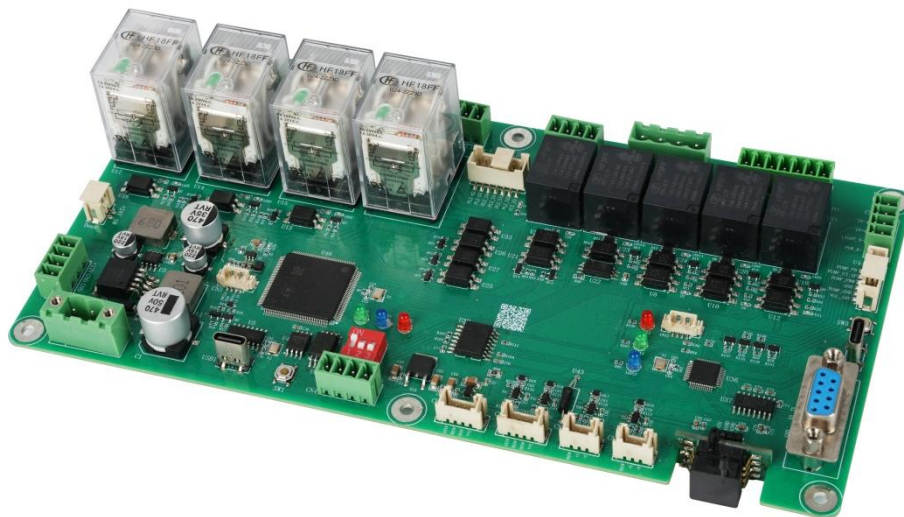




Industrial automation equipment control board

Features

- Adopts an integrated solution, integrating power supply, acquisition, control, drive, communication, and other functions.
- Supports 4-channel AC power switch control and 2-channel DC power switch control.
- Provides temperature and pressure sensor interfaces, as well as current and voltage analog signal sensor interfaces.
- Built-in emergency stop switch input interface and safety relay control loop, supporting safety functions such as emergency shutdown, door access interlocking, and over-temperature protection.
- Equipped with lighting, indication, and alarm functions.
- Integrates multiple standard communication interfaces, including CAN, USB, RS-485, RS-232, and other communication interfaces and programming control.

Description

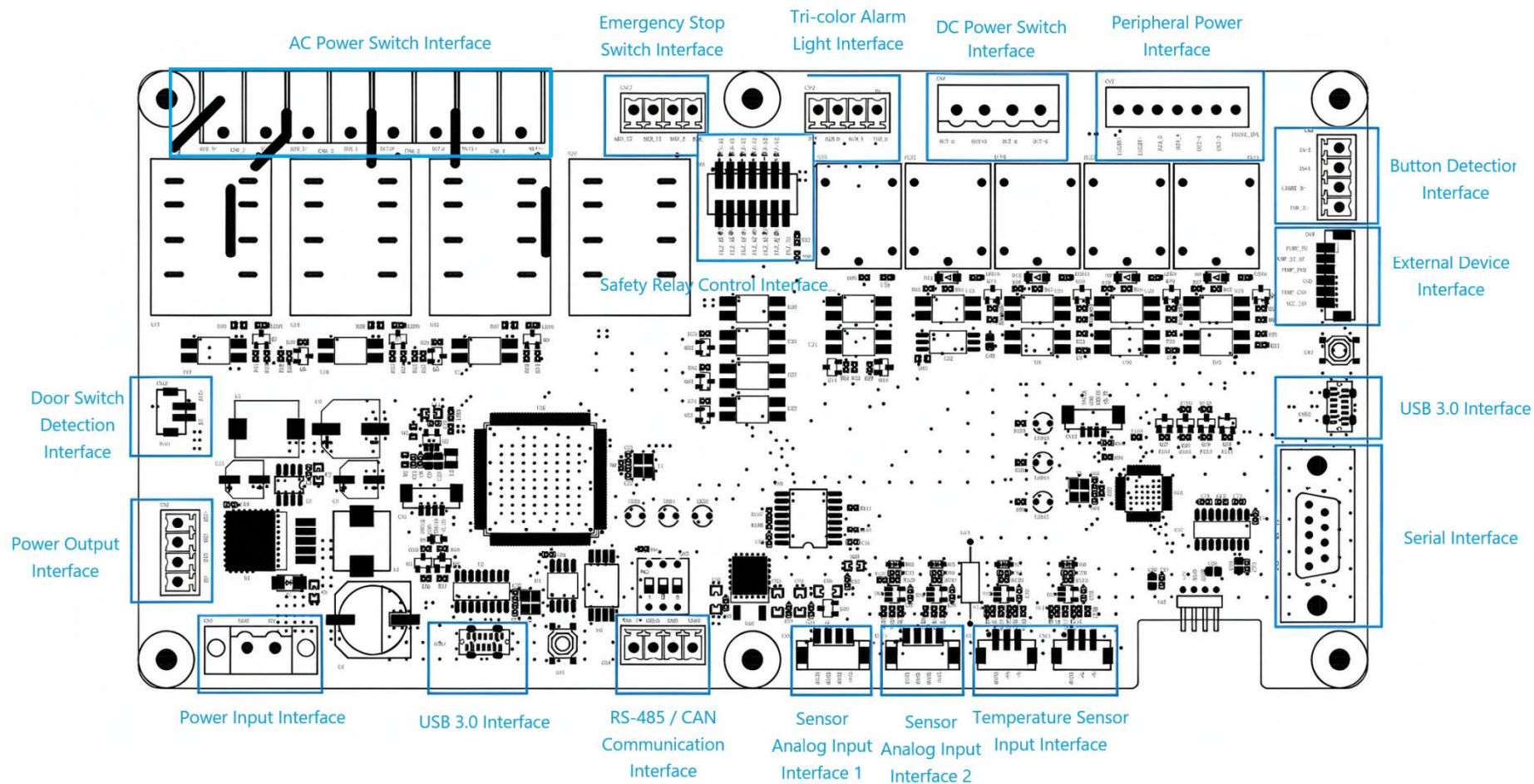
This product is specially designed for industrial control board application scenarios, fully covering key control aspects such as power management, motion control, extrusion systems, adjustment of environmental parameters including temperature/pressure, and safety interlocking. It is suitable for real-time control requirements under various complex working conditions.

