IS THIS COMMAND AND RESPONSE CORRECT?

Command order:

```
Start Address Frame Length
Command Class Command Code
Data Package
Check End
```

- **Start:** 0x02
- **Address:** ID (1 byte)
- **Frame Length:** 0xLL 0xHH (2 bytes)
    - **LL:** Low byte
    - **HH:** High byte
- **Command Class:** * (1 byte)
- **Command Code:** * (1 byte)
- **Data Package:** … (variable length)
- **Check (CS):** * (1 byte)
- **End:** 0x03

Response order: this is universal response order :
"Start, Address ,Frame length ,Command Class, Status Code, Check End"
1. start: 0x02
2. Address: ID
3. Frame length : 0xLL 0xHH
4. command class: 'A'
5. status code :[0xFF:Correct command,
0x00:Checking error,
0x01:Invalid command,
0x02:Storage failure,
0x03:Parameter error,
0x06:Length error]
6. check: CS
7. End: 0x03

command:Hex [2 01 04 00 51 50 06 00 AC 03]

Let's break down the command 2 01 04 00 51 50 06 00 AC 03 according to the provided communication protocol format:

Command Breakdown:

- **Start**: 0x02

  In your data: 2 (Hexadecimal 0x02)

- **Address**: 0x01

  In your data: 01 (Hexadecimal 0x01)

- **Frame Length**: 0xLL 0xHH

  In your data: 04 00

  - 0x04 (Low byte)
  - 0x00 (High byte)

    This indicates the length of the frame. It includes the Frame Length bytes themselves, Command Class, Command Code, Data Package, and Check byte. In decimal, this is 0x0004, meaning the frame length is 4 bytes.

- **Command Class**: 0x51

  In your data: 51 (Hexadecimal 0x51)

- **Command Code**: 0x50

  In your data: 50 (Hexadecimal 0x50)

- **Data Package**:

  The data following the Command Code up to the Check byte:

  - Data: 06 00

    The data package length calculated from Frame Length is 4 bytes, but here the actual data is 2 bytes, so the rest might be reserved or part of the protocol structure.

- **Check (CS)**: 0xAC

  In your data: AC (Hexadecimal 0xAC)

- **End**: 0x03

  In your data: 03 (Hexadecimal 0x03)

Response : int: [2, 129, 84, 0, 81, 80, 6, 20, 30, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 174, 3]

Let's break down the provided data according to the universal response format:

1. **Start**: 0x02

   - In your data: 2 (This is in decimal, so it represents 0x02)

2. **Address**: ID

   - In your data: 129 (Decimal 129 is 0x81 in hex)

3. **Frame Length**: 0xLL 0xHH

   - The next two bytes represent the frame length.
   - In your data: 84 and 0
       - 0x54 (84 in decimal) is LL
       - 0x00 (0 in decimal) is HH

4. **Command Class**: 'A'

   - In your data: 81 (in hex, this is just a value and doesn't
     correspond directly to 'A', but it could be a placeholder or a
     different class depending on context).

5. **Status Code**:

   - In your data: 80
       - 0x80 in hex, which does not correspond to the listed
         status codes. This could be an error or a custom status.

6. **Check**: CS

   - This is the checksum or cyclic redundancy check, and is typically
     at the end of the frame before the End byte. It's not included in
     the given data, so we'll need to calculate it if required.

7. **End**: 0x03

   - In your data: 174 (Decimal 174 is 0xAE in hex, which is not 0x03
     as per the expected End byte.)

Breaking down the data:

- **Start**: 2 (0x02)
- **Address**: 129 (0x81)
- **Frame Length**: 84 0 (0x54 0x00)

- **Command Class**: 81 (0x51) - seems unusual but assuming it's part of your protocol
- **Status Code**: 80 (0x50) - not matching the standard codes
- **End**: 174 (0xAE)

The data 2, 129, 84, 0, 81, 80, 6, 20, ... 0, 0, 0, 0, 0, 0, 0, 0, 174, 3 doesn't exactly match the expected format, **as it contains extra bytes and mismatched end byte.**

How to resolve it?????

Hey Kevin, Please proofread it. Is the translation correct enough?

