KY-035 Hall Effect Magnetic Sensor – Detailed Explanation

The **KY-035** is an **analog Hall effect sensor** that detects the presence of a magnetic field. It provides an analog output that varies based on the **strength and polarity** of the magnetic field.

It is often used in applications where non-contact magnetic field detection is required, such as **proximity sensing, rotation speed measurement, and security systems**.

How KY-035 Works

- The KY-035 uses a **Hall effect sensor**, which detects **magnetic field intensity**.
- If a **magnet** is brought near the sensor, it **changes the voltage output** on the analog pin.
- The **output voltage increases or decreases** based on the **magnetic field's polarity and strength**.
- This sensor does **not have a digital output**, meaning it gives a **continuous range of values** instead of just HIGH/LOW.

KY-035 Applications

Magnetic Proximity Sensors – Detect objects without physical contact.
Speed Measurement – Used in **rotating disks** or wheels to measure RPM.
Security Systems – Detects when a door or window opens (magnet moving away).
Position Sensing – Determines position in **robotics and industrial automation**.
Current Measurement – Used in circuits to detect magnetic fields generated by electric currents.

Is KY-035 the Same as KY-024?

No, KY-035 and KY-024 are different!
Both are **Hall effect sensors**, but there are key differences:

Feature	KY-035	KY-024
Output Type	Analog only (A0)	**Both** Analog (A0) & Digital (D0)
Comparator	❌ No comparator	✅ Has a built-in LM393 comparator
Sensitivity Adjustment	❌ Not adjustable	✅ Adjustable via a potentiometer
Best for	Magnetic field strength measurement	Magnetic detection (switch-like behavior)

Key Differences

- **KY-035 is purely analog**, meaning it gives a **variable voltage** based on the magnetic field's strength.
- **KY-024 has both analog and digital outputs**, meaning it can **act as a switch** when the field crosses a certain threshold.

Which One Should You Use?

If You Need...	Use
Precise measurement of magnetic field strength	KY-035
A switch-like behavior (ON/OFF detection)	KY-024

Example Use Cases

- If you need to **measure the intensity** of a magnetic field, use **KY-035**.
- If you need a **magnetic switch** that turns ON/OFF based on a threshold, use **KY-024**.

Conclusion

KY-035 is a **highly sensitive analog Hall effect sensor** that detects **magnetic field strength** and polarity.
KY-024 is similar but also has a **digital output for threshold-based switching**.
Use KY-035 for precise measurements and **KY-024 for magnetic ON/OFF switching**.