⚠ Caution
: Refer to the 'specifications' for checking the power supply and control output.

1	2	3	4

SOURCE

Unit Descriptions

■ Button layout

SUN MON TUE WED THU FRI SAT

LE365S-41

1 [CHECK] [⚠A] [▶] OUT ON AUTO OFF
2 [MODE] [▼] [SET]
3　4　5

No.	Name
1	[CHECK] key
2	[MODE] key
3	[▶] [▼] [▲] key
4	[SET] key
5	Output setting switch • ON: output ON regardless of the setting • AUTO: controls the output depending on the setting • OFF: output OFF regardless of the setting

■ Screen layout
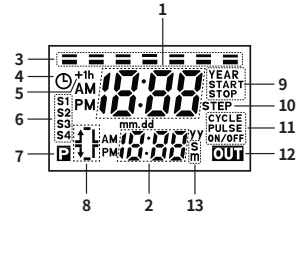
No.	Name
1	Main display part
2	Sub-display part
3	Day indicator / day display • ON: selected day • OFF: not selected
4	Current time setting display
5	Summer time setting display
6	Season display
7	Program display
8	ON time/day, OFF time/day, ON/OFF time width
9	Setting for a year • YEAR: ON when year (yy) setting • START: starting date • STOP: ending date
10	Step • Week: 48 step, for a year: 24 step
11	Operation mode • Cycle, Pulse, ON/OFF
12	Output operation display
13	Unit of pulse width

Enter the Mode

RUN	[MODE] 3 sec →	Program setting [01]	[MODE] 3 sec →	RUN
	[MODE] + [SET] 3 sec →	Function setting [01]	[MODE] 3 sec →	
	[CHECK] 1 sec →	Check weekly program setting	[MODE] 3 sec →	
	[CHECK] 3 sec →	Check yearly program setting	[MODE] 3 sec →	

01) All outputs (OUT1, 2) are to be OFF when entering the setting mode from RUN mode.
If the power of the timer is turned OFF and ON again during the settings, applying previous settings.

Timer Setting

- Some parameters are activated / deactivated depending on the model or setting of other parameters. Refer to the description of each parameter.
- [MODE] key: shifts to the next parameter and return to the upper parameter.
 [SET] key: enters the setting mode and saves the setting value.
 [▲], [▼] key: select the setting value.
 [▶]: shift the flashing position at the display part.

■ Program setting

- Weekly pulse operation: firstly, set the F1-4. Period per season in the function setting.

Parameter	Display part	Description
P1-1　Weekly program	**P**	
P1-2　Yearly program	**P** YEAR	• Setting range: current year + 2 years • Annual operation: select the year (yy) of starting and ending date to [--].
P1-3　Remove weekly program	**P** CLr	Shows CLr, pressing [SET] key over 3 sec
P1-4　Remove yearly program	**P** CLr, YEAR	continuously → shows ALL and remove all settings.
P1-5　Change weekly day	C.dy	This function supports the operation of a specific day to apply another day temporarily. The operation starts from the setting day, and if it is finished, the setting returns to the previous one. • Conditions for deactivating function 　- Change current date in the time setting 　- Change the base date 　- Remove all programs 　- Switch the season
P1-6　Yearly holiday operation	H.dy, YEAR	This function makes to OFF the output without program adjustment during the previous setting period. • Setting range: from the current year to 31, Dec. of the next year • Holiday setting: up to 12 times • Annual operation: select the year (yy) of starting and ending date to [--].

■ Function setting

- Be sure to set the current time when turning ON the power for the first time.

Parameter	Display part	Description	Display condition
F1-1　Current time	⏱	Setting range: up to 31, Dec. of 2099 Check the current year, month, day: in RUN mode, press [▶] key 3 sec	-
F1-2　Memory retention (return)	rEt	Setting range: AT (AUTO), NOR (Normal) • AT: when the power ON gain after the retention, the output operates based on the program settings. • NOR: when the power ON gain after the retention, the output maintains OFF state, RET.IN flashes at the display part. When applying the retention (return) input, RET.IN to be OFF at the display part, and the output operates based on the program settings.	-
F1-3　Switching season	SEn	Setting range: ON, OFF • ON: switches the weekly program automatically • OFF: not used Be aware that setting ON ↔ OFF in the switching season parameter removes all weekly program.	-
F1-4　Period per season	SEn	Setting range: S1, S2, S3, S4	F1-3. Switching season: ON
F1-5　Summer time	dSt	Setting range: AT (AUTO), NOR (Normal) • NOR setting 　In RUN mode, press [▲] key over 3 sec 　: current time - 1 　Press [▲] key over 3 sec again: current time + 1	-
F1-6　Period for the summer time	dSt	START: starting date STOP: ending date AM/PM: starting and ending time	F1-5. Summer time: AT

■ Check / modify / remove the program

- If no key is pressed over 60 sec in this status, returning to RUN mode automatically.
- The output will be OFF under the status of modifying and removing the program.
- Setting method
 01. Enter the state of checking the settings.
 Display part: weekly - r.n (record number), yearly - r.n, YEAR
 02. Press [SET] key over 3 sec, and check that Edt is flashing.
 03. Select the modify (Edt) or remove (CLr) via [▲], [▼] key and press [SET] key.
 04. Modifying: same as with the program setting method.
 Removing: press [SET] key over 3 sec continuously.
 05. After the completion, return to the check state.

Operation Mode

ON/OFF

ON time　OFF time

The output is controlled by ON/OFF setting time.
- Unit of min. setting time: 1 min
- Record unit: weekly 2 step (ON day/time, OFF day/time)
 yearly 3 step (starting/ending date, ON time, OFF time)

Pulse

Pulse width
ON time

The output is ON during the ON time.
- Range of pulse width: 1 to 59 sec, 1 to 60 min
- Record unit: weekly 2 step (ON day/time, pulse width)
 yearly 3 step (starting/ending date, ON time, pulse width)

Cycle

OFF time width
ON time　ON time width　OFF time

Repeated operation that the output is ON during ON time width and the output is OFF during OFF time with from ON time to OFF time.
- Range of time width: 1 min to 12 hour 59 min
- Record unit: week 3 step (ON day/time, OFF day/time, ON/OFF time width)