# Model MPD-801(L) Magnetic Position Detection Sensor

□Model List

| | |
|---|---|
| Switch Operation | MPD-801 |
| Latch Operation | MPD-801L |

## Application

- X · Y slide table origin detection for machine tools.
- Origin detection angle of the rotating body.
- For detecting position of closing elevator door.
- Sealed for detection of precision equipment and safe.

## Characteristics

- Highly stable operation even when the ambient temperature varies thanks to its magnetism focusing construction (patented).
- Response at high speed is possible.
- It is a high accuracy and repeatability ± 100 μ or less.
- If used near a set distance, repeatability will be even higher.

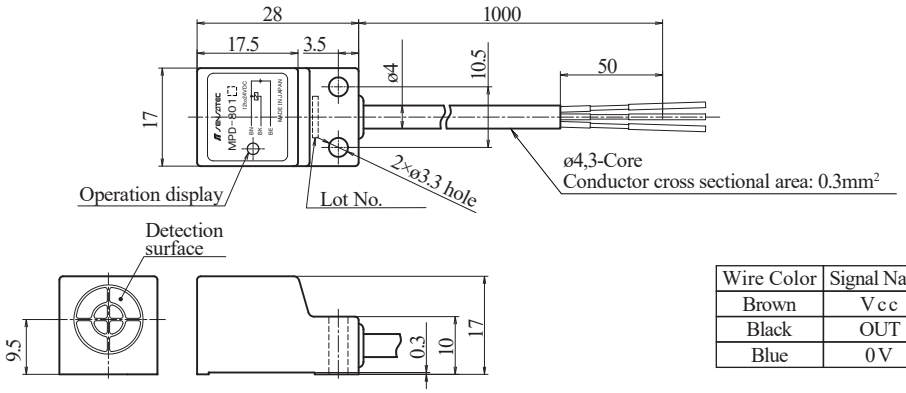
## Rating / Performance

| Model | **MPD-801** | **MPD-801L** |
|---|---|---|
| Detection Surface | Front side detection | |
| Detection Function | Switch (Normally) detection | Latch detection |
| Set Distance | 3 mm ± 1 mm | |
| Detection Sensitivity | 800 μT or more | |
| Standard Detection Target | MG10-10-BHT | |
| Repeat Accuracy 1 | ± 30 mm or less detection position error (Set distance at a constant) | |
| Repeat Accuracy 2 | Detecting position error is or less ± 100 mm (3 mm ± 1 mm when set distance at a constant) | |
| Power Supply Voltage | 10 V to 26.4 V DC | |
| Power Consumption | 15 mA DC or less | |
| Output | 30 V DC 50 mA DC or less Nch MOSFET open drain | |
| Operation Configuration | Normally open (On with magnetic field) | |
| Operation Display | ON S pole detection, red LED lights | |
| Response Time | 50μs or less | |
| Operating Temperature Range | -10 to 60 °C (-20 to 70 °C during storage)(Without dew condensation or freezing) | |
| Operating Humidity Range | 95% RH or less (95% RH or less during storage)(Without dew condensation) | |
| Withstand Voltage | 1 min at 1500 V AC 50/60 Hz (Between the live part and case) | |
| Insulation Resistance | 100 MΩ or more measured with an ohmmeter at 500 V DC (Between the live part and installation part) | |
| Vibration Resistance | Durability: 2 hours in each X, Y, Z direction at 10 to 55 Hz and with peak-to-peak amplitude of 1.5 mm (At power off) | |
| Shock Resistance | Durability : 3 times at 500 m/s$^2$ (approx. 50 G) in each X, Y, Z direction (At power off) | |
| Protection Rating | IP67 | |
| Case Material | ABS | |
| Cable | ø4 round cord of 0.3 mm$^2$ and 1 m in length (Oil and heat resistant) | |
| Weight | Approx. 33 g | |

**Head Office – laboratory – Kyoto Factory:**
3-27-12 Oichonamikawa Kameoka-shi Kyoto-fu 621-0013,JAPAN
E-mail : info@sensatec.co.jp