It is applied to various industrial, medical, and civil equipment, such as temperature control equipment, motor drive equipment, packaging and processing equipment, environmental monitoring equipment, medical temperature control equipment, 3D printing equipment, smart home appliances, smart lighting, and smart fish tanks.



KFLY ELECTRONIC TECH. (SHANGHAI) CO.,LTD.

Interface Description





Power Input Interface

No.	Definition	Description
1	+24V	Power Positive, Input Voltage Range 24V±5%
2	GND	Power Negative

Power Output Interface

No.	Definition	Description
1	+12V	12V Power Output
2	GND	Power Negative
3	GND	Power Negative
4	+5V	5V Power Output

AC Power Switch Interface

No.	Definition	Description
1、 2	HTR_N+、 HTR_N-	External AC 220V, N+ input, N- relay-protected output, controllable switch
3、 4	HTR_L-、 HTR_L+	External AC 220V, L+ input, L- relay-protected output, controllable switch
5、 7	OUT2+、 OUT2-	External AC 220V, output after relay protection, controllable switch
6、 8	OUT1+、 OUT1-	External AC 220V, output after relay protection, controllable switch

DC Power Switch Interface

No.	Definition	Description
1、 2	OUT-5、 OUT+5	External power supply, controllable switch
3、 4	OUT-6、 OUT+6	External power supply, controllable switch



Peripheral Power Interface

No.	Definition	Description
1	LIGHT+	On-board 12V power output
2	LIGHT-	Lighting control signal
3	A24_3	On-board 24V power output
4	A24_4	PWM speed/dimming signal
5、6	OUT-4、OUT-3	Controllable 24V output
7	P24V1_IF1	External 24V power input

Temperature Sensor Input Interface

No.	Definition	Description
1	AGND	Analog ground (sensor return ground)
2	S+	Temperature sensor input positive
3	S-	Temperature sensor input negative

Sensor Analog Input Interface 1

No.	Definition	Description
1	A15V	15V power output (for sensor power supply)
2、3	AGND	Analog ground (signal return ground)
4	Sin	Sensor voltage input signal, voltage range 0V–10V



Sensor Analog Input Interface 2

No.	Definition	Description
1	A15V	15V power output (for sensor power supply)
2、3	AGND	Analog ground (signal return ground)
4	Sin	Sensor current input signal, current range 4mA–20mA

Button Detection Interface

No.	Definition	Description
1	IN-4	Sensor detection interface
2	IN+4	Sensor detection interface
3	LIGHT_B-	Light button signal
4	POW_B-	Power button signal

Tri-color Alarm Light Interface

No.	Definition	Description
1	24V	24V power output
2	ALM_G	Green alarm light control signal
3	ALM_Y	Yellow alarm light control signal
4	ALM_R	Red alarm light control signal



Door Switch Detection Interface

No.	Definition	Description
1	+24V	24V power output
2	SW	Door switch signal input (door status detection)

Emergency Stop Switch Interface

No.	Definition	Description
1	SB3_12	Door emergency stop 1, controlled by external safety relay
2	SB3_11	Door emergency stop 1
3	SB3_2	Door emergency stop 2, controlled by external safety relay
4	SB3_1	Door emergency stop 2

External Device Interface

No.	Definition	Description
1	PUMP_FB	Feedback signal
2	PUMP_ST_SP	Control signal
3	PUMP_PWM	Pulse signal
4	GND	Power ground
5	PUMP_GND	Peripheral power ground
6	VCC_24V	24V power output



Safety Relay Control Interface

No.	Definition	Description
1、2、3、4、8、9	PLZ-A1、PLZ-42、PLZ-13、PLZ-23、PLZ-A2、PLZ-34	External safety relay
5、6	PLZ-S11、PLZ-S21	Connect to external emergency stop switch
10、11	PLZ-14、PLZ-24	Peripheral power switch signal controlled under safety relay protection
12、13	PLZ-S12 PLZ-S22	Door switch detection signal controlled under safety relay protection
14	PLZ-33	MCU detects whether the safety relay is present

USB 3.0 Interface

No.	Definition	Description
1	USB1	USB communication, Type-C socket

Serial Interface

No.	Definition	Description
1	J1	RS-232, DB-9 male socket

RS-485 / CAN Communication Interface

No.	Definition	Description
1	485_B	RS-485 bus receiver inverting input / transmitter inverting output, input voltage range -15V to 15V
2	485_A	RS-485 bus receiver non-inverting input / transmitter non-inverting output, input voltage range -15V to 15V
3	CANL	CAN bus low-level line
4	CANH	CAN bus high-level line

