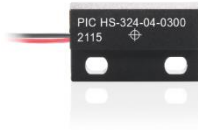


HS-324-04-0300

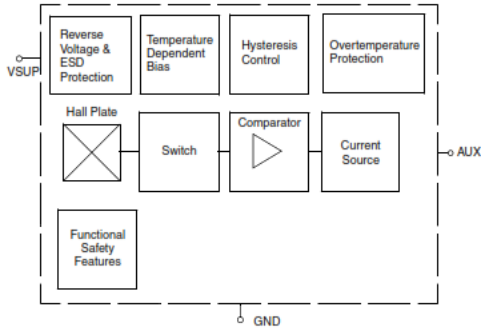


Product image serves as example only.

# HS-324-04-0300

Latching 2 - Wire  
Flatpack Hall Effect Sensor

### Block Diagram



### Features

- Customized types available
- Operates with magnetic fields up to 12 kHz
- Current interface
- Compact size

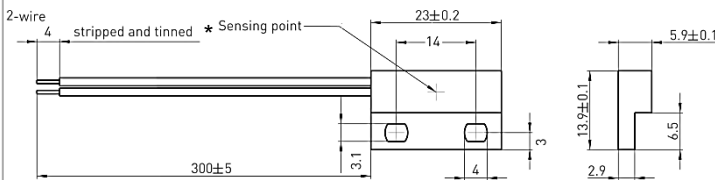
### Approvals



### Recommended Operating Conditions

Symbol	Parameter	Min.	Typ.	Max.	Unit	Conditions
V <sub>SUP</sub>	Supply voltage	3	-	24	V	

### Dimensions



\* other positions on request

### Wire Assignment

Name	Function	Cable colour
V <sub>SUP</sub>	Supply voltage and output	red
GND	Ground	black

HS-324-04-0300 → wire length (mm)

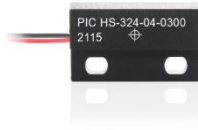
### Material Information

	Material	Colour
Housing	ABS	black
Cable	UL 1007 AWG 24	red, black
Potting	Epoxy	black

### Environmental Characteristics

Operating temperature	°C	- 20 to + 85
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Latching 2 - Wire  
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### Characteristics

Symbol	Parameter	Min.	Typ.	Max.	Unit	Conditions
<b>Supply</b>						
$V_{UV}$	Undervoltage threshold	2	–	3	V	
$I_{SUPlo}$	Low supply current 2	5	–	7	mA	
$I_{SUP}$	Error current	–	–	–	mA	
		0,8	–	2,2	mA	
$I_{SUPhi}$	High supply current	12	–	17	mA	
$I_{SUPR}$	Reverse current	–	–	0,6	mA	for $V_{SUP} = -18 V$
<b>Port Output</b>						
$B_{noise}$	Effective noise of magnetic switching points (RMS) <sup>2)</sup>	–	72	–	$\mu T$	For square wave signal with 12 kHz
$t_j$	Output jitter (RMS) <sup>1)</sup>	–	$\pm 0.58$	$\pm 0.72$	$\mu s$	For square wave signal with 1 kHz. Jitter is evenly distributed between $-1 \mu s$ and $+1 \mu s$
$t_d$	Delay time <sup>2)3)</sup>	–	16	21	$\mu s$	
$t_{smp}$	Output refresh period <sup>2)</sup>	1,6	2,2	3	$\mu s$	
$t_{en}$	Enable time of output after exceeding of $V_{UV}$	20	50	60	$\mu s$	$V_{SUP} = 12 V$ $B > B_{on} + 2 mT$ or $B < B_{off} - 2 mT$

<sup>1)</sup> Characterized on small sample size, not tested

<sup>2)</sup> Guaranteed by design

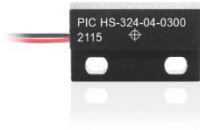
<sup>3)</sup> Systematic delay between magnetic threshold reached and output switching

### Absolute Maximum Ratings

Symbol	Parameter	Min.	Max.	Unit	Conditions
$V_{SUP}$	Supply voltage	-18	28	V	$t < 96 h$ <sup>1)</sup>
		–	32	V	$t < 5 min$ <sup>1)</sup>
		–	40	V	$t < 10 \times 400 ms$ "Load- Dump" <sup>1)</sup> with series resistor $R_V > 100 \Omega$ .

<sup>1)</sup> No cumulative stress

HS-324-04-0300



**HS-324-04-0300**

Latching 2 - Wire  
Flatpack Hall Effect Sensor

**Magnetic Characteristics**

Parameter	On point $B_{ON}$			Off point $B_{OFF}$			Hysteresis $B_{HYS}$			Unit
	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
<b>TJ</b>										
-40 °C	7.0	12	17	-17.0	-12.0	-7.0	-	24	-	mT
25 °C	7.0	12	17	-17.0	-12.0	-7.0	-	24	-	mT
170 °C	7.0	12	17	-17.0	-12.0	-7.0	-	24	-	mT

The hysteresis is the difference between the switching points  $B_{HYS} = B_{ON} - B_{OFF}$

Note: The output turns to low current consumption  $I_{SUPlo}$  with the magnetic north pole on the top side of the package and turns to high current consumption  $I_{SUPhi}$  with the magnetic south pole on the top side. The output does not change if the magnetic field is removed. For changing the output state, the opposite magnetic field polarity must be applied.

**Magnetic Approach (for example)**

