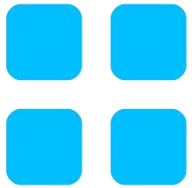
MST

# The Blueprint of Motion & Sensing

2026 Product Selection Guide & Technical Catalog

# Engineering the Complete Magnetic Life Cycle

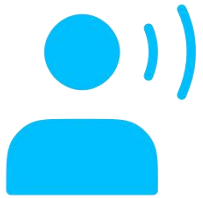


## R&D & Customization

From custom IC design to advanced magnetic simulation and system deployment.

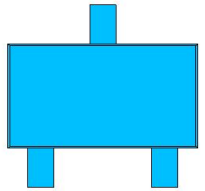
## ISO Quality Assurance

Rigorous control systems ensuring high stability in extreme industrial and automotive environments.



## Field Application Engineering

Expert FAE teams providing rapid technical support and custom development response.



## Patented Technology

Sustained innovation yielding a rich matrix of sensors for industrial,consumer, and automotive needs.

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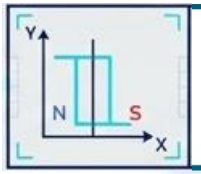
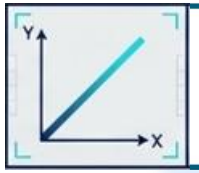
# Hall Effect Sensor IC


01 **Latch**

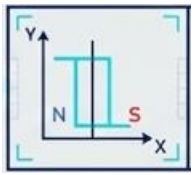
02 **Fan Driver**




03 **Linear**

04 **Omni-polar Switch**

05 **Uni-polar Switch**




# Latch: Dual-Stable Architecture

## Technical Definition

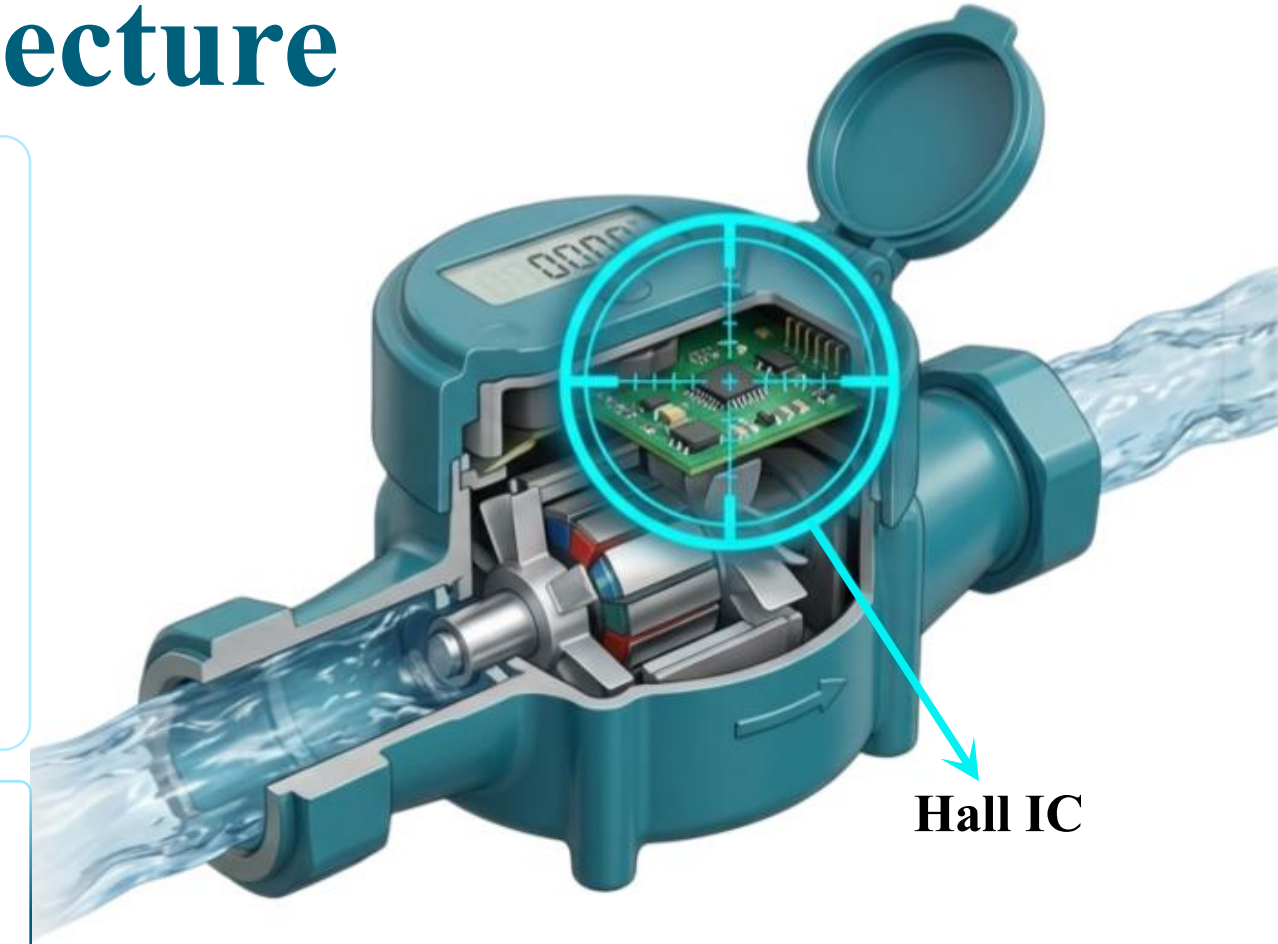
**Requires a forward magnetic field (N) to trigger and a reverse magnetic field (S) to release. Engineered for state maintenance and precise rotational counting.**

