



GROUPE  
MOTORS



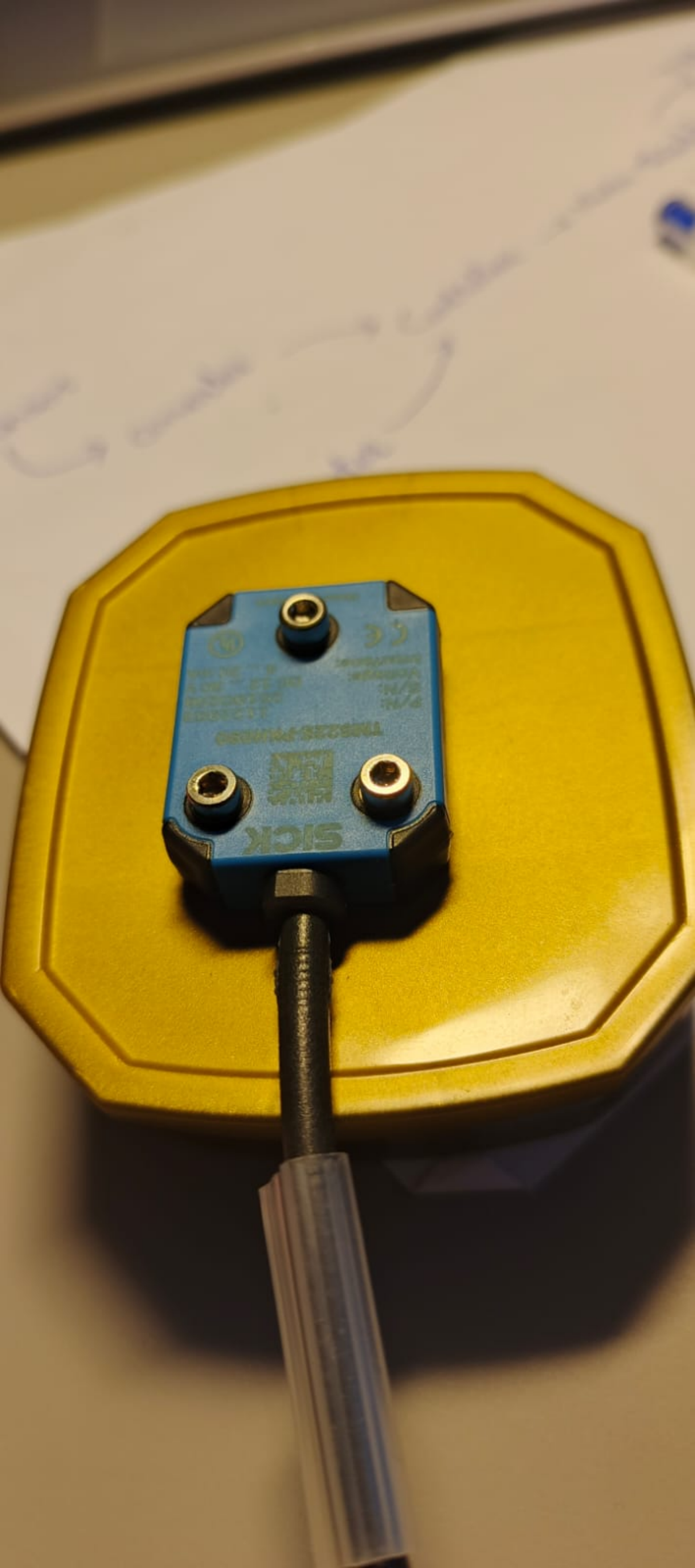
CE

12 V AP

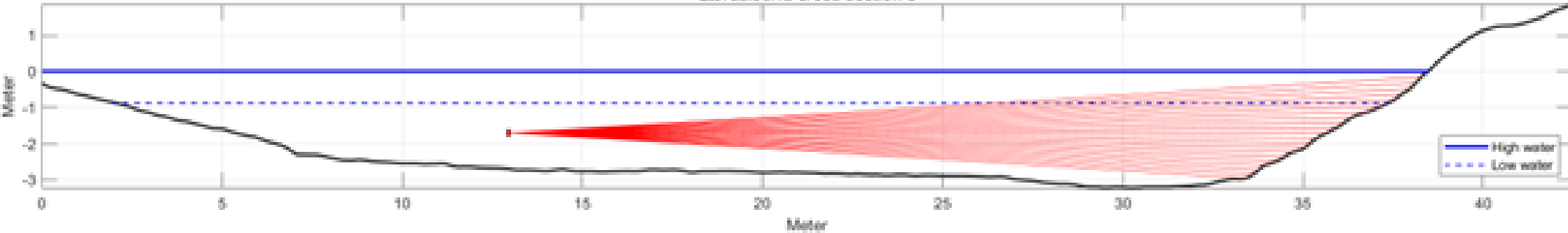
5000 RPM

2861013

2

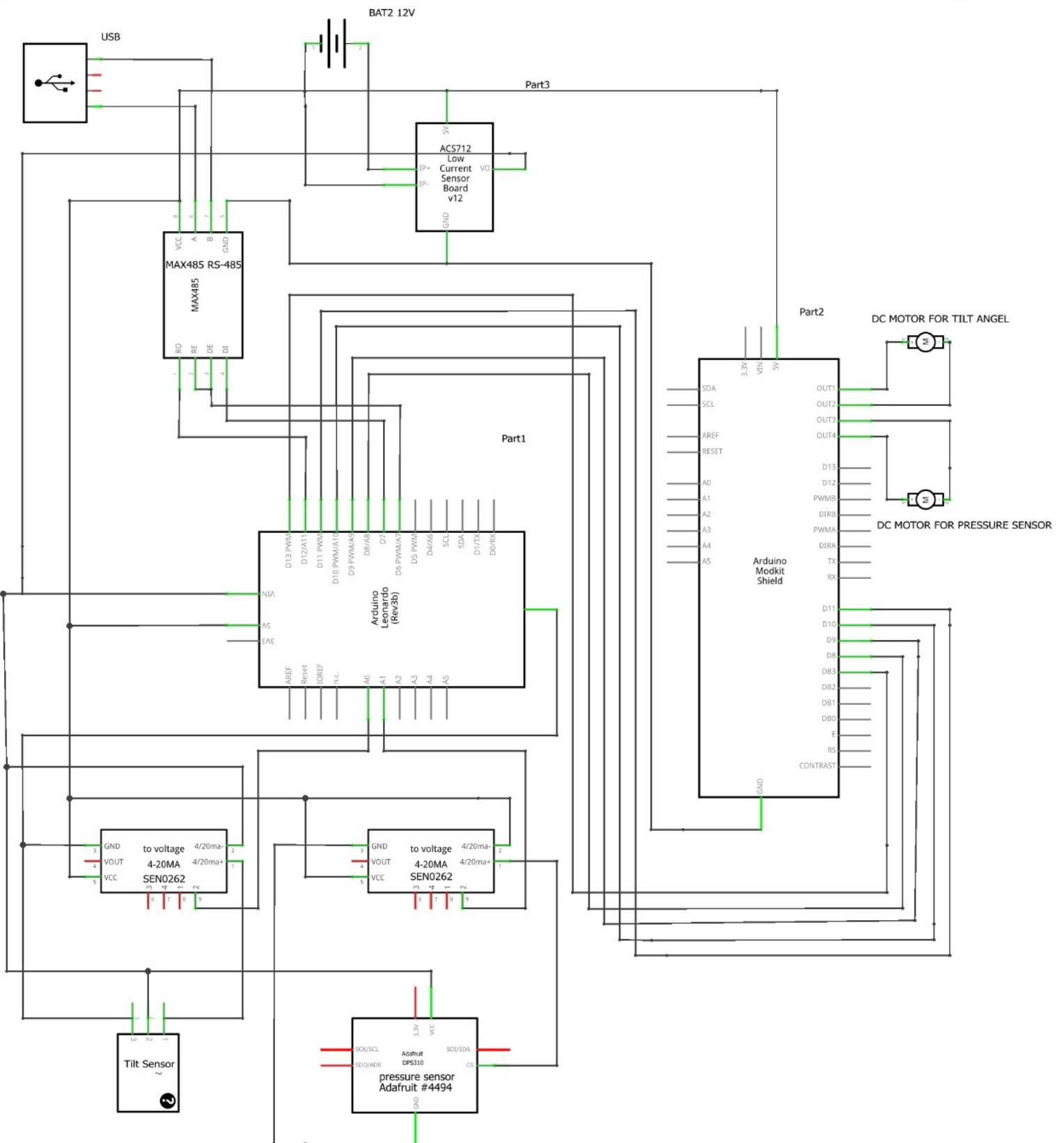


Lerdalshva cross section 3



# Arduino Leonardo-Based Precision Motion Control System

This project implements a precise motion control system using an Arduino Leonardo, TMS22E-PKH090 tilt sensor, DFRobot SEN0262 pressure sensor, and MAX485 module for RS-485 communication. It controls two DC motors using an L298P motor driver: one for the tilt axis and one for the vertical axis.





