

Eagle Signal brand

B866-100/B866-500 Dial Set Timer

MANUAL

IMPORTANT: When using this product to replace Eagle Signal Series B846, see note below.



Thank you for purchasing an Eagle Signal product.
For your safety, please read the following before installation and use.

Caution for your safety

* Please keep these instructions and review them before installing and operating this unit.

* Observe the following cautions:

Warning Serious injury may result if instructions are not followed.

Caution Product may be damaged, or injury may result if instructions are not followed.

Warning

1. Applications of this product where control of nuclear or medical equipment, aircraft or other vehicle, combustion or other process or apparatus, where human injury, fire or damage would result from unexpected operation, require the installation of a fail-safe safeguard device.

2. The unit must Panel Mounted.

Access to the rear electrical terminals must be restricted.

3. Do not connect or touch terminals when power is applied to the unit. Electric shock could occur.

4. Do not disassemble or attempt to modify or repair this unit. If service is required, please contact us. Electric shock or fire could occur.

Caution

1. The unit should not be used outdoors.

Reduced product life or electric shock could result.

2. Observe specification limits and ratings.

To ensure maximum product life and reliability.

3. Do not apply electrical load exceeding rated capacity of output contact(s).

Excess load may cause insulation failure, contact failure, or fire.

4. Do not clean the unit using water or an organic solvent.

It could cause electric shock or serious damage to the product.

5. Do not install or operate in an environment containing flammable or explosive gas, extreme humidity, direct rays of the sun or other radiant heat, vibration, shock etc.

Doing so may cause fire or mechanical and electrical failure.

6. Avoid exposing the unit to dust or metallic chips.

This may cause fire or unit failure.

Ordering information

B866-100 Dial Set Timer, Time Delay & Instantaneous Contacts

B866-500 Dial Set Timer, Time Delay Contacts

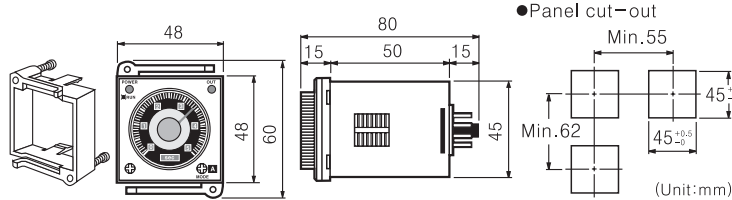
* When Using B866-500 to Replace Eagle Signal, Model B846-500.

1) For B846 On-Delay Mode: Use B866 Mode A; For B846 Off-Delay Mode: Use B866 Mode B.

2) For B846 Repeat Cycle Mode: Use B866 Mode F; For B846 Interval mode: Use B866 Mode I. Connect a jumper across START command (Terminal 6 to 2). Apply Source Voltage to initiate cycle.

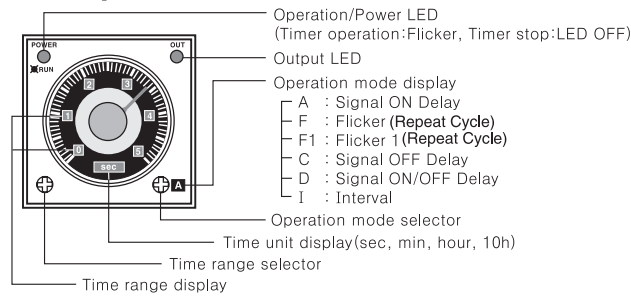
Please contact Applications Engineering for assistance.

Dimensions



* Specifications may change without notice.

Front panel identification



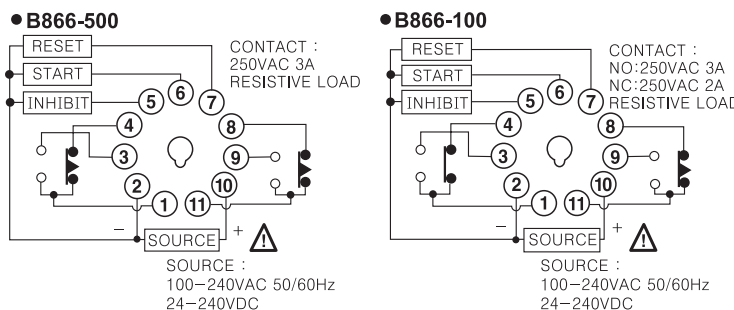
Time specifications

Time range	Time unit	Time setting range
0.5	sec	0.05 to 0.5
1.0		0.1 to 1.0
5		0.5 to 5
10		1 to 10
0.5	min	0.05 to 0.5
1.0		0.1 to 1.0
5		0.5 to 5
10		1 to 10
0.5	hour	0.05 to 0.5
1.0		0.1 to 1.0
5		0.5 to 5
10		1 to 10
0.5	10h	0.05 to 0.5
1.0		0.1 to 1.0
5		0.5 to 5
10		1 to 10