## Key Characteristics

- **High sensitivity & low hysteresisfor rapid response.**
- **Wide operating temperature rangefor harsh environments.**
- **High-frequency stability.**

## Applications

**Smart gas / water meters, HVAC fans, industrial automation, smart home systems.**

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# Latch:
# Low-Voltage & Micro-Power


| MODELS: MH176 / MH178 / MH179 | |
|---|---|
| **Voltage** | 1.8V / 3V / 5V (Optimized for coin-cell and single-cell lithium) |
| **Architecture** | CMOS process with robust RF interference immunity |
| **Thermal Rating** | -40°C to 125°C with exceptionally low temperature drift |

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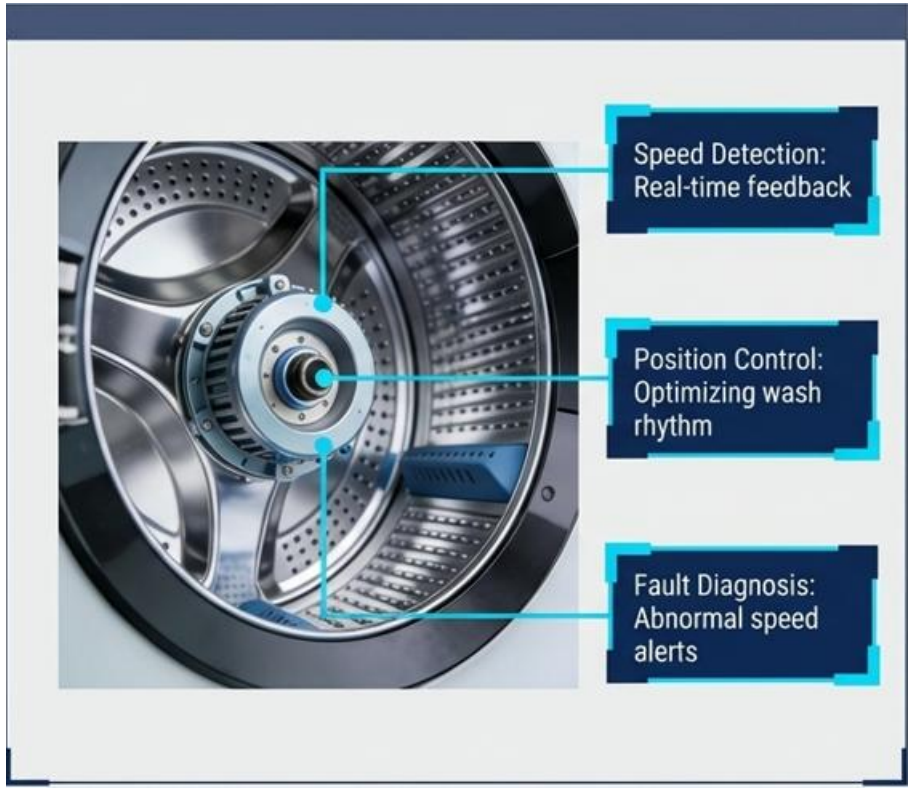
# Latch:

## High-Voltage Latch ICs for Heavy-Duty Motor Control

**Featured Models:**

**MH163 / MH173 (Optimized for BLDC motors, reverse power protection)**
**MH180 / MH182 (Low temperature drift) | Operating Voltage: 5V / 12V /24V**




# Latch:
# Extreme Durability & BLDC Robotics

## High-ESD Protection

Featured Model: The New MH41F

**HBM ≥ 8kV ESD**

- TO92S-3L package
- 5V/12V/24V systems
- -40℃ to 125℃

## Autonomous BLDC Control

Featured Models: MH182 / MH188

- Built-in reverse protection
- Ultra-low power consumption
- Optimized specifically for Brushless DC (BLDC) motors in power tools and robotic vacuums.

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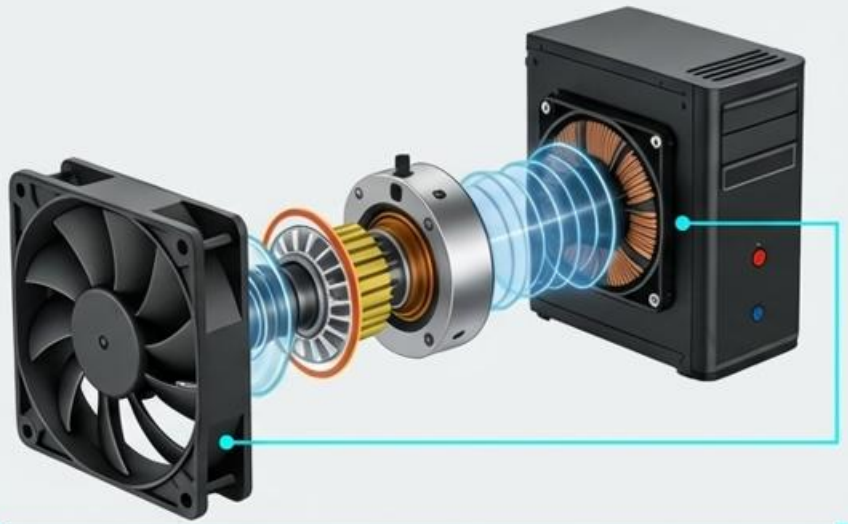
# Fan Driver: High-EfficiencyAirflowManagement

**Engineered for high efficiency, active noise reduction, and extended lifespan. Features superior resistance to industrial dust, oil, and moisture interference.**

### Single Coil Architecture

**Models:** MH361, MH3610, MH3611, MH365
**Characteristics:** High speed, ultimate energy savings, low noise.



### Dual Coil Architecture

**Models:** MH276, MH284, MH381, MH382
**Characteristics:** High efficiency, high rotational speed, compact power draw.

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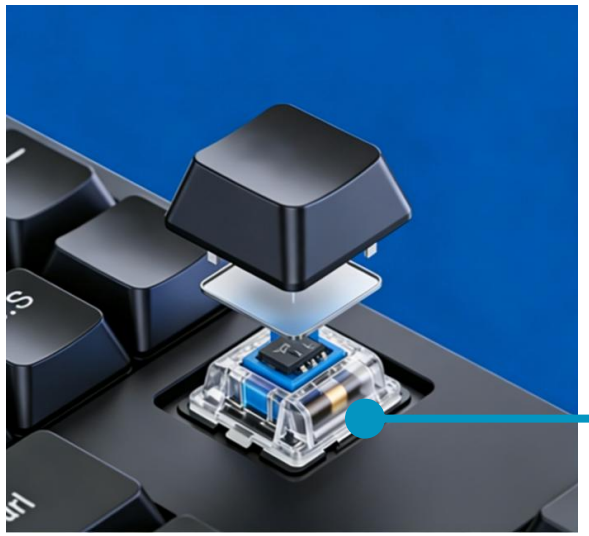
# Linear:
# Precision Proportional Output

**Delivers a stable, proportional analog output based onabsolute magnetic field strength. Designed for highlinearity and ultra-low temperature drift.**

