

# ALC700 SERIES (ALC704/ALC708) LIGHTING TOWER CONTROLLER USER MANUAL





# **4 SPECIFICATION**

Parameter	Details		
Working Voltage	DC8. 0V to 35. 0V, uninterruptible power supply		
Overall Consumption	<5W (Standby mode: ≤2W)		
Voltage Input:			
3 Phase 4 Wire	AC 20V - 360V (ph-N)		
3 Phase 3 Wire	AC 30V - 600V (ph-ph)		
Single Phase 2 Wire	AC 20V - 360V (ph-N)		
2 Phase 3 Wire	AC 20V - 360V (ph-N)		
DC	DC 0V - 75V (ph-N)		
Alternator Frequency	50Hz/60Hz		
Speed Sensor Voltage	1. 0 V to 24 V (RMS)		
Speed Sensor Frequency	Maximum 10,000 Hz		
Start Relay Output	8A DC28V power supply output		
Fuel Relay Output	8A DC28V power supply output		
Configurable Relay Output 1	8A DC28V power supply output		
Configurable Relay Output 2	8A DC28V power supply output		
Configurable Relay Output 3	8A DC28V power supply output		
Configurable Relay Output 4	8A AC250V free volt output		
Light Control Relay Output	8A AC250V free volt output (total output current: 8A)		
1~4	If 1~4 is all used, the maximum current of each light is 2A.		
Light Control Relay Output	8A AC250V free volt output (total output current: 8A)		
5~8	If 1~4 is all used, the maximum current of each light is 2A.		
Case Dimensions	197 mm x 152 mm x 47 mm		
Panel Cutout	186mm x 141mm		
CT Secondary Current	Rated: 5A		
DC Current Input	Hall sensor's secondary side current: (4~20)mA		
Working Conditions	Temperature: (-25~+70)°C		
	Relative Humidity: (20~93)%RH		
Storage Conditions	Temperature:(-25~+70)°C		
Protection Level	IP55. If water-proof gasket is inserted between panel and		
	enclosure.		
	Apply AC2.2kV voltage between high voltage terminal and		
Insulation Intensity	low voltage terminal;		
	The leakage current is not more than 3mA within 1min.		
Weight	0.71kg		



# **5 OPERATION**

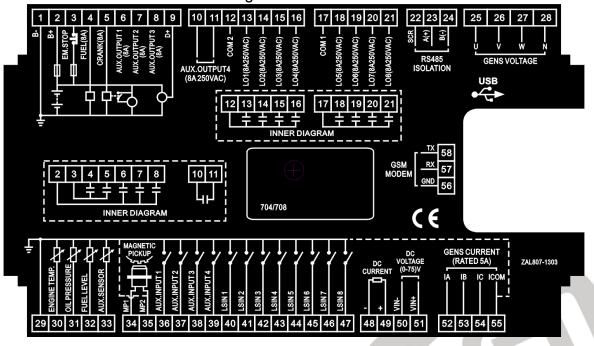
# 5.1 PUSHBUTTONS

Icon	Key	Description		
0	Stop/Reset	Stop running light tower set;		
		Reset alarm when failure occurs;		
		Lamp test in stop mode (press at least 3 seconds);		
	Manual Mode	Press this key and controller enters in <b>Manual</b> mode.		
(AUTO)	Auto Mode	Press this key and controller enters into auto start mode select interface; use to select mode and press again to confirm the selection.		
	Mute	If alarm occurs, pressing the button can remove this alarm, and the indicator will light on; press the button again will reset alarm and the indicator will light off. If alarm occurs again in mute status, the controller will remove mute status automatically.		
	Flashlight	Can control flashlight to switch on or off.		
	Start	Start lighting tower set in Manual mode.		
(Øx)	Light Off	During normal running in manual mode, turn off one light for each pressing. Press this key for a long time can turn off the light in proper sequence according to preset time.		
	Light On	During normal running in manual mode, turn on one light for each pressing. Press this key for a long time can turn on the light in proper sequence according to preset time.		
	Menu / Confirm "√"	Press this key to enter into menu interface. In parameter setting interface press this key to right shift cursor and confirm the setting at the last bit.		
•	Down/Config. "-"	Screen scroll;     Down cursor and decrease value in setting menu.		
	Up / Config. "+"	Screen scroll;     Up cursor and increase value in setting menu.		