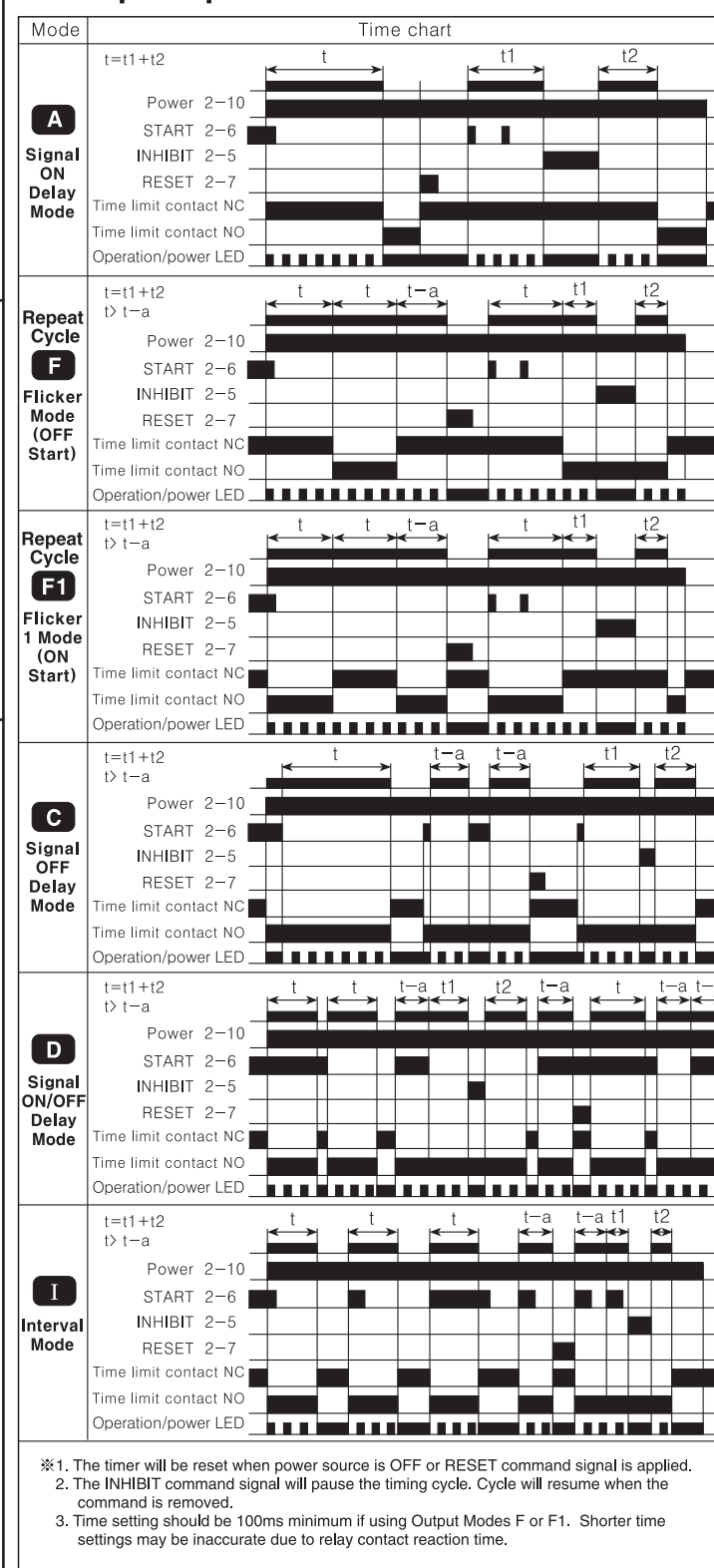
Specifications

Model	B866-500	B866-100
Control time setting range	0.05sec to 100hour(Max. time)	
Power supply	100-240VAC(50/60Hz), 24-240VDC	12VDC(Option)
Allowable voltage range	90 to 110% of rated voltage	
Power consumption	100-240VAC : Approx. 4VA, 24-240VDC : Approx. 1.3W 12VDC : Approx. 0.9W	100-240VAC : Approx. 4.5VA, 24-240VDC : Approx. 1.5W 12VDC : Approx. 0.6W
Return time	Max. 100ms	
Min. input signal width	50ms	
Input	[No-voltage input]	Shot-circuit impedance : Max. 1kΩ Residual voltage : Max. 0.5V Open-circuit impedance : Min. 100kΩ
Control output	Contact	Type
	Capacity	Time limit 2c
		Time limit 1c, Instantaneous contact 1c
		250VAC 3A resistive load
		NO:250VAC 3A resistive load NC:250VAC 2A resistive load
Repeat error	Max. ±0.3%	
Setting error	Max. ±5% ±0.05sec	
Voltage error	Max. ±0.5%	
Temperature error	Max. ±2%	
Insulation resistance	Min. 100MΩ (500VDC mega between all terminals and case)	
Dielectric strength	2000VAC 50/60Hz for 1 minute(Between all terminals and case)	
Noise strength	±2kV the square wave noise(pulse width:1μs) by the noise simulator	
Vibration	Mechanical	0.75mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 1 hours
	Malfunction	0.5mm amplitude at frequency of 10 to 55Hz in each of X, Y, Z directions for 10 minutes
Shock	Mechanical	300m/s ² (Approx. 30G) 3 times at X, Y, Z direction
	Malfunction	100m/s ² (Approx. 10G) 3 times at X, Y, Z direction
Relay life cycle	Mechanical	Min.10,000,000 times
	Electrical	Min.100,000 times (250VAC 3A at resistive load) Min.100,000 times (NO:250VAC 3A at resistive load, NC:250VAC 2A at resistive load)
Ambient temperature	-10 to 55°C(at non-freezing status)	
Storage temperature	-25 to 65°C(at non-freezing status)	
Ambient humidity	35 to 85%RH	
Weight	Approx. 100g	
Approval		

