

# Hall Effect Position Sensor Threaded

**multicomp** PRO

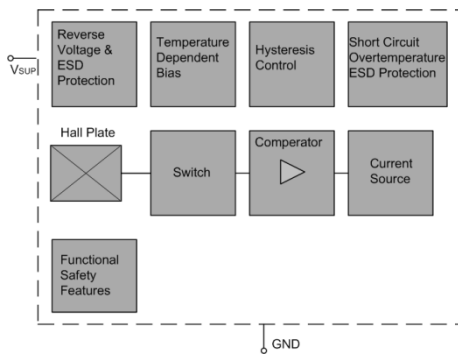
**RoHS  
Compliant**



## 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	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			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 voltage	--	65	mA		
I <sub>OR</sub>	Reverse output current	-50				

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

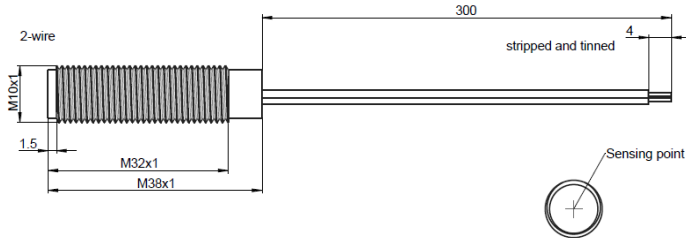
Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
sg.element14.com/b/multicomp-pro

**multicomp** PRO

# Hall Effect Position Sensor Threaded

**multicomp** PRO

## Dimensions



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

## Environmental Characteristics

Operating temperature - 20°C to + 85°C

Material Information		
	Material	Colour
Housing	Nickel plated brass	Nickel
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  $T_J = 25\text{ °C}$  and  $V_{SUP} = 12\text{ V}$

Symbol	Parameter	Wire colour	Min.	Typ.	Max.	Unit	Conditions
$I_{SUPlo}$	Low supplycurrent	Red	5		7	mA	
$I_{SUPlo}$	High supplycurrent		12		17		
$I_{SUPhi}$	Reverse current				1		for $V_{SUP} = -18\text{ V}$
<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	--		
$t_{samp}$	Output refresh period		1.6	2	2.66		
$t_{en}$	Enable time of output after settling of $V_{SUP}$			50			$V_{SUP} = 12\text{ V}$ $B > B_{on} + 2\text{ mT}$ or $B < B_{off} - 2\text{ mT}$

## Recommended Operating Conditions

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

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

**multicomp** PRO

# Hall Effect Position Sensor Threaded



## Magnetic Characteristics Overview

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

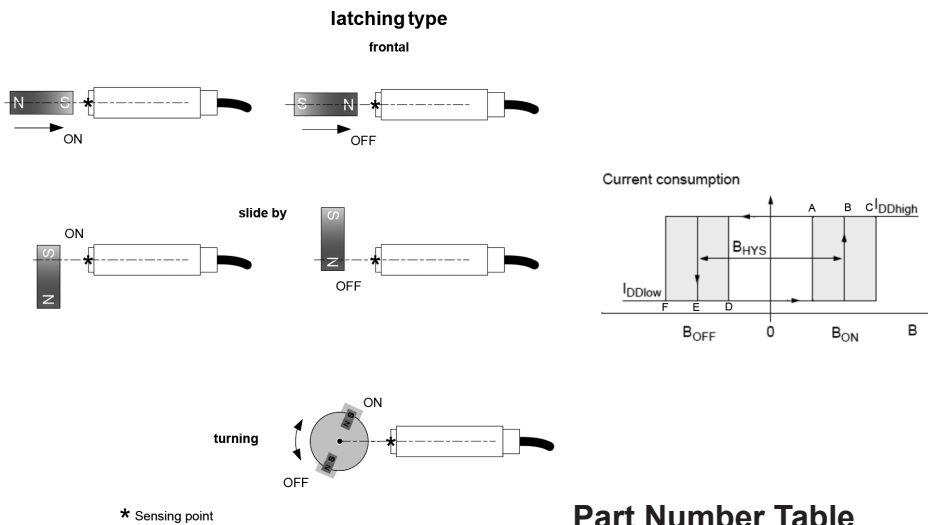
1) Available range  
 2) Small steps at small values, bigger steps at higher values. May not be undercut  
 3) Different temperature compensation available on request

## Magnetic Characteristics

SwitchingType	Temp. coeff. of magnetic thresh. TC [ppm/K]	On point B <sub>ON</sub> [mT]			Off point B <sub>OFF</sub> [mT]			Hysteresis BHYS <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 BHYS = B<sub>ON</sub> - B<sub>OFF</sub>

## Magnetic Approach (for example)



## Part Number Table

Description	Part Number
2 Wire, M10 Threaded Hall Sensor, Latching	MP-HS-2210M-4-0300

**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.

