HS-3511-04-0300

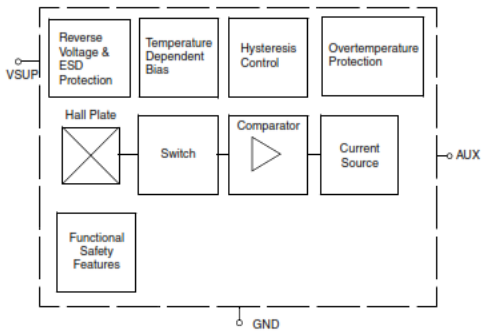
Product image serves as example only.

HS-3511-04-0300

Latching 2 - Wire

Flange Mount Hall Effect Sensor

Block Diagram



Features

- Customized types available
- Operates with magnetic fields up to 12 kHz
- Current interface
- Ultra compact housing

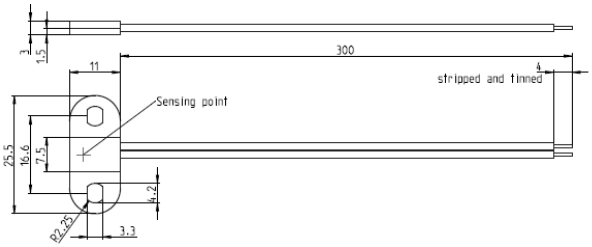
Approvals

RoHS REACH IP67

Recommended Operating Conditions

Symbol	Parameter	Min.	Typ.	Max.	Unit	Conditions
V_{SUP}	Supply voltage	3	–	24	V	

Dimensions



Wire Assignment

Name	Function	Cable colour
V_{SUP}	Supply voltage and output	red
GND	Ground	black

HS-3511-04-0300 → wire length (mm)

Material Information

	Material	Colour
Housing	PA6	black
Cable	UL 1007 AWG 24	red, black
Potting	Epoxy	black

Environmental Characteristics

Operating temperature	°C	- 20 to + 85

PIC Proximity Instrumentation Controls
Kontaktbauelemente GmbH
Nibelungenstr. 5A
90530 Wendelstein, Germany
Phone +49 9129 907089-0
Fax +49 9129 907089-99
info@pic-gmbh.com
pic-gmbh.com

HS-3511-04-0300

Latching 2 - Wire

Flange Mount Hall Effect Sensor

Characteristics

Symbol	Parameter	Min.	Typ.	Max.	Unit	Conditions
Supply						
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
Port Output						
B_{noise}	Effective noise of magnetic switching points (RMS)[2)]	–	72	–	µT	For square wave signal with 12 kHz
t_j	Output jitter (RMS)[1)]	–	±0.58	±0.72	µs	For square wave signal with 1 kHz. Jitter is evenly distributed between –1 µs and +1 µs
t_d	Delay time[2)3)]	–	16	21	µs	
t_{samp}	Output refresh period[2)]	1,6	2,2	3	µs	
t_{en}	Enable time of output after exceeding of V_{UV}	20	50	60	µs	V_{SUP} = 12 V B > Bon + 2 mT or B < Boff – 2 mT

1) Characterized on small sample size, not tested

2) Guaranteed by design

3) 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[1)]
		–	32	V	t < 5 min[1)]
		–	40	V	t < 10 x 400 ms “Load- Dump”[1)] with series resistor RV > 100 Ω.

1) No cumulative stress

PIC Proximity Instrumentation Controls
Kontaktbauelemente GmbH
Nibelungenstr. 5A
90530 Wendelstein, Germany
Phone +49 9129 907089-0
Fax +49 9129 907089-99
info@pic-gmbh.com
pic-gmbh.com

HS-3511-04-0300

Latching 2 - Wire

Flange Mount Hall Effect Sensor

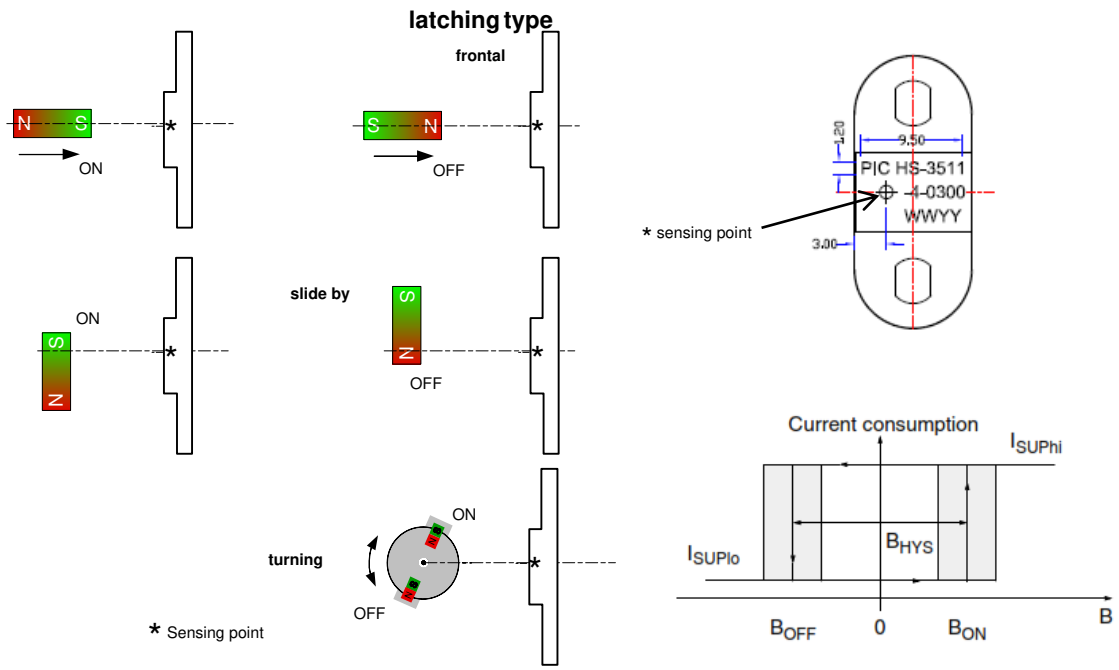
Magnetic Characteristics

Parameter	On point B_{ON}			Off point B_{OFF}			Hysteresis B_{HYS}			Unit
TJ	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
–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)



PIC Proximity Instrumentation Controls
Kontaktbauelemente GmbH
Nibelungenstr. 5A
90530 Wendelstein, Germany
Phone +49 9129 907089-0
Fax +49 9129 907089-99
info@pic-gmbh.com
pic-gmbh.com