1、参数设置 Parameter setting

0x03：（货物参数设置 goods Parameter setting）
Sever sending：
  1）设置 1 个货道参数 Set 1 channel parameter
    02 01 0B 00 57 50 03 00 01 0A 00 00 00 02 02 C5 03

  2）设置 64 个货道参数：Set 64 channel parameters
    02 00 44 02 57 50 03 0A 01 F4 01 00 00 00 00 02 02 02 F4 01 00 00 00 00 02 02 03 F4 01 00 00 00 00 02 02 04 F4 01 00 00 00 00 02 02 05 F4 01 00 00 00 00 02 02 06 F4 01 00 00 00 00 02 02 07 F4 01 00 00 00 00 02 02 08 F4 01 00 00 00 00 02 02 09 F4 01 00 00 00 00 02 02 0A F4 01 00 00 00 00 02 02 0B F4 01 00 00 00 00 02 02 0C F4 01 00 00 00 00 02 02 0D F4 01 00 00 00 00 02 02 0E F4 01 00 00 00 00 02 02 0F F4 01 00 00 00 00 02 02 10 F4 01 00 00 00 00 02 02 11 F4 01 00 00 00 00 02 02 12 F4 01 00 00 00 00 02 02 13 F4 01 00 00 00 00 02 02 14 F4 01 00 00 00 00 02 02 15 F4 01 00 00 00 00 02 02 16 F4 01 00 00 00 00 02 02 17 F4 01 00 00 00 00 02 02 18 F4 01 00 00 00 00 02 02 19 F4 01 00 00 00 00 02 02 1A F4 01 00 00 00 00 02 02 1B F4 01 00 00 00 00 02 02 1C F4 01 00 00 00 00 02 02 1D F4 01 00 00 00 00 02 02 1E F4 01 00 00 00 00 02 02 1F F4 01 00 00 00 00 02 02 20 F4 01 00 00 00 00 02 02 21 F4 01 00 00 00 00 02 02 22 F4 01 00 00 00 00 02 02 23 F4 01 00 00 00 00 02 02 24 F4 01 00 00 00 00 02 02 25 F4 01 00 00 00 00 02 02 26 F4 01 00 00 00 00 02 02 27 F4 01 00 00 00 00 02 02 28 F4 01 00 00 00 00 02 02 29 F4 01 00 00 00 00 02 02 2A F4 01 00 00 00 00 02 02 2B F4 01 00 00 00 00 02 02 2C F4 01 00 00 00 00 02 02 2D F4 01 00 00 00 00 02 02 2E F4 01 00 00 00 00 02 02 2F F4 01 00 00 00 00 02 02 30 F4 01 00 00 00 00 02 02 31 F4 01 00 00 00 00 02 02 32 F4 01 00 00 00 00 02 02 33 F4 01 00 00 00 00 02 02 34 F4 01 00 00 00 00 02 02 35 F4 01 00 00 00 00 02 02 36 F4 01 00 00 00 00 02 02 37 F4 01 00 00 00 00 02 02 38 F4 01 00 00 00 00 02 02 39 F4 01 00 00 00 00 02 02 3A F4 01 00 00 00 00 02 02 3B F4 01 00 00 00 00 02 02 3C F4 01 00 00 00 00 02 02 3D F4 01 00 00 00 00 02 02 3E F4 01 00 00 00 00 02 02 3F F4 01 00 00 00 00 02 02 40 F4 01 00 00 00 00 02 02 5A 03

综合处理器应答：Integrated processor response:
02 81 07 00 57 50 1B E8 01 00 00 00 33 03

0x04：（设置信息上报参数 Configuration uploading Parameter）
Sever sending：
1）皆不使能 None enabled：
02 01 0C 00 57 50 04 00 01 00 0F 00 00 01 00 00 C9 03

2）通道状态使能 Channel status enabled：：
02 01 0C 00 57 50 04 01 01 00 0F 00 00 01 00 00 CA 03

3）心跳使能 Heartbeat enabled：：
02 01 0C 00 57 50 04 00 01 01 0F 00 00 01 00 00 CA 03

4）物品信息主动上报使能 Item information active reporting enabled：
02 01 0C 00 57 50 04 00 01 00 0F 01 00 01 00 00 CA 03

5）门锁状态上报使能 Door lock status reporting enabled：
02 01 0C 00 57 50 04 00 01 00 0F 00 01 01 00 00 CA 03

6）货道重量上报使能 Channel weight reporting enabled：
02 01 0C 00 57 50 04 00 01 00 0F 00 00 01 01 00 CA 03

7）单元重量上报使能 Unit weight reporting enable：
02 01 0C 00 57 50 04 00 01 00 0F 00 00 01 00 01 CA 03

8）皆使能 All enabled：
02 01 0C 00 57 50 04 01 01 01 0F 01 01 01 01 01 CF 03

0x05：（设置称台类型 Scale Type Setting)）
1）4 个货道/ 每个货道 1 个传感器 4 channels / 1 sensor per channel：
02 01 05 00 57 50 05 04 01 B7 03

2）64 个货道/ 每个货道 1 个传感器：64 channels / 1 sensor per channel：
02 01 05 00 57 50 05 40 01 F3 03

3）2 个货道/ 每个货道 2 个传感器：2 channels / 2 sensors per channel：
02 01 05 00 57 50 05 02 02 B6 03

