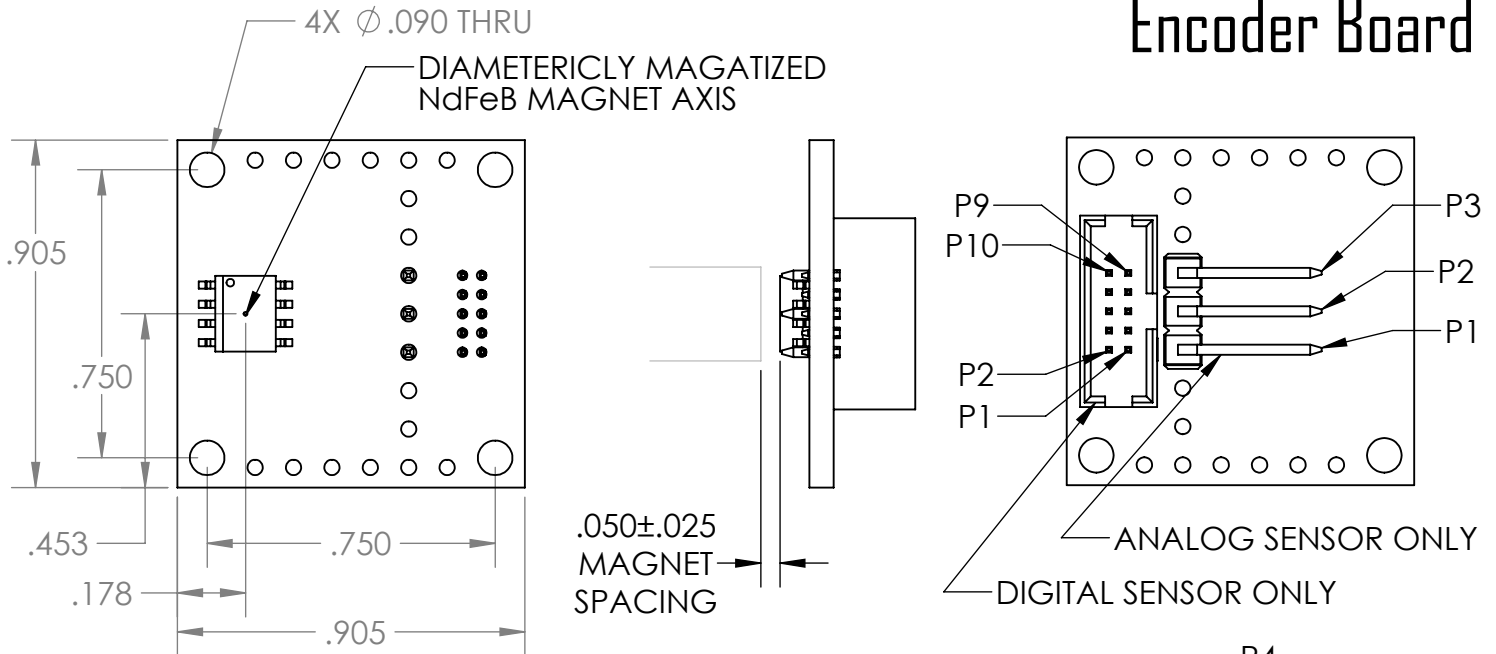


# ARMABOT

## Turret240 P/N A0085 Encoder Board

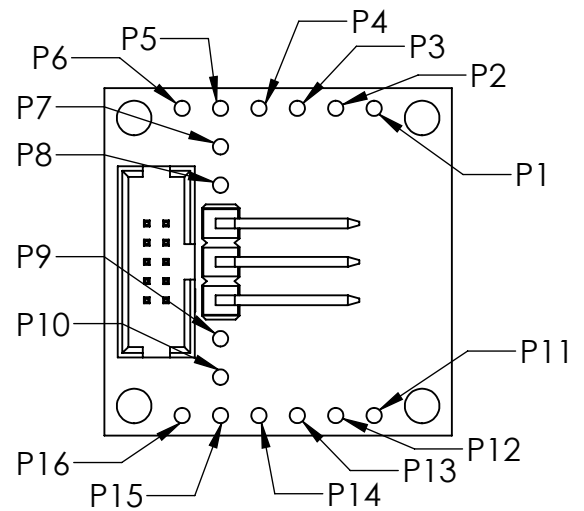


### 3 PIN HEADER CONNECTIONS (ANALOG ONLY)

PIN	CONNECTIONS
1	GROUND
2	5VDC
3	ANALOG (FROM SENSOR)

