

Instruction for CAN Series Servo using **DPC-20**



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1. DPC-20 Description & Important Information

HiTEC's DPC-20 is a modern servo programming and configuration interface designed for digital servo actuators. It connects HiTEC servos to a USB-C enabled, internet-accessible device and allows configuration via a web-based user interface.

The DPC-20 allows users to adjust and test all standard servo parameters, including End Points, Direction, Speed, Fail-Safe, Dead Band, Soft Start, and Overload Protection. It also supports Data Save/Load and Program Reset functions, all accessible through a user-friendly interface.

Important Information:

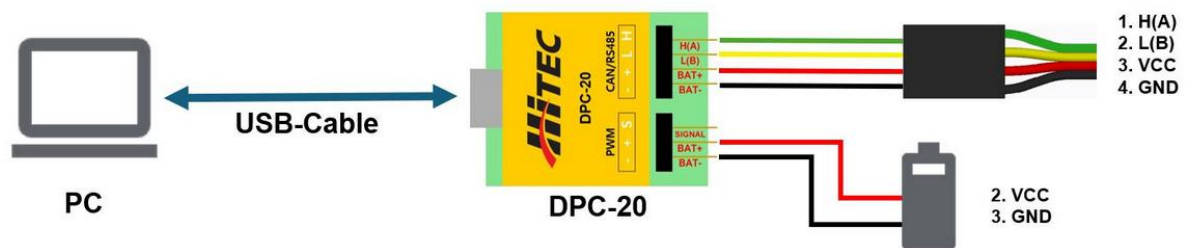
- Hardware Type: PC USB-C to 4-pin (CAN) interface
- Capable of configuring and testing HiTEC digital servo actuators
- Different servo actuator series require dedicated UI programs due to variations in communication protocols
- Ensure to connect the appropriate power supply to the DPC-20 for the connected servo actuator
- DPC-20 Wiring Diagrams are located on the DPC-20 UI HUB DOCUMENTATION.

2. Getting Started – Wiring & Setup

For any voltage exceeding 18V or current exceeding 3A, use the direct connection method to prevent damage or malfunction.

There are two ways to connect the DPC-20 to the servo: via the DPC or using a direct connection.

Connection via DPC-20:



Connection directly:



3. Download & Installation of the HiTEC CAN Software

- a. Please download the HiTEC DPC UI Hub Software:

http://support.HiTECrcd.net:7700/files/install_dpc_HiTEC.exe

- b. You will also need the CP2102 driver, which can be downloaded from the Silicon Labs website:

<https://www.silabs.com/software-and-tools/usb-to-uart-bridge-vcv-drivers?tab=downloads>

Please install both software tools before proceeding.

