C180 series

Proportional Valve CAN BUS Controller
Controller, C180
IO module, C180M

Index

Product Introduction

C180 series controller/IO module products have flexible port reuse, compact design, and support up to 2-channel CAN2.0B bus Line communication, equipped with ARM Cortex™ M7 core high-speed processor, built-in floating point operation unit FPU and DSP functions, computational performance can be greatly improved, providing users with greater freedom.
The product has extremely high cost performance and is widely used in vehicle-mounted aerial work machinery, Small control systems and automation control fields such as truck-mounted cranes, aerial work machinery, and logistics handling machinery.
C180 series controller/IO module can work at -40～85°C temperature, has IP66 protection level, and can be \ used in extremely harsh climate environments.
The C180 series controller/IO module allows users to remotely upgrade applications and firmware via OTA, which facilitates system maintenance and reduces production costs. The total cost of all stages of the product life cycle) to accelerate your digital transformation.
C180S controller adopts C language or CODESYS V3.5 for application development, powerful API function interface
The interface and supporting tool chain, detailed instructions and demo program can speed up the application development process.
C180M series IO modules adopt the standard CANopen protocol. No programming is required. All can be used through simple configuration. Function, the supporting eds file can be flexibly loaded into the controller programmed using CODESYS, which is simple and easy to use.

Applicable fields

- Suitable for small control systems and I/O expansion in the industrial, robotic and construction machinery industries.
- Telehandler
- Industrial, robotics
- Aerial work machinery
- Lifting machinery
- Material handling machinery
- Sanitation machinery
- Agricultural machinery
- Distributed control

