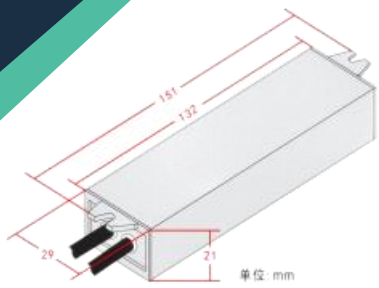
A88G INSTRUCTION MANUAL V1.2

(FOR N35,L35 AND ABOVE)



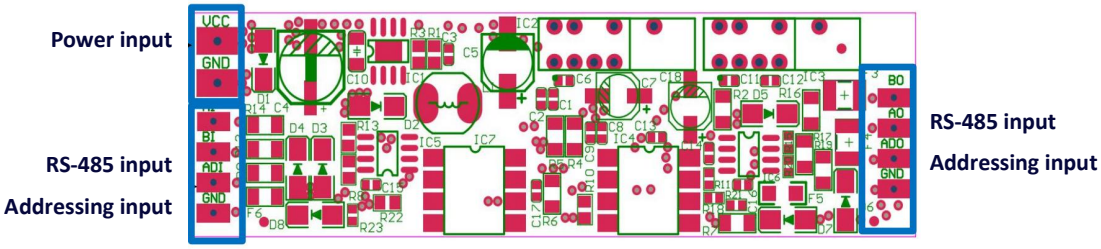
◆ Functional overview

A88G Digital Signal Amplifier is specially designed for shaping, amplifying and outputting DMX512 digital lighting control signals. The input and output interfaces adopt high-voltage isolation technology, which is suitable for shaping and amplifying DMX512 signals after attenuation by long-distance transmission, as well as for occasions where complete electrical isolation is required between the input and output interfaces. In addition, this product has IP67 waterproof grade, can be used directly in outdoor.

◆ Basic indicators

PCB Size	92L×26W×17H (mm)
Finished Size	151L x 29.2W x 20.6H (mm)
Net Weight of Finished Product	160g
Input Voltage	DC12-48V (please take care to avoid using poorly performing switching power supplies)
Input Power	≤3W
Signal Type	DMX512, as well as various digital signals transmitted using RS-485 interfaces.
Input Signal	1 RS-485 signal, 1 TTL (ADI) signal
Output Signal	1 RS-485 signal, 1 TTL (ADO) signal
Protective Function	Power supply anti-reverse connection protection, signal short circuit protection
Waterproof Rating	IP67

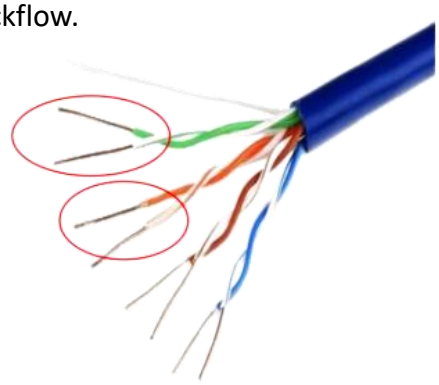
◆ Wiring Instructions



Wiring Ports	Identification	Color	Wiring Description
Power Input	DC+	brown	DC Power Positive
	DC-	blue	DC Power Negative
Signal Input	D+/AI	brown	RS-485 Input Signal Line A
	D-/BI	blue	RS-485 Input Signal Line B
	ADI	yellow	Address Write Signal Input Terminal
	GND	black	Signal Ground
Signal Output	D+/AO	brown	RS-485 Output Signal Line A
	D-/BO	blue	RS-485 Output Signal Line B
	ADO	yellow	Address Write Signal Output Terminal
	GND	black	Signal Ground

Precautions for connecting signal lines:

1. It is recommended to use a super-five network cable (hundred-meter resistance <10Ω), as using inferior network cables, telephone cables,
copper wires may result in signal transmission errors.
2. Use one of the twisted-pair cables (orange and white + orange is recommended) to connect to signals A and B,
blue and white to AD (address writing), and green to GND.
The quality and color of the network cable is very important, as blue and brown have a greater impact on signal transmission.
Do not use multiple cables at the same time.
3. The GND of the controller signal output must be directly connected to the GND of the lamp input,
and not via the negative pole of the switching power supply to the lamp.
4. After connecting all the hardware signal and power cables, turn on the controller power.
Do not plug or unplug signal cables while power is on, as this may damage the output protection circuit or components due to current backflow.