## Models： MH481/MH4802/MH4803

**Characteristics:**
Low power consumption, low noise.Fast response speed,Good consistency, low temperature drift



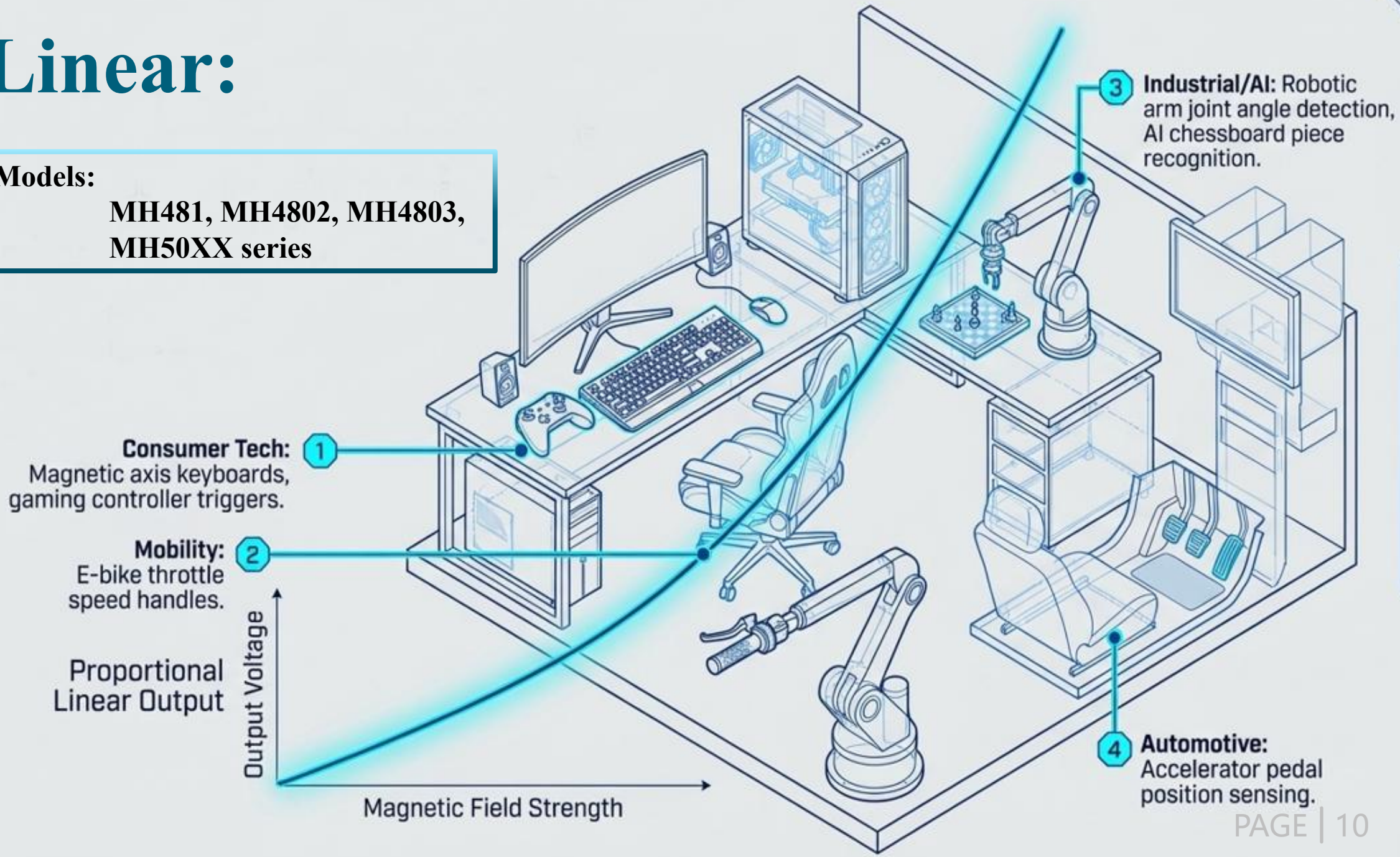
## Models： MH50XX series

**Characteristics:**
Multiple sensitivity options,Fast response time,Low output noise, good stability

# Linear:

**Featured Models:**

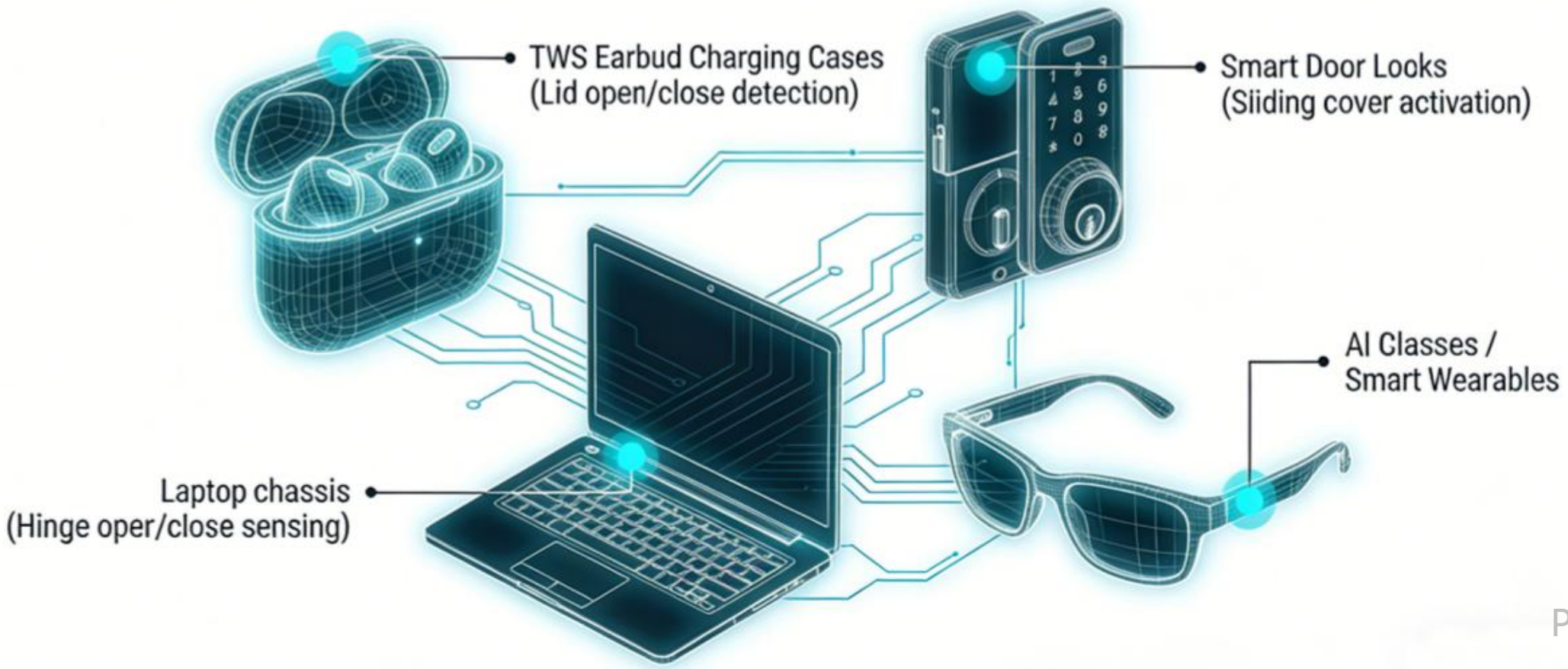
**MH481, MH4802, MH4803, MH50XX series**



# Omni-polar Switch:

**A monostable magnetic sensor sensitive to both North and South poles, enabling reliable detection without the need to distinguish magnetic poles.**

**Featured Models: MH248, MH251, MH253, MH231, MH232, MH234**



# Omni-polar Switch:

| | Existing product | New product |
|---|---|---|
| | MH251 | MH231 |
| Supply Voltage,(VDD) | 1.65-3.5V | 1.65-5.5V |
| Supply Current,(IDD) | 5uA(Avg) | 1uA(Avg) |
| Output Leakage Current,(Ioff) | 1uA(Max) | 1uA(Max) |
| Awake Mode Time,(Taw) | 40uS(Typ) | 25uS(Typ) |
| Sleep Mode Time,(TSL) | 40mS(Typ) | 35mS(Typ) |
| ESD(HBM) | 4kV | 8kV |
| BOPS | < 55Gauss | 20~40Gauss |
| BRPS | > 10Gauss | 10~30Gauss |
| BOPN | > -55Gauss | -40~-20Gauss |
| BRPN | < -10Gauss | -30~-10Gauss |
| BHYS | 10Gauss(Typ) | 10Gauss(Typ) |