Connections

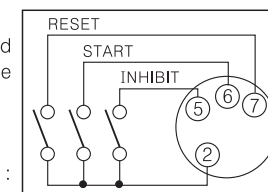


Output operation mode

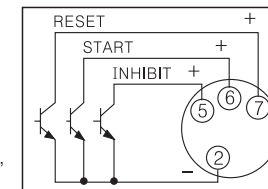


Input signal condition

1. Relay contact input :
Please use gold-plated switches with good contact assurance and short bounding time for contact input.



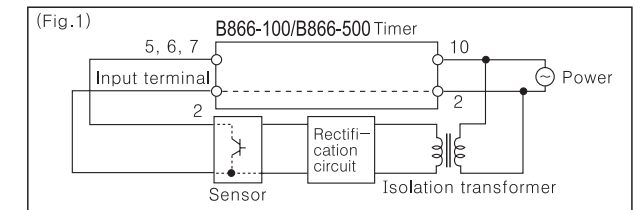
2. NPN open collector transistor input :
The characteristic of transistor shall be :
V_{ceo} : Min. 25V
I_c : Min. 10mA
I_{cb0} : Max. 0.2μA
Residual voltage : Max. 0.5V



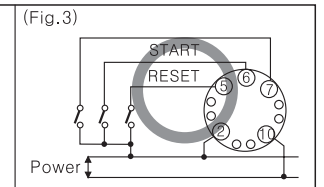
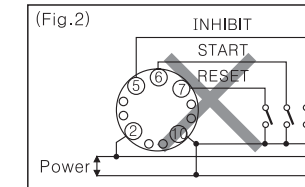
3. Please maintain 50ms for signal width of relay contact and solid state input(START, RESET, INHIBIT)

Application Requirements

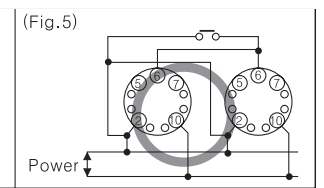
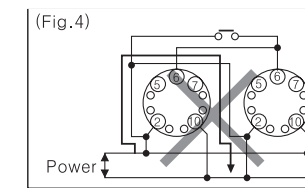
1. The power supply used for any external sensor or input-device connected to the unit should incorporate an isolation transformer. Secondary side should not be grounded (Fig.1).



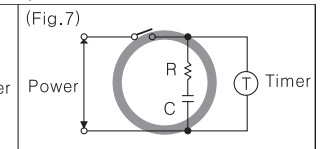
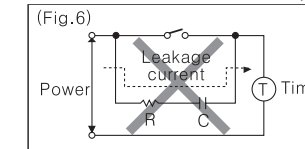
2. Use terminal ② as common connection as shown in (Fig.3). DO NOT use terminal ⑩ for common (Fig.2), as it can result in damage to the timer.



3. When using the same input signal for two timers, DO NOT connect as shown in (Fig.4). The correct connection is shown in (Fig.5).



4. Observe proper polarity when connecting to DC power source.
5. Damage of malfunction may occur if applied operating power is outside the specified range.
6. DO NOT operate in a manner which produces continuous or excessively long output actuation.
7. If a contact protection network is used, do not apply as shown in (Fig.6). Leakage current through R and C may cause improper operation. If such network is to be used, connect R and C as shown in (Fig.7).



8. DO NOT apply START, RESET, INHIBIT signal inputs simultaneously. These commands must be applied individually.
9. DO NOT change the time setting, time range or operation mode during a timing cycle. Change these settings only when the power is off.
10. If it is necessary to run dielectric voltage and insulation resistance tests of the control panel with this unit installed, isolate the unit from the circuit of control panel and jumper all terminals of the unit together. Remove the jumper connections after the test is complete and before attempting to operate the timer.
11. Do not install or use the unit in environments where:
(1) Severe vibration, shock or impact may occur.
(2) Strong alkalis or acids are used.
(3) It will be in direct rays of the sun.
(4) Strong magnetic fields or electric noise are present.
(5) Exposure to outdoor conditions could occur.
(6) Above altitude of 2000m (6,500 ft.)

* Damage or malfunction may occur if the instructions above are not followed.



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