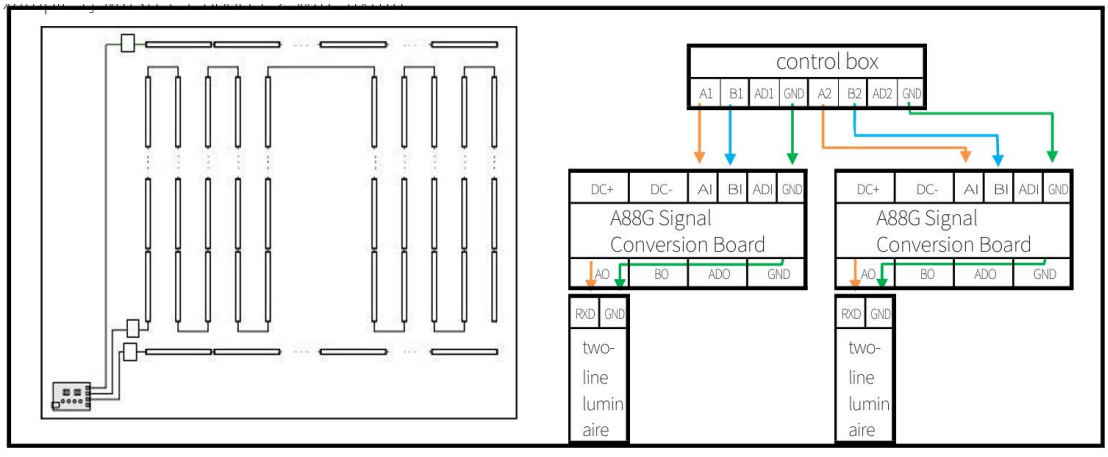


◆ transmission distance

Item	Description/Parameters
Main Control Model——A88G	Ordinary three-core/four-core cables can reach 10 ~ 30 meters; with Ultra Category 5 network cable, it can reach 30 ~ 100 meters.
A88G——A88G	Ordinary three-core/four-core cables can reach 10 ~ 30 meters; with Ultra Category 5 network cable, it can reach 30 ~ 100 meters.
Transmission Medium & Distance (Cat5e or Higher Ethernet Cable)	Up to six A88Gs can be cascaded provided that no more than 30 meters are between two adjacent stages and that a Category 5 network cable or better is used.
Output - RS485——Lighting	Ordinary three-core/four-core cables can reach 10 ~ 30 meters; with Ultra Category 5 network cable, it can reach 30 ~ 100 meters.
Output - TTL——Lighting	Ordinary three-core/four-core cable up to 2 ~ 5 meters; Use ultra category 5 cable up to 5 ~ 10 meters.

◆ Schematic diagram of program application

[Example 1] Master + A88G + 2-wire fixture



[Example 2] Master + A88G + DMX512 Fixture

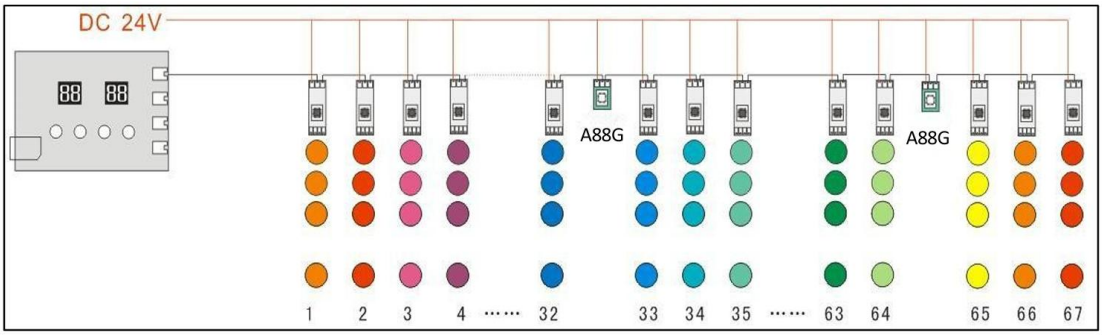
*Whether the write address line is connected or not is determined by the specific DMX512 fixture.

In this application scenario, it is recommended to add one A88G for 10 ~ 30 meters if using normal three-core/four core cables for communication, and one A88G for 30 ~ 100 meters if using Ultra Category 5 network cable for communication.

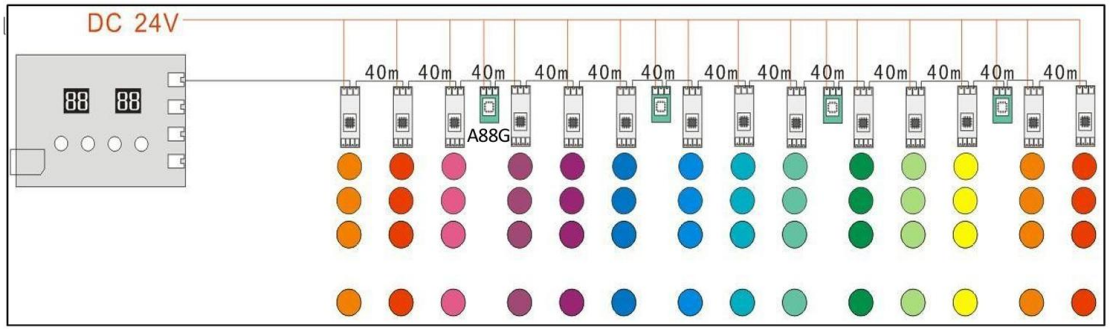
[Example 3] DMX512 fixture + A88G + DMX512 fixture

In this application program, it is generally recommended to add 1 A88G after every 32 main chips; if the distance between the lamps is far, in less than 32 chips more than 100 meters, it must be in accordance with every 100 meters to add a A88G. Users can also be based on the actual use of the appropriate addition of A88G, not limited to the 32 main chips.

<Application 1>In the case of relatively close spacing of luminaires, 1 A88G is added after every 32 main chips.



<Application 2>In the case of a certain spacing between lamps and lanterns, 1 A88G is required for every 100 meters of total.



◆ Matching resistor installation

When the transmission line of the A88G signal input is long (generally more than 50 meters), a matching resistor needs to be connected in parallel between the D+/A and D-/B lines of the A88G RS-485 signal input. The resistance value of the matching resistor should be equal to the characteristic impedance of the transmission line, generally 120 ohms (the characteristic impedance of most twisted pair cables is approximately 100 to 120 Ω).