## Typical Application:
Laptops, Electric Toys

**Screen Open/Close Detection:**
Hall detects magnet position for screen wake-up and sleep control.

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# Omni-polar Switch:

| | Existing product | New product |
|---|---|---|
| | MH253 | MH233 |
| Supply Voltage,(VDD) | 2.5-6V | 1.65-5.5V |
| Supply Current,(IDD) | 2.6mA(Typ) | 2mA(Typ) |
| Output Leakage Current,(Ioff) | 10uA(Max) | 10uA(Max) |
| ESD(HBM) | 4kV | 8kV |
| BOPS | < 60Gauss | 20~40Gauss |
| BRPS | > 5Gauss | 10~30Gauss |
| BOPN | > -60Gauss | -40~-20Gauss |
| BRPN | < -5Gauss | -30~-10Gauss |
| BHYS | 10Gauss(Typ) | 10Gauss(Typ) |

## Typical Application:

Jump Rope, IPC

# Omni-polar Switch:

| | Existing product | New product |
|---|---|---|
| | MH248 | MH238 |
| Supply Voltage,(VDD) | 1.8-5.5V | 1.65-5.5V |
| Supply Current,(IDD) | 10uA(Avg) | 1uA(Avg) |
| Output Leakage Current,(Ioff) | 1uA(Max) | 1uA(Max) |
| Awake Mode Time,(Taw) | 70uS(Typ) | 25uS(Typ) |
| Sleep Mode Time,(TSL) | 70mS(Typ) | 35mS(Typ) |
| ESD(HBM) | 4kV | 8kV |
| BOPS | 6~60Gauss | 20~40Gauss |
| BRPS | 5~59Gauss | 10~30Gauss |
| BOPN | -60~-6Gauss | -40~-20Gauss |
| BRPN | -60~-5Gauss | -30~-10Gauss |
| BHYS | 7Gauss(Typ) | 10Gauss(Typ) |

**Typical Application:**
Foldable Phones

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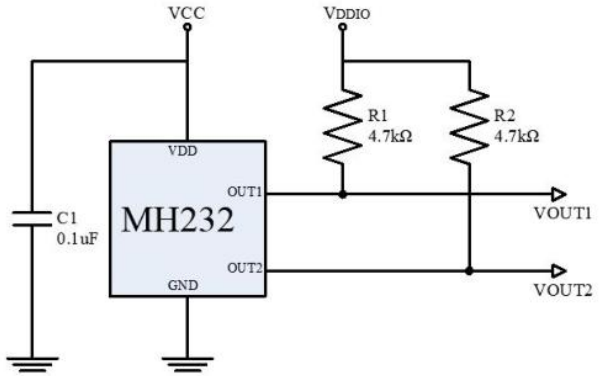
# Omni-polar Switch:

| Dual-output micro-power Hall | MH232ESS |
|---|---|
| Supply Voltage,(VDD) | **1.65-5.5V** |
| Supply Current,(IDD) | **1.2uA(Avg)** |
| Output Leakage Current,(Ioff) | **1uA(Max)** |
| BOPS：OUT1 | **22~40Gauss** |
| BRPS：OUT1 | **12~30Gauss** |
| BOPN：OUT2 | **-40~-22Gauss** |
| BRPN：OUT2 | **-30~-12Gauss** |
| BHYS | **10Gauss(Typ)** |

## Typical Application Circuit:




## Typical Application:AR Glasses

# Omni-polar Switch:

| | MH234 |
|---|---|
| Supply Voltage,(VDD) | **1.65-5.5V** |
| Supply Current,(IDD) | **3.7uA(Avg)** |
| Output Leakage Current,(Ioff) | **0.01uA(Max)** |
| Awake Mode Time,(Taw) | **20uS(Typ)** |
| Sleep Mode Time,(TSL) | **4mS(Typ)** |
| Operating Frequency | **200Hz** |
| ESD(HBM) | **8kV** |
| BOPS | **20~40Gauss** |
| BRPS | **10~30Gauss** |
| BOPN | **-40~-20Gauss** |
| BRPN | **-30~-10Gauss** |
| BHYS | **10Gauss(Typ)** |