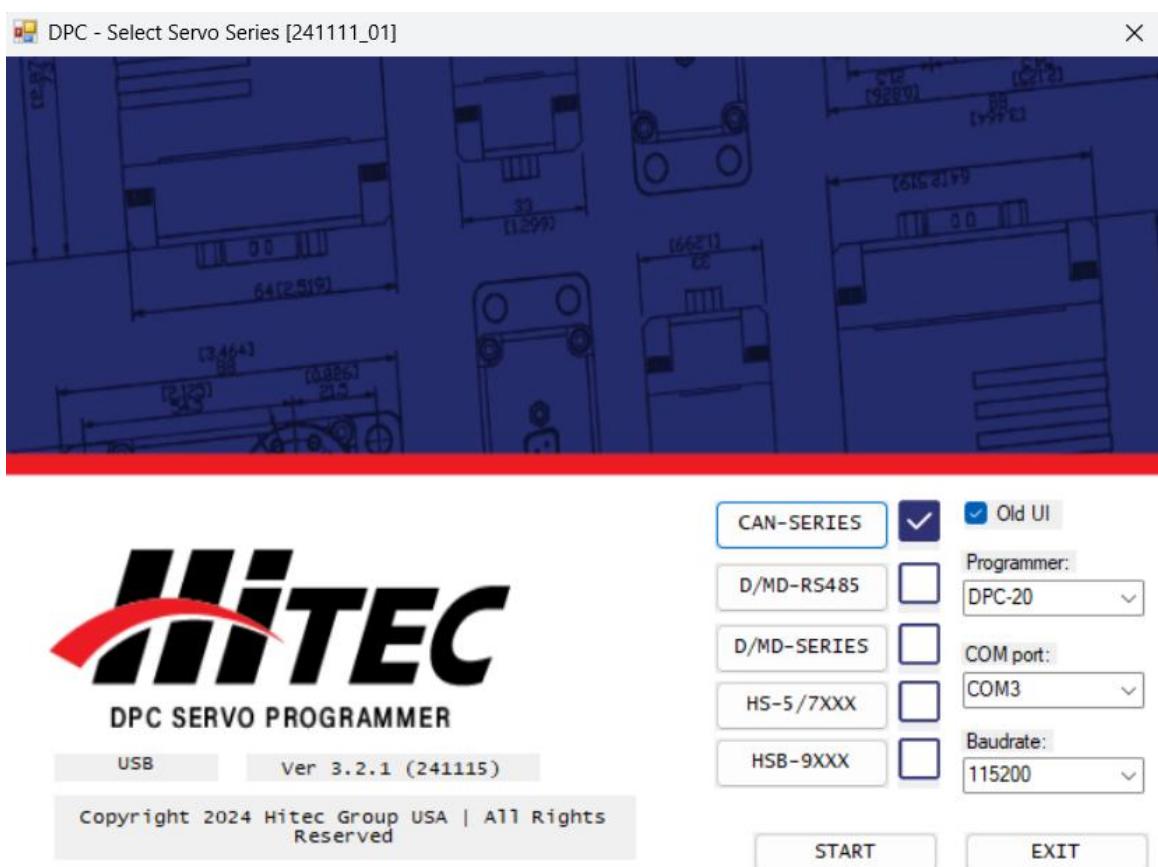


Open the HiTEC DPC UI Hub Software PC.

and connect the DPC to the

A start screen will appear and check for updates. Once the update check is complete, click *Run*.

The Software Hub Screen is displayed:

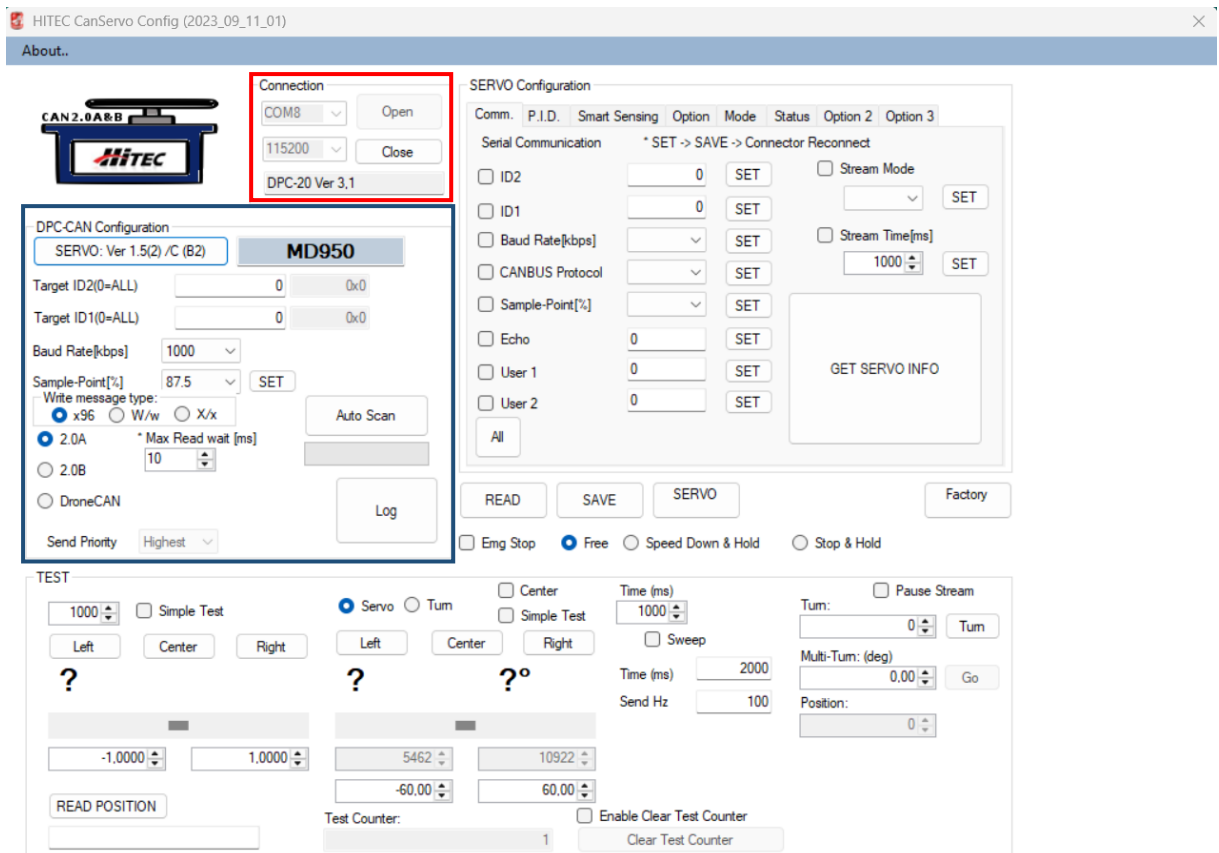


On the right side, select “DPC-20” as *Programmer*, use the associated *COM Port* and set the *Baudrate* to ‘115200’. Then click *START*.

‘Old UI’ Checkbox:

If the “Old UI” checkbox is activated, the HiTEC CAN Config Tool will start. Otherwise the AIO UI will launch.

4. Using the Old UI



☐ Select the required *COM Port* and set the *Baudrate* to 115200.

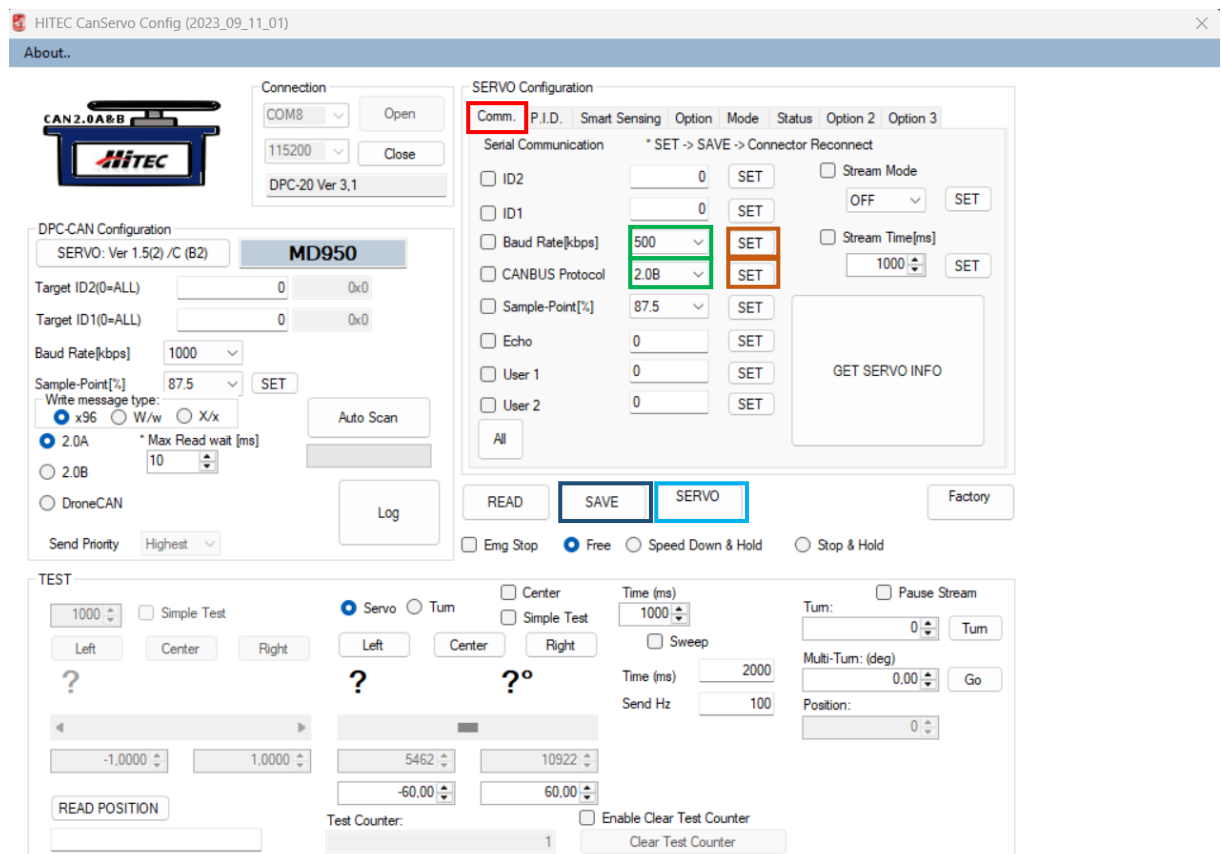
☐ Configure the CAN bus communication settings. The default CAN settings for the servos are:

Baudrate: 1000kbps
Protocol: 2.0A

If the CAN bus communication settings are unknown, click *Auto Scan* to allow the software to detect the correct settings automatically.

Click *Read Servo Version* to display the firmware information. If a servo version is displayed, the servo is connected correctly.

How to Program the Servo



To set the desired servo parameters, enter the values in the corresponding fields. Some fields are dropdown menus and allow only predefined settings to be selected. After changing the parameters, click the **SET** button next to it. This step must be performed for each changed value.

Example: Changing the Baudrate and protocol:

- Open the 'Comm.' Tab .
- Select the desired Baudrate and protocol from the dropdown menu .
- Click **SET**  and **SAVE** .
- Reconnect the servo or press **SERVO** to apply the changes .

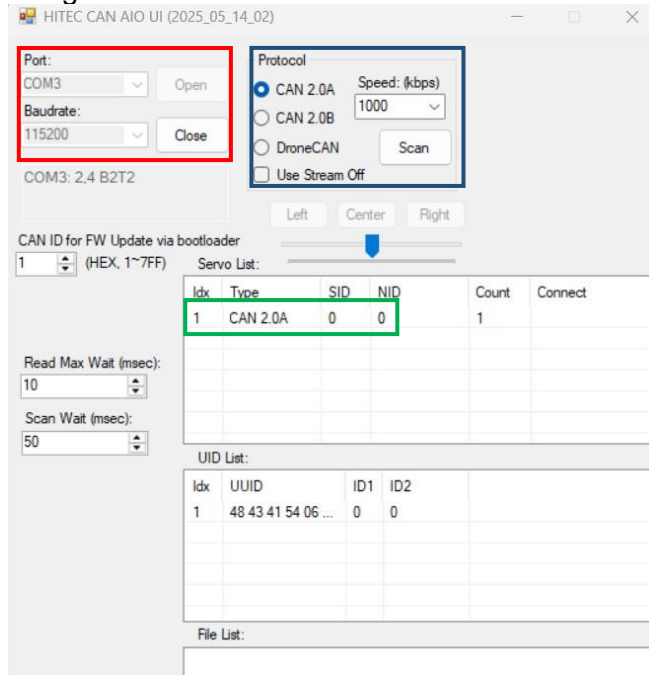
If the Baudrate or protocol has been changed, the settings under "DPC-CAN Configuration" must be updated to the same values.

5. Using the AIO UI

Select the correct COM port, set the *Baudrate* to '115200' and press *Open* .

The PC is now connected to the DPC.

Under *Protocol*, set the Baudrate of the servo, select the protocol in use and click *Scan* . If one or both values aren't available, the servo will be detected automatically using the scan function.