# **7 WIRING CONNECTION**

ALC700 controller's rear as following:

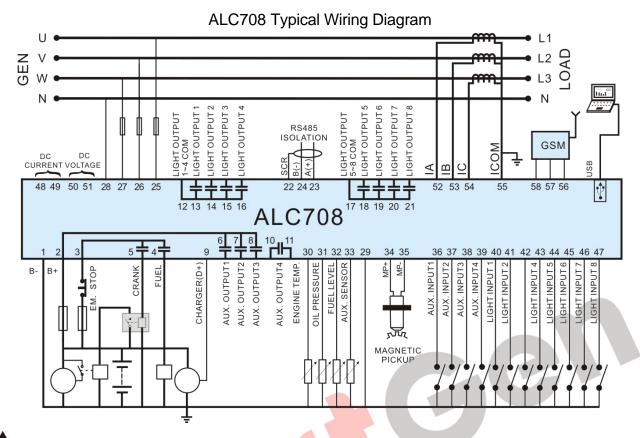


# Description of terminal connection:

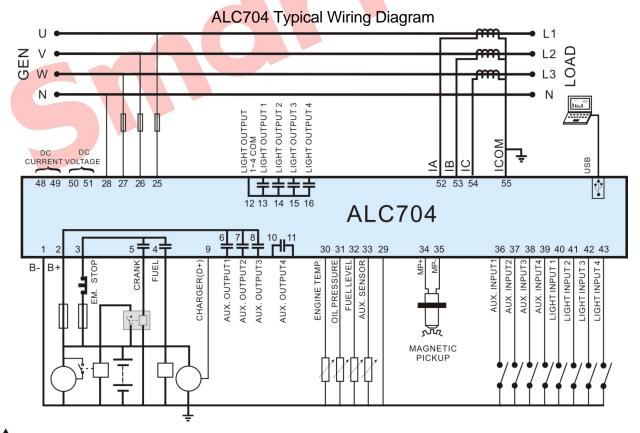
NO.	Functions	Cable Size	Remark
1	DC input B-	2.5 mm <sup>2</sup>	Connected with negative of starter battery.
2	DC input B+	2.5 mm <sup>2</sup>	Connected with positive of starter battery. 20A fuse is recommended.
3	Emergency stop	1.5 mm <sup>2</sup>	Connected with DC voltage via emergency stop button. Max. 30A fuse is recommended.
4	Fuel relay	1.5 mm <sup>2</sup>	DC voltage is supplied by 3 point, rated 8A.
5	Start Relay	1.5 mm <sup>2</sup>	DC voltage is supplied by 3 point, rated 8A.
6	Aux. output 1	1.5 mm <sup>2</sup>	B+ output, rated 8A.
7	Aux. output 2	1.5 mm <sup>2</sup>	
8	Aux. output 3	1.5 mm <sup>2</sup>	
9	Charger (D+)	1.0 mm <sup>2</sup>	Connected with charger's D+ (WL) terminals. Ground connection is not allowed.
10	Aux. output 4	1.5 mm <sup>2</sup>	Normally open voltage free outputs, rated 8A.
11		1.5 mm <sup>2</sup>	
12	1#-4# COM	2.5 mm <sup>2</sup>	Total autout aurrent. 0A
13	1# Light Output	1.5 mm <sup>2</sup>	Total output current: 8A
14	2# Light Output	1.5 mm <sup>2</sup>	If 1~4 is all used, the maximum current of each light is 2A.
15	3# Light Output	1.5 mm <sup>2</sup>	



## 12 TYPICAL WIRING DIAGRAMS



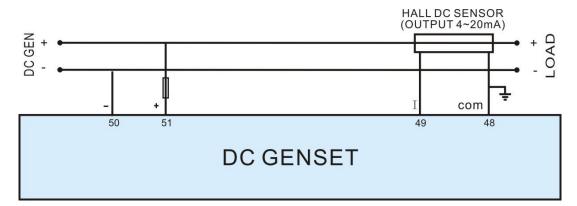
Note: If 8 lights are all used, the maximum current of each light is 2A.



Note: If 4 lights are all used, the maximum current of each light is 2A.



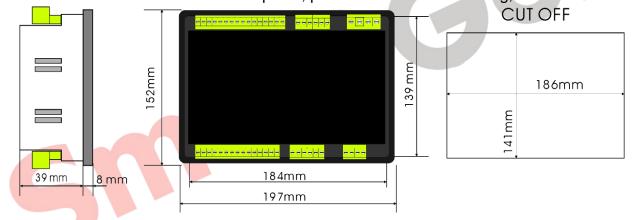
### DC Generator Typical Wiring Diagram



NOTE: Users should select suitable Hall DC sensor according to the output power and current of the light tower set.

### 13 INSTALLATION

Controller is panel built-in design; it is fixed by clips when installed. The controller's overall dimensions and cutout dimensions for panel, please refers to as following,



### 13.1 BATTERY VOLTAGE INPUT

ALC700 controller can suit for widely range of battery voltage DC (8~35)V. Negative of battery must be connected with the engine shell. The diameter of wire which from power supply to battery must be over 2.5mm<sup>2</sup>. If floating charger is fitted, please firstly connect output wires of charger to battery's positive and negative directly, then, connect wires from battery's positive and negative to controller's positive and negative input ports in order to prevent charge disturbing the controller's normal working.

### 13.2 SPEED SENSOR INPUT

Speed sensor is the magnetic equipment which be installed in starter and for detecting flywheel teeth. Its connection wires to controller should apply for 2 cores shielding line. The shielding layer should connect to No. 35 terminal in controller. The else two signal wires are