

APAC Opto Electronics Inc.

AO-1202 DALI to RS485 Converter

User Manual

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1. Introduction

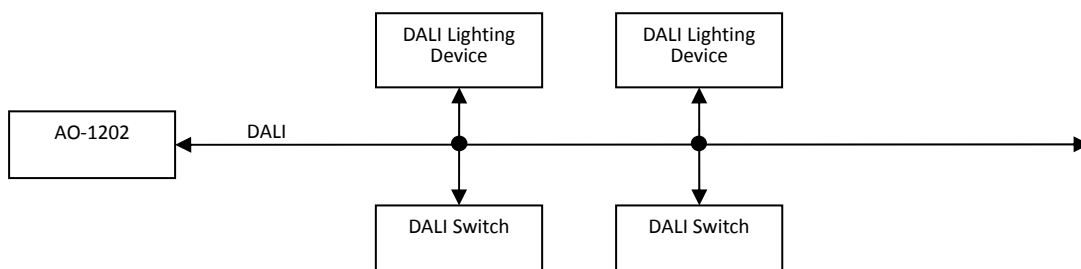
DALI (Digital Addressable Lighting Interface) is the latest international standard of lighting control interface. AO-1202 DALI to RS485 Converter is designed to transfer control command between RS485 bus and DALI bus.

AO-1202 DALI to RS485 Converter has built-in DALI Power Supply for DALI Bus. This unique function is suitable for small area DALI lighting system.

2. Wiring

AO-1202 supports both “Point to Point” and “Point to Peer” RS485 half-duplex network. The wiring method is below.

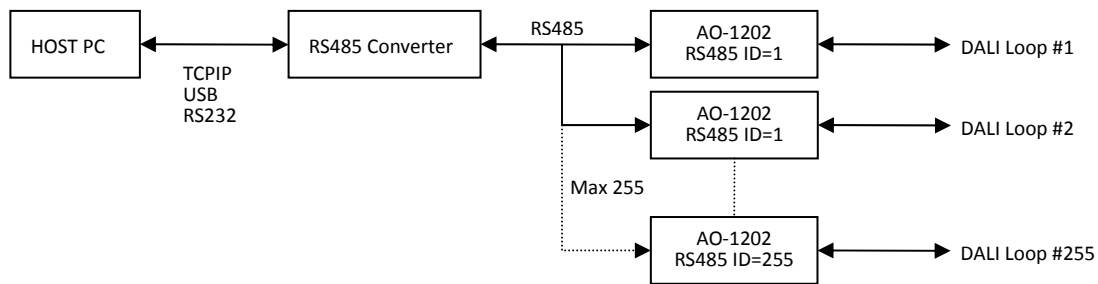
Using as a DALI Power Supply only



Single DALI Loop



Multiple DALI Loops



Note: The number of AO-1202 is depended on the driving force of RS485 converter. AO-1202 support the maximum number is

3. Quick Set

There has a set of communication protocol for AO-1202 to working under “Multiple DALI Loops” and “Remote Control” environment. This protocol is showing below:

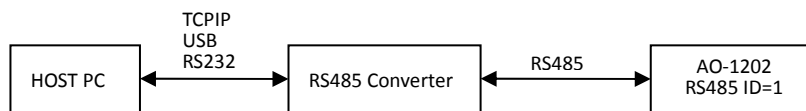
| Header 1byte | Check1 1byte | Direction 1byte | Pay Load #1 2bytes | Command 1byte | Pay Load #2 2bytes | Check sum 1byte | End 1byte |
|--------------------------------------|-----------------|-------------------------------------------------------------------------------------------|-----------------------|------------------|-----------------------|--------------------|--------------|
| | | | | | | | |
| Description: (All data is HEX mode.) | | | | | | | |
| Header | | F1: The fowling data is for DALI control. F2: The fowling data is for AO-1202 setting. | | | | | |

| | |
|-------------|----------------------------------------------------------------------------------------------------------|
| Check1 | Check code #1 = 07h |
| Direction | 50: The following data is from Host PC to AO-1202. 54: The following data is from AO-1202 to Host PC. |
| Pay Load #1 | Please reference to each command's detail description below. |
| Command | Please reference to each command's detail description below. |
| Pay Load #2 | Please reference to each command's detail description below. |
| Check sum | Check sum from Header to End code. Low byte only. |
| End code | End code = 55h |

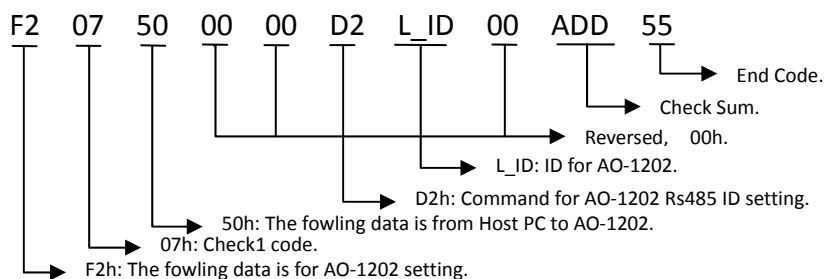
AO-1202 RS485 ID programming and acknowledge (command code D2 and A1)

Notice: Only one AO-1202 is connected to the RS485 network when user is performing RS485 ID Programming.

