Pre-CAN Solution

A quick way to CAN

Application illustrator

Landing Page

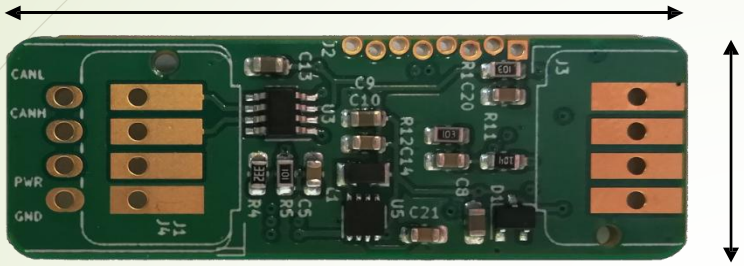
1

Preview Edition

CAN2PWM Adaptor

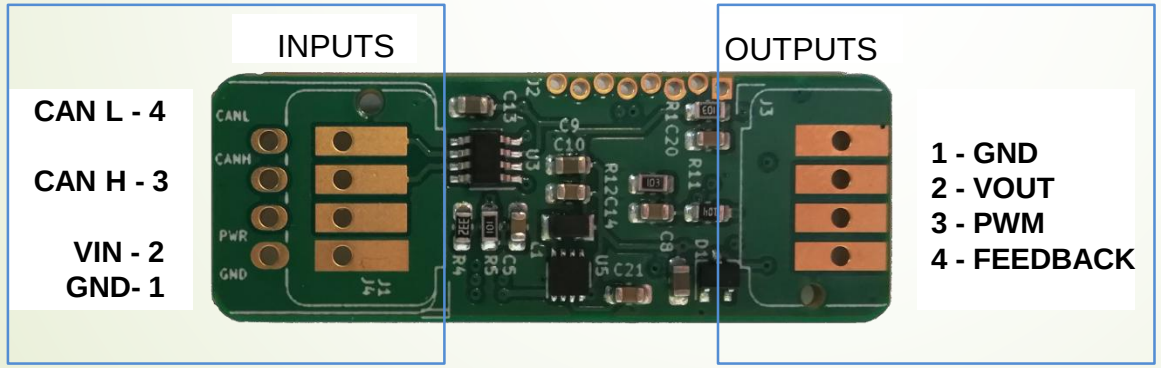
CAN2PWM
2

Dimensions:



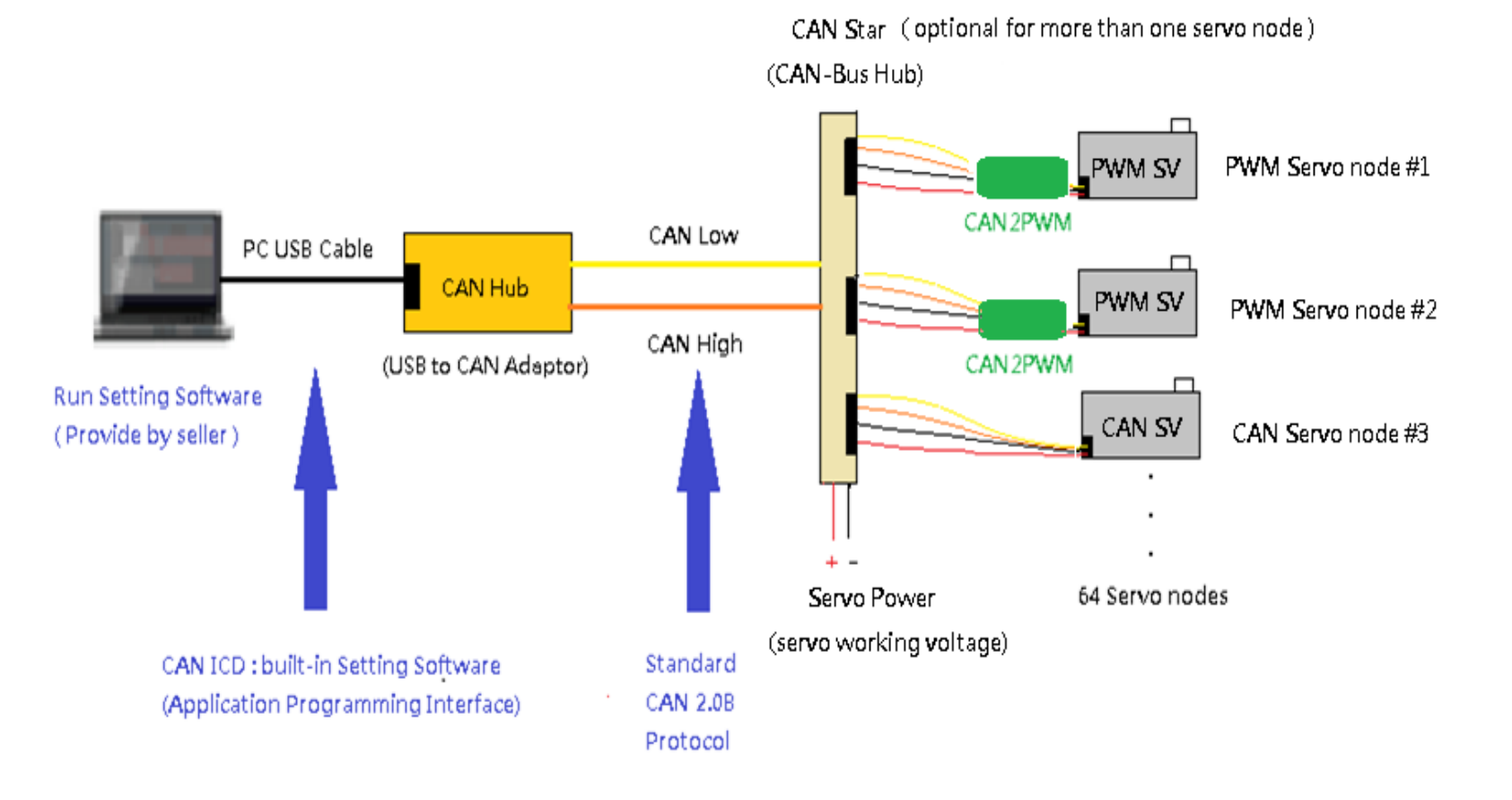
Length	**37mm**
Width	**13mm**
Height (without connectors)	**4mm**

Connections:



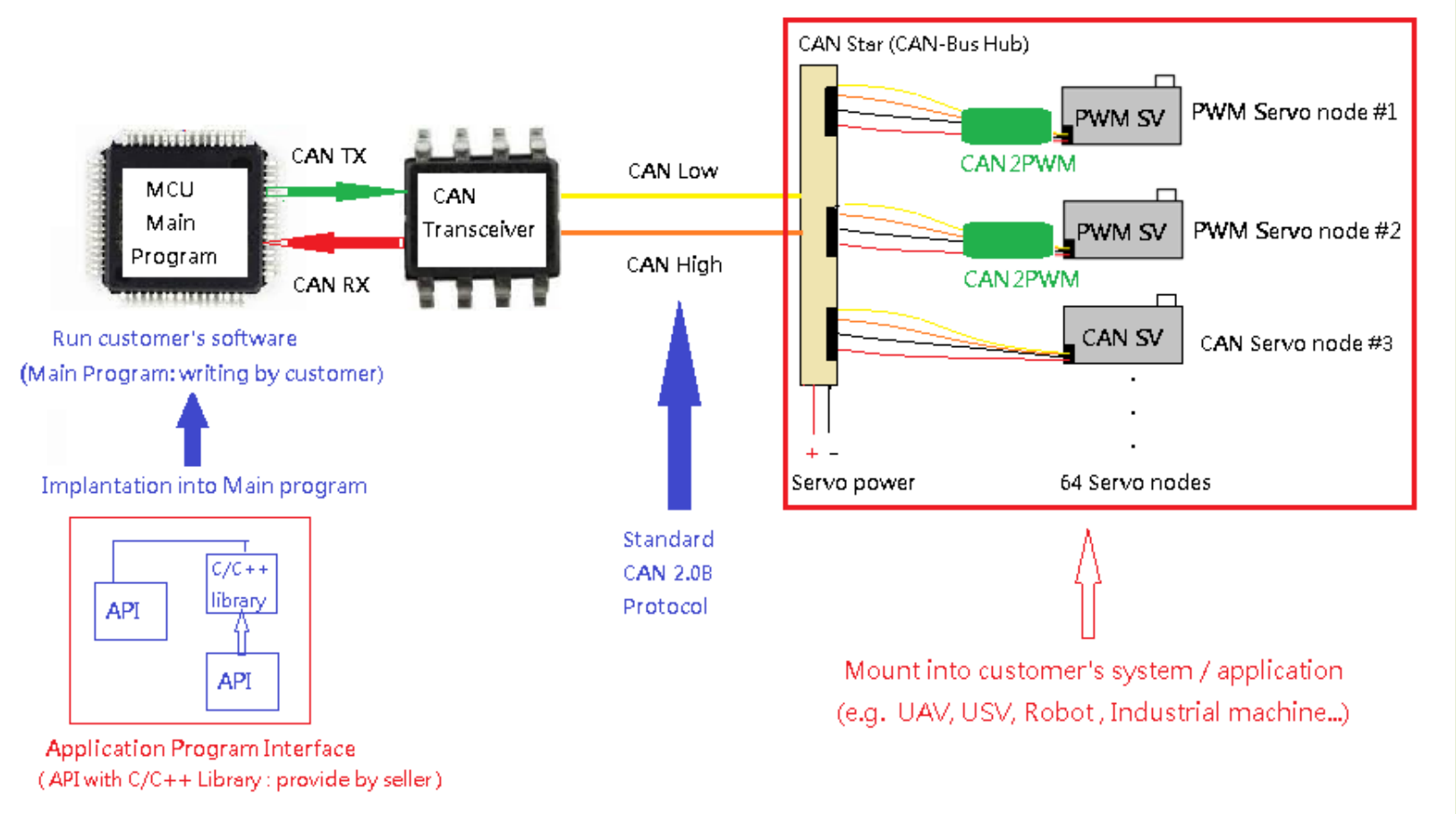
CAN2PWM Adaptor

Servo – PC Setting Mode :



CAN2PWM Adaptor

Servo – Application Setting Mode :