4）2 个货道/ 每个货道 1 个传感器：2 channels / 1 sensor per channel：
02 01 05 00 57 50 05 02 01 B5 03

5）1 个货道/ 每个货道 4 个传感器：1 channel / 4 sensor per channel：

02 01 05 00 57 50 05 01 04 B7 03

0x06： （去皮 Tare）
1）对所有货道去皮：Tare all channels:
02 01 04 00 57 50 06 00 B2 03
(单个货道去皮时默认全部货道去皮成功 When taring a single channel, all channels are assumed to have been successfully tared)

2）单个货位（举例为 64 号）去皮：Tare single slot (example: slot 64)
02 01 04 00 57 50 06 64 16 03

0x07： （设置某货道当前商品个数)(Set Current Number of Items in a Channel)
改变第四个货道货物数量为 5：Change the number of items in the fourth channel to 5:

02 01 06 00 57 50 07 04 05 00 BE 03

0x08： （门锁开\关控制）Door Lock
开门状态 Open door status:: 02 01 04 00 57 50 08 01 B5 03

0x09： （时间设置 Time Setting）
系统时间 System Time:
02 01 0F 00 57 50 09 31 39 31 32 30 39 31 38 35 38 30 30 2C 03

0x0A： （输出设置 (Output Settings）
输出控制 **Output Control**:: 02 01 05 00 57 50 0A 01 01 B9 03

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2、查询指令 Query Commands

Query Commands: a)、查询参数 Query Parameters

0x01： （ID 查询，查询所有控制器的 ID 时，ID 为 01
ID Query, When querying IDs of all controllers, ID is 01):

Send   02 01 04 00 51 50 01 00 A7 03

应答 Response： 02 81 04 00 51 50 01 01 28 03

0x02： （网络参数查询 已经不用 Network parameter query — deprecated）
02 01 04 00 51 50 02 00 A8 03

应答 response：
02 81 0D 00 51 50 1B E7 C0 A8 00 1B E7 40 1F C0 A8 00 C8 2A 03

0x03： （读货物配置参数 ） Read cargo configuration parameters
02 01 04 00 51 50 03 00 A9 03

应答 Response：货道个数不同 different number of goods channels，输出的数据个数不同。The number of output data is different
02 81 20 00 51 50 1B E8 04 01 0A 00 00 00 1B E7 1B E7 1B E7 0A 00 00 00 1B E7 1B E7 1B E8 0A 00 00 00 1B E7 1B E7 04 0A 00 00 00 1B E7 1B E7 8B 03 (默认值 default value)

0x04： （读系统配置参数 Read system configuration parameters）
02 01 04 00 51 50 04 00 AA 03

应答 response： 02 81 0A 00 51 50 04 00 01 00 0F 00 00 01 4A 03

0x05： （查询物品信息 Query item information"）

02 01 04 00 51 50 05 00 AB 03

0x06：（查询货道重量 Query channel weight）
02 01 04 00 51 50 06 00 AC 03

应答 response：02 81 14 00 51 50 06 04 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 40 03

0x07：（查询传感器重量 Query sensor weight）
02 01 04 00 51 50 07 00 AD 03

应答 response：02 81 14 00 51 50 07 04 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 41 03

0x08：（读故障状态 Read fault status）
02 01 04 00 51 50 08 00 AE 03
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Query Commands: b)、查询状态 Query status

0x01：（查询单元通信状态）Query unit communication status
02 01 04 00 51 53 01 00 AA 03

应答 response：02 81 08 00 51 53 01 04 0F 00 00 00 41 03

0x02：（查询门锁状态 "Query door lock status）
02 01 04 00 51 53 02 00 AB 03

应答 response：02 81 05 00 51 53 1B E7 00 00 2C 03

0x05：（查询 IO 口状态）
02 01 04 00 51 53 05 00 AE 03

Query Commands c)、查询软件版本号 Query software version number
发送：Send
02 01 03 00 51 56 00 AB 03

应答 Response：02 81 1B 00 00 51 56 5A 48 59 2D 41 31 2E 30 2E 30 30 30 32 2E 31 39 30 38 32 39 5F 42 65 74 61 71 03

d)、读故障日志 Read the fault log

读 1 条 Read one entry":
02 01 04 00 51 45 01 00 9C 03

读 5 条 Read five entries:

02 01 04 00 51 45 05 00 A0 03

读 50 条 Read fifty entries:

02 01 04 00 51 45 32 00 CD 03

读 200 条 Read 200 entrie:

02 01 04 00 51 45 C8 00 63 03

3、系统控制 System control

a)、系统复位：System reset
　02 01 03 00 52 52 00 A8 03
　综合处理器收到该指令，将会重启。

b)、恢复出厂设置 Restore factory settings：
　02 01 03 00 52 50 00 A6 03
　综合处理器收到该指令，配置参数恢复为出厂设置值。