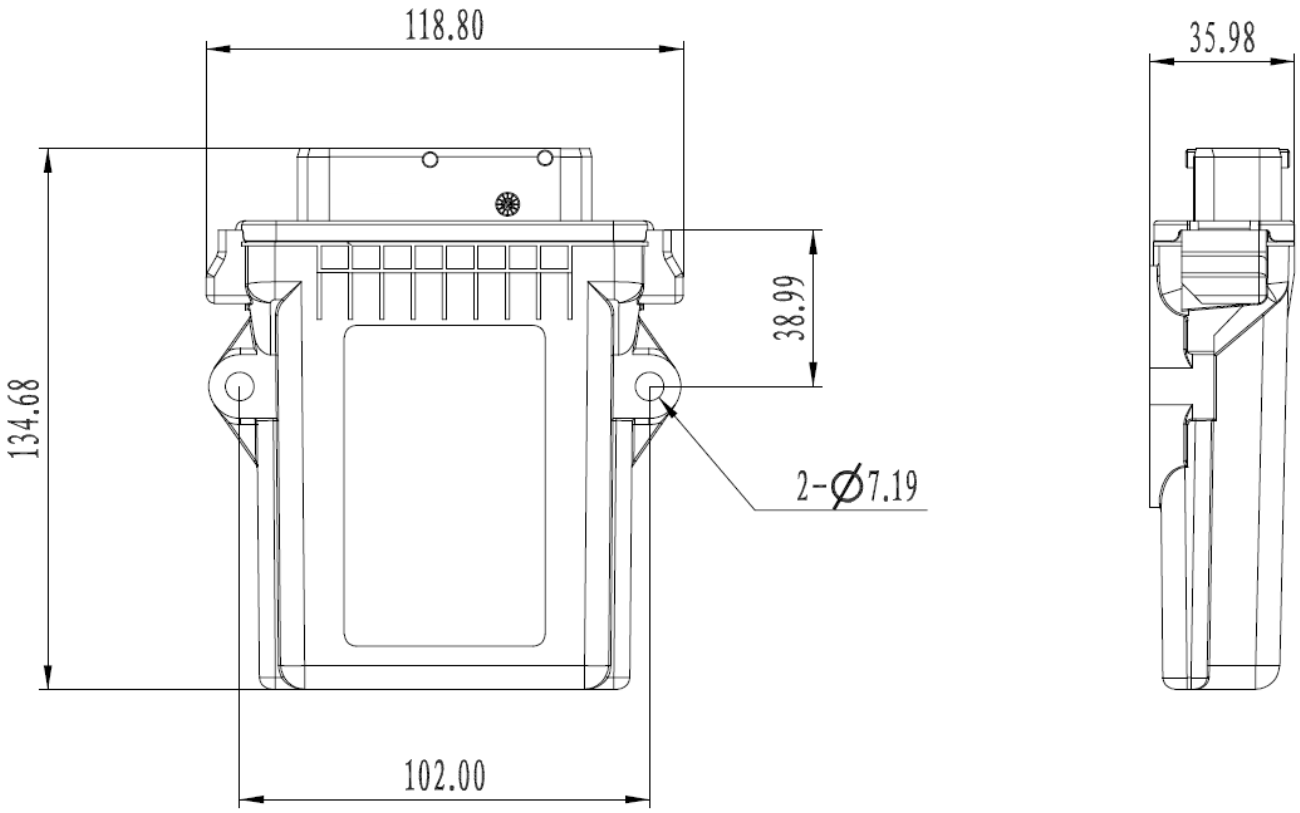
Product features

- 32bit high-performance processor, 200 MHz frequency
- High-speed SPI interface ferroelectric memory chip (FRAM), 1 billion erase lifespan
- 2-way CAN interface, maximum speed up to 1Mbps
- Support remote OTA upgrade, and differential upgrade can be customized according to needs
- The product is highly integrated and flexible in reuse, with a total of 30 IO ports, which can be configured as up to 14
- outputs and 26 inputs.
- 4-channel 2.5A high-side PWM/DO output ports support constant current output to meet closed-loop control requirements
- Up to 4 channels of 4.0A high-side DO output ports, all with diagnostic functions
- Up to 10 channels of 2.5A high-side DO output ports, all with diagnostic functions
- 8 channels of 4..20mA / 0…5V / DIH input ports, each channel can be configured independently to facilitate the processing of voltage and current signals.
  Collect
- 2 channels of 10～30KΩ/DIL input ports, each channel can be configured independently to facilitate the collection of resistance signals
- 2 PI/DIH input ports, frequency acquisition signal range 1～10KHz, signal threshold voltage can be adjusted through software
- 2 channels of DIH/DIL switch input ports, each channel can be configured independently
- 2 channels of 0…32V/DIH input ports, configurable through software
- The software is developed using C language or CODESYS V3.5, and can support static code testing, software version management and other functions

Technical Specifications

Item	
Working voltage	8～36V
Working temperature	-40～85°
Storage temperature	-40～85°
IP ratings	IP66 (including wiring harness)
CE ratings	EN IEC 61000-6-2：2019 EN IEC 61000-6-4：2019
CPU	32 bit high-performance processor, 200 MHz frequency
RAM	512KBytes
FLASH	2MB + 4MB (can be used as OTA upgrade)
FORWARD	8KBytes
Overall dimensions	135*119*36mm
Matching Connector	42 pins TE 1-967281-1
Weight	0.8KG
CE Certifications	EN IEC 61000-6-2：2019 EN IEC 61000-6-4：2019