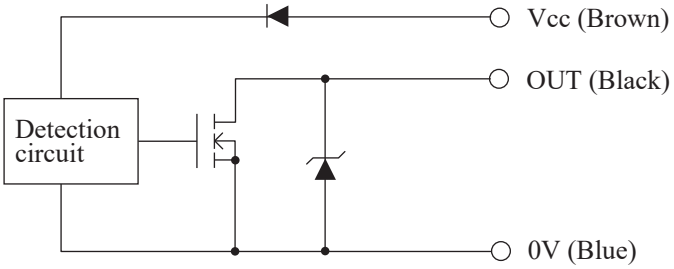


## External Dimensions Diagram



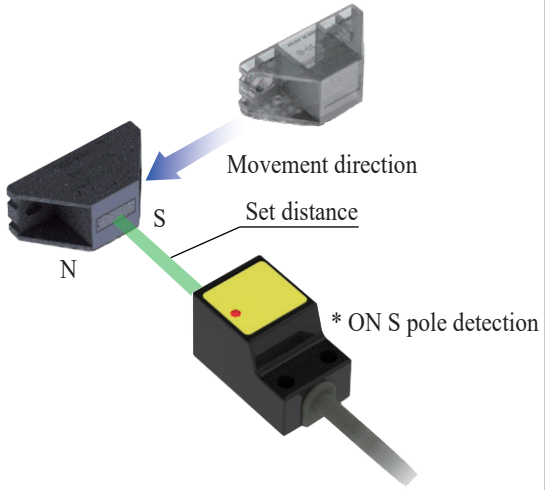

| Wire Color | Signal Name |
|---|---|
| Brown | Vcc |
| Black | OUT |
| Blue | 0V |

## Output Circuit

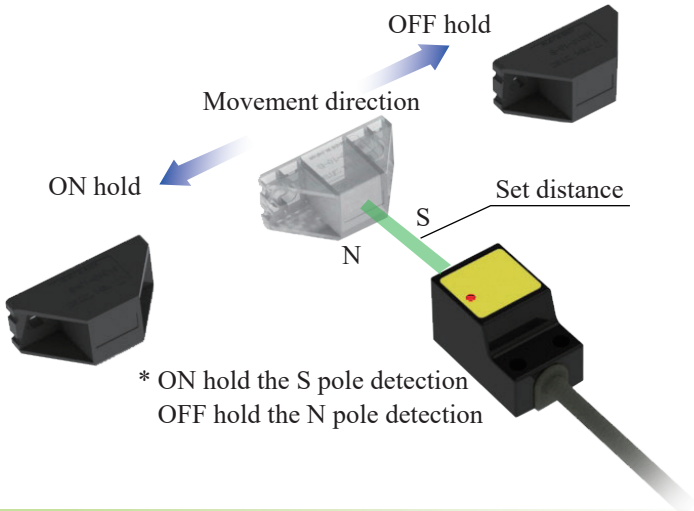



## Detection Characteristic

**MPD-801**




**MPD-801L**




## Usage Precautions

1. In the case in which the output is set to ON, please attach the magnet N → S to pass through without fail.
2. Since the MPD-801L is are to have a self-holding function, you can hold the work until you detect the N pole after the output is ON by detecting the S pole. Therefore please let detect the N pole to the sensor in order to be reversed (OFF) the output signal. It is not possible to hold the operating state self-holding circuit that was ON and turn OFF the power. Therefore please be aware of this power outage output it will be a state of being OFF until it detects the power is turned on again after the S pole.
3. Please use a combination of standard detector, and MG10-10-BHT form must be our magnetic sensor. In addition, it is set so that the center of the standard proximity body to pass through N → S, and S → N the center portion of the sensor detection surface, the distance between the sensors and the standard detection body as to translate 3 ± 1mm within Please use.
4. This magnetic sensor is highly sensitive because of the use of a patented magnetic convergence mechanism. Material of the mounting portion of the standard sequence detector sensor to avoid magnetic metal, please use by using a material of a non-magnetic material. Also, please use on your consideration enough the impact if there is a magnetic metal around.
5. See Electromagnetic sensor general usage precautions for other precautions.

*For a detailed specification of the other, please refer to specifications.