### SOLDER POINTS

PIN	CONNECTIONS
1	GROUND
2	3.3VDC TO SENSOR
3	I2C-SCL TO SENSOR
4	I2C-SDA TO SENSOR
5	PROGRAM TO SENSOR
6	DIRECTION TO SENSOR
7	GROUND
8	LIMIT, FORWARD
9	GROUND
10	LIMIT, REVERSE
11	QUAD B TO 10PIN CONN.
12	5VDC TO 10PIN CONN.
13	QUAD A TO 10PIN CONN.
14	INDEX/PWM TO 10PIN CONN.
15	GROUND
16	ANALOG TO 10PIN CONN.



### 10 PIN HEADER CONNECTIONS (DIGITAL ONLY)

PIN	CONNECTION
1	NO CONNECT(3.3V)
2	5VDC
3	ANALOG (FROM PIN P16)
4	LIMIT, FORWARD
5	QUAD B
6	NO CONNECT
7	QUAD A
8	LIMIT, REVERSE
9	PWM (FROM SENSOR)
10	GROUND

# ARMABOT

Here is some example code that may help read the digital encoder correctly:

```
package org.rivierarobotics.robot;

import com.ctre.phoenix.motorcontrol.SensorCollection;

/**
 * Reads PWM values from the AS5600.
 */
public class AS5600EncoderPwm {
    private final SensorCollection sensors;
    private volatile int lastValue = Integer.MIN_VALUE;

    public AS5600EncoderPwm(SensorCollection sensors) {
        this.sensors = sensors;
    }

    public int getPwmPosition() {
        int raw = sensors.getPulseWidthRiseToFallUs();
        if (raw == 0) {
            int lastValue = this.lastValue;
            if (lastValue == Integer.MIN_VALUE) {
                return 0;
            }
            return lastValue;
        }
        int actualValue = Math.min(4096, raw - 128);
        lastValue = actualValue;
        return actualValue;
    }
}
```

```
-----
package org.rivierarobotics.robot;

import com.ctre.phoenix.motorcontrol.can.WPI_TalonSRX;
import edu.wpi.first.wpilibj.controller.PIDController;
import edu.wpi.first.wpilibj2.command.PIDSubsystem;

public class DriveTrainOrSomething extends PIDSubsystem {

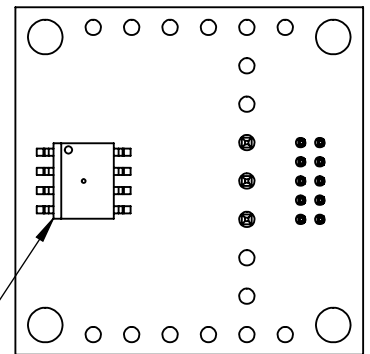
    private final WPI_TalonSRX yourTalon = new WPI_TalonSRX(1);
    private final AS5600EncoderPwm encoder = new
AS5600EncoderPwm(yourTalon.getSensorCollection());

    public DriveTrainOrSomething() {
        super(new PIDController(0, 0, 0));
    }

    @Override
    protected void useOutput(double output, double setpoint) {
        yourTalon.set(output);
    }

    @Override
    protected double getMeasurement() {
        return encoder.getPwmPosition();
    }
}
```

## Turret240 P/N A0085 Encoder Board



ABSOLUTE ENCODER SENSOR  
MANUFACTURER: AMS  
PART NUMBER: AS5600  
[https://ams.com/documents/20143/36005/AS5600\\_DS00036\\_5\\_5-00.pdf](https://ams.com/documents/20143/36005/AS5600_DS00036_5_5-00.pdf)