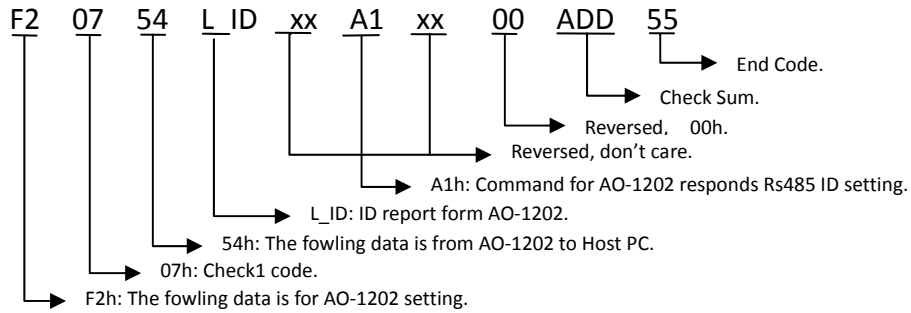
The wiring method of RS485 ID Programming is showing below:



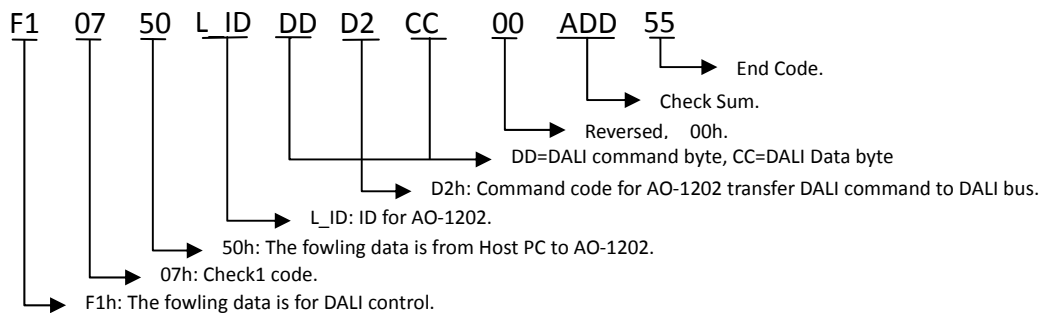
The RS485 ID programming command is :



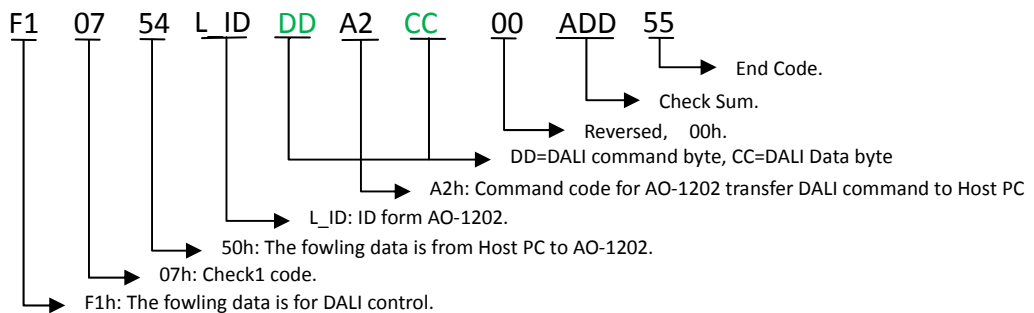
When the programming procedure is done, the AO-1202 will respond acknowledge as below:



AO-1202 transfer DALI command from Host PC to DALI network (command code D2)



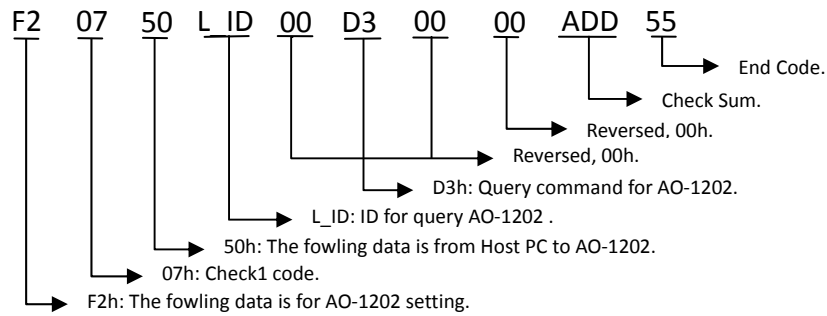
AO-1202 transfer DALI information from DALI network to Host PC.



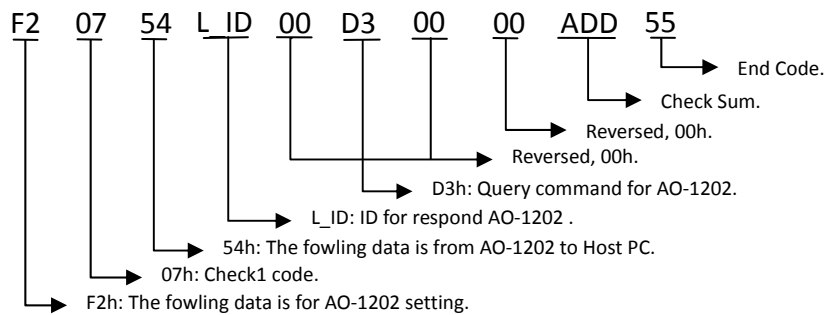
1. The third byte of data stream is used to identify the destination of the data. The 50h is from Host PC to AO-1202 and the 54h is from AO-1202 to Host PC.
2. The Host PC is able to recognize any changes on each DALI loop individual light change through the data L_ID DD CC byte on the data stream.

Query command from Host PC to AO-1202 (command code D3h)

Host PC is able to query any AO-1202 by using instruction D3h.



AO-1202 will response a message as below:



4. Module Specification

- AC IN: 90~240V AC / 6W (max)
- Build in DALI Power: 16~25V/128mA
- RS485 Data Rate: 38400bps, 8, n, 1
- DALI Bus Data Rate: 1200bps
- Size: 80mmX64mmX29.1mm
- Operation Tempura: 0~85°C

