

# Hall Effect Sensor Flange Mount

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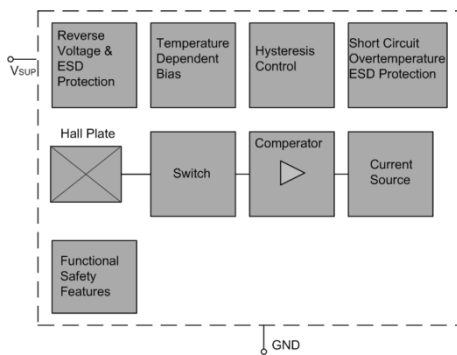
**RoHS  
Compliant**



## Features

- Compact size
- Various switching sensitivities
- Customized types available

## Block Diagram



Symbol	Parameter	Wire colour	Min.	Max.	Unit	Conditions
V <sub>SUP</sub>	Supply voltage	Red	-18		V	t < 1000 h <sup>1)</sup>
			--	28		t < 96 h <sup>1)</sup>
			--	32		t < 5 min <sup>1)</sup>
			--	40		t < 5 x 400 ms <sup>1)</sup> with series resistor R <sub>v</sub> > 100Ω
V <sub>OUT</sub>	Output voltage		-0.5		V	t < 1000 h <sup>1)</sup>
			--	28		t < 96 h <sup>1)</sup>
			--	32		t < 5 min <sup>1)</sup>
			--	40		t < 5 x 400 ms <sup>1)</sup> with series resistor R <sub>v</sub> > 100Ω
I <sub>O</sub>	Output current		--	65	mA	
I <sub>OR</sub>	Reverse output current		- 50			

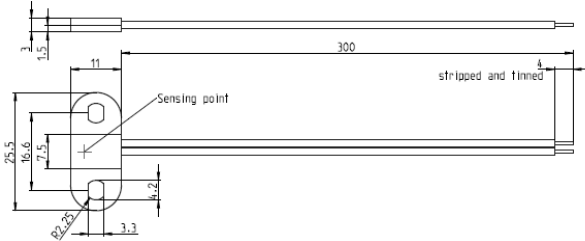
1) No cumulative stress All voltages listed are referenced to ground (GND)

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## Dimensions



Wire Assignment		
Name	Function	Cable colour
VSUP	Supply voltage and output	Red
GND	Ground	Black

## Environmental Characteristics

Operating temperature - 20°C to + 85°C

Material Information		
	Material	Colour
Housing	PA6	Black
Cable	UL1007/1569, AWG 24	Red, Black
Potting compound	Epoxy	Black

## Characteristics

At recommended operation conditions if not otherwise specified in the column "Conditions".  
Typical characteristics for  $T_J = 25\text{ }^\circ\text{C}$  and  $V_{SUP} = 12\text{ V}$

Symbol	Parameter	Wire colour	Min.	Typ.	Max.	Unit	Conditions
<b>Supply</b>							
$I_{SUPlo}$	Low supply current	Red	5		7	mA	for $V_{SUP} = -18\text{ V}$
$I_{SUPlo}$	High supply current		12		17		
$I_{SUPhi}$	Reverse current				1		
<b>Output</b>							
$t_f$	Output fall time <sup>1)</sup>	--			1	$\mu\text{s}$	<sup>1)</sup> $V_{SUP} = 12\text{ V};$
$t_r$	Output rise time				1		
$t_d$	Delay time <sup>1)</sup>			16	--		
$t_{smp}$	Output refresh period		1.6	2	2.66		
$t_{en}$	Enable time of output after settling of $V_{SUP}$			50			

## Recommended Operating Conditions

Symbol	Parameter	Wire colour	Min.	Max.	Unit
$V_{SUP}$	Supply voltage	Red	3	24	V

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## Magnetic Characteristics Overview

Symbol	Parameter	Min.	Typ.	Max.	Unit
BONth	ON threshold range <sup>1)</sup>	-30		30	mT
BOOth	OFF threshold range <sup>1)</sup>	-30		30	
Bth	Adjustable step size <sup>2)</sup>		0.5		
T <sub>C</sub>	Temperature compensation of magnetic thresholds <sup>3)</sup>	0		-3000	ppm/K

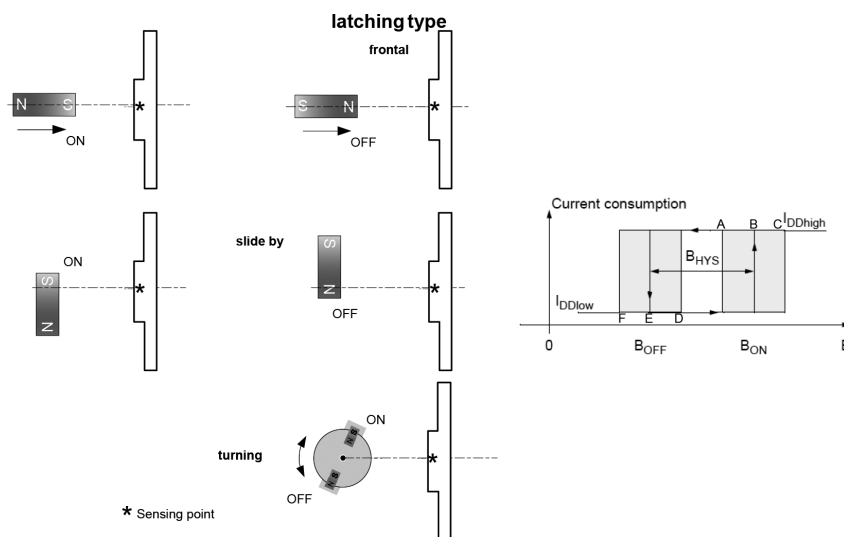
1) Available range  
 2) Small steps at small values, bigger steps at higher values. May not be undercut  
 3) Different temperature compensation available on request

## Magnetic Characteristics

Switching Type	Temp. coeff. of magnetic thresh. TC [ppm/K]	On point B <sub>ON</sub> [mT]			Off point B <sub>OFF</sub> [mT]			Hysteresis B <sub>HYS</sub> <sup>1)</sup> [mT]		
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
latching	0	tbd.	12	tbd.	tbd.	-12	tbd.	-	24	-
		A	B	C	D	E	F			

<sup>1)</sup> The hysteresis is the difference between the switching points B<sub>HYS</sub> = B<sub>ON</sub> - B<sub>OFF</sub>

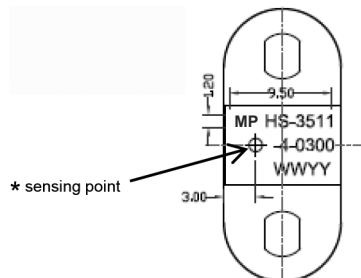
## Magnetic Approach (for example)



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## Off-center position of sensing point



## Part Number Table

Description	Part Number
2 Wire, Flange Mount Hall Effect Sensor, Latching	MP-HS-3511-04-0300

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