CAN2PWM
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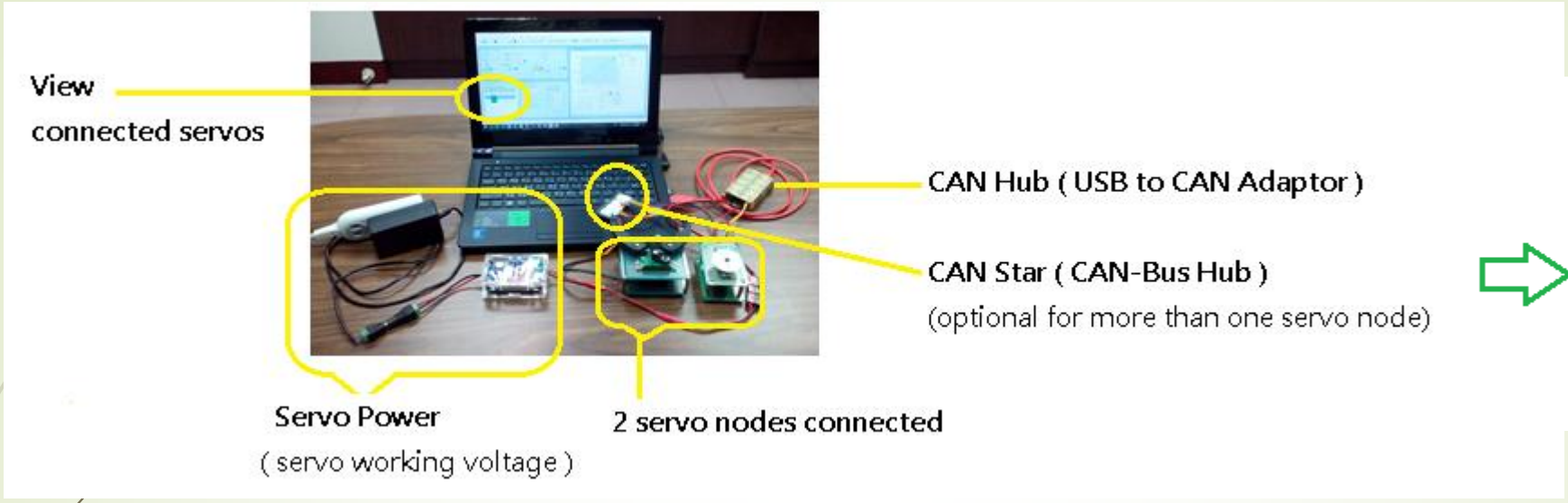
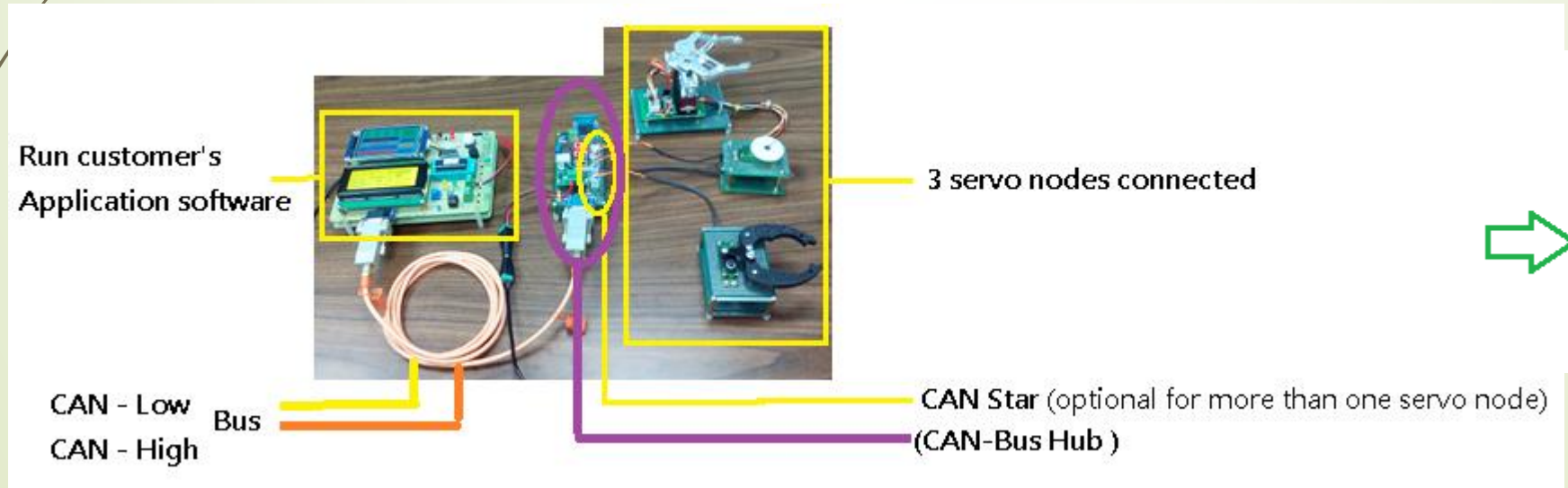
Field Applications :

Wiring illustration :



Step 1 : Servo Setting

Run cEQUIP software :
1. PWM Servo + CAN2PWM
2. CAN Star (more than 1 servo)
3. CAN Hub connecting
4. PC connect & Com Port set



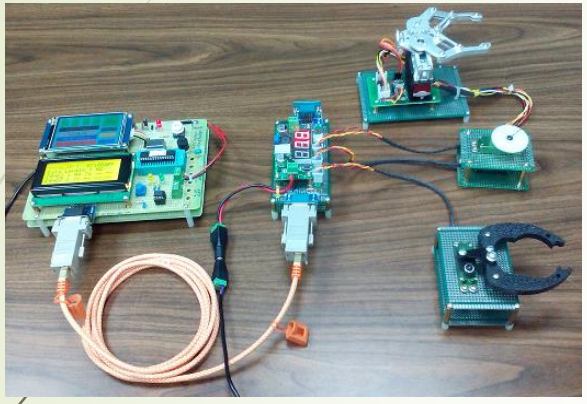
Step 2 : Application Setting

Run customer's software :
1. PWM Servo + CAN2PWM
2. CAN Star (more than 1 servo)
3. CAN Hub & PC eliminate
4. Connect to Application

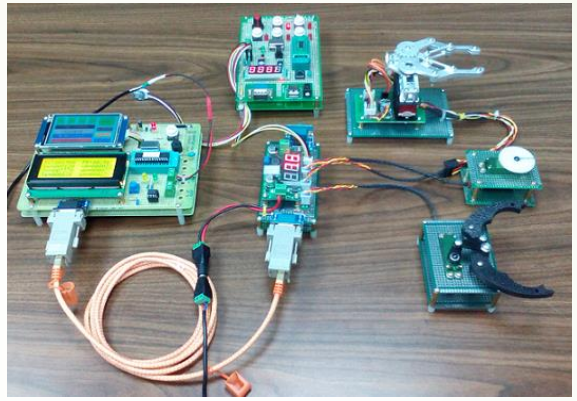
Field Applications :