HITEC CAN AIO UI (2025_05_14_02)

Port: COM3

Baudrate: 115200

COM3: 2,4 B2T2

Protocol: ☒ CAN 2.0A Speed: (kbps) 1000 ☐ CAN 2.0B ☐ DroneCAN ☐ Use Stream Off

Left Center Right

CAN ID for FW Update via bootloader: 1 (HEX, 1~7FF)

Servo List:

Idx	Type	SID	NID	Count	Connect
1	CAN 2.0A	0	0	1	

Read Max Wait (msec): 10

Scan Wait (msec): 50

UID List:

Idx	UUID	ID1	ID2
1	48 43 41 54 06 ...	0	0

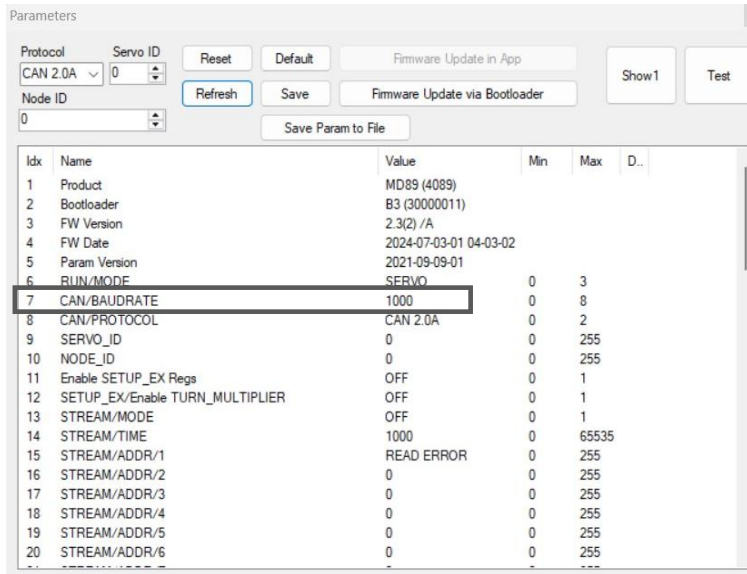
File List:

A servo will appear below 'Servo List'. Double-click on it  to open the parameter view.

If only a few parameters are displayed and some marked with question marks, please click *Refresh*. A list of all parameters should then be displayed.

How to Program the Servo

Example to change the Baudrate:



Parameters

Protocol: CAN 2.0A Servo ID: 0

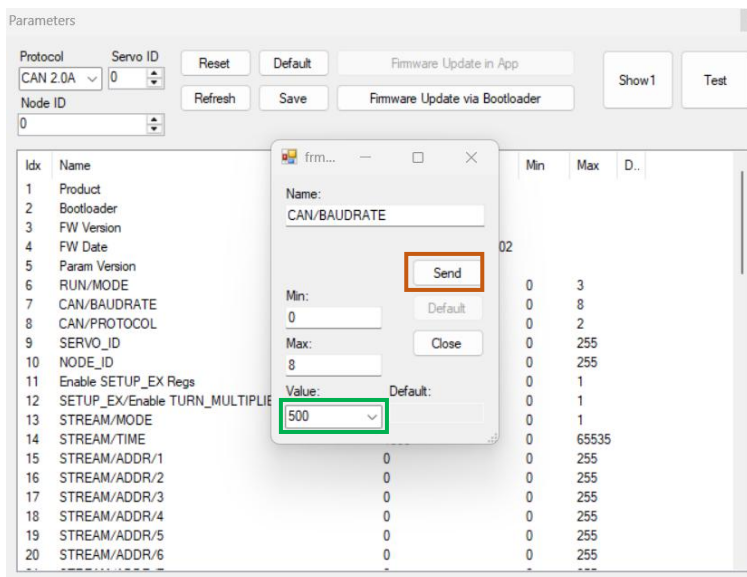
Reset Default Firmware Update in App Show1 Test

