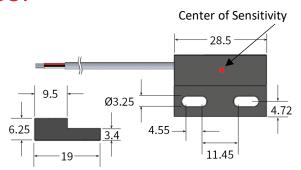
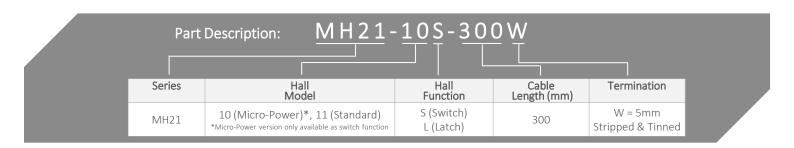


Series Datasheet standexelectronics.com

## MH21 Series Micro-Power Hall Sensor

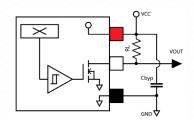
- Hall Effect Sensors offer solid state reliability, low power consumption, and consistent activation points over a wide temperature range in a rugged and environmentally isolated package.
- Micro-Power versions operate on 2.5-3.5V battery voltage with only 5μA average supply current vs. the industry average of 5mA
- Custom options include: output- switch, latch, etc., high temperature resistance, package design and much more.





| Electrical & Environmental Characteristics |                                        | Micro-Power Switch |      |      | Standard Switch & Latch |     |      | 11-56 |
|--------------------------------------------|----------------------------------------|--------------------|------|------|-------------------------|-----|------|-------|
| Specification                              | Conditions                             | Min                | Тур  | Max  | Min                     | Тур | Max  | Unit  |
| Supply Voltage                             | Operating                              | 2.5                | 2.75 | 3.5  | 3                       | -   | 24   | V     |
| Output Leakage Current                     | V <sub>out</sub> = Max Voltage         | -                  | < 1  | 1    | -                       | -   |      | μΑ    |
| Output On Voltage                          |                                        | -                  | 100  | 300  | -                       | 185 | 500  | mV    |
| Awake Time                                 |                                        | -                  | 45   | 90   | -                       | -   | -    | μs    |
| Period                                     |                                        | -                  | 45   | 90   | -                       | -   | -    | Ms    |
| Duty Cycle                                 |                                        | -                  | 0.1  | -    | -                       | -   | -    | %     |
| Chopping Frequency                         |                                        | -                  | 340  | -    | -                       | 800 | -    | kHz   |
| Supply Current                             | Chip Awake                             | -                  | -    | 2    | -                       | -   | 4    | mA    |
|                                            | Chip Asleep                            | -                  | -    | 8    | -                       | -   | -    | μΑ    |
|                                            | V <sub>cc</sub> = 3.5V                 | -                  | 6.7  | 10   | -                       | -   | -    | μΑ    |
|                                            | V <sub>cc</sub> = 12V                  | -                  | -    | -    | -                       | -   | 4    | mA    |
| Operating Temperature                      | *Higher temperature versions available | -40                | -    | +85* | -40                     | -40 | +85* | С     |
| Storage Temperature                        |                                        | -65                | -    | +105 | -65                     | -65 | +105 | С     |

| Magnetic Characteristics |                                      | Micro-Power Switch | Standard<br>Switch | Standard<br>Latch | Unit |  |
|--------------------------|--------------------------------------|--------------------|--------------------|-------------------|------|--|
| Specification            | Conditions                           | Тур                | Тур                | Тур               |      |  |
| Operation Point          | V <sub>out</sub> = Low (Output On)   | 37                 | 35                 | 22                | G    |  |
| Release Point            | V <sub>out</sub> = High (Output Off) | 31                 | 25                 | -23               | G    |  |
| Hysteresis               |                                      | 6                  | 10                 | 45                | G    |  |



## Notes:

- Add external pull-up resistor (RL) for sinking output between VCC and VOUT.
- Add external bypass capacitor (CBYP) close to the sensor to reduce external noise as needed.