

# Hall Effect Sensor Flange Mount

**multicomp** PRO

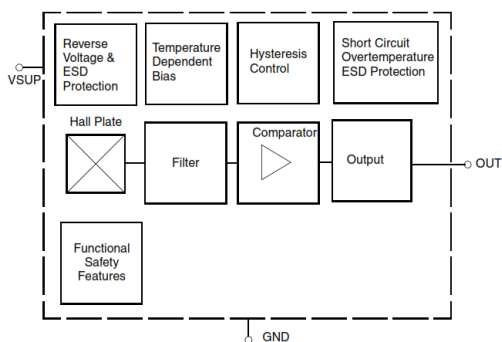
**RoHS  
Compliant**



## Features

- Compact size
- Various switching sensitivities
- Customized types available

## Block Diagram



## Absolute Maximum Ratings

Stresses beyond those listed in the “Absolute Maximum Ratings“ may cause permanent damage to the device. Functional operation of the device at these conditions is not implied. Exposure to the absolute rating conditions for extended periods will affect device reliability.

Symbol	Parameter	Pin No.	Min.	Max.	Unit	Conditions
$T_J$	Junction Temperature Range A	--	-40	190	°C	$t < 96 \text{ h}^{(1)}$
$T_{\text{storage}}$	Transportation/ Short-Term Storage Temperature	White	- 50	155		Device Only without packing material
$V_{\text{SUP}}$	Supply Voltage	1	-18	28	V	$t < 96 \text{ h}^{(1)}$
			--	32		$t < 5 \text{ min}^{(1)}$
			--	40		$t < 10 \times 400 \text{ ms}$ “Load-Dump” <sup>(1)</sup> with series resistor $R_V > 100 \Omega$
$V_{\text{OUT}}$	Output Voltage	2	-0.5	28	V	$t < 96 \text{ h}^{(1)}$
$I_O$	Output Current		--	65	mA	
$I_{OR}$	Reverse output current		-50	--	mA	

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

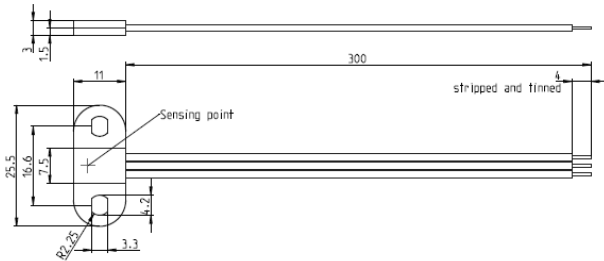
Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
sg.element14.com/b/multicomp-pro

**multicomp** PRO

# Hall Effect Sensor Flange Mount

**multicomp** PRO

## Dimensions



Wire Assignment		
Name	Function	Cable colour
VSUP	Supply voltage	Red
OUT	Output	white
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, White, Black
Potting compound	Epoxy	Black

## Characteristics

Symbol	Parameter	Pin No.	Min.	Typ.	Max.	Unit	Conditions
<b>Supply</b>							
V <sub>UV</sub>	Undervoltage threshold	1	2	--	2.7	V	
I <sub>SUP</sub>	Supply Current		1.1	1.6	2.4	mA	
I <sub>SUPR</sub>	Reverse current		-1	--	--		for V <sub>SUP</sub> = -18 V
<b>Port Output</b>							
V <sub>ol</sub>	Port low output voltage	2	--	0.13	0.4	V	I <sub>o</sub> = 20 mA
I <sub>oleak</sub>	Output leakage current			0.1	10		μA
t <sub>r</sub>	Output fall time <sup>1)</sup>			--	--	1	μs
t <sub>r</sub>	Output rise time <sup>1)</sup>						
B <sub>noise</sub>	Effective noise of magnetic switching points (RMS) <sup>2)</sup>	--	--	72	--	μT	For square wave signal with 12 kHz
t <sub>j</sub>	Output jitter (RMS) <sup>1)</sup>	2	--	±0.58	±0.72	μs	For square wave signal with 1 kHz. Jitter is evenly distributed between -1μs and +1μs
t <sub>d</sub>	Delay time <sup>2)3)</sup>			16	21		
t <sub>samp</sub>	Output refresh period <sup>2)</sup>			1.6	2.2		3
t <sub>en</sub>	Enable time of output after exceeding of V <sub>UV</sub> <sup>4)</sup>			20	50		60
1) Characterized on small size, not tested 2) Guaranteed by design 3) Systematic delay between magnetic threshold reached and output switching 4) If power-on self-test is executed, t <sub>en</sub> will be extended by power-on self-test period							