Command & Feedback :

Transmitter : (Command)



Receiver : (Feedback)



Field Applications
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LCD Display: Send command (single ID)

LCD Display: Feedback data (single ID)

Parameters of feedback data:

PC: Position of Command
Cu: Current(120mA)
Vo: Voltage(7360mV = 7 · 3V)
Te : Temperature (37° C)
PR: Position of reality(μA)
xA: 33 (mG) (mini Gravity)
y A: 33 (mG) (mini Gravity)
zA: 279(mG) (mini Gravity)

CAN2PWM Adaptor

CAN2PWM
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Functionality:

- Generates a PWM signal which is commanded over the CAN interface.
- Provides real-time feedback over CAN link.
- Real-time current monitoring for small devices.
- Vastly improves signal integrity / reduces servo jitter.
- Reduces wiring requirements.
- Provides reverse polarity protection for the connected device.
- Allows operation of high number devices in an I/O constrained application.

Feedback Modes:

- RPM : Feedback is reported in units of 1RPM per bit.
- Pulse Width : Feedback is reported in units of microseconds.
- Duty Cycle : Feedback is reported in units of 0.1% per bit.
- Analog Value : Feedback is reported in units of mV. (max. 3300mV / 3.3V)

CAN2PWM Adaptor

PWM Output:

Parameter	Options
PWM Period	5ms – 100ms
Signal Polarity	Active High / Active Low
Idle Polarity	Idle High / Idle Low

Electrical Specification:

Parameter	Min	Parameter
Input Voltage :		
Limiting Operating Voltage1	-30.0V	+30.0V
Recommended Operating Voltage	+6.0V	+18.0V
Voltage on CAN pins	-30.0V	+30.0V

CAN2PWM Adaptor

Device Power Output :		
Pulsed Current		5A
Continuous Current2	0A	3A
PWM Output Signal :		
PWM Output Voltage		+5V3
PWM Signal Current	-10mA	+10mA
Feedback Signal (Digital Input Configuration) :		
Input Voltage	-5.0V	+10.0V
Current into feedback	-5mA	+5mA
Feedback Signal (Analog Input Configuration) :		
Input Voltage4	-0.1V	3.5V

1. Supplying the adapter with a voltage outside this range will result in destruction.

2. The connected device should not source current back into the adapter.

3. If the supply voltage to the CAN2PWM adapter falls below +5V (plus a dropout voltage of ~100mV), the PWM output signal will be clipped to the input voltage.

4. When configured for analog feedback mode, exceeding these voltages will effect analog performance of the CANPWM adapter.

Software / Function

*** Pre-CAN Solution: some functions may not support for Pre-CAN interface.

Real Time Feedback / Logging & Graphing

- Position Command / Servo Status / Servo System

Position Command	Servo Status	Servo System
- Position	- Current	- ADC Counts
- Command	- Voltage	- CPU
- Position Error	- Temperature	- Status
- Position Error Average	- X Acc.	- Warnings
	- Y Acc.	- Errors
	- Z Acc.	- Uptime
	- Minimum PWM	- Power Cycles
	- Maximum PWM	- Reset Code

User Configurable Input / Output Mapping

- **Non-linear input/output mapping for position**
- **Reversing servo direction and trim calibration**
- **Linkage linearization for non-linear applications**
- **Expanse/narrowize position range and resolution**

Software / Function

*** Pre-CAN Solution: some functions may not support for Pre-CAN interface.

Health Monitoring / Wear info & Calibrating

• Servo Calibration / Servo Warnings / Servo Errors

- Servo Calibrating
- Test Mode
- Backlash Test
- Linearity Test

- Over Current
- Over Temperature
- High Acceleration
- Invalid Input
- Position Warning
- Pot Calibration Error