20:27:41.741	->	Voltage: 0.992 V		Current: 4.00 mA		Depth: 0.0 cm
20:27:42.754	->	Voltage: 0.992 V		Current: 4.00 mA		Depth: 0.0 cm
20:27:43.765	->	Voltage: 0.992 V		Current: 4.00 mA		Depth: 0.0 cm
20:27:44.738	->	Voltage: 0.997 V		Current: 4.00 mA		Depth: 0.0 cm
20:27:45.749	->	Voltage: 0.997 V		Current: 4.00 mA		Depth: 0.0 cm
20:27:46.780	->	Voltage: 0.992 V		Current: 4.00 mA		Depth: 0.0 cm
20:27:47.780	->	Voltage: 1.022 V		Current: 4.09 mA		Depth: 2.7 cm
20:27:48.750	->	Voltage: 1.031 V		Current: 4.13 mA		Depth: 3.9 cm
20:27:49.766	->	Voltage: 1.036 V		Current: 4.14 mA		Depth: 4.5 cm
20:27:50.762	->	Voltage: 1.041 V		Current: 4.16 mA		Depth: 5.1 cm
20:27:51.773	->	Voltage: 1.051 V		Current: 4.20 mA		Depth: 6.4 cm
20:27:52.776	->	Voltage: 1.051 V		Current: 4.20 mA		Depth: 6.4 cm
20:27:53.790	->	Voltage: 1.056 V		Current: 4.22 mA		Depth: 7.0 cm

20:26:20.668	->	Voltage: 0.982 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:21.632	->	Voltage: 0.978 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:22.646	->	Voltage: 0.978 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:23.660	->	Voltage: 0.978 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:24.630	->	Voltage: 0.978 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:25.662	->	Voltage: 0.978 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:26.661	->	Voltage: 0.978 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:27.662	->	Voltage: 0.982 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:28.677	->	Voltage: 0.978 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:29.685	->	Voltage: 0.978 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:30.661	->	Voltage: 0.982 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:31.683	->	Voltage: 0.982 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:32.679	->	Voltage: 0.982 V		Current: 4.00 mA		Depth: 0.0 cm
20:26:33.665	->	Voltage: 0.978 V		Current: 4.00 mA		Depth: 0.0 cm



Timestamp	Voltage	Angle	Error	Direction
18:51:15.590	-> Voltage: 1.657 V	Angle: 14.77°	Error: 14.41°	FORWARD
18:51:15.838	-> Voltage: 1.788 V	Angle: 17.72°	Error: 17.36°	FORWARD
18:51:16.100	-> Voltage: 0.987 V	Angle: -0.30°	Error: -0.67°	REVERSE
18:51:16.342	-> Voltage: 0.982 V	Angle: -0.41°	Error: -0.78°	REVERSE
18:51:16.587	-> Voltage: 0.983 V	Angle: -0.38°	Error: -0.75°	REVERSE
18:51:16.820	-> Voltage: 0.982 V	Angle: -0.41°	Error: -0.77°	REVERSE
18:51:17.085	-> Voltage: 1.162 V	Angle: 3.63°	Error: 3.27°	FORWARD
18:51:17.300	-> Voltage: 2.700 V	Angle: 38.24°	Error: 37.88°	FORWARD
18:51:17.545	-> Voltage: 1.013 V	Angle: 0.30°	Error: -0.06°	STABLE
18:51:17.783	-> Voltage: 4.232 V	Angle: 72.72°	Error: 72.36°	FORWARD
18:51:18.046	-> Voltage: 4.956 V	Angle: 89.00°	Error: 88.64°	FORWARD
18:51:18.282	-> Voltage: 4.956 V	Angle: 89.01°	Error: 88.65°	FORWARD
18:51:18.515	-> Voltage: 4.956 V	Angle: 89.01°	Error: 88.65°	FORWARD
18:51:18.762	-> Voltage: 4.955 V	Angle: 88.99°	Error: 88.63°	FORWARD



```
18:48:33.102 -> Voltage: 0.986 V | Angle: -0.31° | Error: -0.67° | REVERSE
18:48:33.351 -> Voltage: 0.989 V | Angle: -0.24° | Error: -0.60° | REVERSE
18:48:33.600 -> Voltage: 0.987 V | Angle: -0.29° | Error: -0.65° | REVERSE
18:48:33.819 -> Voltage: 0.985 V | Angle: -0.33° | Error: -0.69° | REVERSE
18:48:34.049 -> Voltage: 0.986 V | Angle: -0.31° | Error: -0.68° | REVERSE
18:48:34.320 -> Voltage: 0.989 V | Angle: -0.24° | Error: -0.60° | REVERSE
18:48:34.567 -> Voltage: 0.988 V | Angle: -0.27° | Error: -0.64° | REVERSE
18:48:34.801 -> Voltage: 0.985 V | Angle: -0.33° | Error: -0.69° | REVERSE
18:48:35.060 -> Voltage: 0.991 V | Angle: -0.21° | Error: -0.57° | REVERSE
18:48:35.282 -> Voltage: 1.151 V | Angle: 3.40° | Error: 3.04° | FORWARD
18:48:35.515 -> Voltage: 1.284 V | Angle: 6.38° | Error: 6.02° | FORWARD
18:48:35.782 -> Voltage: 1.345 V | Angle: 7.77° | Error: 7.41° | FORWARD
18:48:36.013 -> Voltage: 1.367 V | Angle: 8.26° | Error: 7.90° | FORWARD
18:48:36.276 -> Voltage: 1.323 V | Angle: 7.26° | Error: 6.90° | FORWARD
```

Current to Voltage  
Converter V1.0



Gravity

A