Newark.com/multicomp-pro  
 Farnell.com/multicomp-pro  
 sg.element14.com/b/multicomp-pro

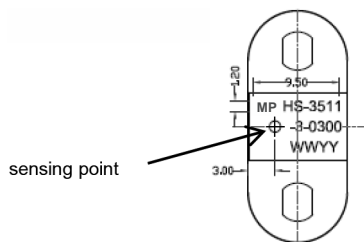
**multicomp** PRO

# Hall Effect Sensor Flange Mount

## Recommended Operating Conditions

Symbol	Parameter	Wire colour	Min.	Max.	Unit
V <sub>SUP</sub>	Supply voltage	Red	2.7	24	V
V <sub>OUT</sub>	Output voltage	White			
I <sub>OUT</sub>	Output current			25	mA

## Off-center position of sensing point

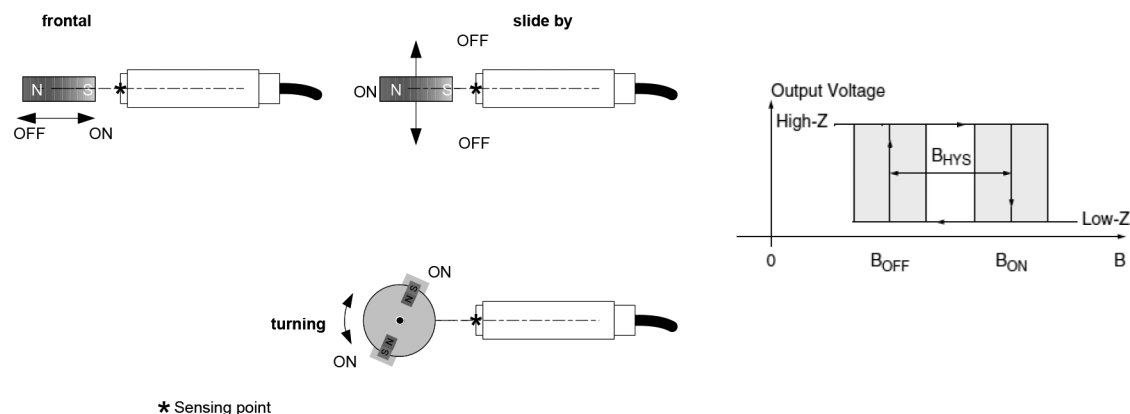


## Magnetic Characteristics Overview

Parameter	On point B <sub>ON</sub>			Off point B <sub>OFF</sub>			Hysteresis B <sub>HYS</sub>			Unit
	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
T <sub>j</sub>										
-40°C	4.4	6.1	7.6	2.4	4	5.7	--	2.1	--	mT
25°C	3.8	5.5	7.1	2.1	3.7	5.5		1.8		
170°C	3	5	6.7	1.8	3.6	5.5		1.4		

## Magnetic Approach (for example)

unipolar type



# Hall Effect Sensor Flange Mount

**multicomp** PRO

## Part Number Table

Description	Part Number
3 Wire, Flange Mount Hall Effect Sensor, Unipolar	MP-HS-3511-03-0300

**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the AVNET group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp Pro is the registered trademark of Premier Farnell Limited 2019.

Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
sg.element14.com/b/multicomp-pro

**multicomp** PRO