

I. Functions and features

The universal platform of Estun solutions has the following functions and features:

1. Function of CAN bus control

Under the control of bus, the motion control card controls the operation of driver and monitors the operation status of driver through CAN bus. Linkage control of up to 15 axles can be realized.

2. Function of RS485 bus

The connection of HMI, motion control card and PLC mainly adopts RS485, and the HMI is the master station based on MODBUS—RTU protocol, and the communication speed is not less than 19200. With RS485, functions like parameter management, user program management, command trigger, status monitoring, diagnosis etc. can be realized.

3. Motion control card and PLC adopt the custom IO port protocol to exchange information.

Motion control card and PLC are independent of each other, and the IO port helps the two to exchange information, which includes command transmission and analysis as well as status feedbacks of the motion control card and PLC.

4. Management of user program

Users can complete the programming of each motion process and logic process in HMI, and check, edit, modify, store, load, copy, paste, correct, compile and download the program and conduct other operations. The instruction interpreter in the motion control card can analyze the user's instructions.

5. Function of monitoring and diagnosis

The platform's monitoring and diagnosis mechanism has the following functions: real-time monitoring of IO status, monitoring of internal status, monitoring user program operation, diagnosis of program packaging, recording alarm information and monitoring user-defined alarm input, etc.

6. Decoding function of encoder

The encoder has 4 ports, and one of them is for hand-wheel input. Users can define the hand-wheel connector's port number and pulses.

7. IO expansion function

The expansion of IO port and the user-defined logic control are completed through PLC. In the PLC programming, we provide the users with decoding module of the user-defined IO protocol, and we set a few sub-programming spaces aside for convenient user application to achieve logic control function programmability.

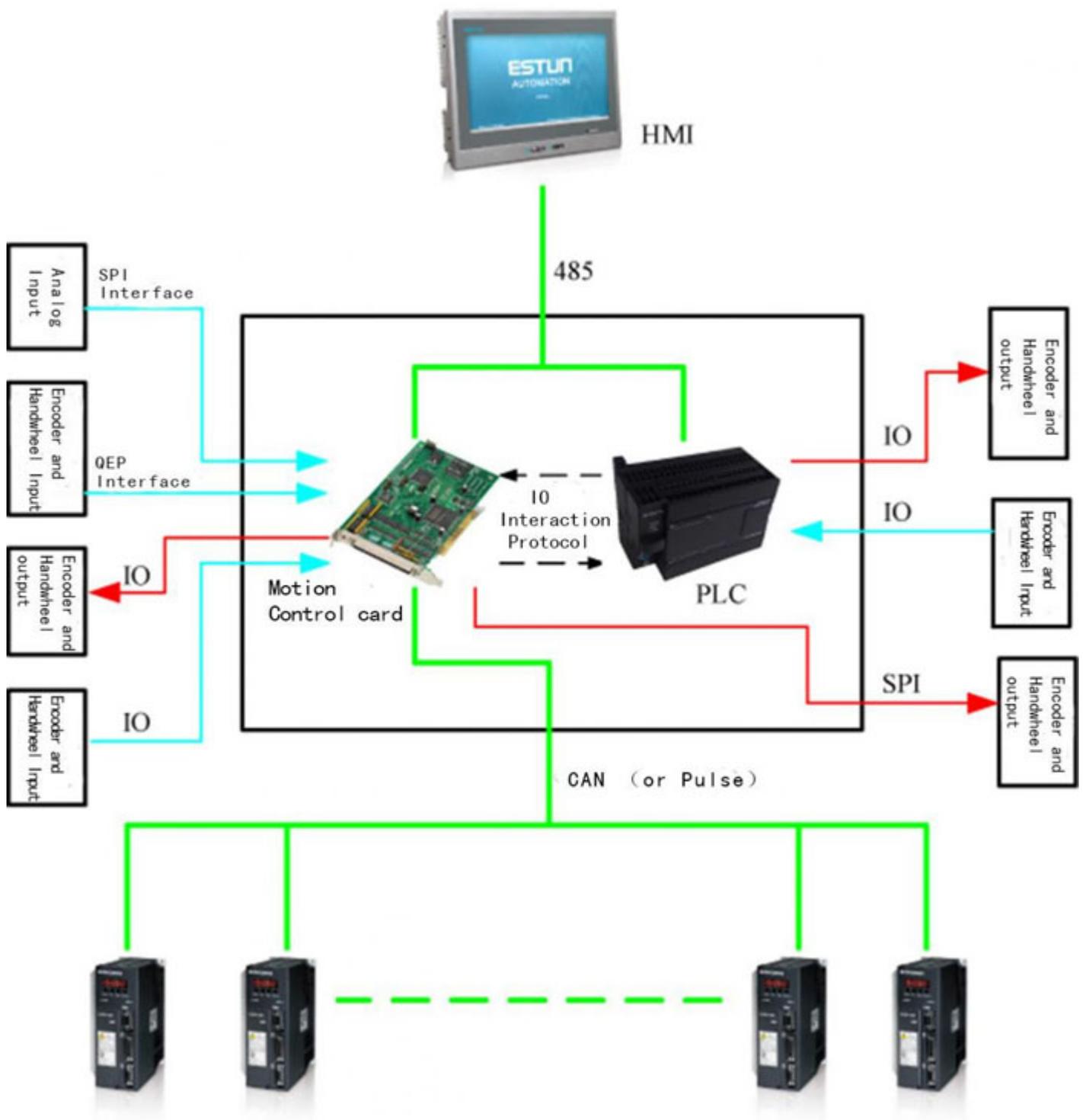
8. Independent command module

The command module is the core of platform, and users can call the module through HMI programming to realize the required function, which offers the users with possibility for secondary program development. All modules can be easily deleted or inserted, because they are independent of one another, and these characteristics can easily meet users' requirements for high compatibility and expansibility as well as good programmability and maintainability in solutions.

II .Specifications and performance

Name	Description
Standards of coordinate system	Comply with ISO-841 standards
Display	7-inch or 10-inch LCD, resolution: 800*480
Maximum controlled Axes	CAN Bus 7 axes + 1 main axis
Maximum programming dimension	±999999.999mm
Input resolution	0.001mm
Pulse equivalent	Related to driving system selection and the mechanical drive structure
Positioning speed	Related to driving system selection and the mechanical drive structure
Positioning accuracy	1 pulse
Insertion and feed	Two-shaft linear insertion and feed
Number of coordinated axis	Same as the network nodes

Storage of user program	32Kbytes, with power-down protection
Form of programming	Absolute programming and increment programming
Communication interface	RS232 , RS485 , CAN
Driving system	ESTUN AC servo system
Pulse output	Symbol + pulse train, 4-axis & 5v differential signal output
Analog output	4 ports, precision: 12bit Input voltage -10v ~ +10v (20mA) 8 single-ended-port or 4-port differential input
Analog input	maximum precision: 16bit. Input voltage -10v ~ +10v (20mA)
Operating temperature	0 ~ 40 °C
Operating humidity	20% ~ 80% RH
Input power	24±20%VDC
Power consumption	Not less than 50W



III. Platform structure

Users can write PLC program on their own through the universal platform to realize logical function programmability and monitoring, by programming on HMI to call software functional module in the motion control card, users can program and monitor the process of motion. There is a small number of IO from the motion control card to assist the users in completing simple logic control function without using PLC. The foregoing characteristics enable the whole platform to have logic control and separation of logic control, and the good maintainability saves a considerable amount of maintenance cost.