

# Micro-Power Hall Effect Sensors MH04 and MH21



## Contact Information:

Standex-Meder Electronics  
World Headquarters  
4538 Camberwell Road  
Cincinnati, OH 45209 USA

**Standex Americas (OH)**  
+1.866.STANDEX  
(+1.866.782.6339)  
info@standexelectronics.com

**Meder Americas (MA)**  
+1.800.870.5385  
salesusa@standexmeder.com

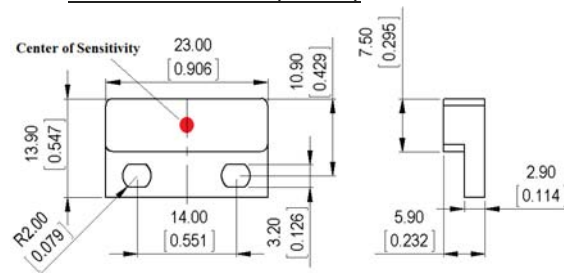
**Standex-Meder Asia (Shanghai)**  
+86.21.37820625  
salesasia@standexmeder.com

**Standex-Meder Europe (Germany)**  
+49.7731.8399.0  
info@standexmeder.com

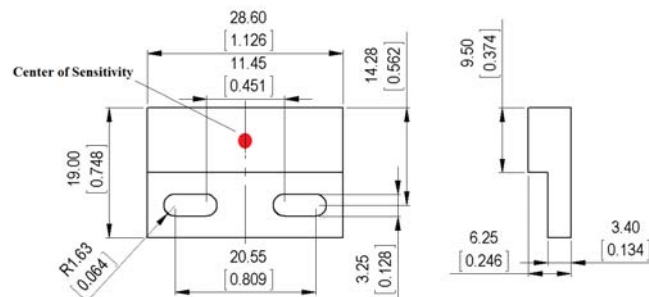
- Standex-Meder Hall Effect Sensors offer solid state reliability, low power consumption, and consistent activation points over a wide temperature range in a rugged and environmentally isolated package.
- Micro-Power versions operate on 2.5-3.5V battery voltage with only 5μA average supply current vs. the industry average of 5mA
- Custom options include: output- switch, latch, etc., high temperature resistance, package design and much more.
- Standex-Meder specializes in customizing designs to specific customer needs for a wide range of applications. Please contact us to provide the optimal solution for your specific needs.

Dimensions in mm (inches)

**MH04**



**MH21**



Micro-Power Hall Effect Sensor

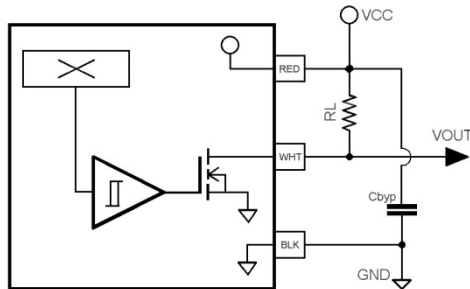
www.standexmeder.com

Electrical & Environmental Characteristics								
Specification	Conditions	Micro-Power Switch			Standard Switch & Latch			Unit
		Min	Typ	Max	Min	Typ	Max	
Supply Voltage	Operating	2.5	2.75	3.5	3		24	V
Output Leakage Current	$V_{OUT} = \text{Max Voltage}$		< 1	1			10	$\mu\text{A}$
Output On Voltage			100	300		185	500	mV
Awake Time			45	90				$\mu\text{s}$
Period			45	90				ms
Duty Cycle			0.1					%
Chopping Frequency			340			800		kHz
Supply Current	Chip Awake			2			4	mA
	Chip Asleep			8				$\mu\text{A}$
	$V_{CC} = 3.5\text{V}$		6.7	10				$\mu\text{A}$
	$V_{CC} = 12\text{V}$						4	mA
Operating Temperature		-40		+85*	-40		+85*	C
Storage Temperature		-65		+105	-65		+105	C

\*Higher temperature versions available

Magnetic Characteristics					
Specification	Conditions	Micro-Power Switch (Typ)	Standard Switch (Typ)	Standard Latch (Typ)	Unit
Operation Point	$V_{OUT} = \text{Low (Output On)}$	37	35	22	G
Release Point	$V_{OUT} = \text{High (Output Off)}$	31	25	-23	G
Hysteresis		6	10	45	G

Circuit Diagram for 3-wire Hall Effect Sensors



Notes:

- Add external pull-up resistor ( $R_L$ ) for sinking output between  $V_{CC}$  and  $V_{OUT}$ .
- Add external bypass capacitor ( $C_{BYP}$ ) close to the sensor to reduce external noise as needed.

Part Number Builder				
Series	Hall Model	Hall Function	Cable Length (mm)	Termination
MH04, MH21	10 (Micro-Power)* 11 (Standard)	S (Switch) L (Latch)	300*	W (5mm stripped and tinned)*
	*Micro-Power version only available as switch function		*other lengths available	*other terminations available
<b>Example Part Number: MH04-10S-300W</b>				