Product size



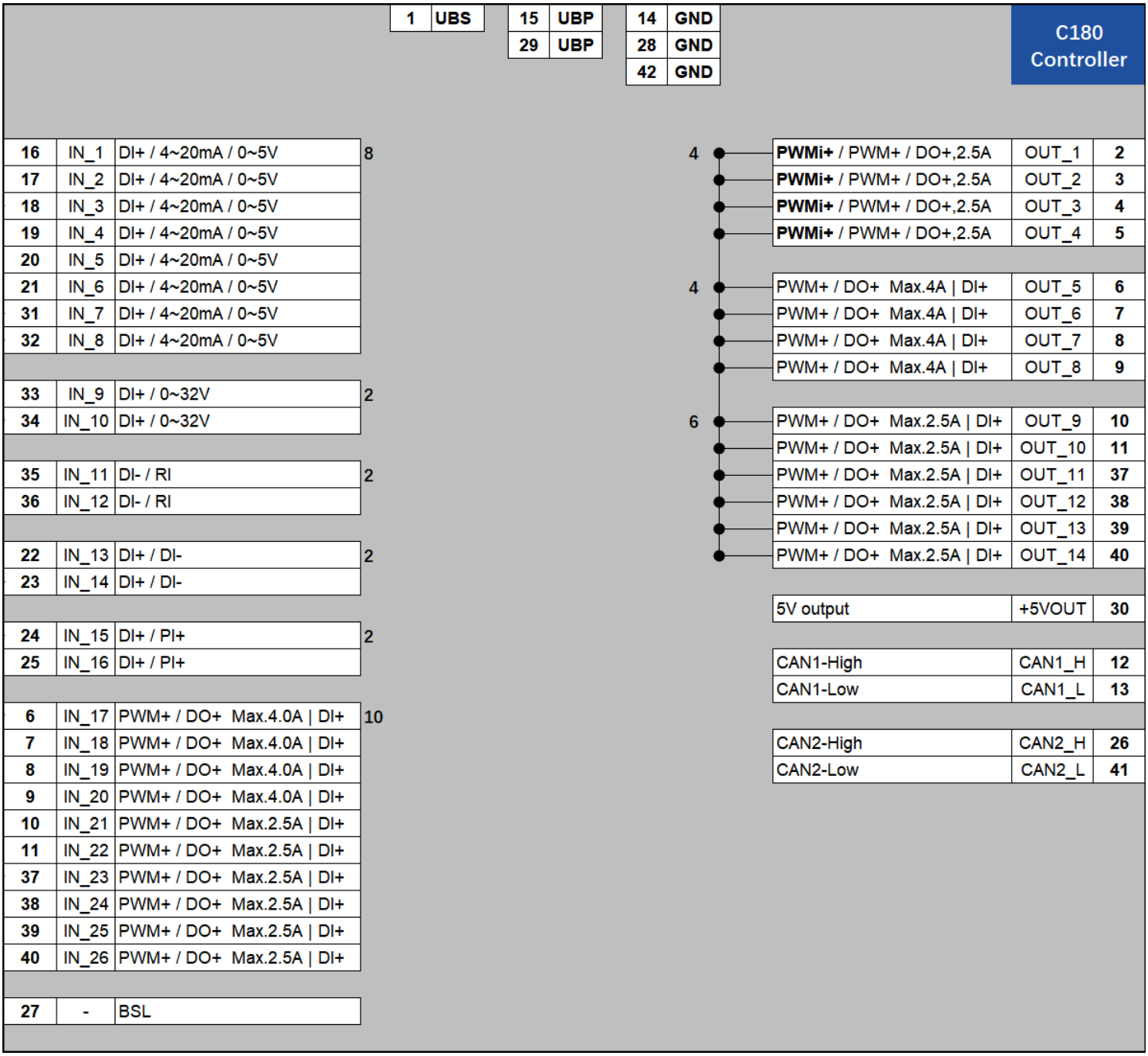
Pin definition

Pin	Port definition	Function description
1	UBS	Controller system power supply, 8~32V, battery positive
2	OUT_1	PWMi+ |PWM+ |DO+, Max.2.5A Configurable via software
3	OUT_2	PWMi+ |PWM+ |DO+, Max.2.5A Configurable via software
4	OUT_3	PWMi+ |PWM+ |DO+, Max.2.5A Configurable via software
5	OUT_4	PWMi+ |PWM+ |DO+, Max.2.5A Configurable via software
6	OUT_5 | IN_17	PWM+ |DO+ |DI+, Max.4.0A Configurable via software
7	OUT_6 | IN_18	PWM+ |DO+ |DI+, Max.4.0A Configurable via software
8	OUT_7 | IN_19	PWM+ |DO+ |DI+, Max.4.0A Configurable via software
9	OUT_8 | IN_20	PWM+ |DO+ |DI+, Max.4.0A Configurable via software
10	OUT_9 | IN_21	PWM+ |DO+ |DI+, Max.2.5A Configurable via software
11	OUT_10 | IN_22	PWM+ |DO+ |DI+, Max.2.5A Configurable via software

Pin Definition

12	CAN1 _H	CAN1_High
13	CAN1 _L	CAN1 _Low
14	GND	**Battery negative pole**
15	UBP	Power output port power, 8~32V Battery positive
16	IN _1	0~20mA | 0~5V | DI+, Configurable via software
17	IN _2	0~20mA | 0~5V | DI+, Configurable via software
18	IN _3	0~20mA | 0~5V | DI+, Configurable via software
19	IN _4	0~20mA | 0~5V | DI+, Configurable via software
20	IN _5	0~20mA | 0~5V | DI+, Configurable via software
21	IN _6	0~20mA | 0~5V | DI+, Configurable via software
22	IN _13	DI+ |DI-, Configurable via software
23	IN _14	DI+ |DI-, Configurable via software
24	IN _15	PI+ | DI+, functions and thresholds can be configured through software
25	IN _16	PI+ | DI+, functions and thresholds can be configured through software
26	CAN2 _H	CAN2_High
27	BSL	Connect BSL to GND to enter program burning mode.
28	GND	**Battery negative pole**
29	UBP	Power output port power supply, 8~32V, battery positive
30	+5VOUT	5V Sensor power output
31	IN _7	0~20mA | 0~5V | DI+, Configurable via software
32	IN _8	0~20mA | 0~5V | DI+, Configurable via software
33	IN _9	0~32V | DI+, Configurable via software
34	IN _10	0~32V | DI+, Configurable via software
35	IN _11	10Ω~30kΩ | DI-Configurable via software
36	IN _12	10Ω~30kΩ | DI-Configurable via software
37	OUT_11 | IN_23	PWM+ |DO+ |DI+, Max.2.5A Configurable via software
38	OUT_12 | IN_24	PWM+ |DO+ |DI+, Max.2.5A Configurable via software
39	OUT_13 | IN_25	PWM+ |DO+ |DI+, Max.2.5A Configurable via software
40	OUT_14 | IN_26	PWM+ |DO+ |DI+, Max.2.5A Configurable via software
41	CAN2 _L	CAN2 _Low
42	GND	**Battery negative pole**

Functional block diagram



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