Node ID: 0 Refresh Save Firmware Update via Bootloader

Save Param to File

Idx	Name	Value	Min	Max	D..
1	Product	MD89 (4089)			
2	Bootloader	B3 (30000011)			
3	FW Version	2.3(2) /A			
4	FW Date	2024-07-03-01 04-03-02			
5	Param Version	2021-09-09-01			
6	RUN/MODE	SERVO	0	3	
7	CAN/BAUDRATE	1000	0	8	
8	CAN/PROTOCOL	CAN 2.0A	0	2	
9	SERVO_ID	0	0	255	
10	NODE_ID	0	0	255	
11	Enable SETUP_EX Regs	OFF	0	1	
12	SETUP_EX/Enable TURN_MULTIPLIER	OFF	0	1	
13	STREAM/MODE	OFF	0	1	
14	STREAM/TIME	1000	0	65535	
15	STREAM/ADDR/1	READ ERROR	0	255	
16	STREAM/ADDR/2	0	0	255	
17	STREAM/ADDR/3	0	0	255	
18	STREAM/ADDR/4	0	0	255	
19	STREAM/ADDR/5	0	0	255	
20	STREAM/ADDR/6	0	0	255	

Double click **CAN/BAUDRATE** to open the setting window.



Parameters

Protocol: CAN 2.0A Servo ID: 0

Reset Default Firmware Update in App Show1 Test

Node ID: 0 Refresh Save Firmware Update via Bootloader

Save Param to File

Idx	Name	Value	Min	Max	D..
1	Product	MD89 (4089)			
2	Bootloader	B3 (30000011)			
3	FW Version	2.3(2) /A			
4	FW Date	2024-07-03-01 04-03-02			
5	Param Version	2021-09-09-01			
6	RUN/MODE	SERVO	0	3	
7	CAN/BAUDRATE	1000	0	8	
8	CAN/PROTOCOL	CAN 2.0A	0	2	
9	SERVO_ID	0	0	255	
10	NODE_ID	0	0	255	
11	Enable SETUP_EX Regs	OFF	0	1	
12	SETUP_EX/Enable TURN_MULTIPLIER	OFF	0	1	
13	STREAM/MODE	OFF	0	1	
14	STREAM/TIME	1000	0	65535	
15	STREAM/ADDR/1	READ ERROR	0	255	
16	STREAM/ADDR/2	0	0	255	
17	STREAM/ADDR/3	0	0	255	
18	STREAM/ADDR/4	0	0	255	
19	STREAM/ADDR/5	0	0	255	
20	STREAM/ADDR/6	0	0	255	

frm... CAN/BAUDRATE

Name: CAN/BAUDRATE

Min: 0 Max: 8

Value: 500

Send

Use the Dropdown menu to change the value for Baudrate and click **Send**.

To save the changed Baudrate permanently to the servo, click **Save**. Reconnect the Servo.

Parameters

Protocol: CAN 2.0A Servo ID: 0

Reset Default Firmware Update in App Show1 Test

Node ID: 0 Refresh Save Firmware Update via Bootloader

Idx	Name	Value	Min	Max	D..
1	Product	MD70			
2	Bootloader	B3 (30000011)			
3	FW Version	2.3(2) /A			
4	FW Date	2024-07-03-01 04-03-02			
5	Param Version	2023-10-20-01			
6	RUN/MODE	SERVO	0	3	
7	CAN/BAUDRATE	500	0	8	
8	CAN/PROTOCOL	CAN 2.0A	0	2	
9	SERVO_ID	0	0	255	
10	NODE_ID	0	0	255	
11	Enable SETUP_EX Regs	OFF	0	1	
12	SETUP_EX/Enable TURN_MULTIPLIER	OFF	0	1	
13	STREAM/MODE	OFF	0	1	
14	STREAM/TIME	1000	0	65535	
15	STREAM/ADDR/1	0	0	255	
16	STREAM/ADDR/2	0	0	255	
17	STREAM/ADDR/3	0	0	255	
18	STREAM/ADDR/4	0	0	255	
19	STREAM/ADDR/5	0	0	255	
20	STREAM/ADDR/6	0	0	255	

To change other parameters of the servo, the steps are identical. Some parameters will have a numerical input instead of a Dropdown menu and the values are limited to the Min/Max range.

6. HiTEC CAN Protocol

All accessible registers and the message format can be found in the HiTEC CAN Manual:

https://www.multiplex-rc.de/userdata/filegallery/original/7551_hitec_can_dronecanuavcanv0_servo_protocol_eng_manual_v2_6.pdf