## Typical Application:

Jump Rope

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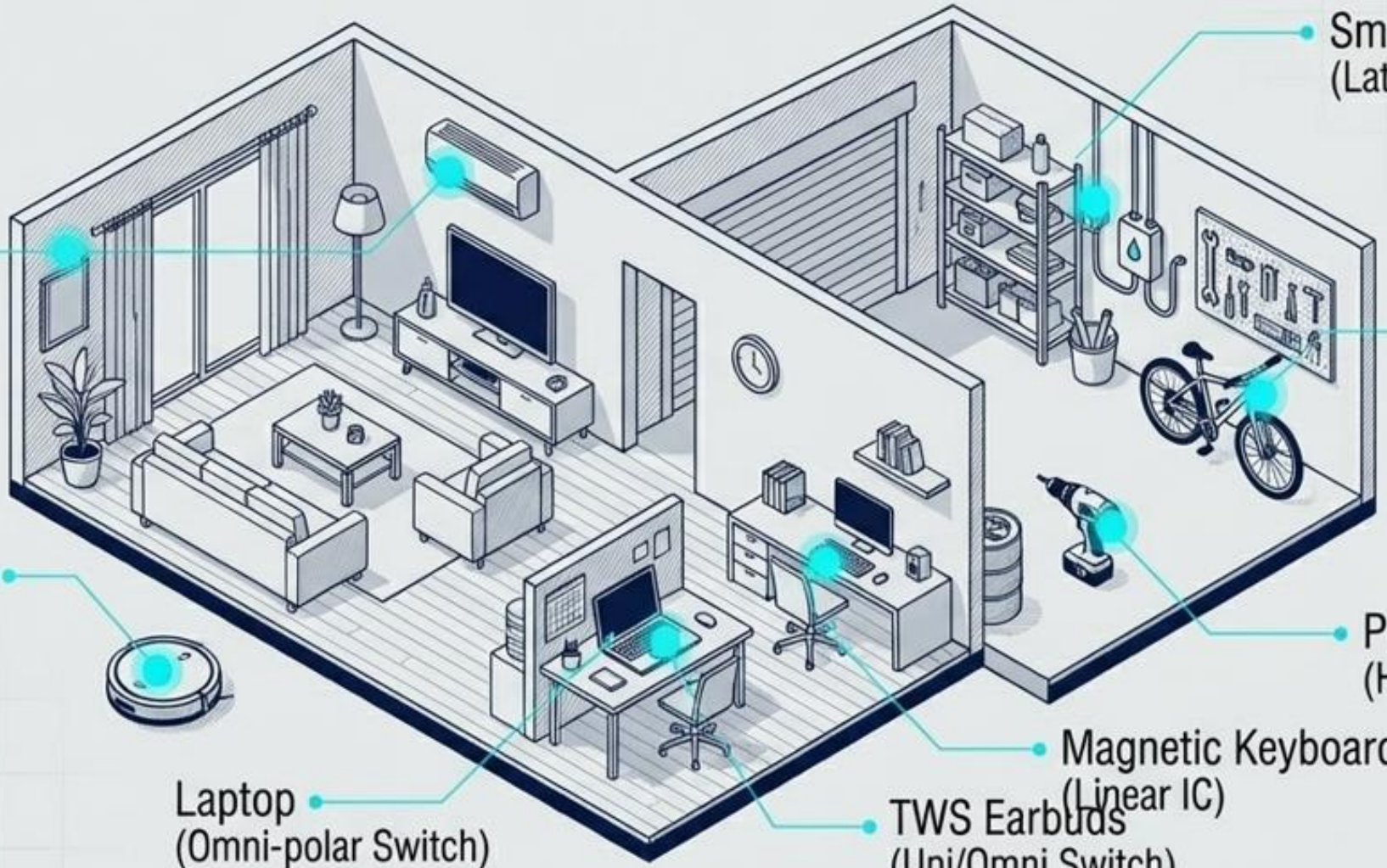
# Uni-polar Switch:

A monostable magnetic sensor sensitive only to a specific magnetic pole (usually the South pole).

**Featured Models: MH230, MH254**

**Applications:** **Cameras, TWS Earphones**

# The MST-Powered Ecosystem



Smart HVAC
(Fan Driver IC)

Smart Water Meter
(Latch IC)

E-Bike
(Linear IC)

Robotic Vacuum
(Latch IC)

Power Drill
(High-Voltage Latch)

Magnetic Keyboard
(Linear IC)

Laptop
(Omni-polar Switch)

TWS Earbuds
(Uni/Omni Switch)

# Thank You Very Much

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**Tks and Questions**

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