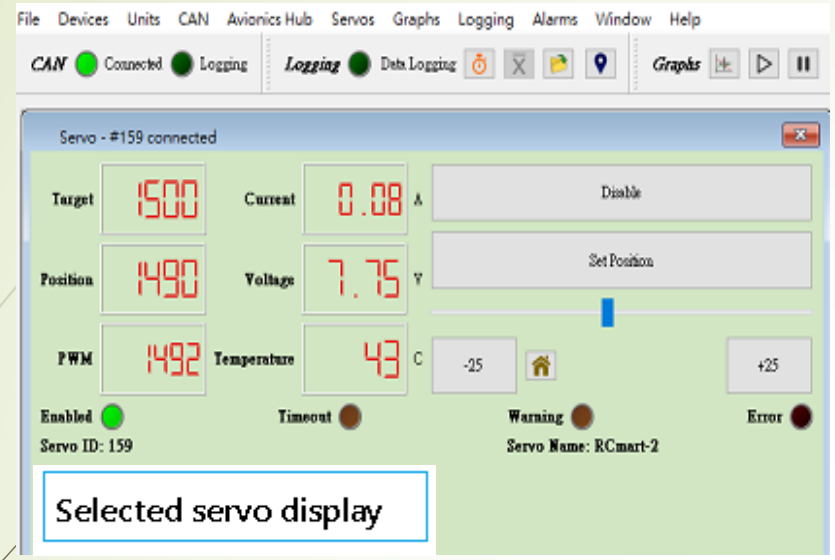
- Position Error
- Setting Error
- Potentiometer Error
- Accelerometer Error
- Map Calibration Error
- Position Tracking Error
- Health Monitoring Error

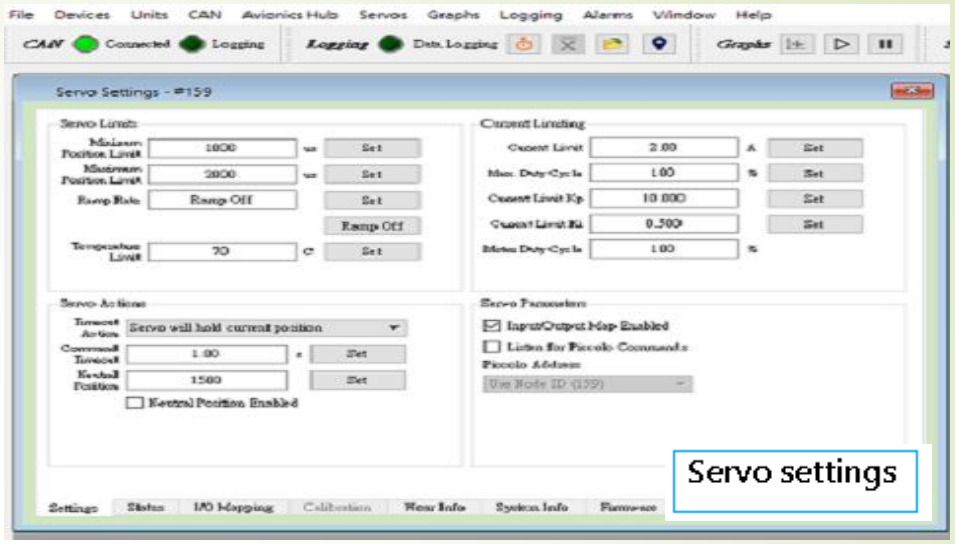
Servo Programming / Parameters setting

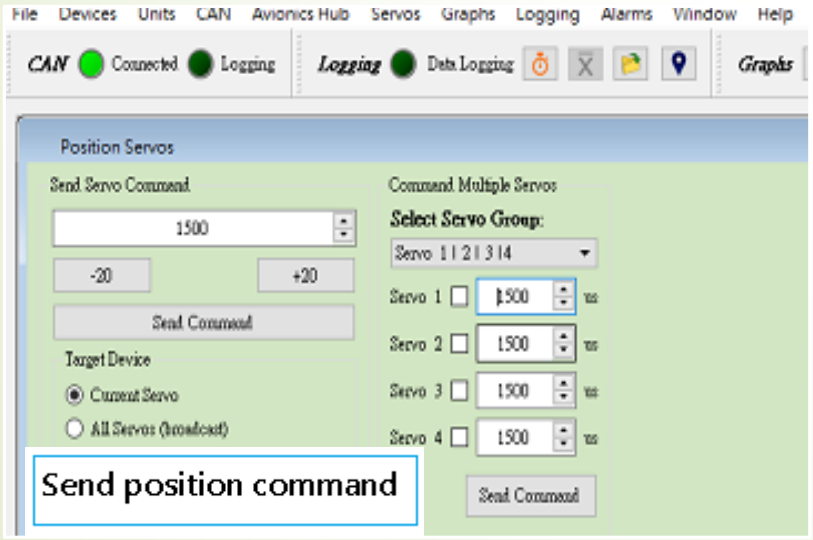
- **Programming: Neutral position, traveling angle, angular velocity …**
- **Parameters : Servo Limits, Servo Actions, Current Limiting …**
- **High Frequency Telemetry for real-time data analysis.**
- **Fully Featured Configuration Tool for diagnostic testing.**

