# imall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## **Digital Vane Sensor**

## VN1015 Sensors

Magnetically activated digital vane sensor in a rugged, overmolded plastic housing with three pins or 3-wire flying leads

## Description

The VN1015 sensors employ a Hall Effect digital vane sensor and a permanent magnet in two small towers, separated by a 3.4 mm (0.135") air gap. The output switches when a ferrous target passes between the towers. Typical targets are linear or rotary vanes using a square saw tooth or an open slot in a solid disk or band.

## **Features**

- Mechanically interchangeable with typical slotted optical switches
- Robust, high speed sensing in dirty/dusty environments
- No mechanical contacts to wear out
- Open collector (sinking or NPN) output can be used with bipolar or CMOS logic circuits with suitable pull-up resistor
- RoHS compliant

## **Environmental Specifications**

### Operating Temperature (VN101501, VN101503) Operating Temperature (VN101502, VN101504)

Storage Temperature (VN101501, VN101503)

Storage Temperature (VN101502, VN101504)

## **Electrical Specifications**

-	
Supply Voltage	3.8 to 24 VDC
Maximum Input Voltage	30 VDC
Maximum Reverse Voltage	30 VDC
Supply Current	4.1 mA typ., 7.5 mA max.
Output (Sink) Current	25 mA max.
Recommended Pull-Up Resistor	See Chart

## **Mechanical Specifications**

Housing Material	Over-molded plastic
Sensor Orientation	Sensitive; see drawing
Recommended Vane Parameters	Low carbon material at least 1.016 mm (0.04") thick, should penetrate to a depth < 3.05 mm (0.12") from bottom of sensor slot

Part Number	Termination
VN101501	pins
VN101502*	pins
VN101503	24 AWG x 150 mm leads
VN101504*	24 AWG x 150 mm leads

\*Not commonly stocked; please contact the factory or your distributor

www.cherryswitches.com





## **Typical Applications**

Door/gate position control

-40 °C to 85 °C (-40 °F to 185 °F)

-40 °C to 150 °C (-40 °F to 302 °F)

-40 °C to 85 °C (-40 °F to 185 °F)

-40 °C to 150 °C (-40 °F to 302 °F)

- Exercise equipment
- Printers

Note: An external pull-up resistor is required, the value of which is dependent on the supply voltage. The resistor should be connected between the output and Vcc. Refer to the wiring diagram for lead colors or pin numbering as applicable.

## **Recommended External Pull-Up Resistor**

**Open Collector Sinking Block Diagram** 

Volts DC	5	9	12	15	24
Ohms	1k	1.8k	2.4k	3k	3k

# Permonent Mognet



## **Dimensions mm (inches)**





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Vcc

V<sub>o</sub>

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