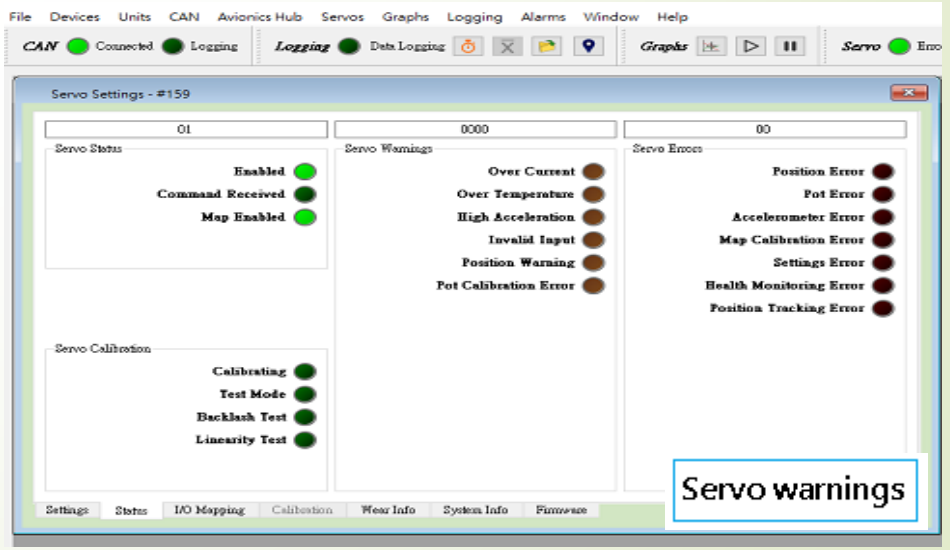
Software / Window

*** Pre-CAN Solution: some windows may not support for Pre-CAN interface.









Software / Window

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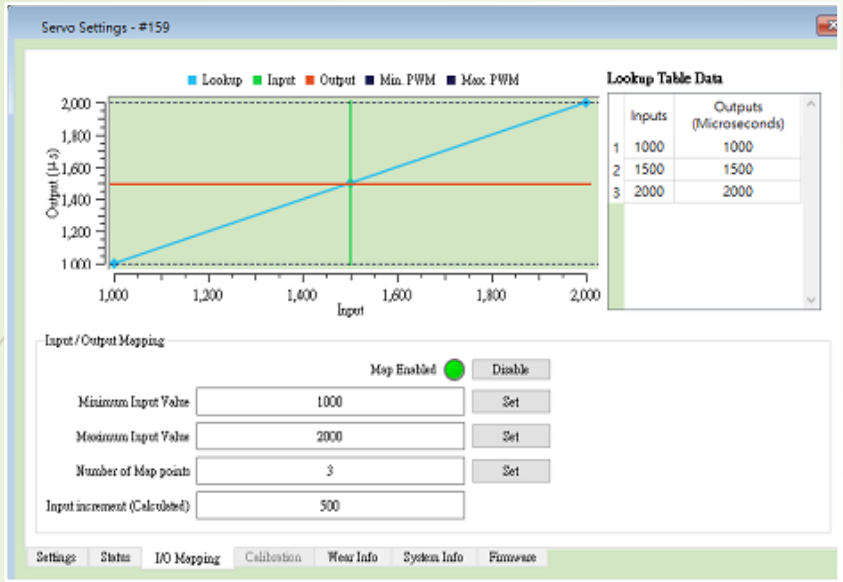
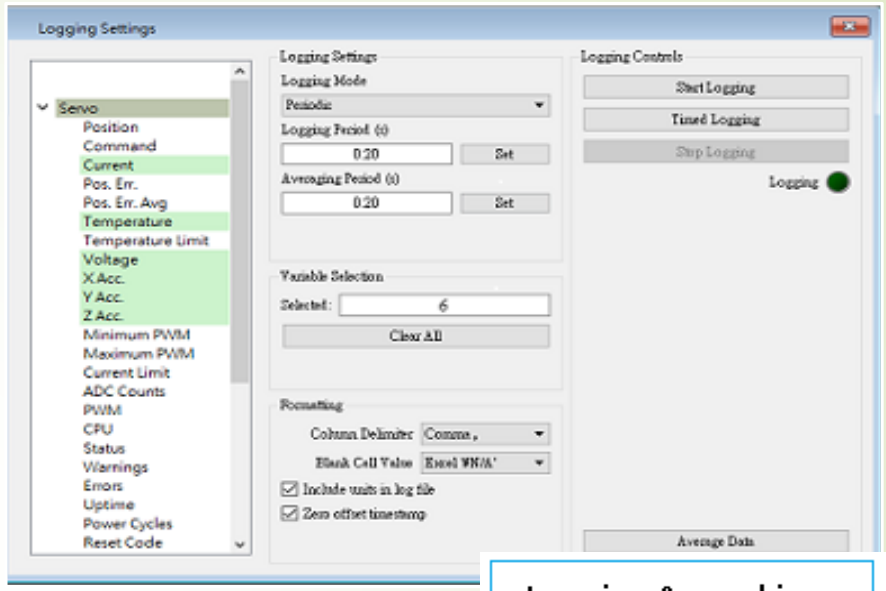
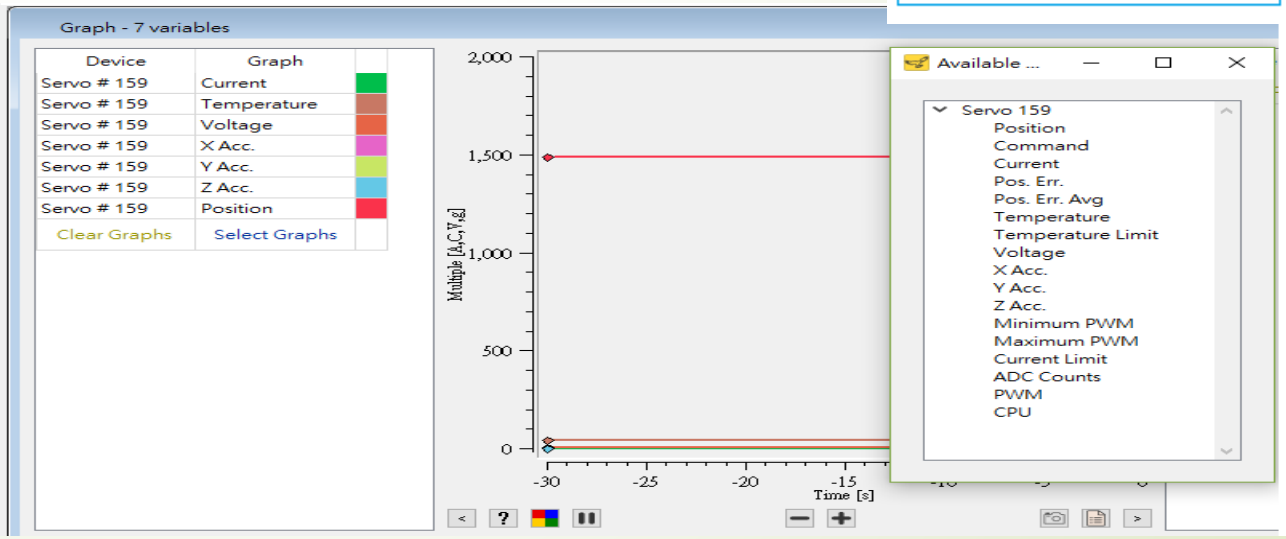


Input / Output Mapping



Logging & graphing



Bibliography:

- Currawong Engineering CE1180.d01(rev 2.0)
- Currawong Engineering CE630.d00 (rev 3.0)
- Currawong Engineering CE985.d08
- Currawong Engineering CE985.d11 (rev 3.0)
- RCmart Robo-CAN Institute documentary
- RCmart Japan ROBOCON Engineering standards

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